Annual Report

Department of Health Services
2078/79 (2021/2022)

Government of Nepal
Ministry of Health and Population
Department of Health Services
Kathmandu

Content

मोहन बहादुर बस्नेत
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स्वास्थ्य तथा जनसङ्ख्या मन्त्री
Minister for
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नेपाल सरकार
Government of Nepal
स्वास्थ्य तथा जनसङ्ख्या मन्त्रालय
Ministry of Health and Population

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MESSAGE

The Government of Nepal, Ministry of Health and Population is committed to deliver the highest possible quality of health care to all Nepalese. The ministry is determined to translate aspirations of the Constitution of Nepal 2072, National Health Policy 2076 and the Fifteen Plan-Health and Nutrition 2019/20-2023/24, in achieving universal health coverage together with all stakeholders including public and private sector and external development partners. I am pleased to note that several outstanding achievements have been made in health sector for the past decade. The health outcomes achieved so far are the results of joint effort of the ministry and all health sector stakeholders.

I am pleased to know that Department of Health Services (DoHS) is bringing out the annual report of fiscal year 2078/79 (2021/2022), 28th in its series. The annual report is a comprehensive document based on annual performance of all components of the health care delivery system along with the reviews accomplished at local, provincial and federal levels. It provides detailed and up to date information with regards to resources, service provided, analytical trends, and disease pattern in the country. Data on disease conditions, people are suffering from, service utilization and other data related to health care delivery services are very much important for planning purpose. Furthermore, as the country has been transformed from unitary system to federal system of governance, the information provided by the annual report would be very fruitful for each level during planning, implementation and evaluation of health related activities.

I am hopeful that, this annual report of DoHS will be helpful for policy makers, managers, decision makers, evaluators, researcher and students. I hope this document will be very helpful for further improvement of health services in Nepal.

To conclude, I congratulate all involved in the preparation and publications of this annual report for their technical and financial assistant.

Mr. Mohan Bahadur Basnet
Honorable Minister
Ministry of Health and Population

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PREFACE

It is my pleasure to release the annual report of Department of Health Services (DoHS) for the fiscal year 2078/79 adding to the last 28 years of good practice. Health sector is one of the priority sectors of the Nepal government. I am very much delightful to know that major indicators of the health sector are progressing in the right direction, that is, towards the achievement of the targets of Sustainable Development Goals.

Nepal has been transformed into a federal state from a previous unitary system resulting in federal, provincial and local levels of governance. The health system has also been restructured in line with the federal structure. At this stage in the health sector there are challenges as well as opportunities for uplifting the health status of the Nepalese people. I am sure that the data presented in this annual report would role an important in planning and implementing evidence-based program in the changed context.

This report would not have been possible if the lowest level of health cadres, FCHVs to the high-level policy makers had not performed their tasks with complete dedication and sincerity. I would like to thank more than 52,000 FCHVs, health professional at the local level, provincial level and federal level for their untiring efforts to bring improvements in the health status of the Nepalese people.

Strong collaboration between government and non-government sectors has played an instrumental role in achieving success in health during the past years. I hope this collaboration continues and the bond will only get stronger. The Ministry of Health and Population is committed to develop necessary policies strategies and guidelines to boost such coordination in the days to come.

Lastly, I would like to extend my sincere thanks and congratulation to the Dr. Dipendra Raman Singh, Director General of DoHS and gratitude to all the stakeholders and development partners for their valuable contributions to the health sector. I hope this annual report will be a valuable resource for all the stakeholders to design and implement evidence-based programs.

Dev Kumari Guragain
Secretary
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PREFACE

It is a matter of great pleasure for me to have annual report of the department of health services for the year 2078/79 (2021/2022) at anticipated time. The report is being published regularly since last twenty-eight years. It is a comprehensive report covering all major activities and achievements of department of health services along with other departments under ministry of health and population. It also includes the contributions of external development partners, non-governmental organizations and private sectors.

This report is the official record of the provided services and the achievements accomplished within the last year in the health sectors. This report provides information as per the federal structure of the country. The information included in this report will thus be instrumental for newly formed provincial and local level governments to understand the issues in the health sector and to plan for providing high quality services to their constituents in the coming year. For researcher, academics and students, I hope that this report provides an opportunity to learn and innovate new approaches to improving the quality of health services in Nepal. This report serves as commendable tool to decide on replicating the good assets on the program and also learn lessons from less successful one. I appreciate the hard work conducted by department of health services and provincial health directors, health offices, hospitals and all health personnel including Female Community Health Volunteers (FCHVs) working at various level of health systems for achieving these outcomes. Without their effort, the achievement that we have accomplished today would not be possible; they deserve heartfelt thanks for improving health status of the Nepalese citizens.

Finally, I extend my sincere thanks and congratulations to the Dr Dipendra Raman Singh, Director General of Department of Health Services, Director of Management Division and his team, especially IHIMS section team and all Directors of divisions, centres and other concerned personnel who contributed to this report.

Dr. Roshan Pokhrel
Secretary
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FOREWORD

This is the 28th edition in the uninterrupted series of annual reports published by the Department of Health Services (DoHS), Ministry of Health and Population (MoHP). This annual report is one of the outcomes of the annual performance review workshops conducted at various levels. It reflects the performances of all major programs and activities implemented by various health institutions at all levels from community to the centre. This report covers major health issues, challenges and way forward to improve the health service delivery.

The facts and figures presented in the report are based on the information generated through Health Management Information system (HMIS) and other sources in the health sector. This report provides comprehensive information regarding health policies, strategies, plan activity, service coverage and achievements made in the last three to five fiscal years, as well as program issues that emerged during the fiscal year 2078/79. This report also covers progress of activities carried out by other departments under the MoHP and External Development Partners (EDPs) during the reference years.

This annual report provides information as per provincial as well as local levels. There is definitely a room for improvement in the overall quality of routine HMIS data and other data sources included in this report, which we aspire to improve in the days to come. The facts provided in this report will act as the basis for planning health care service delivery for citizens of Nepal in the coming year. Furthermore, using this year's lessons, we will also focus on routine and regular use of data generated at each level in the upcoming year.

I am pleased to state that most of the activities planned by different Divisions/Centres have been carried out successfully. This achievement would not have been possible without the commitment and dedication of the staff of the DoHS working in difficult remote areas. However, more collaborative efforts are required to deliver quality health care services to meet the aspiration of the people as envisaged by the National Health Policy 2076 and the Fifteen Plan- Health and Nutrition, fiscal year 2019/20 – 2023/24.

I would like to extend my sincere appreciation to all Female Community Health Volunteers, all categories of health workers working in the health facilities for their tireless efforts in providing health services at the community level. I would also like to thank the Directors of Divisions and Centres, Provincial Health Directors, Chief of Sections, the Municipal health team for their meticulous support to implement the health programs. My appreciation also goes to all the EDPs, INGOs, NGOs, and private health sector for contributing significantly to improve the health status of the people in all corners of the country.

In the end, I wish to place on record my appreciation and grateful to all the officials of the DoHS for their support and coordination. Finally, I would like to extend my appreciation to the Director of Management Division and in particular the staff of the Integrated Health Information Management Section (IHIMS) for their meticulous effort to bring out this annual report.

DRSingh

Dr. Dipendra Raman Singh
Director General
Department of Health Services, MoHP

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ACKNOWLEDGEMENT

It is my great pleasure to bring forth coming of the 28th Annual Report of the Department of Health Services (DoHS) for the fiscal year 2078/79 (2021/22). This report is also a reflection of annual performance of all components of the health care delivery system along with their reviews conducted at various levels of health service delivery. It is a compilation of major activities carried out by the health institutions at all levels. The data presented in this report is based on the information reported by the health institutions to the Health Management Information System (HMIS).

The report includes information about health care services and activities of public and private institutions providing health care to the Nepalese people. It also highlights the trend and patterns in service coverage and continuum of care. Furthermore, it also informs us about the program target and achievement with respect to budget allocation and expenditure. The report not only identifies pertinent issues, problems and constraints but also suggests actions to be taken to address these issues in order to improve the services in the days to come. This imperative publication provides detailed statistical analysis of health program target verses achievement and indicators. DoHS has published excel sheet of raw and analysed data in the webpage of DoHS, so that it can be used by the researchers and program managers effectively.

I express my sincere gratitude to the Hon'ble Minister of Health and Population Mr. Padam Giri for praiseworthy message. I am also thankful to the Secretary of Ministry of Health and Population Dev Kumari Guragain and Dr. Roshan Pokhrel for their leadership of the overall health sector and providing a meaningful preface for the report. Similarly, I express my sincere gratitude towards Dr. Dipendra Raman Singh, Director General, DoHS for his leadership, future directions and thoughtful guidance.

I would also like to thank Mr. Anil Thapa, Director (Stat) of the Integrated Health Information Management Section (IHIMS) and his team members for their contribution in preparation and publication of this report. I also take this opportunity to offer my sincere appreciation to EDPs, INGOs and NGOs who have joined us in service delivery programs and submitting their brief annual activity progress report.

To conclude, I fully believe that our strong focus on making health service information available in public domain and it appreciate use helps us to make our health system more transparent and accountable with this gratefulness. I sincerely hope that this report will be of use in strengthening the health services in Nepal. I also hope that this report will provide valid information to all those, who work for enriching the health status of all citizens, particularly the poor and vulnerable group of the Nepali society.

We welcome your suggestions on how we can further improve in the next fiscal year's annual report.

Dr. Sarbesh Sharma
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Management Division, DoHS/MoHP

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ACKNOWLEDGEMENT

It is a matter of great pleasure to present the Annual Report of the Department of Health Services (DoHS) for the fiscal year 2078/79 (2021/2022). The report is being published regularly since 2051/52 for the last 28 years. It is a comprehensive report covering all major activities and achievements of the DoHS along with other departments under the Ministry of Health and Population (MoHP). It also includes the contributions of external development partners, non-governmental organizations, and private sectors.

This report is the official record of the services provided and the achievements made within the last year in the health sector. This report provides information as per the federal structure of the country. The information included in this report will thus be instrumental for provincial and local level governments to understand the issues in the health sector and to plan for provision of high-quality services to their constituents in the coming year. This annual report will be immense help to planners, managers, researchers, academics, service provider and students. I hope that this report provides an opportunity to learn and innovate new approaches to improve the quality of health services in Nepal. This report can also serve as a tool to assess the areas where we were successful, so that interventions can be replicated and scaled up.

I express my sincere gratitude to the Hon'ble Minister of Health and Population Mr. Mohan Bahadur Basnet for their commendable messages. I am also thankful to the Secretary of Ministry of Health and Population Dev Kumari Guragain and Dr Roshan Pokhrel for providing a meaningful preface for the report. Similarly, I express my sincere gratitude towards Dr. Dipendra Raman Singh, Director General and Dr. Sarbesh Sharma, Director of Management Division of DoHS for his leadership, future directions, and thoughtful guidance for the preparation of report.

I also extend my thanks to the Directors of all the divisions, centres, and section Chiefs for providing analytical reports. My colleagues working in the Integrated Health Information Management Section's Mr. Puspa Lal Shrestha, Mr Diwakar Sapkota, Mr. Shiva Lal Sharma, Mr. Sushil Prasad Nepal, Mr Puskar Bijukshe, Mr. Chandra Bahadur Sunar, Mr. Chhedi Prasad Yadav, Mr. Sameer Kumar Adhikari, Mrs. Nabina Pradhananga, Mr Siddhartha Dhungana, Er. Pritesh Singh, Mr. Avay Raj Shrestha, Mr Vikram Thapa and Mr. Bikash Thapa deserve special appreciation for their meticulous and hard work in bringing out this report. I feel indebted to all government and external development partners' colleagues who worked restlessly for recording, reporting, compiling, processing and analysing progress reports timely, without which this report publication would not have been possible. It would be unfair if I do not appreciate to the UNICEF, UNFPA & ADRA Nepal deserves special thanks for the funding and publication of this Annual Report.

I look forward to receiving valuable suggestions for further perfection in the coming year's annual report.

Mukti

Mr. Mukti Nath Khanal
Chief
Integrated Health Information Management Section (IHIMS)
Management Division, DoHS /MoHP

Abbreviations and Acronyms

AEFI	Adverse event following immunization
ART	Antiretroviral therapy
ARV	Anti rabies vaccine
ARV	Anti-rabies vaccine and antiretroviral
BCC	Behaviour change communication
BMEAT	Biomedical equipment assistant training
BMET	Biomedical equipment training
bOPV	Bivalent oral polio vaccine
BTSC	Blood transfusion service centre
CBO	Community-based organisation
CCA	Critical capacity analysis
CCE	Comprehensive centres of excellence
CDD	Control of diarrheal disease
CEONC	Comprehensive emergency obstetric and neonatal care
CHX	Chlorhexidine
cMYPoA	Comprehensive multi-year plan of action
CNR	Case notification rate
CTEVT	Council for technical education and vocational training
DALYs	Disability Adjusted life years
DAMA	Discharged against medical advice
DHF	Dengue haemorrhagic fever
EmOC	Emergency obstetric care
EOC	Essential obstetric care
EPI	Expanded programme on immunization
EQA	External quality assurance
FND	Foreign national doctor
FSW	Female sex worker
G2D	Grade 2 disability
GBD	Global burden of disease
GGBV	Geriatric and gender based violence
GIS	Geographic information system
GMP	Good manufacturing practice
HEOC	Health emergency operation centres
HFOMC	Health facility operation and management committee
HIB	Health insurance board
HIP	Health insurance program
HIV	Human immunodeficiency virus
HNCU	Special new-born care unit
ICD	International classification of diseases
ICT	immunochromatographic test
ICT	Information communication technology
IDA	Iron deficiency anaemia
IHIMS	Integrated health information management system
IMAM	Integrated management of acute malnutrition

IMIS	Insurance management information system
ISMAC	Iodized salt social marketing campaign
LLIN	Long lasting insecticidal (bed) nets
LMIS	Logistics management Information System
LNOB	Leave no one behand
LTF	Lost to follow-up
MA	Medical abortion
MAM	Management of acute malnutrition
mCPR	Modern contraceptive prevalence rate
MCV	Measles-containing vaccine
MD	Management Division
MSNP	Multi-sector nutrition plan
MVA	Manual vacuum aspiration
NAHD	National adolescent health and development (strategy)
NBoD	Nepal burden of disease
NCD	Non-communicable disease
NCDR	New case detection rate
NCP	Integrated management of newborn care programme
NEQAS	National external quality assurance scheme
NHCP	National health communication policy
OCMC	One stop crisis management centre
OTTM	Operation theatre technique and management
PAM	Physical assets management
PCD	Pulmonary clinically diagnosed
PCR	Polymerase chain reaction
PCV	Pneumococcal conjugate vaccine
PDR	Prenatal death review
PEM	Protein energy malnutrition
PEN	Package of essential non-communicable disease
SARI	Severe acute respiratory infection
SUN	Scaling-up-nutrition
SWAP	Sector wide approach
TABUCS	Transaction accounting and budget control system
TIMS	Training information management system
TSLC	Technical school leaving certificate
TT	Tetanus toxoid
UHC	Universal health coverage
VA	Verbal autopsy and visual acuity
VAD	Vitamin A deficiency
VSC	Voluntary surgical contraception
WASH	Water, sanitation and hygiene
WPV	Wild poliovirus
WRA	Women of reproductive age

Department of Health Services

Trend of Health Service Coverage Fact Sheet

Fiscal year 2076/77 -2078/79 (2019/20 - 2021/22)

Programme Indicators	FY 2078/79 (2021/22) by Province										National Target*	
	FY 2076/77 (2019/20)	2077/78 (2020/21)	2078/79 (2021/22)	Koshi	Mad-hesh	Bag-mati	Gan-daki	Lumbi-ni	Kar-nali	Sudur Pas-chim	2020	2030
NUMBER OF HEALTH FACILITIES												
Public hospitals	134	201	192	43	17	43	21	26	27	15		
PHCCs	194	189	188	33	32	40	25	29	13	16		
HPs	3767	3794	3775	632	742	642	485	568	331	375		
Non-public facilities	2277	2082	2155	157	167	1432	111	164	59	65		
HEALTH FACILITIES & FCHVs REPORTING STATUS (%)												
Public hospitals	82	80	88	100	100	69	100	91	99	100	100	100
PHCCs	100	100	100	100	100	100	100	100	100	100	100	100
HPs	100	100	100	100	100	100	100	100	100	100	100	100
FCHVs	90	90	90	94	98	67	97	100	100	100	100	100
IMMUNIZATION PROGRAMME (%)												
BCG coverage	86	91	103.5	93.8	104.3	129.4	84.6	103.1	91.8	98		
DPT-HepB-Hib3 coverage	78	87	95.2	89.3	93	102.3	87.2	96.6	94.2	102.8	90	>95%
MR2 coverage (12-23 months)	71	81	92.8	87.2	86.3	102.5	92.1	99	89.4	94.2		
Fully im-munized children**	65	78	91.2	85.4	95.2	88.1	88.7	96.5	87.6	90.4	90	95
Dropout rate DPT-Hep B-Hib 1 vs 3 coverage	8.9	1	3.7	3.6	10.1	0.62	1.9	1.8	0.67	-1.4	< 10 %	< 5 %
Pregnant women who received TD2 and TD2+	59	60	71.7	67.6	83.3	65.9	58.7	73.9	66.3	69.2		
NUTRITION PROGRAMME (%)												
Children aged 0-11 months registered for growth moni-toring	77	84	104.1	93.2	92.6	108.2	115.3	109	119.7	116.2	100	100

Programme Indicators	FY 2078/79 (2021/22) by Province										National Target*	
	FY 2076/77 (2019/20)	2077/78 (2020/21)	2078/79 (2021/22)	Koshi	Mad-hesh	Bag-mati	Gan-daki	Lumbi-ni	Kar-nali	Sudur Pas-chim	2020	2030
Underweight children among new GM visits (0-11month)	2.5	2.5	3.2	1.4	5.7	2.5	0.9	3.1	3.3	3.1		
Children aged 12-23 months registered for growth moni-toring	54	61	77.2	63	78.2	74.1	90.1	75.6	85.3	91.1	100	100
Underweight children among new GM visits (12-23month)	3.4	3.4	4.1	2.3	7	1.4	1.1	4.1	5.3	5.1		
Pregnant women who received 180 tablets of Iron	44	45	60	47.8	48.1	49.8	80.2	75.8	72.5	74.1		
Postpartum mothers who received vitamin A sup-plements	57	61	76.3	56.6	75.9	58.4	64.2	98.2	88.4	100.3		
INTEGRATED MANAGEMENT OF NEONATAL & CHILDHOOD ILLNESS (IMNCI) PROGRAMME STATUS												
Incidence of pneumonia among children U5 years (per 1000) (HF and PHC/ORC only)	43	27	37	44	19	35	27	29	86	61		
% of children U5 years with Pneumonia treated with antibiotics (HF and PHC/ORC only)	156	150	126.1	136.5	201.2	119.9	107.1	100.3	101	115.4		

Programme Indicators	FY 2076/77 (2019/20)	2077/78 (2020/21)	FY 2078/79 (2021/22) by Province								National Target*	
			2078/79 (2021/22)	Koshi	Mad-hesh	Bag-mati	Gan-daki	Lumbi-ni	Kar-nali	Sudur Pas-chim	2020	2030
% of children U5 years with Pneumonia treated with antibiotics (Amoxicillin)	115	117	105.3	102.9	145.4	105.6	100.5	94.9	95.2	97.7	100	100
Incidence of diarrhea per 1,000 under five years children	350	339	365	310	326	311	263	347	595	601		
% of children under 5 with diarrhea treated with ORS and zinc	95	96	94.5	88.8	93.6	92.8	96.9	98.7	94.8	97	100	100
SAFE MOTHERHOOD PROGRAMME STATUS (%)												
Pregnant women who attended four ANC visits as per protocol	53	70	79.2	68.5	48.8	139.1	82	79.5	72.3	74.2	70	90
Institutional deliveries**	66	65	79	72.1	57.2	98.6	64.4	94.2	82.6	92.8	70	90
Deliveries conducted by skilled birth attendant**	62	61	75	69.5	55	97.7	63.5	89.8	70.1	80.6	70	90
Mothers who had three PNC check-ups as per protocol**	19	25	40.8	36.8	23.6	42.2	35.5	53.7	52.8	60.3	50	90
FAMILY PLANNING PROGRAMME STATUS (%)												
Contraceptive prevalence rate (CPR-unadjusted) **	37	39	41	41	46	35	35	37	38	47	56	60
CPR (Spacing methods)	18	18	21	21	11	21	19	23	25	32		
FEMALE COMMUNITY HEALTH VOLUNTEERS PROGRAMME (FCHVs) STATUS												
Number of FCHVs	49481	49605	50229	8654	7645	8959	5756	8958	4272	5985		
% of mothers' group meeting held	81	89	95	91.8	97.9	95.1	86.8	95.2	96.7	102	100	100

Programme Indicators	FY 2078/79 (2021/22) by Province										National Target*	
	FY 2076/77 (2019/20)	2077/78 (2020/21)	2078/79 (2021/22)	Koshi	Mad-hesh	Bag-mati	Gan-daki	Lumbi-ni	Kar-nali	Sudur Pas-chim	2020	2030
COVID-19 OUTBREAK STATUS												
Total COVID cases++*	17177	645393	318924	48618	9196	189852	36263	20636	4206	8061		
Total Death cases++*	39	9424	2489	429	48	1112	427	292	71	68		
Total RT-PCR Lab- test*	298829	3147757	23364997									
Case Fatality Rate (CFR)*	0.23	1.5	1.2	0.9	0.5	0.6	1.2	1.4	1.7	0.8		
COVID Vaccine: First dose coverage (in million)	-	-	20.39	3.29	3.88	4.89	1.76	3.62	1.08	1.86		
COVID Vaccine: Full dose coverage (in million)	-	-	20.44	3.27	3.98	4.78	1.97	3.6	1.04	1.8		
MALARIA AND KALA-AZAR PROGRAMME												
Annual blood slide examination rate per 100*	2.1	1.3	2.89	2.48	2.4	4.64	1.08	3.58	1.79	3.02		
Annual parasite incidence (API) per 1,000 pop risk*	0.05	0.03	0.05	0.01	0.04	0.02	0.01	0.1	0.04	0.07		
% of PF among Malaria Positive case*	9.1	13.5	23.2	20	13.6	51.2	23.1	38.9	2.1	11		
Number of new Kala-azar cases	186	212	322	58	29	12	6	39	118	60		
TUBERCULOSIS PROGRAMME												
Case notification rate (all forms of TB)/100,000 pop.*	93	95	129	89	146	144	98	157	97	126	NA	NA
Treatment success rate*	89	91	91.5	91.1	92.6	90.2	91	90.9	90.1	90.3	>90	>90
LEPROSY PROGRAMME												

Programme Indicators	FY 2078/79 (2021/22) by Province										National Target*	
	FY 2076/77 (2019/20)	2077/78 (2020/21)	2078/79 (2021/22)	Koshi	Mad-hesh	Bag-mati	Gan-daki	Lumbi-ni	Kar-nali	Sudur Pas-chim	2020	2030
New case detection rate (NCDR) per 100,000 population*	6.2	7.2	7.8	6.9	14.8	1.36	3.7	11.4	4	7.5	10	7
Prevalence rate (PR) per 10,000 population*	0.7	0.7	0.8	0.72	1.43	0.17	0.47	1.12	0.49	0.93	0.1	0.4
HIV/AIDS and STI PROGRAMME												
Number of new positive cases	2416	2944	3270	343	675	951	247	659	70	325		
HIV incidence rate	0.03	0.03	0.02	0.02							0.020	0.015
Adult HIV prevalence	0.13	0.12	0.12	0.08	0.09	0.16	0.19	0.14	0.06	0.25	0.03	0.029
% of TB patients had HIV test result	51	72		58	56	91	84	74	60	72	100	
CURATIVE SERVICES												
% of population utilizing outpatient (OPD) services	84	77	92	99.5	66.5	98.9	109.5	94.5	104.5	92.1		
CURATIVE SERVICES												
% of population utilizing Emergency services at hospitals	8	6.9	10.1	11.8	3.7	20.2	10.9	7.2	5	7.1		
% of population utilizing inpatients services at hospitals	4.5	3.8	10.1	11.8	3.7	20.2	10.9	7.2	5	7.1		
% of inpatients who referred out	1.3	1.9	1.7	1.7	1.7	0.91	2.8	1.9	3.1	3.2		
Bed occupancy rate	41	35	46.6	57.1	11.9	52	35.3	54.1	39.8	31.4		
Average length of stay at hospital	3	3	3.5	2.6	1.2	4.5	3.2	4.2	3	2.8		

Note: * Updated after National Joint Annual Review **NHSS RF and/or SDG indicators ++* Data available in the aggregate number at MoHP and updated after National Joint Annual Review.

Executive Summary

Introduction

The annual report of the Department of Health Services (DoHS) for fiscal year 2078/79 (2021/2022) is the twenty-eight consecutive report of its kind. This report focuses on the objectives, targets and strategies adopted by Nepal's health programs and analyses their major achievements and highlights trends in service coverage over three fiscal years. This report also identifies issues, problems and constraints and suggests actions to be taken by health institutions for further improvements.

The main institutions that delivered basic health services in 2078/79 were the 192 public hospitals including other ministries, the 2,155 non-public health facilities, the 188 Primary Health Care Centers (PHCCs) and the 3,775 Health Posts (HPs) primary health care services were also provided by Primary Health Care Outreach Clinic (PHC-ORC) sites. A total of 16,950 Expanded Program of Immunization (EPI) clinics provided immunization services. These services were supported by 50,229 Female Community Health Volunteers (FCHV). The information on the achievements of the public health system, NGOs, INGOs and private health facilities were collected by DoHS's Health Management Information System (HMIS).

Progress of other departments under MoHP:

Department of Drug Administration (DDA)
The main objective of DDA is to regulate all functions relating modern, veterinary and traditional medicines, like misuse and abuse of medicines and its raw materials, to stop false and misleading advertisement and make available safe, efficacious and quality medicine to the general public by controlling the production, marketing, distribution, sale, export-import, storage and use of medicines. DDA has its branch offices at Biratnagar, Birgunj and Nepalgunj. These offices carry out the responsibility of inspection as well as Pharmacy registration and renewal. Drug Donation guidelines have been implemented for the quality assurance of donated medicines.

Department of Ayurveda and Alternative Medicine (DoAA)
Ayurveda is an ancient medical system and indigenous to Nepal with centuries old deep roots. More than two third of the population in Nepal relies on traditional practices for primary health care, primarily due to its accessibility, affordability and its alignment with cultural practices. There are estimated at least 400,000 traditional medicinal practitioners in Nepal practicing different modalities like ritual or ceremonial practices, spiritual practices, diet and self-healing.

The sources of Ayurveda medicine are medicinal herbs, minerals and animal products. It is involved in promotive, preventive, curative and rehabilitative health services of people. Ayurveda health services are delivered through one Central Ayurveda Hospital (Nardevi), Provincial Hospital (Dang, Dhanagadhi, Jhapa), 77 Provincial Ayurveda Chikitsalaya/ Health Centers and 305 Ayurveda dispensaries (Aushadhalaya) across the country.

Programs under Department of Health Services:

National Immunization Program (NIP)
In FY 2078/79 compared to FY 2077/78, BCG coverage improved by 13%, whereas DTP-HepB-Hib3 and OPV3 coverage increased by 10% and 13% respectively. The fIPV2 coverage rate has increased to 93% for FY 2078/79. PCV3 coverage has increased to 94%, and PCV1 coverage has reached 98%. Coverage for MR1 and MR2 is now 95% and 93%, respectively. High coverages of both MR1 and MR2 are necessary (> 95%) at all levels to achieve measles eradication. As a result, MR1 and MR2 coverage still has to be increased. The JE vaccination coverage is 96% at national level.

Integrated Management of Neonatal and Childhood Illnesses
Among all reported live births, chlorhexidine (CHX) was administered to 82.9% of newborns' umbilical cord (HF+ FCHV). Use of CHX varied by province, with Sudurpaschim having the highest use (96.9%) and Bagmati Province having the lowest use (64.7%). At the national level, injectable Gentamycin was given to all PSBI cases involving infants under two months old in the fiscal year (FY 2078/79). A total of 702,504 ARI cases were reported at HF and PHC/ORC in FY 2078/79, of which 13.3% were classified as pneumonia and 0.18% as severe pneumonia. At the national level, there were 55.1 cases of pneumonia (both mild and severe) per 1000 children under the age of five.

Nutrition
The growth monitoring visit has increased by 25.5 percentage points at the national level from FY 2076/77 (65.2%) to FY 2078/79 (90.7%). A significant reach of Growth Monitoring and Promotion (GMP) among the targeted age group is also

demonstrated by the coverage of GMP registration across the seven (7) Provinces, with Provincial values ranging from a low of 78.1% in Province No. 1 to a high of 103.7% in Sudurpaschim Province. In FY 2078/79, the Mother Baby Friendly Hospital Initiative (MBFHI) program was assessed in 10 hospitals, and orientation was done in additional five hospitals. Until FY 2078/79, 15 MBFHI hospitals have been certified. By the end of FY 2078/79, the CNSI training package has been rolled out in 72 districts and five districts of Bagmati province are planned for FY 2079/80.

Safe Motherhood and Newborn Health

Maternal and Newborn Health (MNH) is a high-priority program in Nepal. The National Safe Motherhood Programme implemented by Family Welfare Division (FWD) aims to reduce maternal and neonatal morbidity and mortality, improve maternal and neonatal health through preventive and promotive activities, and address avoidable factors that cause death during pregnancy and childbirth and the postpartum period.

In FY 2078/79, there was a significant increase in key Maternal and Newborn Health (MNH) indicators. The percentage of pregnant women attending 4 ANC visits as per the protocol increased to 79.4 in FY 2078/79 from 70 in 2077/78. Similarly, institutional deliveries as a percentage of expected live births increased by 14%. Furthermore, the delivery assisted by SBA increased to 75% in FY 2078/79 from 61% in FY 2077/78.

The national average for Emergency Obstetric Care (EOC) met needs was 11% in this reporting period, improving from 8.2% in FY 2077/78. The proportion of mothers attending three PNC visits as per the protocol increased from 25% in FY 2077/78 to 40.8% in FY 2078/79. Although there is improvement in key MNH indicators, major gaps in quality of care exist along the continuum of care such as 4 ANC visits and 3 PNC as per the protocol. Similarly, considerable interprovincial gaps were noticed in the quality of care, with around 32% difference in the proportion of women receiving 180 days' supply of Iron Folic Acid (IFA) during pregnancy, with 80.2% of women receiving it in Gandaki Province while only 47.8% in Koshi Province in the year 2078/79.

The number of safe abortion service users increased to 90,733 in FY 2078/79 from 79,952 in FY 2077/7 and 87,869 women in FY 2076/77. Among these, 69% were medical abortions, and 31% were surgical abortions in FY 2078/79. 14.2% of the total pregnancies were terminated by induced procedures at health facilities, and 4.4% were induced using the surgical method. Although the safe abortion service users increased in FY 2078/79, the post-abortion contraception has slightly decreased to 74.7% in FY 2078/79 from 76.7% in FY 2077/78. Among the safe abortion users, approx 7% of the women were aged below 20 years.

In FY 2078/79, FWD implemented the MPDSR program in 32 districts and 94 hospitals. In FY 2078/79, a high percentage of maternal deaths were reported in the antepartum period (34%) followed by the postpartum period after 48 hours of delivery (31%). FWD also implemented various activities in FY 2078/79 to improve maternal and child health, such as expansion and quality improvement of BEONC and CEONC sites, onsite clinical coaching and mentoring, MNH readiness assessment and emergency referral funds. In this reporting period, 753 municipalities of 77 districts implemented onsite clinical coaching and mentoring programs, and a quality improvement process programme expanded in 65 hospitals.

Family Planning and Reproductive Health

National family planning programme (FP) in 2078/79 has been successful to improve the service access and utilization. The modern contraceptive prevalence rate (unadjusted mCPR) for modern FP at national level is 41% compared to 39% in FY 2077/78. Sudurpaschim Province has the highest mCPR of 48% while Bagmati Province has the lowest (35%). The number of districts with mCPR below 30% is in a decreasing trend. In FY 2078/79, there are 5 districts with CPR less than 30 compared to 9 in FY 2077/78. This indicates performance improvement among the low mCPR districts.

Depo (38%) occupies the greatest part of the contraceptive method mix for all method new acceptors, followed by condom (23%), pills (19%), implant (14%), IUCD (2%), female sterilization (FS- 3 %) and lastly male sterilization (MS-1%) in FY 2078/79. Immediate postpartum family planning uptake as proportion of total facility delivery is in increasing trend. Postpartum IUCD uptake as proportion of total facility delivery is also in decreasing trend, while that of contraceptive uptake among total reported abortion services is 71%, but only 15% have used LARCs indicating women after abortion are relying on less effective methods.

Adolescent sexual and reproductive health

Adolescent Sexual and Reproductive Health (ASRH) is one of the priority programs of FWD guided by The National Adolescent Health and Development Strategy, 2018. The National ASRH program has been scaled up to all 77 districts by Fiscal Year 2078/79. So far, about 1,355 health facilities have been listed and 116 health facilities have been certified as adolescent friendly service sites.

The number of adolescents receiving temporary contraceptive methods (excluding condom) is in decreasing trend. Among four temporary contraceptive methods, Depo is the most preferred contraceptive method accounting for 58% of the contraceptive method mix. Compared to FY 2077/78, the share of implants in method mix has decreased. Similarly, utilization of abortion services is also in decreasing trend. This data needs to be cautiously interpreted as adolescents prefer to utilize the sexual and reproductive health (SRH) services from the private sector due to several reasons. It is interesting to note that the share of medical abortion services is decreasing. Almost two-thirds of adolescents (61%) who terminated the pregnancy opted for medical abortion. In FY 2078/79, Madhesh Province had the highest number of adolescents who received first ANC services and first ANC visit as per protocol. Whereas Gandaki Province has the lowest number of adolescents receiving ANC services. At the national level, the dropout rate between ANC 1st and ANC 4th visits is around 33% in FY 2078/79 which is lower than the previous year.

Primary Health Care Outreach Clinics

Primary health care outreach clinics (PHC/ORC) extend basic health care services to the community level. In FY 2078/79, 2,289,178 people were served from outreach clinics. Out of planned clinics, 86% were conducted. There has been a slight increase in the conduction of PHC-ORC Clinics and clients served compared to previous year.

Malaria

Nepal has surpassed the Millennium Development Goal 6 by reducing malaria morbidity and mortality rates by more than 50% in 2010 as compared to 2000. Therefore, the Government of Nepal has set a vision of Malaria free Nepal by 2025. Current National Malaria Strategic Plan (NMSP) 2014-2025 was developed based on the epidemiology of malaria de- rived from 2012 micro-stratification. The aim of NMSP is to attain “Malaria Free Nepal by 2025”. For assessing the risk areas, the program has been conducting micro-stratification on an annual basis. Total positive cases of malaria increased from 377 in FY 2077/78 to 491 in FY 2078/79 to, where 38 cases are indigenous cases and 453 are imported. The trend of indigenous is decreasing, however, the number of imported cases is increasing.

As compared to the previous year, the proportion of P. falciparum infections has increased from 13.53% in FY 2077/78 to 23.2% in 2078/79. This proportion is high which is due to the high number of imported P. falciparum cases mostly from India and the Central Africa Region (CAR). The trend of indigenous Pf malaria cases is decreasing. In FY 2078/79, all Pf cases were imported. The trend of clinically malaria cases is slightly increasing and major indicators for malaria program; Test positivity rate (TPR), and Annual Blood Examination Rate (ABER) are in positive trend, however, Annual Parasite Incidence Rate (API) has slightly increased.

Kala-azar

Kala-azar is one of the high priority public health problems of Nepal. Most of the districts have been continuously reported new cases of Kala-azar in recent years. Therefore, to eliminate Kala-azar from Nepal, strategies to improve health status of vulnerable and at-risk populations have been made focusing on endemic areas of Nepal, which leads to elimination of Kala-azar, and it no longer becomes a public health problem. The incidence of kala-azar at national level has been less than 1/10,000 population since FY 2073/74. However, the trend of Kala-azar cases has been increasing in a few years. In FY 2078/79, two districts, Okhaldhunga and Kalikot, crossed the elimination threshold with 1.62 per 10,000 in Okhaldhunga and 4.14 per 10,000 in Kalikot.

Lymphatic filariasis (LF)

Lymphatic Filariasis (LF) is one of the mosquitoes borne parasitic diseases with a public health problem in Nepal. Nepal is among the countries who have started LF MDA in all endemic districts and is on track to achieve elimination status by 2030. The goal of the Lymphatic Filariasis Elimination Program is to eliminate LF as a public health problem by reducing the level of the disease in the population to a point where transmission no longer occurs. As of Poush 2079, MDA has been stopped and post MDA surveillance is ongoing in 48 of 64 endemic districts. All endemic districts completed 6 rounds of MDA in 2075 other than Rasuwa which has recently been considered endemic from a confirmatory mapping survey. Triple Drug Regimen (IDA: Ivermectin, Diethylcarbamazine and Albendazole) has been introduced in 5 districts from 2078 and EDCD has planned to expand it in all 15 districts that will implement MDA in 2079. Since 2060 more than 115 million doses of lymphatic filariasis drugs have been administered to at-risk populations. A total number of 10,477 hydrocele surgeries have been performed since FY 2073/74 to FY 2078/79. The morbidity results by community mapping from 44 districts revealed that 30,925 cases of LF have been confirmed of which 21,105 cases of hydrocele, 9,574 cases of lymphoedema and 246 cases of both conditions.

Dengue

Dengue, a mosquito-borne disease, emerged in Nepal in 2062. The goal of the national Dengue control program is to

reduce the morbidity and mortality due to dengue fever, dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS). The number of reported dengue cases has decreased significantly since 2066 but cases of dengue have increased in recent years. During FY 2078/79, a total of 733 dengue cases were reported from 62 districts. The majority of cases have been reported from Sankhuwasabha (79), Kathmandu (65), Dhading (55), and Rupandehi (44).

Scrub Typhus

After the devastating earthquake in 2072, outbreak of scrub typhus has been reported from across the country causing several morbidities and mortalities. Although the surveillance system for scrub typhus is not very well established, the scrub typhus cases were reported through the early warning and reporting system (EWARS) from 2073. During FY 2078/79, a total of 2,474 dengue cases were reported from 71 districts. The majority of the cases have been reported from Doti (288), Darchula (222), Palpa (205), Kailali (160), Gulmi (133), Baitadi (124) and Sankhuwasabha (101).

Leprosy

During FY 2078/79 (2021/22), 2285 new leprosy cases were detected and put under Multi Drug Therapy (MDT) from 64 districts. Among total new cases, 3.19 % were child cases under 15 years, 7.44 % diagnosed with Grade 2 Disabilities and 43.3% were female cases. 2373 cases were under treatment and receiving MDT at the end of the fiscal year, marking a registered prevalence rate of 0.81 cases per 10,000 populations at the national level. There is a slight increase in prevalence rate of leprosy might be due to loosening of restrictions due to COVID 19 and continuation of field level activities such as active case detection, IEC/BCC campaigns etc. Madhesh province reported the highest PR of 1.43/10,000 population followed by Lumbini province (1.12). 16 districts have reported PR>1 per 10,000 population. 561 foreign cases from India were provided treatment in Nepal during FY 2078/79.

Disability inclusive health, rehabilitation, assistive technology and injury prevention

EDCD/ LCDMS has aimed for a disability inclusive health system and population access to rehabilitation services and assistive technology. During FY 2078/79 (2021/22), we developed a Disability management and rehabilitation training package for primary health care providers and was piloted in Banke and Kaski. Post-COVID rehabilitation protocol, National standard on assistive technology and Operational guideline on priority assistive product list has been developed. Furthermore, the Systematic Assessment of Rehabilitation Situation (STARS) report was finalized and the Rapid Assistive Technology Assessment (rATA) was conducted in coordination with the National Health Research Center. Likewise, preliminary data was collected to evaluate the rehabilitation workforce using WHO standardized tools. Altogether 54,670 new cli- ents were reported in DHIS-2 have received rehabilitation service from 42 different hospitals and rehabilitation centers which shows an increment in data reporting compared to last fiscal year which was 29,814 clients. This is due to the fact that EDCD has initiated training to private rehabilitation service centers. Situation assessment and prioritization of strategic intersectoral actions in road safety and the National Policy Dialogue on road safety was organized highlighting the components of the safer system approach.

Zoonoses

Nepal has a dual burden of disease and zoonotic diseases of epidemics; endemic and pandemic potentials are the major public health concerns. Globally more than 300 zoonotic diseases are identified among which about 60 have been identified in Nepal as emerging and re-emerging diseases. No people die of rabies or poisonous snake bites due to unavailability of anti-rabies vaccine (ARV) or anti-snake venom serum or timely health care services and to prevent, control and manage epidemic and outbreak of zoonosis is the goal of the zoonosis program. Around 75,000 cases in pets and more than human rabies cases occur each year with highest risk are in the terai. During FY 2078/79, a total of 85,483 dog and other animal bites cases have been reported throughout Nepal and a total of 9,346 snake-bites cases have been reported. Among cases 8,420 were non-poisonous and 926 were poisonous.

Tuberculosis

TTuberculosis (TB) remains a major public problem in Nepal. During this FY 2077/78, a total of 37,861 cases of TB were notified and registered at NTP. Among these, 98.5% (37,287) were incident TB cases (New and Relapse). Among all forms of TB cases 72.1 %were pulmonary TB, and out of them, 57.1% were pulmonary bacteriologically confirmed. Madhesh Province holds the highest proportion of TB cases (23.7%) followed by Bagmati province (23.3%). Kathmandu district alone holds around 42% (3,672 TB cases) of the TB cases notified from the Bagmati Province while its contribution is around 9.7% in the national total. In terms of eco-terrain distribution, Terai belt reported more than half of cases (22,904; 60.5%). Most cases were reported in the middle age group with the highest of 45.1% in 15-44 years of age. The childhood TB is around 8.7%. Out of total registered TB cases, there were 14,539 (38.4%) females and 23,322 (61.6%) males.

The burden of TB can be measured in terms of incidence (defined as the number of new and relapse cases), prevalence

and mortality. WHO estimates the current prevalence of all types of TB cases for Nepal at 117,000 (416/100,000) while the number of all forms of incidence cases (newly notified cases) is estimated at 69,000 (235/100,000). Case notification rate (CNR) of all forms of TB is 129/100,000 population whereas CNR for incident TB cases (new and relapse) is 72/100,000 population. Among drugs sensitive TB cases registered in FY 2077/78, 91.5% were treated successfully.

There are estimated to be around 2,200 cases of DR-TB annually. However, 942 MDR TB cases are notified annually. In FY 2077/78, 659 RR/MDR-TB cases were registered for treatment. Among them, Lumbini Province is found to have higher burden followed by Madesh Province, Koshi Province, Bagmati Province, Sudurpaschim province, Gandaki Province, and Karnali Province respectively. Similarly, the burden of Pre-XDR and XDR TB patients was found more at Lumbini Province followed by Bagmati, Koshi, Madhesh, Sudurpaschim, Gandaki and Karnali provinces respectively.

TB services were provided through 5,971 treatment centers. Regarding diagnostic services, there are 896 Microscopic centers and 93 GeneXpert centers throughout the country. DR-TB services were provided through 22 treatment centers and 81 Treatment Sub-centers. Though the DR-TB services are ambulatory, facility-based services were also provided through 2 TB treatment and referral management center 6 hostels and 1 DR home.

HIV/AIDS AND STI

HIV/AIDS is a priority public health program of the Ministry of Health & Population (MoHP). Nepal remained as concentrated epidemic with prevalence rate 0.12% among adult population (15-49 years) and >5 % among key population i.e. MSM/ TG and PWID. The total estimated people living with HIV (PLHIV) is 30,300 in Nepal by 2021/22 (FY 2077/78), out of total estimated 4% are children (1,140) aged up to 14 years who are living with HIV in Nepal, while the adults aged 15 years and above account for 96%. Almost 65% of total estimated infections (19,460) among the population aged 15-49 years. By sex, males account for 55% of the total infections and the remaining infections are in females. Total 22,125 PLHIV are on ART treatment by the end of FY 2078/79.

Non-Communicable Diseases

Non-communicable Diseases (NCDs) are emerging as the leading cause of deaths in Nepal due to changes in social determinants like unhealthy lifestyles, urbanization, demographic and economic transitions. The deaths due to NCDs (cardiovascular, diabetes, cancer and respiratory disease) have increased from 60% of all deaths in 2014 to 66% in 2018 (WHO Nepal Country Profile 2018). They are already killing more people than communicable diseases. Thus, Nepal has adapted and contextualized the PEN intervention for primary care in a low resource setting developed by WHO. The epidemic of non-communicable disease is recognized by UN and addressed in Sustainable Development Goal 3 i.e. “ensure healthy life and promote well-being for all at all ages” of this goal 3.4 targeted to “reduce by one third premature mortality from NCDs through prevention and treatment and promote mental health and well-being”. PEN Implementation Plan (2016-2020) has been developed in line with the Multi-sectoral Action Plan for prevention and control of NCDs (2014-2020).

Mental Health

Mental health and substance abuse are recognized as one of the health priorities and also addressed in Sustainable Development Goals (SDG). Within the health goal, two targets are directly related to mental health and substance abuse. Target 3.4 requests that countries: “By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being”. Target 3.5 requests that countries: “Strengthen the prevention and treatment of substance abuse and harmful use of alcohol”. Nepal has a high burden of mental illness but there are limited interventions to address the epidemic of mental diseases.

Epidemiology and Outbreak Management

Epidemiology and Outbreak Management involves working in the area of preparedness and response to outbreaks, epidemics and other health emergencies occurring in different parts of the country. It aligns with the organizational objective to reduce the burden of communicable diseases and unwanted health events through preparedness and responses during outbreak and epidemic situations by using the existing health care system and provides support to the Ministry of Health and Population (MoHP) for drafting national laws, policies, and strategies related to epidemiology and outbreak management. It provides subnational support for outbreak management and capacity building. Continuation of COVID-19 pandemic was seen in FY 2078/79. In the FY, a total of 318,724 PCR and 94,040 Antigen positive cases were registered.

FY 2078/79 witnessed two cholera outbreaks, in Kapilvastu and Kathmandu Valley. A total of 1,914 Acute Diarrheal Disease (ADD) cases occurred in the outbreak in Kapilvastu district. Out of 21 stool samples tested for stool culture four stool samples tested positive for Vibrio Cholerae O1 Ogawa. Reactive Oral Cholera Vaccination (OCV) campaign was conduct- ed by Kapilvastu district in 10 municipalities. In Kathmandu valley, until Asar 32,2079, a total of 30 cases of cholera were reported of which 24, 4 and 2 cases were reported from Kathmandu, Lalitpur and Bhaktapur districts respectively.

Surveillance and Research

Early Warning and Reporting System (EWARS) is a hospital-based sentinel surveillance system, established in 1997 - for early detection of six priority outbreak potential vector-borne, water and food borne diseases/syndromes. Currently, 118 hospitals from all provinces and districts in the country have been selected as sentinel sites. Among 118, 13 sentinel sites reported consistently throughout the 52 epidemiological weeks in 2021 (FY 2077/78).

Being the secretariat of National Drinking Water Quality Surveillance, EDCD conducts drinking water quality surveillance activities on a regular basis at national and sub-national level. In FY 2078/79 formation of provincial drinking water quality surveillance committee has been completed in the three provinces in this fiscal year and the rest four are planned in the next year. Monitoring of drinking water quality surveillance and water sample testing for microbiological parameters at sub-national and local level was performed with co-ordination through provincial health ministers/ directorates and as- sociated offices. A single batch MTOT on water safety plan, drinking water quality surveillance and N-WASH (digital tool for water supply and quality management) was conducted in this FY to strengthen and capacitate water quality surveillance at provincial and local level.

In FY 2078/79, the call center received 132,687 calls, out of which 122,016 calls were answered and 17,939 times the Interactive Voice Response (IVR) were recorded. Alert and response System, pandemic response, general response and SMS service on epidemic and outbreak are the major scope of work of call center.

Health sector response to COVID-19 Pandemic

The Government of Nepal intends to gradually immunize its citizens when vaccines become available, starting with the groups most at risk, in order to lower morbidity and mortality associated with COVID-19. A total of 47,838,854 doses of COVID-19 vaccinations, including 6,873,016 additional doses, have been safely administered. There are now 108 RT-PCR laboratories operating throughout all provinces (45.4% are private and 54.6% are public). Nepal recorded a total of 1,122,201 COVID-19 positive (including RT-PCR and Antigen test). The total case fatality rate is 1.2%, and the rate for people 60 and older is 6.3%. A total of 695,144 individuals have completed the QR certification.

Curative Services

The Curative Service Division (CSD) is one of five divisions under the Department of Health Services (DoHS). The overall purpose of this division is to look after curative health service activities throughout the country. Basic Health Service Centers (BHSC) are the first contact point for curative services from an institutional perspective. The major responsibility of CSD is to ensure the provision of the Basic and Emergency Health Service as guaranteed by Constitution of Nepal (Article35). CSD also regulates and coordinates the establishment, operation and upgradation of specialized tertiary hospitals and super-specialized hospitals. Coordination with different stakeholders to ensure the provision of eye, ENT, and oral health services is another domain of this division.

Minimum Service Standard (MSS) of health facilities is the service readiness tool designed to identify existing gaps towards the quality improvement of hospital services through self and joint assessment and developing an action plan scientifically. MSS has been implemented in 118 different levels of hospitals all over the country. There has been significant improvement in the service readiness status of the government hospitals since the implementation of MSS program and in the last two fiscal years the program has been expanded to health posts throughout the country.

Nursing and Social Security

The Nursing and Social Security Division was established in 2075 BS and is responsible for delivery of the quality health services through capacity development of nurses and midwives, the evaluation of geriatric and gender-based violence program; along with treatment and management facilities for selected diseases to impoverished Nepalese citizens at listed hospitals. This division is also responsible for development and revision of FCHV and other program related policy, strategy, standard, protocol and guideline.

Nursing Capacity Development

The main responsibility of the nursing capacity development section is to facilitate in the process of development of plans, policies, strategies and programs for strengthening various specialties of nursing and midwives' services. The major activities and achievements in FY 2078/079 were the school health and nursing program, development of five CPD modules and three clinical protocols, implementation of training on infection prevention and control based on a blended learning approach. In the FY 2078/079 community health nursing program was started in Bhaktapur and Bardibas Municipality. Similarly, in the FY 2078/079 onsite coaching and mentoring program was started.

Geriatric and Gender Based Violence Management

The constitution of Nepal has ensured the right of the public to free basic health care service and emergency services. It has also ensured that the elderly people will be entitled to special protection from the nation and are entitled to the right to social security. So, to ensure the accessibility and utilization of health services by older people, the Ministry of Health and Population is extending the geriatric health care services to hospitals with more than 50 beds in this fiscal year. The geriatric services along with establishment of separate geriatric ward and outdoor services has been extended to 49 hospitals across the country in this fiscal year. Geriatric care center implementation guidelines and standards have been developed in which senior citizens with the many chronic health problems who need nursing care are the major service consumers. National policy dialogue program related to geriatric health was conducted. This section trained 80 Primary Health Care Professionals (Health assistants and staff nurses) related to Integrated care for elderly people and 14 medical officers for geriatric health care. Geriatric Review has been conducted among 24 geriatric service available hospitals.

Gender-based Violence (GBV) is a grave human rights issue and public health concern which impacts the physical and mental health of the individual survivor and his/her children, and carries a social and economic cost to society. The Office of the Prime Minister and Council of Ministers developed a multi sectoral action plan to address the GBV issues in 2010 with celebration of international GBV years. In line with the action plan and to address needs of GBV survivors in an effective and efficient way MoHP established a hospital based One Stop Crisis Management Center (OCMC). In FY 2078/79, 88 OCMCs had been established in 77 districts. Orientation of the GBV program was conducted at three local levels. OCMC review was conducted in all provinces in FY 2078/79.

Deprived Citizen Treatment Support Program (Bipanna Nagarik Aushadhi Upchar Program)

The Impoverished Citizens Service Scheme of Social Health Security Section provides the funding for impoverished Nepalese citizens to treat serious health conditions. Free treatment up to NPR 100,000 per patient via listed hospitals for severe diseases including cancer, heart disease, traumatic head injuries, traumatic spinal injuries, Alzheimer disease, Parkinson's and sickle cell anemia diseases once in lifetime. Pre-transplant (HLA & cross match) test support up to NPR 50,000; renal transplantation costs up to NPR 400,000 per patient; medication costs up to NPR 100,000 for post-renal transplant cases; Free haemodialysis and peritoneal dialysis services; and free medical treatment for acute kidney infections up to NPR 100,000. Till FY 2078/79 125,825 patients have received free treatment under impoverished citizens' services scheme.

Female Community Health Volunteer (FCHV)

The Government of Nepal initiated the Female Community Health Volunteer (FCHV) Program in 2045/46 (1988/1989) in 27 districts and expanded it to all 77 districts thereafter. 51,423 FCHVs recruited a total of 49,605 (as reported in HMIS) FCHVs are actively working in Nepal. In the fiscal year 2077/078 biannual FCHV review meeting was held at local and FCHV day was celebrated. The major role of FCHVs is to advocate healthy behavior among mothers and community people to promote safe motherhood, child health, for family planning and other community-based health issues and service delivery. FCHVs distribute condoms and pills, ORS packets and vitamin A capsules, treat pneumonia cases (only in the selected remote area where referral is not possible), refer serious cases to health facilities and motivate and educate local people on healthy behavior related activities. They also distribute iron tablets to pregnant women.

Reimbursement program for free treatment of Janayudhha, Jana-andolan ghaite, Madhesh terai ghaite, Bhukampa pidit

The program provides reimbursement to the government and community hospitals that claim an amount equal to the free services they have provided to the casualties of various peoples movement and earthquake affected peoples based recommendation by the government authorities stating their casualty status. In FY 2078/79 a total of 2,500,000 rupees budget was allocated for the program and reimbursement were given to three hospitals that claimed the amount.

Reimbursement to the hospitals for free treatment of Acid Attack Victims

The program provides reimbursement to the four dedicated hospitals that provide free treatment to the acid attack victims. The program covers ambulance expenses, food expenses of the victim and care-taker, in-patient charges, medical and procedure expenses as well as long term medications that must be used by the patients. In FY 2078/79 total budget of 700,000 was provided to the hospitals for treatment of three victims.

Trainings conducted regarding hemodialysis

In FY 2078/79 two categories of training were conducted under hemodialysis specialty. Hemodialysis training for nurses was conducted in two batches with 20 participants in each batch yielding 40 hemodialysis specialist nurses. Same-way users training for hemodialysis equipment maintenance was conducted in one batch with 10 participants.

Inpatients/OPD services

For the fiscal year, 2078/79 inpatient and outpatient services were provided by all types and levels of hospitals. A total of 1,548,336 patients were admitted to the hospitals. The highest admissions were due to pregnancy, childbirth and puerperium which accounted for more than 20% of discharged cases. The inpatient hospital death rate was 1.08%. In addition, the number of emergency visits was also increasing as 2,938,849 patients received emergency care. Outpatient morbidity has been reported in 19 different sections that cover 232 diseases including communicable diseases, non-communicable diseases, injuries, organ-specific diseases, and mental health problems. Although the majority of tertiary hospitals and private hospitals had not reported outpatient morbidity throughout the year, the maximum OPD cases were related to headaches followed by upper respiratory tract infection (URTI).

Human Organ Transplant Services

Shahid Dharma Bhakta National Transplant Center (SDBNTC) was established in 2012 by the Ministry of Health and Population to strengthen and expand organ transplantation services in the country. This center started its services merely with the OPD services, but within a few years of its establishment it has extended its services beyond organ transplantation.

The number of patients in all these aspects has increased remarkably in FY 2078/79. There were 47,047 patients served in the outpatient department, while the number of admission and discharge were almost similar with 2,106 and 2,099 respectively. There were 972 minor surgeries and 827 major surgeries in FY 2078/79. The number of kidney transplantations escalated from 49 to 160 in FY 2078/79. The number of sessions of paid dialysis decreased from 2,940 in FY 7078/79 to 2,526 in fiscal year 2077/78. There has been a slight increase in free dialysis sessions in FY 2078/79. The number of lab tests done in FY 2078/79 was 160,537.

Pashupati Homoeopathic services

Pashupati Homoeopathic Hospital is the only hospital providing homeopathic services to the people of Nepal in the public sector. The homeopathic system is economical, easy and has no adverse effects. The hospital provides OPD service only. The number of patients receiving homoepptathic services is increasing. Many referred cases are also treated here like allergic rhinitis, urticaria, laryngeal papilloma, PCOD and other skin diseases. People of Kathmandu valley and nearby districts can take free and convenient service at the hospital. However, People far from Kathmandu valley are not able to take benefits provided by this hospital. It is essential to provide service in all seven provinces of Nepal with utmost priority.

Health Training

A competent, motivated healthy workforce forms the core of a high quality, effective and efficient health system. In line with the national policies, plans and programs of the Ministry of Health and population (MOHP), National Health Training Centre (NHTC) runs as a federal body for coordination and management of all health training in Nepal. It was established in 1993 A.D. and is primarily responsible for policy formulation, planning/budgeting, need assessment, curriculum design, implementation, monitoring and evaluation (M&E), follow up and overall quality assurance related to the training system. The training network includes seven provincial health training centers and 60 clinical training sites. It is also responsible for accrediting clinical training sites and Clinical and public health related training courses to maintain the standard of the health training so as to strengthen the capacity of health service providers across the country.

Vector Borne Disease Research & Training

The objective of Vector Borne Disease Research and Training Center (VBDRTC) is to fill the knowledge gap and generate scientific evidence in the field of Vector Borne Diseases. Therefore, VBDRTC is responsible for researchers and trainings that relate with VBDs such as Malaria, Kala-azar, Dengue, Chikungunaya, Zica, Westnyl diseases, Lymphatic filariasis, Scrub typhus and Japanese encephalitis. In the FY 2078/79 Vector Borne Diseases Trainings (VBDs) for VBDs focal persons/health workers, malaria microscopic basic and refresher trainings for lab technicians and lab assistants were conducted to enhance their level of knowledge and skills related with prevalent vector borne diseases. Studies conducted during this fiscal year include monitoring of insecticide resistance in malaria vectors and transmission assessment survey of Lymphatic Filariasis.

During the FY 2078/79 VBDRTC conducted Re Pre TAS in Morang, Kailali, Banke, Kapilvastu and Dang districts, TAS-I in Bardiya and Dhankuta districts, and TAS-II in Darchula, Baitadi, Bajhang, Doti, Dadeldhura, Achham, Bajura, Dailekh, Surkhet, Jajarkot, Sunsari, Terhathum, Bhojpur and Udayapur districts.

Health, Education, Information and Communication

National Health Education, Information and Communication Center (NHEICC) is the central body for health promotion activities in Nepal under the Ministry of Health and Population (MOHP). NHEICC aims to plan, implement, monitor and evaluate health promotion programmes of the country. NHEICC is the focal point of MOHP for tobacco control and regulation along with Risk Communication and Community Engagement (RCCE). Recently, NHEICC has been taking a leading role in the SAFER initiative.

In the fiscal year 2078/79 major programme conducted by NHEICC was Tobacco control programme under which advocacy for Tobacco control and regulation with local leaders, journalist interaction and health tax fund programme activities were conducted. NHEICC launched the SAFER initiative for alcohol control and intensive RCCE activities were conducted. It conducted national level campaigns like mask campaign, mental health wellbeing campaign, and COVID-19 vaccination campaign. Likewise, advocacy and awareness programmes of health promotion for Samriddha Nepal, FP, RH morbidity, Safe motherhood and newborn care, nutrition child health, immunization, communicable disease, eye health, oral health, environmental health, RTI, mental health andNCDs through mass media and
community engagement was carried out. Similarly, NHEICC used a digital platform to disseminate health related messages and information.

Health Laboratory Services
The National Public Health Laboratory (NPHL) is the apex body for the lab. It assists MoHP for preparing medical laboratory related policy, legislation and guidelines. It is the body for licensing, monitoring and supervision of all the other labora- tories throughout the country. Also, it is the national authority for implementing the National Blood Program (NBP) within the country.

In FY 2078/79, major public health related activities carried out through NPHL were laboratory-based sur- veillance of Japanese encephalitis, measles/rubella, polio, antimicrobial resistance (AMR) of selected bacteria, influenza etc. Apart from public health related activities, it has provided results of thousands of routine and specialized tests from various departments. NPHL is highly dedicated to quality service. For this it has implemented a two-way LIS system integrating collection, testing machine and reporting, which has dramatically minimized the human errors and effectiveness can be felt in reports provided by NPHL.

National External Quality Assessment Scheme (NEQAS), one of the oldest programs related to quality service, has been running through NPHL since 1987. In this program, NPHL prepares various proficiency test panels and dispatches to participating laboratories throughout the country and analyzes their quality based on the received results from them. Currently more than 600 labs have enrolled in this program. Among them around 400 are private labs and the remaining are government labs. On the other hand, to monitor the service quality of its own, NPHL has participated in various international External Quality Assessment Scheme (IEQAS) run by renowned institution of the glove like: CMC Vellore, Birmingham IEQAS, Mahidol university hospital, Sriraaj hospital etc. The blood bank bureau of NPHL supports and regulates the blood banks throughout the country as well as organizes various workshops on planning and managing blood transfusion service. It also supports blood banks for their capacity building.

In order to provide super specialized service, a flow cytometry lab has been established in NPHL. It provides the diagnosis of various cancers with its modern equipment and cutting-edge technologies. HLA typing lab is also in full operation which has helped many patients by providing diagnostic requirements for organ transplant at a very reasonable price. Similarly, an immunohistochemistry lab has been installed and is about to provide service soon. Triple marker and quadruple marker tests are also performed on a regular basis which has helped for screening of genetic abnormalities in fetuses.

Health Service Management:
The Management Division (MD) is responsible for DoHS's general management functions. This division is the focal point for information management, planning, coordination, supervision, forecast, quantify- ing, procuring, and distributing health commodities for the health facilities and the monitoring and evaluation of health programs. The division is also responsible for monitoring the quality of air, environmental health, health care waste management, water and sanitation.

The major activities conducted by the IHIMS section in FY 2078/79 are approval of IHIMS's Roadmap (2022-2030), comprehensive revision of HMIS tools (73 tools), orientation on the revised HMIS tools (M-ToT:89 participants, D-ToT: 168, local level Training: 1,522), DHIS2 dashboard program expanded to 33 LLGs, implementation and training on ICD 11, estimation of target population up to ward level, assessment of routine data quality (RDQA) in five districts (Morang, Dhanusha, Dhading, Tanahu, Pyuthan), preparation and publication of DoHS annual report, initiation of national data

warehouse, initiation of DHIS 2 Upgrade from version 2.30 to 2.38, Health Infrastructure Information System (HIIS) integration process. Online self-reporting has been increased from 2,517 to 3,779 from previous FY 2077/78 to this FY 2078/79.

Logistics Management
The Logistics Management Information System (LMIS) unit was established in LMD in 1994. The major functions of the Logistic Management section are the collection and analysis of real-time data up to LLG level and monthly LMIS reports from all the health facilities across the country; preparation, reporting and dissemination of information.

The major activities conducted for the FY 2078/79 were the revision of the LMIS form and Basic Logistics Training Manual, data quality assessment, review and optimization of information flow for the LMIS report, conduction of eLMIS training, implementation/expansion of eLMIS sites, support through help desk, development and implementation of standard operating procedures (SOPs) for the functionality of the eLMIS along with eLMIS monitoring and data utility for decision making.

Personnel Administration
The Personnel Administration Section (PAS) is responsible for routine and program administrative function. Its major functions include upgrading health institutions (O&M), the transfer of health workers, level upgrading of health workers up to 7th level, capacity building as well as internal management of human resources of personnel.

Financial Management
The preparation of annual budgets, the timely disbursement of funds, accounting, reporting, and auditing are the main financial management functions needed to support the implementation of health programs. The Finance Administration Section is the focal point for financial management for all DoHS programs. Out of the total National Budget of Rs. 1,647,576,700,000.00 a sum of Rs. 90,754,500,000 (5.50%) was allocated for the health sector during the fiscal year 2078/79. Of the total health sector budget, Rs. 43,276,927,000.00 (47.68%) was allocated for the execution of programs under the Department of Health Services with COVID-19 control and management.

Medico-legal Services
Constitution of Nepal 2072 in its article 35 guarantees Right to Health for all Nepali citizen and in articles 20, 21 and 22 Right to justice, right of victim of crime and Right against Torture and in violation of such fundamental rights there are provisions of proper remedy or compensation. There are other articles like article 42 Right to social justice, article 44 Right of consumers which are partially or completely related with the medico-legal field for their proper implementation in the real life of people. Time has compelled us to recognize the medico-legal field and it is shown by other means with the spontaneous appearance of more than five dozen of Nepali doctors specialized in the field of forensic medicine. Now it is high time for the Nepal Government to facilitate the environment to utilize those experts in the medico-legal field for providing their specialist service to Nepali people.

During the last FY, a number of activities related to medico-legal services were conducted by DoHS and the Ministry of Social Development (Karnali Province). Around 200 doctors working at the periphery were benefited by these orientation and skill enhancing training.

Monitoring and Evaluation
Monitoring and evaluation play an important role to assess the status of progress of programmers' and policies. The Nepal Health Sector Strategy (NHSS) 2015-2022 focuses on better access to and use of information with ICT. It also emphasizes improved and interoperable routine information systems and prioritizes surveys and research for informed decision-making and better policy and planning processes. The strategy promotes upgraded and integrated health sector reviews at various levels that feed into the planning and budgeting process.

Health Councils
The six professional health councils (Nepal Medical Council, Nepal Nursing Council, Nepal Ayurvedic Medical Council, Nepal Health Professional Council, Nepal Pharmacy Council and Nepal Health Research Council) accredited more effectively the health services, training, research and regulated care providers managed in a scientific manner.

Health Insurance
Health Insurance is a social health security program from the Government of Nepal which aims at enabling its citizens with the access of quality health care services without placing a financial burden on them. In the beginning of FY 2072/73, it was run under the Social Health Development Committee, however since FY 2074/75, it has been running

under the Health Insurance Board (HIB) guided by Health Insurance Act and Regulation. The Health Insurance program prevents people from falling into poverty due to health care costs (catastrophic health expenditure). The Health Insurance Program started from the Kailali district on 25th, Chaitra, 2072. Then it was expanded to Illam and Baglung districts in FY 2073/74. At the end of FY 2076/77, the program was implemented in 58 districts of the country. Till the end of FY 2078/79, the program was implemented in all 77 districts and 746 Local levels of the country. The total cumulative numbers of enrolled people are 6,045,192 and total renewed insures are 3,451,951 at the end of FY 2078/79. During this FY, the total population coverage of the health insurance program is 22.52%. Among the total insured, about 4,248,606 people were active in the health insurance program in FY 2078/79. The leading top five districts based on the number of new enrollments are Jhapa, Sunsari, Morang, Chitwan and Kailali.

Development Partners Support in Health Programs

The outcomes discussed in the previous chapters are the results of combined efforts of the Ministry of Health and Population (MoHP), various development partners (multilateral, bilateral) and other supporting organizations including international organizations and national NGOs and private sectors. The Department of Health Services acknowledges its partnership with these organizations and their large contributions to Nepal's health sector. This chapter lists the focus of these organizations' various programs. Partners have also provided technical assistance in their areas of expertise.

In the current sector programme, the World Bank has allocated all its commitment through a Program-for-Results, a tool which disburses funds against a verifiable set of results, called Disbursement Linked Results (DLRs). UKAid and GAVI are also disbursing part of their commitments against some DLRs identified and agreed with the MoHP. In addition, in the Fiscal Year 2021/2022, Development Partners continued to provide additional funding, in-kind and technical support to the MoHP for the preparedness and response to COVID-19 pandemic.

Summary of the National Health Policy, 2076

1) **Background**

The constitution of Nepal has established basic health care as a fundamental right of its citizens. As the country has moved to a federal governance system, it is the responsibility of the state to ensure the access to quality health services for all citizens based on contextual norms of the federal system. This National Health Policy, 2019 has been formulated based on the lists of exclusive and concurrent powers and functions of federal, state and local levels as per the constitution. Also amalgamated with reference to the policies and programmes of the Government of Nepal; the international commitments made by Nepal at different times; and the problems, challenges, available resources and evidence in the health sector.

2) **Review**

With the establishment of Singhadarbar Vaidyakhana in the seventeenth century, the Ayurveda treatment system began in Nepal. Institutional development of the modern medical system started in Nepal with the establishment of Bir Hospital in 1889. The planned development in the health sector began with the inception of periodic planning in 1956. The first 15- year long-term health plan was introduced in 1975 and the second 20-year long-term health plan, in 1997. After the political change in 1990, National Health Policy 1991 was introduced to address the aspirations of people. Under this policy, sub-health posts in all erstwhile village development committees, health posts in all areas (the then Ilakas - administrative unit) and one primary health center in each electoral constituency were established in order to expand primary health services to the village level. The policy also promoted structural development and expansion, and involvement of private sectors to invest in the health sector. Similarly, the National Health Policy, 2014 stressed on participatory free basic health services in line with the spirit of the interim constitution of Nepal, 2007.
Begun with the International Conference on Primary Health Care Alma-Ata in 1978, the global campaign on primary health services has been reinforced by the Millennium Development Goals and the Sustainable Development Goals. These international commitments have contributed to the development and expansion of Nepal's health system. Similarly, Nepal expressed its commitment to the global campaign of expanding people's access to quality primary health care in the Global Conference on Primary Health Care that took place in Astana, Kazakhstan in October 2018 to review the achievements of Alma-Ata Conference.

3) **Current Situation**

Local and state governments have also started delivering social services including health services after the implementation of federalism in Nepal. Although the central government has expanded a network of primary health care throughout the country so far, there is a need to enhance the quality of services, classify services, distribute skilled technical human resources, and add new service centers to improve the quality as per the expectations of people. Most of the private sector hospitals are concentrated in urban areas and there is a need for collaboration in monitoring and regulating them. Human resources required for almost all levels of health care are being produced within the country with the investment of public and private sectors. However, there again is a need for quality assessment and regulation in the production of human resources since they are the foundation of quality health services. Around 40 percent of drugs required for the county are being supplied internally. Since there is no difference between the prices of domestically produced and imported drugs, it is necessary to technically regulate and scientifically monitor the production, distribution and management of drugs. Similarly, numerous super-specialized treatment facilities relating to eye, heart, kidney, neurology, orthopedic, organ transplant, plastic surgery and cancer have been established in Nepal. International partnership is essential for development and expansion of modern technology in diagnostic and laboratory services for those treatments.

Owing to effective continuation of public health activities, maternal and newborn tetanus, leprosy and trachoma have been eradicated. Similarly, the major health problems seen in the past such as kalaajar, filariasis, malaria, tuberculosis, HIV, measles, whooping cough, diphtheria, Japanese encephalitis, diarrhea, respiratory infections, and typhoid are being controlled and the morbidity is decreasing. Public health activities need to be made more effective and sustained to improve maternal health, child and newborn health.

Several regulatory bodies (Medical Council, Nursing Council, Pharmacy Council, Health Professional Council, Ayurvedic Medical Council and National Health Research Council) are active in ensuring quality of and regulating production of human resources, health services, and health research. It is essential to develop such regulatory bodies and make them more effective.

With the increase in public awareness and expectations about health and treatment services, it is essential to make such services accountable to the people and develop and expand health institutions, hospitals and health science academies in a contemporary manner. For this, it is necessary to make partnerships with supporting countries, donor agencies and international organizations. Such partnership should be transparent and responsive to people.

Similarly, it is essential to collaborate and coordinate with concerned agencies to control and regulate environmental

pollution (air, sound, food, and water) which have been directly or indirectly affecting public health and causing chronic diseases like cancer. It is imperative to develop quality control methods to test, monitor and regulate the effects of agricultural products, food grains and consumable goods on human health.

4) **Problems, Challenges and Opportunities**

4.1. **Problems**

Main problems in promoting and availing quality health services at all levels include: inability to ensure consistent access to quality health services as expected by the people; inability to develop services and human resources accountable to public health and services; no proportionate return from investment in the health services; unavailability of necessary modern equipment and specialized doctors in public health institutions; prevalence of health problems related to communicable and non-communicable diseases, malnutrition, accidents and disasters; and increase in the burden of non-communicable diseases and mental health problems generated from globalization and changes in food habits and lifestyles.

The other problems include imbalance between the production and use of human resources in health services; humanitarian health problems stemmed from increased food insecurity and natural disasters; increase in the incidences of antimicrobial resistance due to inappropriate use of antibiotics; slow pace of decrease in maternal mortality ratio; absence of adequate nutrition in more than one-third of children of 0-5 age and women of reproductive age; and absence of reasonable partnership with and effective regulation of the private sector in community level health services.

4.2. **Challenges**

The challenges in health sector include ensuring equal access of all citizens to all health sectors; providing free, quality basic health services through all local levels; providing health services with priority to ultra-poor and vulnerable citizens; reducing the existing high level of out of pocket expenditure for health care; ensuring required financial resources; establishing and operating health institutions in line with the federal system; effectively implementing health insurance policy; making the health sector responsible towards human health by transforming it from profit-orientation to service-orientation; managing skilled human resources with a blend of skills in health services and social responsibility in the health sector; becoming self-reliant on drugs production; solving health problems associated with climate change, urbanization and changes in lifestyles; managing and regulating medicines and medical products effectively; increasing the use of data in monitoring, evaluation, review, policy making and decision making processes by making the health management information system more effective, integrated and technology-friendly to address the needs of all levels; developing a system to record the causes of deaths and continually conducting researches on them; and to maintain good governance in overall health and nutrition sectors by means of conforming quality health services and regulation.

4.3. **Opportunities**

The existing opportunities in health sector include sharing of responsibilities in health services among the federal, state and local levels as per the constitution; implementation of health insurance through policies and laws; operation of health programmes funded by state and local governments; increase in the availability of new information technologies, drugs and equipment; development of infrastructure and continuous increase in public awareness; expansion of health network up to the community level; stress of current health policies and programmes on management and quality; use of statistics in policy making and decision making processes and prioritization of health services by all levels of the government.

5) **Relevance, Guiding Principles, Vision, Mission, Goal and Objectives**

5.1. **Relevance**

In order to address existing problems and challenges and to ensure the constitutional rights of citizens to quality health services, it is relevant to amend existing health policy, strategies and programmes and formulate a National Health Policy in accordance with the federal context. It is indispensable to continue existing health services and to sustain their achievements as well as to guide the development and expansion of health service infrastructure as per the federal context, given mandates and responsibilities. This policy is also imperative to address the national and international commitments made by Nepal and to achieve the Sustainable Development Goals while safeguarding the achievements of Millennium Development Goals.

5.2. **Guiding Principles**

In order to ensure constitutional rights of citizens to health services through a federal health system and to ensure universal access to quality health services, this policy has been formulated on the basis of the following guiding principles:

a. Universal access to, continuous availability of, transparency and comprehensiveness in quality health

services;
b. Multi-sectoral involvement, collaboration and partnership in health system in accordance with the federal structure.
c. Special health services targeted to ultra marginalized, Dalit and indigenous communities;
d. Good health governance and assurance of adequate financial investments;
e. Diversification of equitable health insurance;
f. Restructuring in the health services;
g. Health and multi-sectoral coordination and collaboration in all policies;
h. Professionalism, honesty and occupational ethics in health service delivery.

5.3. **Vision**

Healthy, alert and conscious citizens oriented to happy life.

5.4. **Mission**

To ensure the fundamental health rights of citizens through optimum and effective use of resources, collaboration and partnerships

5.5. **Goal**

To develop and expand a health system for all citizens in the federal structures based on social justice and good governance and ensure access to and utilization of quality health services

5.6. **Objectives**

5.6.1. To create opportunities for all citizens to use their constitutional rights to health;
5.6.2. To develop, expand and improve all types of health systems as per the federal structure;
5.6.3. To improve the quality of health services delivered by health institutions of all levels and to ensure easy access to those services;
5.6.4. To strengthen social health protection system by integrating the most marginalized sections;
5.6.5. To promote multi-sectoral partnership and collaboration between governmental, non-governmental and private sectors and to promote community involvement; and
5.6.6. To transform the health sector from profit-orientation to service-orientation.

6) **Policies**

1.1. Free basic health services shall be ensured from health institutions of all levels as specified;
1.2. Specialized services shall be made easily accessible through health insurance;
1.3. Access to basic emergency health services shall be ensured for all citizens;
1.4. Health system shall be restructured, improved, developed and expanded at federal, state and local levels as per the federal structure;
1.5. In accordance with the concept of universal health coverage, promotional, preventive, curative, rehabilitative and palliative services shall be developed and expanded in an integrated manner;
1.6. Collaboration and partnerships among governmental, non-governmental and private sectors shall be promoted, managed and regulated in the health sector and private, internal and external investments in health education, services and researches shall be encouraged and protected;
1.7. Ayurveda, naturopathy, Yoga and homeopathy shall be developed and expanded in an integrated way;
1.8. In order to make health services accessible, effective and qualitative, skilled health human resources shall be developed and expanded according to the size of population, topography and federal structure, hence managing health services;
1.9. Structures of Health Professional Councils shall be developed, expanded and improved to make health services provided by individuals and institutions effective, accountable and qualitative;
1.10. Domestic production of quality drugs and technological health materials shall be promoted and their access and proper utilization shall be ensured through regulation and management of efficient production, supply, storage and distribution;
1.11. Integrated preparedness and response measures shall be adopted to combat communicable diseases, insect borne and animal-borne diseases, problems related with climate change, other diseases, epidemics and disasters;
1.12. Individuals, families, societies and concerned agencies shall be made responsible for prevention and control of non-communicable diseases and integrated health system shall be developed and expanded;

1.13. In order to improve nutritional situation, adulterated and harmful foods shall be discouraged and promotion, production, use and access to qualitative and healthy foods shall be expanded;
1.14. Health researches shall be made of international standards and the findings and facts of such reports shall be effectively used in policy formulation, planning and health system development;
1.15. The health management information system shall be made modern, qualitative and technology-friendly and integrated health information system shall be developed;
1.16. Right to information related to health and right of a beneficiary to know about the treatment shall be ensured;
1.17. Mental health, oral, eye, ENT (ear, nose and throat) health services shall be developed and expanded;
1.18. Quality of health services provided by all health institutions including hospitals shall be ensured;
1.19. Good governance and improvement shall be ensured in policy-related, institutional and managerial structures in the health sector through timely amendments;
1.20. In accordance with the concept of health across the lifecycle, health services around safe motherhood, child health, adolescence and reproductive health, adult and senior citizen shall be developed and expanded;
1.21. Necessary financial resources and special fund shall be arranged for sustainable development of the health sector;
1.22. Urbanization, internal and external migration shall be managed and public health problems associated with such phenomena shall be resolved;
1.23. Demographic statistics shall be managed, researched and analyzed to link them with the policy decisions and programme designing;
1.24. Antimicrobial resistance shall be reduced, one-door health policy shall be developed and expanded for the control and management of communicable diseases, environmental pollution such as air pollution, sound pollution and water pollution shall be scientifically regulated and controlled;
1.25. Necessary arrangements shall be made to reduce the risks of immigration process on public health and to provide health protection to Nepalese staying abroad.

Strategies for each policy

1.1. Free basic health services shall be ensured from health institutions of all levels as specified;

1.1.1. Basic health services shall be provided by health institutions free of cost.
1.1.2. The government of Nepal shall arrange resources and provide basic health services to people through the local levels. The state and local governments may include additional services to the specified ones as per the need. However, expenditures for such additional services shall be borne by concerned governments.
1.1.3. Necessary policy, legal and institutional arrangements shall be made by state and local governments to make basic health services effective.

1.2. Specialized services shall be made easily accessible through health insurance;

1.2.1. Treatment services that are not included in the basic health services shall be strengthened and integrated into the insurance system.
1.2.2. Based on the principles of social justice, poor and prioritized target groups shall be linked with the state-subsidized health insurance system.
1.2.3. Formal sectors shall be compulsorily brought into the health insurance system and ultimately, all citizens shall be covered by the health insurance system.
1.2.4. The access of poor people to special health services specified by the state shall be gradually ensured.

1.3. Access to basic emergency health services shall be ensured for all citizens;

1.3.1. Specified emergency health services shall be regularly provided through health institutions of all levels including basic health service centres and primary hospitals. Two-way referral system shall also be arranged.
1.3.2. Targeting possible road accidents in the main highways, trauma service centres shall be built and made operational for immediate treatment services.
1.3.3. At least one ambulance with minimum facilities shall be arranged for each local level and ambulance services with specified standards, classification and modern technologies shall be arranged.
1.3.4. Air ambulance shall be arranged with specified norms to rescue people from ultra-remote areas with critical health conditions.

1.3.5. Emergency treatment fund shall be arranged and mobilized as specified in the guidelines.
1.3.6. In order to make the quality of emergency treatment at par with the international standards, training for doctors, nurses and other health workers shall be given compulsory life support training.

1.4. Health system shall be restructured, improved, developed and expanded at federal, state and local levels as per the federal structure;

1.4.1. Existing structure of the health sector shall be amended as per the need and necessary structures shall be established including National Disease Control Centre for disease control, epidemic control and research.
1.4.2. Necessary legal and institutional arrangements shall be made to strengthen the health system in line with the federal structure.
1.4.3. Hospitals and health institutions, health services and human resources at the federal, state and local levels shall be developed and expanded in accordance with the demographic distribution, geographic situation and needs. Basic health service centres shall be established under each ward of the local levels, primary hospitals under each local level, secondary hospitals and provincial hospitals under the state level and super specialized hospitals under the federal level shall be established. Similarly, at least one tertiary hospital and one health science academy in each state under the federal government shall be established.
1.4.4. Two-way referral system from community level to the super specialized service providers shall be effectively implemented to make the treatment service more systematic.
1.4.5. E-health shall be institutionalized and modern technologies such as mobile health; telemedicine shall be developed, expanded and regulated. Health services, health education, medical services and health systems shall be digitalized.
1.4.6. Diagnostic services shall be made modern and technology-friendly and the national public health laboratory shall be strengthened to the international standards. A reference laboratory and a diagnostic centre shall be established in each state.
1.4.7. In order to improve the quality of health services provided by all governmental, non-governmental, community and private health institutions, Nepal Health Infrastructure Development Standards and Minimum Service Standards shall be implemented. Similarly, specified standards for non-governmental, community and private health institutions shall also be gradually implemented.
1.4.8. Partnership, collaboration between governmental and non-governmental sectors and community shall be promoted and blood transfusion services shall be institutionally developed and expanded to all state and primary hospitals.
1.4.9. With public-private partnership and through volunteer blood donors, availability of safe blood and blood-related items shall be ensured.
1.4.10. Human organ transplant, organ donation services and organ donation of brain-dead persons shall be managed, developed and expanded.
1.4.11. Medico-legal services shall be developed and expanded to all states and primary hospitals.
1.4.12. Home health service, school health service and health services provided by various institutions shall be managed and regulated.
1.4.13. Relevant modern technology shall be used or modernized to make health services qualitative and cost-effective

1.5. In accordance with the concept of universal health coverage, promotional, preventive, curative, rehabilitative and palliative services shall be developed and expanded in an integrated manner;

1.5.1. People's responsibility to keep them healthy and healthy lifestyle shall be promoted through health awareness programmes.
1.5.2. In coordination with the education sector, school health programme and health awareness campaigns shall be gradually expanded to higher secondary schools ensuring the availability of at least one health personnel in each school.
1.5.3. Contemporary vaccination services shall be adopted depending on prevalence of disease and cost-effectiveness. Right of target groups to receive vaccination shall be ensured and compulsory vaccination shall be implemented.
1.5.4. In order to promptly identify health hazards among various population groups, regular health check-ups shall be arranged.

1.5.5. Universal and equitable access to health services shall be ensured with priority to population of various age groups, genders, classes and regions.
1.5.6. Private and non-governmental organizations shall be promoted to establish rehabilitative and palliative service centres with physiotherapy services at federal, state and local levels.
1.5.7. In order to address local health needs and behaviors, the production, broadcasting and dissemination of health-related messages and materials shall be made scientific, managed, effective and regulated.
1.5.8. Surveillance system shall be implemented on environment, sanitation, drinking water and food items, etc. in coordination with concerned stakeholders.
1.5.9. Standards, mechanisms and level-wise mandates for public health impact assessment of specified industries, professions or projects shall be determined to identify, prevent and minimize their adverse effects on public health.
1.5.10. In order to address social determinants of health, multi-sectoral partnership and cooperation among various state mechanisms shall be made more effective. Inclusion of policies from other sectors in the health policies and plans shall be encouraged and advocated for.

1.6. Collaboration and partnerships among governmental, non-governmental and private sectors shall be promoted, managed and regulated in the health sector and private, internal and external investments in health education, services and researches shall be encouraged and protected;
1.6.1. Partnerships with private and non-governmental organizations shall be done based on specified parameters to ensure health and treatment facilities for targeted groups and areas.
1.6.2. Professionalism, efficiency, entrepreneurship, technical skills and financial resources of the private sector shall be utilized for the development and expansion of health services, and social responsibility shall also be promoted.
1.6.3. Parameters for approval of hospitals shall be equal and practical for governmental, non-governmental or private sectors. Similarly, private hospitals shall be encouraged to open outside the Kathmandu valley and in rural communities. Regular reports from hospitals and health institutions on their services shall be made mandatory and effective monitoring and regulation shall be put in place.
1.6.4. In order to ensure access of quality health services to all, fees shall be determined depending on the classified facilities of treatment and health services provided by all levels and types of hospitals and health institutions.
1.6.5. Health tourism shall be promoted by developing specialized and super-specialized health services and through partnership between the governmental, private and non-governmental sectors.
1.6.6. Volunteerism in health services shall be promoted and female health volunteers shall be mobilized and managed through local levels.

1.7. Ayurveda, naturopathy, Yoga and homeopathy shall be developed and expanded in an integrated way;
1.7.1. In line with the federal structure, level-wise institutions related with Ayurvedic healthcare shall be systematically developed and expanded.
1.7.2. Other healthcare systems, such as Yoga and naturopathy, homeopathy, Unani, acupuncture shall be developed and expanded as per the federal structure.
1.7.3. Locally available medicinal herbs, minerals and animal substances shall be identified, conserved, collected and promoted. Those items shall be used in scientific researches on Ayurvedic healthcare and self-reliance shall be promoted.
1.7.4. Existing and traditional healthcare systems shall be enlisted, managed and regulated as per specified parameters.
1.7.5. A national Ayurveda, Yoga and Panchakarma Centre with specialized services such as Ayurveda, Panchakarma, Yoga and naturopathy shall be established to support health tourism and such initiatives shall be gradually expanded as per the federal structure.
1.7.6. Ayurveda health science academy and Ayurveda University shall be established and studies, treatment and researches shall be carried out on Ayurveda science and naturopathy system.

1.8. In order to make health services accessible, effective and qualitative, skilled health human resources shall be developed and expanded according to the size of population, topography and federal structure,

hence managing health services;

1.8.1. Necessary health human resources shall be obtained, developed and utilized based on short-term and long-term plans for the federal structure.

1.8.2. In collaboration with concerned agencies, integrated national curriculum shall be developed to produce necessary health human resources at all levels.

1.8.3. The concept of 'one doctor/health professional - one health institution', in which a doctor or a health professional stays only in one government health institution, shall be gradually implemented in all government health institutions. In order to make it more effective and to expand access to health services, extended hospital services shall be implemented in government hospitals with financial and other incentives.

1.8.4. In order to ensure availability of basic health services in all basic health centres at all wards, integrated treatment services shall be implemented which shall include primary treatment for emergencies, primary lab services and other basic services.

1.8.5. An MDGP doctor and necessary posts shall be created and arranged for emergency treatment, lab, pharmacy, nursing and public health services shall be availed at the primary hospitals of all local levels.

1.8.6. Clear pathways and opportunities for the professional growth of health human resources through higher education, in-service training, continuous professional training, and professional development shall be put in place and professional researches shall be encouraged and promoted.

1.8.7. Arrangements shall be made for the production of specialized human resources required for contemporary genres of quality health services (e.g. midwife, hospital management, medical leadership, health economics, etc.).

1.8.8. An umbrella act shall be formulated and implemented for the development and expansion of health science academies. The concept of teaching district shall be implemented throughout the country.

1.8.9. Information technology-friendly documentation of health institutions and human resources of all levels and types shall be maintained and updated.

1.9. Structures of Health Professional Councils shall be developed, expanded and improved to make health services provided by individuals and institutions effective, accountable and qualitative;

1.9.1. An integrated umbrella act for health-related professional councils shall be implemented and expanded to the state levels.

1.9.2. Institutional and technical capacity of health-related councils shall be increased.

1.9.3. Code of conduct shall be enforced to make the service providers professional and accountable to the health of beneficiaries.

1.9.4. Performance based pay and incentives shall be arranged to make the health professionals responsible to their work and services.

1.10. Domestic production of quality drugs and technological health materials shall be promoted and their access and proper utilization shall be ensured through regulation and management of efficient production, supply, storage and distribution;

1.10.1. Mechanisms shall be developed as per the federal structure to determine price and quality of drugs, equipment and technological health materials and to regulate them. Generic prescription and hospital pharmacies with skilled technicians shall be implemented.

1.10.2. National production of essential drugs and technological health materials shall be encouraged and self-reliance shall be increased.

1.10.3. Medicines and food items management divisions shall be set up at the federal Health Ministry and the Ministry of Social Development at the state level as per the food security policy and drugs quality and price control policy. National standards for domestically produced and imported drugs and medical supplies shall be prepared to ensure their quality.

1.10.4. Procurement, transportation, quality storage and distribution system shall be made more effective and systematic by preparing specifications of drugs and medical supplies.

1.10.5. Guidelines and standards shall be developed to receive and utilize medicines, equipment, medical supplies as per the need from international, national and local government, non-government and private entities.

1.10.6. National medical surveillance shall be extended to all levels and made effective to manage import and

export of drugs.

1.10.7. Surveillance and research shall be strengthened to address antimicrobial resistance and preventive and control measures shall be applied in coordination with livestock, agriculture and food sectors.

1.10.8. Effective regulation shall be put in place to ensure quality of Ayurvedic medicines and herbal products.

1.11. Integrated preparedness and response measures shall be adopted to combat communicable diseases, insect-borne and animal-borne diseases, problems related with climate change, other diseases, epidemics and disasters;

1.11.1. Effective programmes shall be implemented for study, researches, surveillance, prevention, control, elimination and eradication of communicable diseases including tuberculosis, HIV/AIDS and malaria.

1.11.2. Notification system for classified diseases shall be developed and implemented.

1.11.3. Capacity and mechanisms shall be developed at federal, state and local levels to gradually prevent, eliminate and eradicate diseases as per the International Health Regulations, 2005.

1.11.4. Environment and health-friendly technologies shall be encouraged; state and local levels shall be made responsible for proper management, regulation and continuous monitoring of waste and medical garbage produced by hospitals, health institutions and laboratories.

1.11.5. Coordination and advocacy shall be done to promote domestic and community waste management and environment cleanliness.

1.11.6. Programmes to minimize climate change-induced health problems shall be revised and developed in collaboration and coordination with stakeholders.

1.11.7. Mechanisms shall be set up at all levels to immediately address disasters and epidemics; their capacity development, response plans, preparedness and mobile hospital services shall be arranged.

1.11.8. Citizen and community participation and contribution in overall health services including in disaster management, risk reduction and health promotion shall be encouraged.

1.12. Individuals, families, societies and concerned agencies shall be made responsible for prevention and control of non-communicable diseases and integrated health system shall be developed and expanded;

1.12.1. Programmes to promote healthy life style shall be developed and extended through health institutions of all levels.

1.12.2. Multi-sectoral coordination with institutions related with drinking water, environmental cleanliness, food security, education and so on shall be strengthened to promote health.

1.12.3. Multi-sectoral partnership shall be implemented and necessary standards shall be developed and implemented to reduce adverse effects and risks caused from enterprises and to make workplace secure and healthy.

1.12.4. Proper systems shall be developed to prevent and treat hereditary diseases.

1.12.5. Processed and readymade food items that are harmful to human health shall be discouraged and use of hazardous chemicals, pesticides, adulteration during the production, storage, processing and sales shall be controlled and regulated.

1.12.6. Use of stimulating drugs and alcohol shall be discouraged through multi-sectoral coordination and sales, spread and use of tobacco products shall be effectively regulated.

1.12.7. Promotional programmes and structural arrangements shall be implemented to prevent road accidents and other disasters (fire, lightning strike, etc.).

1.12.8. Coordination and advocacy with concerned stakeholders shall be done for construction of cycle lane, public parks, etc. to promote healthy lifestyle and to reduce adverse effects of environmental pollutions and development works on public health.

1.13. In order to improve nutritional situation, adulterated and harmful foods shall be discouraged and promotion, production, use and access to qualitative and healthy foods shall be expanded;

1.13.1. Multi-sectoral nutrition policy and programmes including food security shall be updated and implemented with priority.

1.13.2. In order to improve micronutrient situation of women, children and people of different age groups, food diversification and balanced diet shall be emphasized and short-term, medium-term and long-term measures at all levels shall be adopted.

1.13.3. School health programme and nutrition education programmes shall be strengthened, developed and implemented.
1.13.4. Consumption of nutritious and healthy food items shall be promoted and domestic production shall be encouraged.
1.14. Health researches shall be made of international standards and the findings and facts of such reports shall be effectively used in policy formulation, planning and health system development;
1.14.1. Institutional structure, capacity and scope of Nepal Health Research Council shall be updated, developed and expanded to federal structures and made as per international standards.
1.14.2. Capacity of all levels shall be developed in health researches; and health researchers and technical human resources shall be motivated to researches in coordination with academic and educational institutions.
1.14.3. Results of health research conducted by all sectors and entities shall be integrated and those facts, reports and conclusions shall be used in formulation of policies and plans and health system development and expansion.
1.14.4. Books, knowledge, skills on indigenous medicinal herbs, minerals, animal substances, Ayurveda and traditional healthcare shall be researched and recorded, protected and promoted as intellectual property.
1.15. The health management information system shall be made modern, qualitative and technology-friendly and integrated health information system shall be developed;
1.15.1. Health management information systems of all levels as per federal structure shall be developed and managed in an integrated manner.
1.15.2. Health management information system shall be made integrated, technology-friendly, contemporary and regular and capacity of all levels shall be enhanced to use the information.
1.15.3. The facts and information obtained from health management information system, researches, surveys and surveillance shall be used in monitoring, evaluation, policy formulation, programme development and decision making processes at various levels.
1.15.4. Security of health information shall be ensured and health information of beneficiaries shall be maintained in e-recording system.
1.15.5. Existing surveillance system in the health sector shall be strengthened and an integrated surveillance system shall be developed and implemented.
1.16. Right to information related to health and right of a beneficiary to know about the treatment shall be ensured;
1.16.1. The service providers shall be made responsible in health information flow, health institutions shall be developed as information-friendly and the rights of beneficiaries to informed consent, privacy and information shall be ensured.
1.16.2. Communication materials that may directly or indirectly have adverse effects on people's health and on society shall be discouraged and regulated.
1.17. Mental health, oral, eye, ENT (ear, nose and throat) health services shall be developed and expanded;
1.17.1. Primary treatment of eyes shall be integrated into basic health services.
1.17.2. Eye health services shall be developed and expanded with public-private partnership and an eye health unit shall be set up in the federal Ministry of Health for coordination, partnership and regulation.
1.17.3. Oral health services and control and treatment of dental diseases shall be developed and expanded at all levels including basic health centres.
1.17.4. Ear, nose, throat treatment services shall be developed and expanded to all levels.
1.17.5. People's access to mental health and psychosocial services shall be ensured through primary hospitals by promoting transfer of knowledge and skills, service-oriented skills and special training.
1.17.6. Other specialized health services shall be developed and expanded as per needs.
1.18. Quality of health services provided by all health institutions including hospitals shall be ensured;
1.18.1. In order to ensure quality of health services, a regulatory mechanism (accreditation entity) shall be established and developed at the federal level.
1.18.2. Minimum service standards for health institutions of all levels shall be developed and implemented after necessary amendments.
1.18.3. Guidelines, quality standards and standard treatment (treatment protocol) shall be developed and amended for the provision of quality health services.
1.18.4. Quality testing guidelines for health materials including vaccines, medicines, medical equipment,

biological reagents and health products from production to distribution shall be developed, updated and implemented.

1.18.5. Medical and managerial audit of health institutions shall be carried out and the quality of services and institutional capacity shall be strengthened.

1.18.6. Necessary standards for effective management of health services that use radiation shall be prepared and implemented.

1.19. Good governance and improvement shall be ensured in policy-related, institutional and managerial structures in the health sector through timely amendments;

1.19.1. Health governance procedures shall be developed and implemented to make health services transparent, accountable and responsive.

1.19.2. Necessary mechanisms shall be developed and used to address grievances, complaints and suggestions of beneficiaries.

1.19.3. Provisions of existing laws shall be amended and implemented for the security of health service providing individuals and institutions.

1.19.4. Integrated monitoring and evaluation framework shall be developed, updated and implemented to assess the health services and management of health institutions of all levels.

1.19.5. Public hearing and social audits shall be arranged about the health services provided by all health institutions.

1.19.6. Institutional capacity shall be improved for effective management of health services at all levels.

1.19.7. In view of community cultures, the health services shall be made beneficiary-friendly and consumer rights shall be ensured.

1.20. In accordance with the concept of health across the lifecycle, health services around safe motherhood, child health, adolescence and reproductive health, adult and senior citizen shall be developed and expanded;

1.20.1. Safe motherhood and reproductive health services shall be made of good quality, affordable and accessible.

1.20.2. Health services targeted to vulnerable age groups such as maternal-infant health, child health, adolescent health, adult health and geriatric health shall be strengthened and professional midwifery and nursing services shall be expanded.

1.20.3. In view of social determinants that affect women's health, special programmes shall be implemented in coordination with concerned stakeholders.

1.20.4. In order to strengthen safer motherhood and reproductive health, skilled birth attendants shall be arranged in all wards.

1.20.5. Abortion services shall be made qualitative and effective as per the law.

1.20.6. Health services related with infertility shall be gradually extended to the state levels.

1.21. Necessary financial resources and special fund shall be arranged for sustainable development of the health sector;

1.21.1. Integrated health finance strategy shall be formulated and implemented to ensure equitable access of all to health services, to reduce out of pocket expenditure on health and to mobilize financial resources in the health sector in a cost-effective manner.

1.21.2. State expenditure on health shall be gradually increased and the burden of expenditure for individuals shall be reduced.

1.21.3. National health accounts with analytical details of overall income, expenditure, distribution and use of resources in the health sector shall be annually published and used in the preparation of policies, programmes and plans.

1.21.4. Maximum portion of revenue generated from tobacco and alcohol products shall be used in public health promotion programmes.

1.21.5. Economic support received from international development partners shall be mobilized based on results, priority and with avoidance of duplication.

1.21.6. Federal Ministry of Health shall arrange a special fund for remote, rural and marginalized communities. State and local governments shall add some amounts in the fund and conduct outreach clinics and integrated basic health mobile services.

1.22. Urbanization, internal and external migration shall be managed and public health problems associated

with such phenomena shall be resolved;

1.22.1. Demographic information shall be analyzed to prepare plans for overall development, to formulate projects and to develop programmes.

1.22.2. A system to examine the cause of deaths shall be developed and linked with the vital registration system.

1.22.3. External and internal migration and urbanization shall be effectively managed. Measures to minimize the effects of such phenomena in public health shall be adopted.

1.22.4. Guidelines shall be prepared and implemented to ensure health security of citizens going for foreign employment.

1.23. Demographic statistics shall be managed, researched and analysed to link them with the policy decisions and programme designing;

1.23.1. Actual demographic data with age distribution shall be updated through the ward level health institutions and targeted health programmes shall be designed for age-specific groups.

1.23.2. Based on the concept of health across the lifecycle, demographic data management, researches and analyses shall be done to link with the decision making process and programme designing.

1.23.3. In order to ensure access of handicapped and people with disability to health services, disability-friendly structures and mechanisms shall be ensured at all levels.

1.23.4. Coordination shall be made with concerned agencies to establish senior citizen care centres with public-private partnership.

1.24. Antimicrobial resistance shall be reduced, one-door health policy shall be developed and expanded for the control and management of communicable diseases, environmental pollution such as air pollution, sound pollution and water pollution shall be scientifically regulated and controlled;

1.24.1. Concrete scientific plans and programmes shall be developed and implemented in partnership with concerned authorities to minimize adverse effects of environmental pollution including air pollution, sound pollution, water pollution and chemical pollution on public health.

1.24.2. A plan of action shall be developed and implemented to regulate and control food pollution and adulteration.

1.24.3. In order to reduce antimicrobial resistance, necessary plan of action shall be developed and implemented to effectively regulate and control the misuse of antibiotics.

1.25. Necessary arrangements shall be made to reduce the risks of immigration process on public health and to provide health protection to Nepalese staying abroad.

1.25.1. Necessary arrangements shall be made to ensure pre-departure, in-destination-country and post-return health check-up, to promote access to and use of health services.

1.25.2. Necessary mechanisms and procedures shall be developed and used to promote and ensure access to and use of health services for Nepalese abroad.

1.25.3. Health examination for foreign nationals before entering Nepal shall be made compulsory.

1.25.4. Migration Health Management Information System shall be developed and implemented to manage the migration health information

7) **Institutional Arrangement**

The following arrangements shall be made for the implementation of this national health policy.

7.1. This policy shall remain as a guiding policy for the state and local governments to develop their respective policies within their mandates for operation of health activities and flow of services.

7.2. For effective implementation of this policy, the present structure of health institutions in federal, state and local levels and other health-related institutions shall be reviewed, improved, revised and reformed to discharge responsibilities as defined by the constitution.

7.3. Act, regulations, standards, guidelines, procedures and protocols shall be developed and implemented as envisioned by this policy.

7.4. Institutional capacity shall be strengthened by creating necessary staff posts as per the federal structure.

7.5. Existing theme-wise policies in the health sector shall be developed and amended as thematic comprehensive strategies, as needed.

7.6. State and Local levels shall develop and expand structures in respective levels as per this National Health Policy, 2019.

7.7. A detailed plan of action for this policy shall be prepared and implemented.

8) **Financial Resources**

Government budget allocated by federal, state and local levels, foreign loan and grant, investment from private and non-governmental sectors shall be the financial resources to implement this policy.

9) **Monitoring and Evaluation**

9.1. Appropriate mechanism shall be managed and devised to regularly monitor and evaluate the health programmes implemented at various levels of the state.

9.2. Results-based monitoring and evaluation framework developed and used by the National Planning Commission and the monitoring and evaluation system used by the Ministry of Federal Affairs and General Administration shall be taken into account while developing a monitoring and evaluation system for this policy.

9.3. Health management information system shall be updated, monitoring and evaluation system shall be made easier and regular with the use of electronic system.

10) **Risks**

10.1. Although this National Health Policy, 2019 has been formulated based on the constitution that guarantees basic health services for all citizens as a fundamental right and the policy and programmes of the Government of Nepal that envision equitable access to quality health services through the federal structure, unavailability of adequate budget may pose difficulty in the implementation of this policy and strategies.

10.2. Health services may be affected due to complexities associated with the development of health infrastructure, organizational reforms and the management of health human resources.

11) **Repeal and Saving**

The National Health Policy, 2014 has been repealed. Existing theme-wise policies of health sector shall be repealed once concerned thematic strategies are formulated.

Summary of the Fifteenth Plan- Health and Nutrition FY 2019/20-2023/24

Background

The Constitution of Nepal has the provision of the right to get free basic health services from the state as a fundamental right of the citizens of Nepal. Considering the importance of healthy and productive citizens in the nation's development, the state has an obligation to ensure equitable access to quality and easily accessible health services by increasing investment in this sector. In this context, as per the concept of federal state, it is necessary to gradually transform the health sector from being profit-oriented to service-oriented. As per the list of exclusive and concurrent powers enumerated by the Constitution, the functions of formulating health policy and standards, ensuring quality and monitoring, traditional treatment services and infectious disease control have been assigned to the federal government whereas the responsibility of health services have been assigned to the federal, provincial, and local levels. For its effective implementation, inter-ministry coordination and collaboration is a must.

As a result of various programmes implemented in the health service, the infant mortality rate per thousand live births has decreased to 32, the neonatal mortality rate has decreased to 21, the child mortality rate (under five years) has decreased to 39 and the maternal mortality rate has decreased to 239 (per one hundred thousand live births) and total fertility rate is 2.3 per woman. Similarly, the rate of stunting in children below five years has decreased to 36 percent. In this context, the national agenda is to achieve Sustainable Development Goals in keeping with the international commitments Nepal has made time to time, existing policy of the government as well as the major problems, challenges, and opportunities of the health and nutrition sector. To make citizens healthy, there is a need to increase investment in modern medicine as well as the medicines pertaining to ayurvedic, naturopathic and homeopathic treatment, and good governance and research in the health sector. According to this Plan, the state must play the lead role whereas the private and cooperative sectors have to play complementary roles in bringing health services to the doorsteps of the people.

Vision,Goal, Objectives, Strategies,and WorkingPolicies

Vision

Healthy, productive, responsible, and happy citizens.

Goal

To ensure access to quality health services at the people's level by developing and expanding a strong health system at all levels..

Objectives

1. To achieve balanced development and expansion of all sorts of health services at the federal, provincial, and local levels.
2. To transform the profit-oriented health sector gradually into a service-oriented sector by increasing government responsibilities and effective regulation for easily accessible and quality health service.
3. To promote a healthy lifestyle by making health service providers and service seekers more responsible for increasing the citizens' access to health service through multi-sectoral coordination and partnership.

Strategies and Working Policies

Strategies	Working Policies
1. To ensure access of citizens in basic to specialized and quality health services including preventive, promotional, curative, restorative, and palliative care.	1. A package and protocol will be prepared and implemented for easy access of citizens in free basic health services. 2. Procedures will be formulated and implemented for the development and expansion of modern technology including telemedicine for delivering quality health services in an easily accessible way by expanding access ofcitizens of rural areas in health services and mobile health services programmes in collaboration with the private and the non-governmental sectors. 3. Rehabilitation centers will be established at all levels incollaboration with the private and the non-governmental organizations by formulating procedures for partnership in the health services and the community-based rehabilitation and palliative services will be developed and expanded. 4. Timely vaccination services will be provided based on the burden of disease and cost-effectiveness. The National Immunization Fund will be strengthened to make the immunization services sustainable. 5. Promotional programmes will be carried out for maintaining good and cordial relationship among doctors/health professionals and patients through code of conduct and by ensuring harmonious behavior. 6. The required budget will be ensured for reforming the quality of health services provided by health institutions at all levels by effectively implementing Nepal Health Infrastructure Development Standards and Minimum Service Standards (MSS).
2. To systematically develop and expand Ayurveda, natural medicine, and other medicines.	1. The required structure will be made for identification, collection, conservation, and promotion of medicinal herbs, minerals, and animal products available at local levels. 2. National Ayurveda, Yoga, Meditation, Pranayam, psychological counselling, Panchakarma, and Natural Medicine Service Centre will be established for the promotion of health tourism by listing and systemizing prevailing natural medicine, alternative, and other medicinal methods and services.
3. To address the health necessity of citizens of all age groups as per the Life Course Approach and to make additional improvements and expansion of overall development of mother and child, children and adolescents, and family management services	1. The overall development of mother and child, children and adolescents, and family management services will be reformed further and expanded as per the concept of the lifecycle. 2. The health services will be made senior citizen-, gender-and disability-friendly as per the Life Course Approach to address the health needs of citizens of all age groups. 3. Provisions will be made for regular health check-ups for the rapid detection of health risks of various age groups. 4. Provisions will be made for a free check-up for the diseases increasingly prevalent among women such as breast cancer and cervical cancer. 5. Special programmes including evidence-based midwife education and services will be formulated and carried out for reducing the maternal mortality rate.

Strategies	WorkingPolicies
4. To develop and expand hospitals and health institutions at federal, provincial, and local levels and also to generate multi-skilled and competent human resources capable of bearing the social responsibility based on demographic distribution and geographical situation and needs.	1. At least one basic health service center in every ward of the local level, at least one primary hospital capable of providing basic emergency operation and primary trauma care in every local level, a secondary level hospital, provincial hospital, and a highly specialized hospital under each province and at least a highly specialized hospital and academy of health science in every province under the authority of federal level will be established and operated. 2. The concept of "one doctor/health professional-one health institution" will be implemented gradually in all governmental health institutions as the doctor/ health professional working in the government health institutions will work only in at one health institution and the extended health services will be implemented with additional facilities in governmental hospitals for effective implementation of this concept and expansion of access to the services. 3. A master plan will be prepared and implemented for determining number, type, place, and required health human resource of the health institution by developing modern techniques and certain standards. 4. Scholarships will be provided for various segments of health service based on priority in keeping with the needs of the country andavailable financial resources.
5. To develop a sustainable health financing system by increasing national investment in health.	1. An Integrated National Health Financing Strategy will be formulated and implemented including therein the subjectof enhancing equitable access of all to the health services, reducing personal expenditure in the health services, and mobilizing financial resources in health based on cost efficiency. 2. Quality basic health services will be providedfree ofcostat all local levels and other health services including freeand specialized health services will be provided through equitable health insurance.
6. To manage and regulate the collaboration and partnership among governmental, private, and non-governmental sectors while ensuring the leadership role of government in health services.	1. "One school-one health worker policy" will be implemented in coordination with the education sector. 2. Human resources, structure, and scope of health-related regulatory entities will be reformed, and the umbrella structure of related professional councils will be developed and expanded. 3. An Integrated Umbrella Act will be formulated for making health science institutions more systematic and the required structure will be developed and expanded. 4. Collaboration and coordination will be carried out with 2. Health institution of private, community, and non-governmental sectors for the achievement of certain Objectives through setting clear standards and procedures. 5. Medical good governance will be maintained including the governmental, private, community, and cooperative sectors and the price of health services will be regulated using certain criteria. 6. Regulation and continuous monitoring will be carried out for the proper management of wastage and medical waste produced by hospitals and other health institutions and laboratories by making the provincial and local levels responsible for the task.

Strategies	Working Policies
7. To regulate and manage new technology-based health materials as well as production, import, storage, distribution, and use of drugs and drug-relatedmaterials.	1. Considering the drugs provided free of cost by the Government of Nepal, the country will be made self-rely in drug production. 2. The production, storage, and distribution of drugs and technology-based health materials will be made effective by emphasizing the commercial farming of medicinal herbs and the development and promotion of the drugs industry. 3. The regulatory entity will be enhanced and expanded for making more effective the implementation of generic prescription, determination of price and quality of drugs, mitigation of antibiotic response, control of misuse of antibiotics, and research of drugs.
8. To adopt integrated measures including community health system for controlling infectious and non-infectious diseases and for public health disaster Management preparedness and response.	1. An integrated entity will be established at the national levelfor the study, research, surveillance, prevention, control, care, eradication, and regulation of infectious and non-infectious diseases and the programmes will be carried out accordingly. 2. A long-term strategy will be prepared and implemented through multi-sectoral coordination for implementing prevention, control, and treatment system of non-infectious and chronic diseases. 3. An action plan will be made and carried out for the prevention and treatment programmes for hereditary diseases like sickle cell anemia and thalassemia based on demographic research on the burden and distribution of thedisea ses. 4. Access to mental health services will be expanded at alllevels. 5. The eye-, nose-, ear-, and throat-related health services will be gradually developed and expanded to the federal, provincial, and local levels. 6. Procedures will be formulated and implemented for a prompt response to disasters and pandemics at the federal, provincial, and local levels, integrated development of ambulance services, and the mobilization of well-equipped trained doctors and health professionals.
9. To increase the use of data in monitoring, assessment, review, policy formulation, and decision process by making health information systems more systematic, integrated, and technology-friendly with properly addressing the demand of health Information of all levels.	1. The quality of health data management will be enhancedand made technology-friendly, and the use of data will be promoted in policy formulation and decision making of all levels by conducting the study, research, survey, projection, and analysis. 2. Provisions will be made for electronic reporting at the health institutions level by making the data management technology-friendly and the electronic health record system will be gradually expanded to all health institutions. 3. The health data produced at the local levels will be integrated into the national main network as required and a system will be developed to update and disseminate the Information regularly. 4. Studies, research, and surveys will be carried out basedon national necessity and priority and the findings will be used in the formulation of policies and programmes.

Strategies	Working Policies
10. To make timely revisions in the scope of the Nepal Health Research Council and develop and expand it to the provincial level.	1. The structure of Nepal Health Research Council will be expanded to the provincial level coordinating with universities and the academic sector in health research for the formulation of evidence-based health policy and plans.
11. To make provisions for mitigating the risk to public health by the migration process.	1. By developing migration health management information systems, policy and institutional provisions will be made for health check-ups and easy access to health services atthe pre-departure, destination, and post-departure points of the migrants.
12. To implement the Multi-Sector Nutrition Plan (MSNP) through coordination and partnership.	1. The nutrition-related mechanism formed at the provincial and local levels will be strengthened along with nutrition improvement plan as envisaged by Multi-Sector Nutrition Plan II, and provisions will be made for carrying out nutrition-specific and nutrition-sensitive programmes through all local levels. 2. Healthy behaviors will be promoted for mitigating malnutrition by increasing the access to and utilization of quality and healthy food items.
13. To include health in all policies through multi-sector coordination.	1. The multi-sector coordination will be strengthened in areas including drinking water, sanitation, air and sound pollution, food security, education, and road in order to address the public health issues and implement the concept of “Health in all policies” through coordination with the relevant stakeholders. 2. The contamination and use of tobacco-based goods, alcohol, chemical substances, poison, and non-food items that have adverse health effects will be controlled and regulated. Production, transmission, and dissemination of the health-related message and materials will be made scientific, systematic, and effective for discouraging and controlling false and misleading messages and advertisements promoting processed and readymade food items considered harmful to the public health. 3. Every citizen will be informed about healthy foods as perthe concept of the healthy kitchen for making “My health, my responsibility” campaign effective, and coordination and collaboration will be carried out with the stakeholders for construction and establishment of cycle lanes, one home one kitchen-garden, public park, gymhall, yoga practice and panchakarma center for promoting a healthy environment and active lifestyle. 4. Standards and mechanisms will be created at the federal, provincial, and local levels for assessing public health impact by considering the occupational health and safety ofthe industries, businesses, and projects before approving them.

Expected Outcome

The expected result of the 15th plan is as reflected bin below matrix.

S.N.	ResultIndicators	Unit	BaseYear (2018/19)	Targets					Sourceof Information	Responsible Agency
				2019/20	2020/21	2021/22	2022/23	2023/24		
	Outcomes									
	Healthandpopulation									
1	Ratio of health treatment expenses to personal expenses	Percent	53	45	44	43	42	40	NDHS	MoHP
2	Maternal Mortality Ratio (per 100,000 live birth)	Person	239	200	175	150	125	99	NDHS	MoHP
3	Under-five mortality rate (per thousand live birth)	Person	39	35	31	28	26	24	NDHS	MoHP
4	Infant mortality rate (per thousand live birth)	Person	21	18	17	16	15	14	NDHS	MoHP
5	Total fertility rate	Per woman	2.3	2.3	2.2	2.2	2.1	2.1	NDHS	MoHP
6	Adolescent fertility rate (Women below19 years)	Percent	13	12	10	9	8	6	NDHS	MoHP
7	Successful treatment rate of tuberculosis identified patients	Percent	86	90	95	95	95	95	MIS	MoHP
12	Mortality rate of people in the30-70 years age group having cardiovascular disease, cancer, diabetes or chronic respiratory problem	Per thousand	2.8	2.54	2.45	2.40	2.35	2.30	MIS	MoHP

INTRODUCTION

1.1 Background

The Constitution of Nepal 2015 has mentioned health as a fundamental right of its citizens. Article 35 of the constitution elaborates the right of all Nepali citizens to exercise the provision of free basic health services from the state, emergency health services, information about his/her medical treatment, equal access to health services and access to clean drinking water and sanitation. The Constitution also guarantees the right to demand and receive information on any matter of his/her interest or of public interest. Good Governance Act 2008, clause 41 vividly mentions every department and other government agencies at the central level shall, every year, prepare an annual report and submit it within the described period, to the Office of Prime Minister and Council of Ministries. In line with the Constitution of Nepal and Good Governance Act, Department of Health Services (DoHS) has published this Annual Report of fiscal year 2078/79 (2021/22). This is the 28th consecutive report of its kind and it is the fifth Annual Report after restructuring the Ministry of Health and Population (MoHP).

This report mainly focuses on performance of DoHS in FY 2078/79 on following areas:

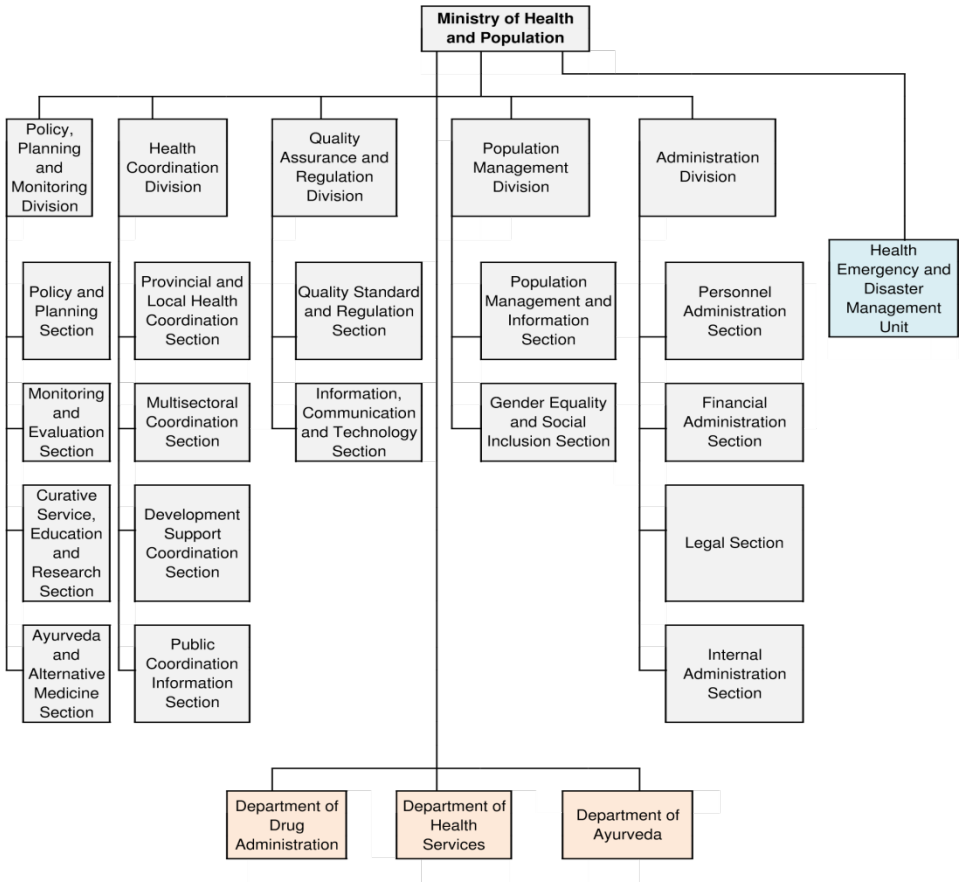
- Programme's policy statements, including objectives, strategies, goals, major targets activities and achievements.
- Health programme's indicators.
- Problems, issues, constraints and recommendations on improving performance and achieving targets.

This report also provides information on the activities of the Department of Drug Administration (DoA), Department of Ayurveda and Alternative Medicine (DoAA), the health councils, health insurance, external development partners and other related stakeholders. The report also includes progress of major programmes/activities implemented by the Health Directorate of all seven provinces, Provincial Health Offices (PHO), and other Health Facilities (HFs).

The MoHP provides guidance to DoHS as well as provincial and local-level governments to deliver promotional, preventive, diagnostic, curative, and palliative health care services and carries out its functions of related policy development, planning, human resource management, financial management and monitoring and evaluation. The newly restructured MoHP organogram has five divisions: The Policy, Planning & Monitoring Division; the Health Coordination Division; the Quality Standard & Regulation Division; the Population Management Division and the Administration Division. In addition, six professional councils: Nepal Medical Council, Nepal Nursing Council, Nepal Ayurvedic Medical Council, Nepal Health Professional Council, Nepal Pharmacy Council and Nepal Health Research Council regulate their functions.

The Department of Health Services (DoHS), the Department of Ayurveda and Alternative Medicine (DoAA) and the Department of Drug Administration (DDA) come under MoHP. These three departments are responsible for formulating and implementing programmes, use of financial resources and accountability, and monitoring and evaluation. DDA is the regulatory authority for assuring the quality and regulating the import, export, production, sale and distribution of drugs. The Department of Ayurveda and Alternative Medicine is responsible for care with Ayurvedic services and implements health promotional activities (Figure 1.1).

Figure 1.1 Organogram of Ministry of Health and Population (MoHP)



1.2 Department of Health Services (DoHS)

According to the recently restructured DoHS organogram (Figure 1.2), the DoHS have five Divisions; Family Welfare Division (FWD), Management Division (MD), Epidemiology and Disease Control Division (EDCD), Curative Division (CD) and Nursing and Social Security Division (NSSD). Responsibilities of these Divisions are summarized in Table 1.1 and Figure 1.2. It also has five Centres with a degree of autonomy in personnel and financial management: National Health Education, Information and Communication Centre (NHEICC); National Health Training Centre (NHTC); National Centre for AIDS and STD Control (NCASC); National Tuberculosis Centre (NTC); and National Public Health Laboratory (NPHL). The NHTC coordinates all training programmes of the divisions and implements training by sharing common inputs and reducing the travelling time of care providers. All information, education and communication (IEC) and behaviour change communication (BCC) activities are coordinated by NHIECC. The centres support the delivery of essential health care services (EHCS) and work in coordination with the respective divisions.

Table 1.1: Summary responsibilities area of DoHS's five divisions

	Division	Areas of responsibility
1	Management Division (MD)	Integrated Health Information Management, Infrastructure Development, Environmental Health and Logistics Management and procurement.
2	Family Welfare Division (FWD)	Expanded Programme on Immunization (EPI), Nutrition and Integrated Management of Childhood Illness (IMCI) and Newborn Care, Reproductive Health Care (including Safe Motherhood and Neonatal Health) and Family Planning (FP).

	Division	Areas of responsibility
3	Epidemiology and Disease Control Division (EDCD)	Outbreak Management, Control of Epidemics, Pandemic and Endemic Diseases, Neglected Tropical Diseases (NTD), Vector Borne Diseases, Zoonotic and other Communicable Diseases, Non-Communicable Diseases (NCD), Mental Health, Leprosy control, Disability Prevention, Surveillance, Early Warning and Reporting System (EWARS), Water Quality and Research (WQR) activities.
4	Curative Service Division (CSD)	Hospital service monitoring and strengthening including emergency and basic health care, ENT, Eye, Oral health.
5	Nursing and Social Security Division (NSSD)	Capacity building of nursing and midwifery personnel, management of geriatric health services and gender-based violence programme, OCMC, provision of treatment and management facilities for selected diseases to impoverished Nepalese citizens at listed hospitals and also for management of Female Community Health Volunteer Programme.

Figure 1.2:Organogram of the Department of Health Services (DoHS)

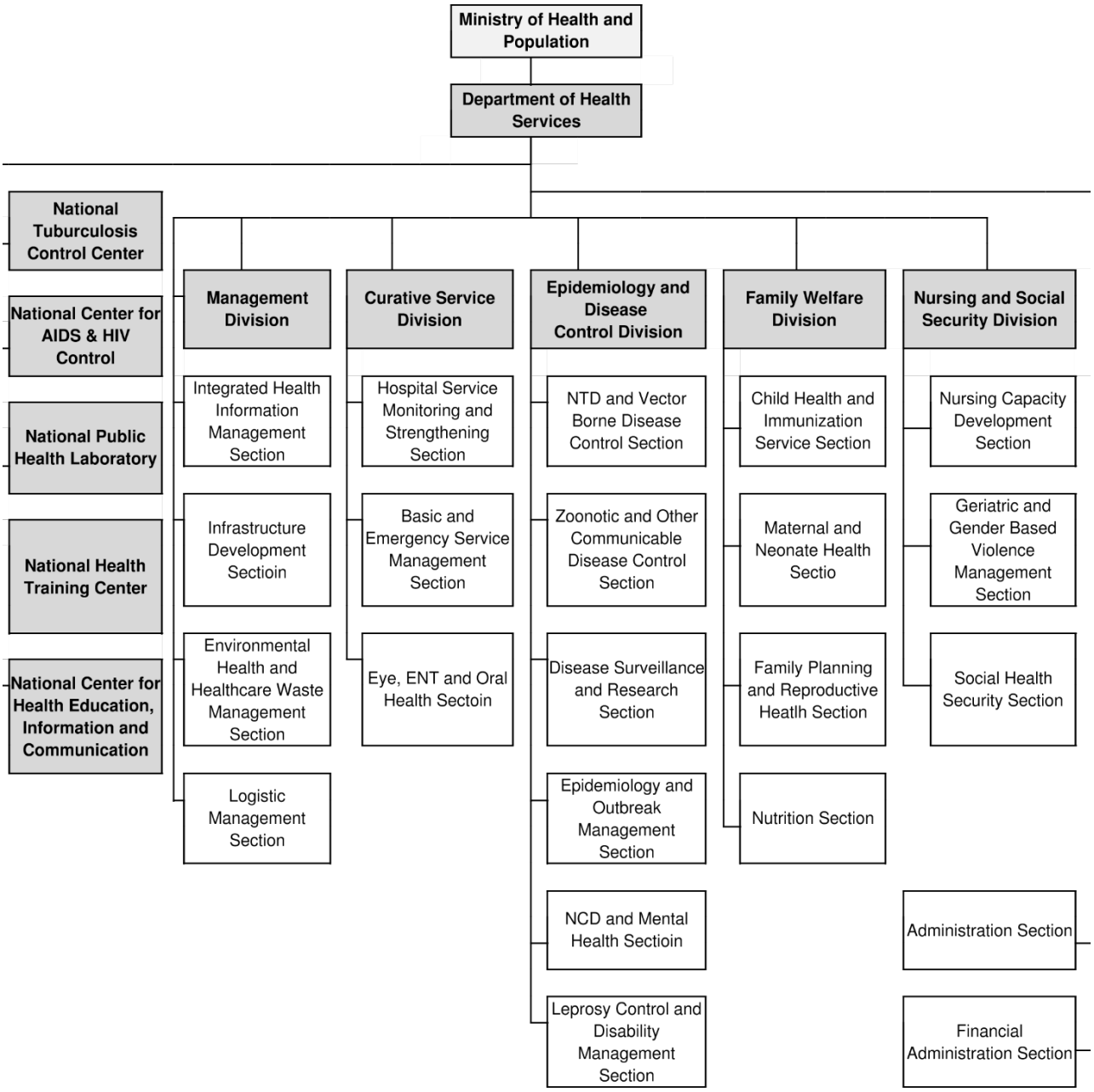
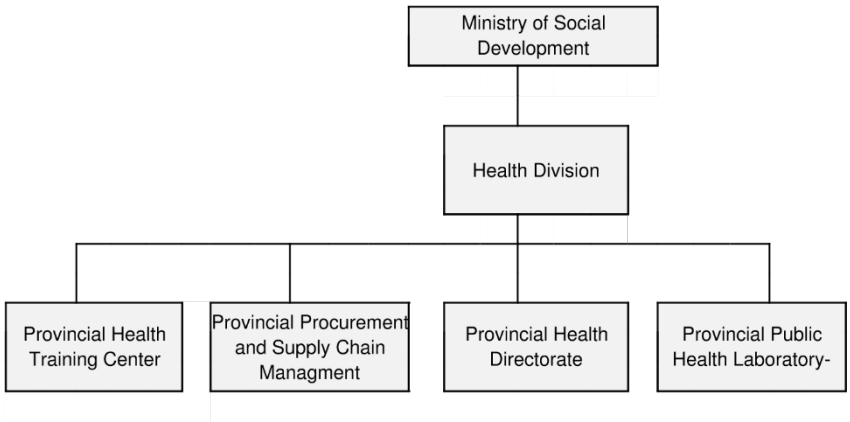


Figure 1.3: Organogram of the health system at Province Level



Main functions of DoHS are as follows:

- Facilitate the Government of Nepal (GoN) on formulating health related policies and developing and expanding health institutions in line with these policies.
- Determine the required human resource for health institutions and developing them by preparing and
- implementing short- and long-term plans.
- Manage the procurement and supply of drugs, equipment, instruments and other logistics at province, district and below levels.
- Coordinate activities and mobilize resources for the implementation of approved programmes.
- Manage the immediate solution of problems arising from natural disasters and epidemics.
- Establish relations with foreign countries and international institutions to enhance and develop health services
- and assist MoHP in receiving and mobilizing foreign resources by identifying areas of cooperation.
- Encourage the private and non-government sectors.
- Manage and foreign institutions to participate in health services, maintain relations and coordination, and
- control the quality of health services by regular supervision and monitoring.
- Manage free medication and treatment for severe diseases (cancer, heart disease, Alzheimer's, Parkinson's disease, head injuries, spinal injuries, renal failure and sickle-cell anaemia and Kidney Dialysis, Kidney Transplant and Kidney Treatment) for impoverished citizens.
- Manage information systems related to health facilities, health services, logistics, training and finance to
- support the planning, monitoring, and evaluation of health programmes.
- Maintain data, statements and information on health services update and publish DoHS Annual Report.
- The financial management of DoHS, and the settlement of irregularities.

The Provincial Health Directorates provide technical backstopping and programme monitoring to district health systems and come directly under the Ministry of Social Development of Province. The regional, sub-regional, zonal and district hospitals are categorized into three levels of hospitals; Primary, Secondary and Tertiary. There are also training centres, laboratories, TB centres and medical stores at the provincial level.

Furthermore, the Federal level Council of Ministers has decided to establish one health office in 77 districts which are under the provincial health directorate. All Primary Health Care Centres (PHCC) are planned to be upgraded into primary level hospitals which will be under local authority. Health Posts (HP) are present at ward level in the changed context. Moreover, on the need basis, community health units and urban health clinics are being run by local bodies.

Health posts are the first institutional contact point for basic health services. These lowest level health facilities monitor the activities of Female Community Health Volunteers (FCHVs) and the community-based activities of Primary Health Care Outreach Clinics (PHC-ORCs) and Expanded Programme on Immunization (EPI) clinics. In addition, they are the referral centres of FCHVs as well as venues for community-based activities such as PHC-ORC and EPI clinics. Each level above the health post level is a referral point in a network from PHCCs on to primary and secondary level hospitals, and finally to tertiary level hospitals. This hierarchy is designed to ensure that most of the population can receive public health and minor treatment in accessible places. Inversely, the system works as a supporting mechanism for lower levels by providing logistical, financial, supervisory and technical support from the centre to the periphery.

1.3 Sources of Information and Data Analysis

The Integrated Health Information Management System (IHIMS) provided the main source of information for this report. The report also uses information from other management information systems (MISs), disease surveillance systems, vital registration, censuses, sentinel reporting, surveys, rapid assessments and research. The main health sector MISs include the IHIMS, the Logistics Management Information System (LMIS / eLMIS), the Financial Management Information System (FMIS), the Health Infrastructure Information System (HIIS), the Planning and Management of Assets in Health Care System (PLAMAHS), the Human Resource Information System (HuRIS), the Training Information Management System (TIMS), the Ayurveda Reporting System (ARS) and the Drug Information Network (DIN).

All data are downloaded from the DHIS-2 software and analysed and explained by the respective divisions and sections. A technical working group ultimately finalized each section and chapter of the annual report. Province No 1 seen in graphs and charts in this report is Koshi Province as mentioned in the report narrative.

1.4 Structure of the Report

This report has eleven chapters. Chapter 1 covers the background to annual report preparation, the structure of DoHS, and sources of information on Nepal's health sector. Chapters 2 covers progress against Nepal Health Sector Strategy (NHSS), Chapter 3 presents of others departments (DoA and DoAA) progress under MoHP, Chapter 4 to 8 covers DoHS's different health care related and support programmes; Chapter 9 presents the programmes of the health sector councils, Chapter 10 presents the progress on national health insurance while Chapter 11 gives details of the health sector external development partners (EDPs, INGOs and NGOs) contributions in the health sectors.
Majority of the data source is abstracted from Integrated Health Information Management System (IHIMS). The data presented in the report were downloaded through the dHIS-2 system which was retrieved after the completion of the national annual review workshop. Data reported not in time are excluded in the report.
Annex 1 presents the targets vs. achievement of fiscal year 2078/79 of DoHS's programmes major activities while Annex 2 gives the major programme targets for the next fiscal year 2079/80. Annex 3 presents the progress status of major health program's indicators by national, province & district level of fiscal year 2078/79. Due to the bulky nature of DoHS Annual Report in the past years, raw and analysed data are not incorporated in this report. To make it easy for annual report users, the electronic version of raw data and analysed health indicators by all 753 municipalities has been uploaded in the website of DoHS- "www.dohs.gov.np".

PROGRESS AGAINST NHSS

The Nepal Health Sector Strategy-Result Framework (NHSS RF) outlines main health sector indicators and targets in harmony with the NHSS goal and outcomes. The Result Framework (RF) has 10 goal-level indicators, 29 outcome-level indicators and 56 output-level indicators. Progress against each indicator of the NHSS RF is available on the MoHP website (www.nhssrf.mohp.gov.np). This section of the report highlights the progress on goal and outcome level indicators. The details of National Joint Annual Review (NJAR) progress report 2021/2022 and the presentation done at the review also can be accessed through https://mohp.gov.np/news/288d55fc-b89c-4496-9ca6-2ac6f32cca78/read-more/np.

2.1 Outcome 1: Rebuild and Strengthen Health Systems: Infrastructure, HRH, Procurement, and Supply Chain Management

2.1.1 Outcome 1a Infrastructure

Recent priority has gradually shifted to establishment of new health facilities and upgrading existing facilities in line with the federal structure. FMoHP has been working in coordination with provincial and local governments to promote good practices and to ensure a harmonized approach to health-related infrastructure. Municipalities are being provided with a capital budget and standard guidelines to upgrade HFs to 5-bed, 10-bed or 15-bed primary hospitals. FMoHP is also supporting local governments to develop designs and proceed with construction.

Major progress made in FY 2078/79 (2021/22) are summarized below:

- Standard designs have been developed and adopted for the planning and implementation of HF upgrading for all type of HF in line with Nepal Health Infrastructure Development Standards (NHIDS) and Integrated Health Infrastructure Development Programme (IHIDP)
- The Central Level Project Implementation Unit (CLPIU) in the Department of Urban Development and Building Construction (DUDBC) is overseeing 439 health building reconstruction projects of which 291 are funded by the GoN, 10 by the Saudi Fund for Development, and 138 through Government of India Grant Assistance.
- For the facilitation and quality control of the HF constructions, FMoHP developed the following documents:
  - ◊ Department of Urban Development and Building Construction
  - ◊ Land acquisition and relocation policy
- Health Infrastructure Information System (HIIS) is being developed into an online HI information portal. It was also used for analysis and mapping of government HFs to deliver COVID-19 response services.
- To ensure the adherence of the design of primary hospitals with the prevailing national standards and guidelines, MoHP has been reviewing adjusted designs of primary hospitals submitted by different municipalities with the support of the technical team in MoHP. A total of 467 designs had been received since FY 2020/21 until the end of October 2022, of which 178 have been approved; the rest are being updated for resubmission of revised drawings, adjusted as per feedback provided through the review. Province wise breakdown is given in table below:

Table: Approval status for the establishment of Primary Hospitals from MoHP after review of the adjusted designs proposals

Name of Province	No. of primary hospital
Koshi Province	40
Madhesh Province	32
Bagmati Province	24

Name of Province	No. of primary hospital
Gandaki Province	14
Lumbini Province	33
Karnali Province	12
Sudurpaschim Province	23
Total	178

- FMoHP conducted several HI capacity enhancement events between July 2021 to April 2022. See table below

Table: HI capacity enhancement events, July 2021 – July 2022

Name of Training	No. of Participants			
	Official	Technical	Politicians	Workers
Orientation training for FPIU, Contractors Engineers and Supervisors on retrofitting of WRH		11		2
Orientation to contractors and engineers on retrofitting activity sequencing		6		0
Workers' Training on retrofitting techniques and health & safety				54
Orientation on Activity Sequencing and Functional Retrofitting of Maternity Block of Patan Academy of Health Sciences (PAHS)/ WRH		11		0
Onsite demonstration on Retrofitting for workers, supervisors and site engineers		5		34
Onsite demonstration on Retrofitting for workers, supervisors and site engineers		4		8
Onsite training on drywall construction for site engineers and construction workers		5		9
Orientation on Retrofitting Techniques fo r Maternity Block at BKT		5		2
Training on multi-hazard resilience health infrastructure - Sudurpashchim Province, Dhangadhi	29	2	5	
Training on multi-hazard resilience health infrastructure - Madhesh Province, Bardibas	39	4	2	
Training on multi-hazard resilience health infrastructure - Lumbini Province, Butwal	32			
Total	**100**	**53**	**7**	**109**
Total no. of participants who benefitted from the training	**269**			

2.1.2 Outcome 1.b Human Resource for Health (HRH)

- The national strategy on HRH 2077/78- 2086/87 was endorsed in 2021. In FY 2078/79 FMoHP presented a framework for implementation of this strategy, which addresses HRH needs for the following 10 years.
- The National Nursing and Midwifery Strategic Action Plan 2020-30 has been developed, projecting the nursing and midwifery workforce needed to provide quality services, setting out plans to produce and deploy this workforce, and presenting a capacity enhancement plan for nursing staff.
- NHTC developed training materials covering: essential critical care; pediatric essential critical care; integrated vector-borne disease training; screening for infertility; ambulance driver; basic emergency medical technician training; social accountability; disability-related training for medical officers; management training for health section chiefs at the local level; orientation for elected bodies at the local level; acute respiratory distress syndrome management; and public health leadership

- NHTC revised five existing training materials: Rural obstetric ultrasound training; IP training; VSC/minilap training for MDGP/OBGYN/Surgeons; basic ICU training for nurses; first-trimester safe abortion training for MDGP/OBGYN
- NHTC conducted 29 different types of training of trainers and basic training for nearly 11,000 staff

2.1.3 Outcome 1.c Procurement and Supply Chain Management

- Preparation of new Public Procurement Strategic Framework (PPSF): Following devolution of health sector responsibilities, responsibility for procurement of medicines under basic health services was transferred to provincial and local levels. In this context, the "Public Procurement Strategic Framework for Management of Medicines and Medical Goods, (2022/23–2026/27)" was prepared to make the procurement process transparent, competitive, and result-oriented and to sustain Value for Money (VfM). Madhesh, Lumbini and Sudurpaschim province endorsed their respective procurement improvement plans to support sustainable procurement and logistics management in line with federal PPSF.
- Functioning of Consolidation of annual procurement plan (CAPP): All DoHS procurement was included in the CAPP for FY 2021/22. A CAPP Monitoring Committee (CAPP-MC) chaired by the Director General, DoHS has identified a need for capacity development on emergency procurement in the health sector and to reduce audit discrepancies.
- Dynamic use of Technical Specification Bank (TSB): As of the end of October 2022, there are more than 1,700 registered users. TSB enlists 1,421 items (drugs, equipment and medical consumables). Thirty six new equipment and 6 new pharmaceutical items were added in 2021/22. A separate section of COVID-19 items was added to the TSB during the pandemic.
- Standardising procurement process: FMoHP promotes standard methods of procurement in accordance with the Nepali Public Procurement Act (PPA) and Public Procurement Regulations (PPR). Use of the Standard Bidding Document (SBD). The Electronic Government Procurement (e-GP) system has increased transparency, fairness, and competition of procurement. More than 99% of total DoHS procurement by value is now carried out through open competition using e-GP.
- Users training and maintenance support: A Technical Working Committee, led by Biomedical Engineers in coordination with the Director General, DoHS, was set up for the management and preventive maintenance of medical equipment, especially equipment donated during the COVID-19 pandemic. The committee piloted ToTs and training of technicians conducted by the NHTC at the Civil Service Hospital and Bhaktapur Hospital. Eleven trainings (seven trainings for all provinces and four trainings in Kathmandu) covered handling and maintenance of the equipment
- Expansion of vaccine stores: The FMoHP upgraded the central store and provincial stores for storage and distribution of COVID-19 vaccine. The central store at Pathalaiya has been operational with a cold chain facility. A new cold room storage building is being constructed at Teku as an expansion of the existing vaccine storage capacity.

2.2 Outcome 2: Improved Quality of Care at Point-of-delivery

- Divisions and centres of the FMoHP and DoHS developed and revised national strategies and plans for improving the quality of care, and guidelines for implementing specific interventions. Clinical coaching/ mentoring programme facilitation guide 2079 BS, Implementation guidelines for introduction and management of CS monitoring at CEONC facilities using Robson classification (2078), Reference manual and handbook for mentees for on-site clinical mentoring programme for routine nursing care (2078), National Medical Standards for Reproductive Health volume 3 (2079) are some of the examples.
- Health institutions and Palikas are addressing gaps identified during Minimum Service Standard (MSS) assessment using ad hoc funds or through annual planning and budgeting. The MSS scores of public hospitals at the federal, provincial and local levels are presented
- Quality improvement interventions were conducted in some provincial hospitals to strengthen post-natal FP services. The process of developing facilitators to strengthen pre-service education for strengthening screening of cervical cancer has been initiated in Kathmandu University and the National Academy of Medical Sciences (NAMS)

- FWD revised the National Medical Standard for Maternal and Newborn Care in 2022 and updated the guideline to ensure effective interventions for mothers and newborns based on recent evidence
- NSSD started clinical mentoring of nursing staff on routine nursing care at six federal hospitals. A learning resource package was developed for nursing mentoring covering nine subject areas.
- The Curative Service Division (CSD) developed and oriented health staff to improve the quality of care. For example, development of guidelines for clinical audit, development and orientation of eye, nose, ear, throat and oral health facilities, pediatric COVID-19 management protocol and post-COVID management protocol etc.

2.3 Outcome 3: Equitable Distribution and Utilisation of Health Services

- Eight new CEONC sites were established in FY 2078/79, four of them in remote districts. In total, CEONC services are being provided at 226 sites (public and private).
- PNC home visit orientation to 356 local levels was done through 65 provincial health officers. A total of 639 SNGs provided PNC home visits in 2021/21. This has resulted in improved access to PNC services by mothers and newborns in their most vulnerable period. Coverage of three PNC check-ups as per protocol increased from 25% in 2020/21 to 41% in 2021/22.
- FMoHP has formalised the establishment of a federal level GBV Multi-sectoral Coordination Committee for strengthening GBV/OCMC. The committee is chaired by the Population Management Division Director. The Committee meets on a quarterly basis and these meetings have been highly fruitful to strengthen the much-needed federal- level coordination to address the GBV concerns.
- Orientation conducted to more than 35 GBV multi-sectoral coordination committees at OCMC and SSU-based hospitals for the functionality of OCMC and SSU services thereby strengthening coordination and collaboration in a meaningful way. Fifteen new Social Service Units (SSUs) were established in referral and district-level hospitals; the total number of SSUs is now 58.
- Geriatric health services have been provided by 49 hospitals in 2078/79. FMoHP has planned to scale up this service in an additional 12 hospitals in 2079/80. FMoHP plans to establish geriatric outpatient department (OPD) services from 50 and above bedded government hospitals across the country.
- The number of OCMCs has increased to 88 by the end of FY 2078/79. A total of 50 OCMC focal persons were certified as trained counsellors and 40 OCMC focal persons are in-process to complete the counselling course.
- The training package on Gender Responsive Budgeting (GRB) and LNOB Budget Marker was finalized and approved by FMoHP. Based on this training was provided to 16 health staff from 5 provincial health ministries.
- The National Tuberculosis Control Centre (NTC) conducted Tuberculosis Free Nepal Declaration Initiative events at 25 local levels, based on the TB Free Nepal Declaration Initiative Operational Guideline 2020/21
- The CSD and National Health Training Centre developed training curricula on social auditing to roll-out the Health Sector Social Accountability Federal Directives 2020. Training was rolled out to 21 participants from seven provinces based on the training curricula. The CSD has included roll-out of training in AWPB of 2079/80 and has also developed an action plan, which includes the conduction of training of trainers at provinces to rollout social audit at local levels.
- The Ministry of Social Development (MoSD) of Madhesh Province approved their Health Sector GESI Strategy, 2078.

2.4 Outcome 4 Strengthened Decentralised Planning and Budgeting

- FMoHP provided programme implementation guidelines for activities funded by conditional grants to provinces and local levels; guidelines for the current fiscal year were released at the start of the year (15th July 2022).
- New executive bodies and local assemblies have been formed following the second local government elections in May 2022. An orientation programme was organized for newly elected local-level chiefs, deputy chiefs and health coordinators, covering on federalisation, investment in the health sector, and budget allocation and expenditure analysis to facilitate timely delivery of annual plans and budgets for this fiscal year
- With a broader objective of enhancing the capacity of the local levels in delivering the mandated functions, MoFAGA has developed guidelines on Local Government Institutional Capacity Self Assessment (LISA). LISA shows that aggregate capacity score of the local levels has increased from 51.9 in 2020/21 to 59.1 in 2021/22 out of a total optimum score of 100.
- Following capacity-building events were organized to strengthen decentralized planning:
    - Workshop on result based AWPB at sub-national level supported by the NHSSP

- Orientation programme on Mid-Term Expenditure Framework (MTEF) and periodic plan formulation at the local level
- Capacity building of sub-national staff on developing Annual Action Plan
- Sensitisation workshops on strengthening the health sector for newly elected Chief/Deputy Chief and health section chiefs at the local level
- Health programmes specific various trainings and orientations

2.5 Outcome 5: Improved Sector Management and Governance

- FMoHP has drafted the Nepal Health Sector Strategic Plan (2022-2030) as an operational plan of the National Health Policy 2019 and fifteenth plan. The NHS-SP is awaiting endorsement by the Cabinet.
- The Geriatric Health Service Strategy, Geriatric Health Service Operational Guideline and Geriatric Health Service
- Protocol have been approved
- The GESI strategy of Madhesh province was developed and approved by the provincial government and several activities in the strategy were included in the AWPB for implementation.
- The National Ambulance Guideline 2021 has been developed and endorsed to facilitate effective and timely referral of complicated cases. The guideline aims to strengthen pre-hospital care services and defines different categories of ambulance services
- The major policy/strategic initiatives, among others, taken during the implementation timeframe of the NHSS period are included in the box below.
- The Internal Control System Guideline (ISCG) for FMoHP was endorsed by the ministry in September 2021 and is being implemented.
- Provincial Financial Management Improvement Plan (FMIP) has been developed for Madhesh, Lumbini and
- Sudurpaschim provinces and have been endorsed
- The internal audit and final audit of FY 2077/78 (2020/21) have been completed under FMoHP entities by the Financial Comptroller General Office (FCGO)/ District Treasury Comptroller Office (DTCO) and Office of the Auditor General (OAG) respectively.
- MoHP has drafted organizational structure of different levels of health facilities and shared as the recommended
- structure in the present context
- First meeting of the Public Health Committee was formed as per the provision of Public Health Service Act in 2022 in which draft NHS-SP was discussed highlighting the importance of multi-sectoral coordination in addressing the health issues

2.6 Improved sustainability of health care financing

- The percentage of the health budget against the total government budget is fluctuating over the years. Compared to FY 2021/22, there is a 2% decrease in the health sector budget in FY 2022/23. The NHSS sets the target of allocating almost 9% of the national budget to the health sector
- The OOP expenditure remains to be a dominant component in health care financing (with its share ranging between 55 to 60 percent in the latest years) despite the implementation of various programmes aiming to reduce it. It demands further strengthening of the social health protection mechanisms in the country to accelerate the pace toward SDG.
- Over the years, the share of internal sources in PGs health budget allocation has increased, from 34% in FY 2018/19 to 63% in FY 2021/22. The share of internal sources in health budget allocation has increased from 12% in FY 2017/18 to 17% in FY 2021/22 at the local level.
- The FMoHP has prepared a comprehensive National Health Financing Strategy for the effective mobilisation of
- adequate funds in the health sector which is being endorsed
- The health insurance programme was expanded to the remaining two districts. The health insurance programme is now operational in all 77 districts of Nepal with exception of few local levels
- The health insurance board developed a number of guidelines in FY 2021/22:
    - Guideline for inclusion of severe diseases under Bipanna Nagarik Karyakram with health insurance programme in 2078 BS (Revised 2079 BS)
    - Guideline for declaration of the model local level for health insurance, 2078 BS
    - Claim review and evaluation guideline, 2078 BS
    - Guideline for listing service provider institutions, 2078 BS

- Guideline for operation and management of the health insurance fund, 2078 BS (Revised 2079 BS)
- Guideline for formation and operation of health coordination committees at the provincial and local levels, 2078 BS
- Guideline for inclusion of the families of foreign employees in health insurance, 2078 BS

2.7 Outcome 7 Improving healthy life style and environment

- The NHEICC started the following initiatives in FY 2021/22
  - Developed the Health Promotions Strategy 2022-2030 (to be endorsed) and the Advocacy package for Sabridha Nepal, Swastha Nepali
  - Developed a Communication Strategy on Tobacco Control (to be endorsed)
  - Launched the SAFER initiative which includes: strengthening restrictions on alcohol availability; advancing and enforcing drink driving countermeasures; enforcing bans or comprehensive restrictions on alcohol advertising, sponsorship, and promotion; and raising prices on alcohol through excise taxes and pricing policies;
  - Added Nicotine Replacement Therapy (NRT) to the essential drug list
- A module for Ayurveda and Yog Education at School programme has been added
- A final draft of the Good Agricultural and Cultivation Practice (GACP) has been prepared
- A healthy lifestyle management programme under Nagarik Aarogya Karyakram (Citizen Wellbeing Programme) is extended to 380 Ayurveda health institutions and 298 citizen wellbeing centers
- Open Yoga and Gym centers have been established in the headquarters of all seven provinces
- Public awareness activities were conducted to reduce the modifiable risk factors of NCD through lifestyle and behavioral change under Nagarik Aarogya Karyakram and Nagarik Aarogya Committee and groups were formed up to ward levels

2.8 Outcome 8: Strengthened Management of Public Health Emergencies

- The FMoHP, in coordination with other line ministries, provincial and local governments, development partners, and the private sector, continued to strengthen the health system functions in response to the COVID-19 pandemic
- Conducted review workshops at all seven provinces and at the federal level for the development of the
- International Health Regulation (IHR) 2005, State Party Annual Report
- The vaccination campaign against COVID-19 was accelerated in FY 2021/22. The GoN has nearly achieved the target of vaccinating all target populations against COVID-19. As of September 2022, 99.5% of the target population above 12 years (23,208,483) have received the first dose of the COVID-19 vaccine, and 95.7% (22,324,933) have received the full dose
- Equipment for COVID-19 management was exempted from customs duty to encourage in-country capacity for the effective management of COVID-19
- Completed training on Surveillance Outbreak Response Management and Analysis System (SORMAS) under CORESMA (COVID-19 Outbreak Response Combining E-health, Serolomics, Modelling, Artificial Intelligence and Implementation Research) work package in Gandaki and Sudurpaschim Provinces
- Conducted cholera vaccination campaign in all ten palikas of Kaplivastu district and Rupani rural municipality of
- Saptari district
- Escalation of the preparedness measures against the monkeypox and dengue diseases in consideration to global and national context

2.9 Outcome 9: Improved Availability and Use of Evidence in Decision-making Processes at All Levels

- The IHMIS roadmap (2022-2030) was endorsed as per the ministerial decision in 2022 (on 2078/03/24 BS). The roadmap aims to initiate coordinated mechanisms for health information management for various health information systems and increase the use of information and digital technology management.
- In line with the IHMIS Roadmap, all HMIS tools have been revised after 9 years to align with existing health sector programmes and services. Completed orientation on updated HMIS/DHIS tools in seven provinces, 77 districts and 753 LLGs.
- The FMoHP continued to expand the electronic reporting of service data from HFs. In FY 2021/22, altogether 2970 public health facilities submitted HMIS monthly reports electronically. As health posts and primary health care centers are now being managed by the local government, the FMoHP is focusing on enhancing their capacities

for health information management, including the use of the DHIS2 platform.

- The web-based Routine Data Quality Assessment (RDQA) tool and the e-learning package have been updated incorporating feedback from the users and are made available on the FMoHP website (www.rdqa.mohp.gov.np). 426 health facilities were reported to have completed the RDQA this year. An offline version of RDQA has been developed and is being used where the internet is not available to operate the online system
- Dashboards for health service indicators have been operationalized in 17 municipalities of Karnali and Sudurpaschim Provinces. The dashboard is a decision support and data sharing platform, that helps local government to track and use health data for decision making and general public can access and view health data
- The Basic Health Service dashboard has been hosted at the FMoHP website which helps monitor major health indicators under Basic health services. It can be accessed at http://128.199.69.221:8888/
- MPDSR has been implemented in 94 hospitals (covering 58 districts) and community MPDSR in 27 districts. The MPDSR guideline and tools were endorsed in 2078 and the guidance document for MPDSR implementation, based on the guideline, has been prepared.
- The results for national level surveys like Nepal Demographic and Health survey 2021 and Nepal Health Facility Survey are now available to support evidence-based planning.

PROGRESS OF OTHER DEPARTMENT UNDER MoHP

3.1 DEPARTMENT OF DRUG ADMINISTRATION

3.1.1 BACKGROUND

Government of Nepal has promulgated the Drug Act 1978, to prohibit the misuse or abuse of medicines and allied pharmaceutical materials as well as the false or misleading information relating to efficacy and use of medicines and to regulate and control the production, marketing, distribution, export-import, storage and utilization of those medicines which are not safe for the use of the people, efficacious and of standard quality.

To implement and fulfill the aim of the Drug Act 1978 and various regulations under it, the Government of Nepal established the Department of Drug Administration (DDA) in 1979.

In accordance with the objectives of the National Health Policy 1991, the National Drug Policy 1995 has been formulated and implemented. It focuses on establishing coordination among government, non-government and private organizations involved in the activities related to medicine production, import, export, storage, supply, sales, distribution, quality assessment, regulatory control, rational use and information flow. Achieving the aims and objectives of National Drug Policy is another important area for DDA.

Under the Drug Act 1978, the following regulations and codes have been implemented as supporting tools for the active enforcement of Drug Act:

1. Drug Consultative Council and Drug Advisory Committee rules, (2037 BS).
2. Drug Registration Rules, (2038 BS).
3. Drug Standard Rules (2043 BS).
4. Enquiry and Inspection rules (2040 BS).
5. Codes on Sale and Distribution of Drugs (2071 BS).
6. Codes on Drug Manufacturing Practice (2072 BS).

Drug Donation guidelines have been implemented for the quality assurance of donated medicines.

3.1.2 OBJECTIVES

The main objective of DDA is to regulate all functions relating modern, veterinary and traditional medicines, like misuse and abuse of medicines and its raw materials, to stop false and misleading advertisement and make available safe, efficacious and quality medicine to the general public by controlling the production, marketing, distribution, sale, export-import, storage and use of medicines.

3.1.3 STRATEGIES

- Selection of essential medicine to promote rational use of medicines.
- Establishment of offices at all provinces for effective regulatory activities.
- Strengthening of National Medicines Laboratory (NML) as National reference Laboratory on medicines.
- Medicine registration based on scientific facts.
- Promotion of rational use of medicines.
- Development of an efficient drug information system to disseminate the relevant information.
- Encouragement to promote and establish pharmaceutical industries to achieve self-reliance in the production of essential medicines.
- Effective inspection to ensure the quality of marketed medicines.
- Prevent misuse of antibiotics to combat antimicrobial resistance.

3.1.4 DIVISION AND BRANCH OFFICES OF DEPARTMENT OF DRUG ADMINISTRATION AND THEIR FUNCTIONS

Division of DDA

Drug Evaluation and Registration Division

- **Medicine and Biological Evaluation Section**
  - Scientific evaluation of new medicine and allied products for manufacturing, import, export and marketing.
  - Scientific evaluation of vaccines and biological products for manufacturing, export, import and marketing.
  - Research and Development of new medicine and Clinical trials.
  - To coordinate with the related experts for the evaluation of new medicine
  - To issue permission for research and development and clinical trials.

- **Import Section**
  - To approve foreign manufacturers for importation of medicine.
  - To register products for export and import after evaluation.
  - To issue the recommendation letter for import/export of medicines
  - To renew the recommendation letter for import-export.
  - To register vaccines and biological products for export and import after evaluation.
  - To issue the recommendation letter for import/export of vaccines and biological.

- **Industry Section**
  - To issue recommendation letters for the establishment of the pharmaceutical industry and issue Product Manufacturing License and renew them.
  - To approve the layout of the pharmaceutical industry.
  - Register new products and issue marketing permission for the sale and distribution.
  - Issue letter of recommendation for the import of raw materials and renew them.
  - To register and issue registration certificates to open retail / wholesale pharmacy outlets and renew them.
  - Issue and renew certificates for persons authorized to sell medicines.
  - Update the record of pharmacies and approve variation in the licenses.

Planning, Co-ordination and Management Division

- **Drug Information and Training Section**
  - Conduct refresher training to medicine sellers.
  - Disseminate information about medicines particularly side effects, contraindication, drug interaction and storage conditions and other necessary information regarding medicines.
  - Publish Drug Bulletin of Nepal (DBN) and distribute to health institutions, industries, medical doctors, health personnel's, pharmacist and other concerned persons and institutions.
  - Revise National List of Essential Medicines and Nepalese National Formulary periodically.
  - Recommend for import of narcotic, psychotropic, precursors substances and liaise with International Narcotic Control Board.
  - Conduct activities related to Pharmacovigilance and Adverse Drug Monitoring Reporting.
  - Webpage development, updating and computer networking.

- **Planning and Coordination section**
  - Organization development, planning, budgeting, foreign aid.
  - Central and provincial government coordination and foreign coordination.
  - Prepare yearly planning for activities conducted by DDA and regional offices.
  - Coordinate with the Ministry, other departments and other government and non-government organizations for conducting activities and submit the report to MoHP.
  - Collect, prepare and forward monthly, quarterly and yearly reports.
- **Drug Monitoring section**
  - Post marketing surveillance of the Medicine and allied products.
  - To act as a national pharmacovigilance center and coordinate and collaborate with regional centers and WHO Collaborating Centre for international Drug Monitoring (The Uppsala Monitoring Centre)
  - To facilitate the policy development and design on Drug Use Evaluation.

- **Financial and Administration section**
  - Entry and Dispatch of letters.
  - Management of human resources (recruitment, posting, promotion, transfer etc)
  - Performance evaluation of employees and maintained harmony.
  - Perform Procurement related activities
  - Monitoring, evaluation and coordination of regional offices activities.
  - Management of Premises, building, workplaces and Library.
  - Internal financial management, revenue collection and audit.
  - Plan and prepare budget expenditures.
  - Procurement and expenditure management.
  - Financial irregularities management (Beruju).

- **Inspection, Evaluation and Law Enforcement Division**
  - Take legal and administrative action on cases of non-compliance as per the provision of Drug Act and its Regulations.
  - Regulate sales and distribution of psychotropic and narcotic drugs.
  - Coordinate Good Manufacturing Practice Audit within and outside the country.

- **Inspection and Evaluation Section**
  - Inspection for the effective implementation of Drug act 2035 and other regulations under Drug Act.
  - Inspect drug industries, wholesale, retail and hospital pharmacies regularly.
  - Prepare indicators for inspection and evaluation.
  - Prepare national standards for inspection of Drug Industry and Pharmacies.
  - Set an annual target for inspection and evaluation.
  - Assist on periodic and annual review.

- **Law Enforcement Section**
  - Prepare necessary documents for registering the case in court against the Drug Act.
  - Assist on legal aspects to the Department.
  - Training to Drug Inspectors on Inspection, Investigation and Case filing.
  - Surveillance on legal aspects related to pharmacy practice.
  - Assist on the amendment of Drug act, Regulation and Guidelines.

- **GMP Audit and Certification Section**
  - Perform GMP certification and Recertification related activities.
  - Inspection of pharmaceutical industry as per plan.
  - Coordinate with regional offices for GMP related inspection.
  - Prepare work plan for foreign industry Audit inspection
  - Take action for noncompliance.

Branch Offices:

DDA has its branch offices at Biratnagar, Birgunj and Nepalgunj. These offices carry out the responsibility of inspection as well as Pharmacy registration and renewal.

National Medicines Laboratory (NML)

National Medicines Laboratory is the principal body of Government of Nepal for testing and analysis of drugs. It has various sections like chemical analysis, microbiology, pharmacology and instrumental analysis. The main functions of NML are to:

- Test and analyze the quality of medicines as empowered according to the Drug Act 1978.
- Issue Lot Release Certificate for vaccines.
- Conduct training on Good Laboratory Practices.
- Audit laboratories of Nepalese pharmaceutical industries.

ANALYSIS OF ACHIEVEMENTS BY MAJOR ACTIVITIES

Activities carried out in FY 2078/79

Major activities

1. Awareness on the rational use of medicines by different media.
2. Regular publication of Drug Bulletin of Nepal (DBN).
3. Audit / inspection of domestic drug industries for WHO Good Manufacturing Practice (GMP) compliance.
4. Inspection of retail & wholesale pharmacies for compliance.
5. Post marketing quality analysis of drugs available in the market.
6. Inspection of Foreign Manufacturers before registration of products.
7. Conducting examination of veterinary drug sellers' training.
8. Audit of domestic manufacturer laboratory for compliance of Good Laboratory Practice (GLP)
9. Take legal and administrative action for violation of regulatory standards.
10. Recall of medicine from the market that failed to meet the quality standard.

Target Vs Achievement, FY 2078/79

S. N	Activities	Unit	Target	Achievement	
				Num.	%
1	Drug information to the public by different media	Num.	45	61	135.5
2	Publication of Drug Bulletin of Nepal	,,	3	3	100
3	Inspection of domestic Pharmaceutical Industries	,,	92	88	95.65
4	Inspection to drug retailers& wholesalers	,,	3300	3663	110
5	Drug sample Analysis	,,	900	634	70.44
6	Audit of Pharmaceutical Analytical Laboratories	,,	30	32	106.66

Other activities

S. N	Activities	Achievement
1	Registration of new foreign pharmaceutical Industry	30
2	Registration of new medicine (import)	330
3	Renew of import license	3757
4	Issue of marketing license	4593
5	Issue of product license	874
6	Import license for raw material for domestic industry	1002
7	Registration of new pharmacy	2293
8	Renew of pharmacy	13622
9	Renew of Vyawasayi Mananyata Pramanpatra	1221
10	Deregistration of pharmacy	924
11	Filing of legal case against the violation of Drug Act 2035	76
12	Recall of medicine from market due to inferior quality	57

Financial allocation and Expenditure

S.N.	Budget heading	Budget allocation	Budget expenditure	%
1	Capital budget	23,400,000	6,383,336	27.27
2	Recurrent budget	137,800,000	103,025,035	74.76
3	Total	161,200,000	109,408,371	67.87

Revenue

Total revenue collection: Rs. 131,125,128.00

Key Issues and Challenges

- Lack of Legal framework as per international best practices and international harmonization.
- Lack of Organization and management structure as per the federal provision.
- Not able to cater the regulation of HTP, Nutraceuticals and cosmetics.
- Infiltration of unregistered and substandard products due to open Cross border issues.
- Old and insufficient infrastructure, HR and other resources of DDA & NML.
- Weak legal and infrastructure for effective and efficient Market Surveillance and Control.
- Lack of legal framework for effective and dynamic price control mechanism with reference to international prices. (Including price adjustment).
- Lack of mechanism for controlling and regulating online Pharmacy and advertisement of Medicines.
- Lack of Interdepartmental coordination and communication.
- Scarce resources to conduct Clinical trial oversight including Good Clinical Practice audit.
- Insufficient capacity for Laboratory testing and functions for Vaccines and BABE.
- Poor Inventory Management system leading to poor retrievals of evidence and decisions.

Way Forward

- Digitalization of DDA reducing administrative loads.
- New Organization and management of DDA and NML as per Federal provision.
- Accreditation of NML as per ISO 17025, 2015.
- Being a functional Regulatory authority by 2025 with Global Benchmarking assessment tools.
- Implementation of Quality Management System in DDA and NML.
- HTNutraceutical's regulation.
- PV strengthening.
- Strengthen the Pharmacovigilance program as well as clinical trial audit for safety and effective monitoring of new and marketed medicines.
- Incorporate Good Manufacturing Practices in Ayurvedic medicine.
- Promote Self Sufficiency of essential drugs.
- Legal framework for Dynamic price regulation mechanism.
- Adopt and participate in collaborative registration procedure with good reliance practice.
- Incorporate Risk based inspection, Post Marketing Surveillance, Risk based dossier evaluation.
- Ensures the practice of Ethical Drug promotion guidelines.

3.2 AYURVEDA

3.2.1 Background

Department of Ayurveda and Alternative Medicine (DoAA) primarily responsible for the delivery of Ayurveda & Alternative Medicine Services and promotes healthy lifestyles through its network facilities across the country. It is one of the three departments of the Ministry of Health & Population (MoHP). It is responsible for planning, programming, coordination, supervision, monitoring and evaluation of the Ayurveda Service programs.

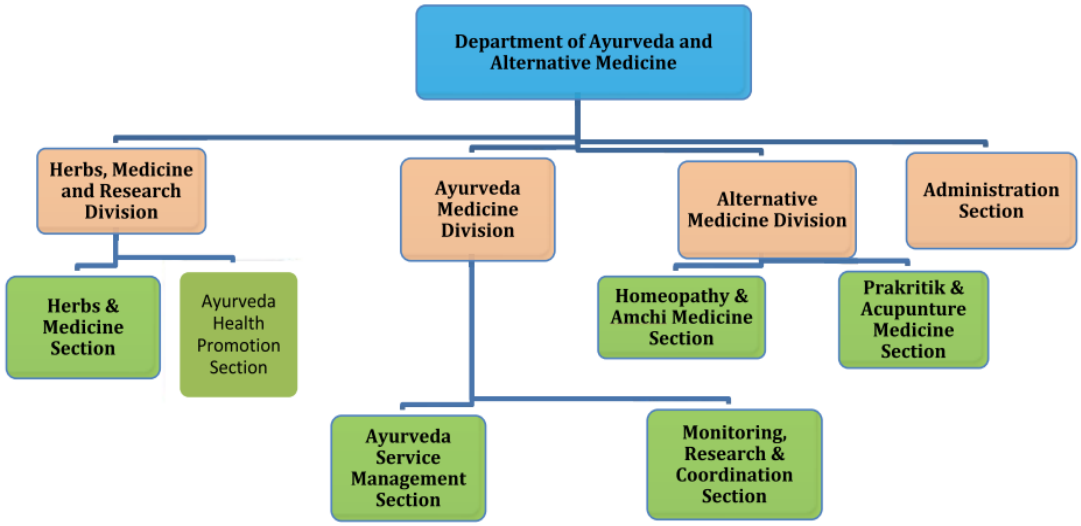
Ayurveda is an ancient medical system and indigenous to Nepal with centuries old deep roots. More than two third of the population in Nepal relies on traditional practices for primary health care, primarily due to its accessibility, affordability and its alignment with cultural practices. There are estimated at least 400,000 traditional medicinal practitioners in Nepal practicing different modalities like ritual or ceremonial practices, spiritual practices, diet and self-heal- ing.

The sources of Ayurveda medicine are medicinal herbs, minerals and animal products. It is involved in promotive, preventive, curative and rehabilitative health services of people. Ayurveda health services are delivered through one Central Ayurveda Hospital (Nardevi), Provincial Hospital (Dang, Dhanagadhi, Jhapa), 77 Provincial Ayurveda Chikitsalaya/ Health Centers and 305 Ayurveda dispensaries (Aushadhalaya) across the country.

The Ayurveda and Alternative Medicine unit in the Ministry of Health & Population (MoHP) is responsible for formulat- ing policies and guidelines for Ayurveda and other traditional medical systems. Various national and international policies have highlighted the importance of Ayurveda services in primary health care and for prevention of NCDs. The Constitu- tion of Nepal has called for the protection and promotion of traditional Ayurveda medicines along with naturopathy and homeopathy. In line with the federal structure, the Ayurveda system needs to be restructured as mentioned in National Health Policy 2019 and its strategy 6.7.1. The Fifteenth plan of Government of Nepal (2019/20-2023/24) has guided for planned development & expansion of Ayurveda, Naturopathy, Homeopathy & other alternative medicines. More specifically, it says:

1. Structural development suitable for identification, prevention, collection & promotion of locally available medicinal herbs, minerals & animal origin medicines.
2. Management & regulation of other alternative medicines based on standards & norms.
3. Establishment of Ayurveda, Yoga & Naturopathy Center and utilization of Ayurveda for promotion of health tourism.

Organization of Department of Ayurveda & Alternative Medicine:



Central Level	Provincial Level	Local Level
• Department of Ayurveda and Alternative Medicine • Nardevi Ayurveda Hospital, Naradevi • National Ayurveda Research & Training Center (NARTC), Kirtipur • Singhadurvar Vaidhyakhana Vikas Samite, Anam nagar • National Ayurveda Medical Council (NAMC), Naradevi • Pashupati Homeopathy Hospital, Pulchowk	• Provincial Ayurveda Hospital-3 (Lumbini Province – Dang. Sudurpaschhim Province – Dhanagadhi, Koshi Province, Jhapa) • Provincial Ayurveda Chikitsalaya/District Ayurveda Health Centers-77	• Ayurveda Dispensaries (Aushadhalaya)-305 • Nagarik Arogya sewa Kendra - 298

3.2.2 Objectives

- To expand and develop functional, physical Ayurveda health infrastructure;
- To improve the quality of Ayurveda & Alternative services delivered through all institutions of all levels and to ensure easy access of these services.
- To develop and manage the required human resources.
- To promote community participation in the management of the health facility & utilization of local herbs.
- To promote a healthy lifestyle through Ayurveda and Yoga.
- To promote health status & sustainable development of Ayurveda system using locally available medicinal plants.
- To promote positive attitudes towards health care & awareness of health issues.

3.2.3 Strategies

- Provide preventive, promotive & curative health services in the rural areas;
- Establishment & development of Ayurveda institutions;
- Strengthen & expand the Ayurveda health services;
- Develop skilled manpower required for various health facilities;
- Strengthening of monitoring & supervision activities;
- Development of information, education & communication center in the Department;
- Develop Inter sectoral coordination with Education Ministry, Forestry, local development sector & other NGO's & INGO's;
- Establishment of regional Ayurveda Hospitals & Ayurveda Dispensaries;
- Strengthening & expansion of research & training center of international level;
- National & International level training for the capacity enhancement of its human resources

3.2.4 Major Activities

Central level

- Establishment of open Gym in 7 provincial headquarters.
- Development of Minimum Service Standard (MSS) for Central, Provincial and local level Ayurveda health institutions and approved from MoHP.
- Nagarik Aarogya/Lifestyle management (Non communicable disease Prevention and Control) Program.
- Guidelines, Protocol, Manual development.
- Establishment and development of AHMIS
- Strengthening of National Ayurveda, Panchakarma and Yoga Center in Budhanilkantha.
- Strengthening of Regional Ayurveda Hospital at Dhangadi & Jhapa.
- Strengthening program of Naturopathy, Yoga, Homeopathy, Unani, Aamchi etc.
- Monitoring of services provided by private Ayurveda & Alternative Medical Systems.
- Annual review meeting for 7 provinces.
- Evaluation and monitoring and coordination with province and local level.

Province and Local Level

- Yoga and Lifestyle management training program.
- Workshop and discussion with local traditional healers.
- Preparation of IEC materials on Ayurveda.
- School Ayurveda health program.
- Construction of buildings of Ayurveda institutions.
- Promotive health program for Senior Citizens
- Awareness program on medicinal plants.
- Program for lactating mother (Distribution of galactagogue medicine).
- Procurement of essential Ayurveda Drugs & treatment equipment.

Analysis of Achievement

Based on the treatment report of different Ayurveda institutions following diseases were classified as top ten diseases:

- Amlapitta (Gastritis)
- Swasan Bikar (Respiratory diseases)
- Udarrog (Abdominal diseases)
- Vata Vyadhi (Osteoarthritis, Rheumatoid Arthritis & other neuromuscular Diseases)
- Jwar (Pyrexia)
- Bal Roga (Pediatric diseases)
- Karna, Nasa, Mukha, Danta & Kantha rog (ENT, Oral, Dental diseases)
- Strirog (Gynecological diseases)
- Brana (Wound, Abscess & Other Skin Diseases)
- Atisar/Grahani (Diarrheal diseases)

No. of People Served Province wise 2078/79

Province	Koshi	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudur-paschim	Total
General service	195699	154863	135071	78090	401940	209400	221369	1396432
Nagarik Aro-gya Aware-ness	65252	87356	76372	57732	97534	47208	54857	486311
Total	260951	242219	211443	135822	499474	256608	276226	1882743

Problems/Constraints

Problems/Constraints	Actions to be taken	Responsibility
Inadequate research in the Ayurveda field. Insufficient Evidence Generation & Documenta-tion about the successful treatment of certain diseases with Ayurveda therapy claimed by practitioners.	Develop and implement concrete plans and programs to ensure international standard health research .	MoHP DoAA NARTC NHRC SDVBS
Inadequate resource and special fund	Allocate sufficient Budget for sustainable development of Ayurveda Institutions	MoHP
Insufficient production, broadcasting and dis-semination of health related messages and ma-terials for publicity of Ayurveda.	Allocation of adequate budget to address local health needs.	DoAA MoHP
Integration of AHMIS to HMIS	Upgrading of Ayurveda Information Management Sys-tem(AHMIS). Allocation of adequate budget. Training on AH-MIS For Ayurveda HR.	MoHP DoHS DoAA

Inadequate experts and qualified HR in the field of research.	Production of Qualified Ayurveda HR (BAMS, MD)	DOAA, MoHP MOE
Inadequate basic health service centers of Ayurveda in local level.	Establishment of Ayurveda Institutions in each local level & Ayurveda unit in each basic hospital.	MoHP

Programs formulated for 2078/79

Miscellaneous Programs: Ayurveda Service (370031011)

- Construction/Installation of open gym centers in each Province.
- Ayurveda Health promotion and public awareness program through Nagarik Arogya Program.
- Skill development/empowerment program.
- Prevention, Reduction and management of NCD.
- Ayurveda Health Information management training program.
- Citizen wellbeing (Nagarik Arogya) program.
- Ayurveda Services Guidelines, Manual, Protocol
- Yoga/ Skill development training for Ayurveda personnel.
- HIMS upgrading
- Alternative Medicine Strengthening/Policy, Standards.
- Awareness related program.
- Building under construction of Budhanilkantha Panchakarma center.

Provincial &Local Level Programs

- Lifestyle Management Program in PHC
- Training on “Operation & Management of Ayurveda Programs” for ayurveda personnel
- Procurement & Transportation of Ayurveda Medicines
- Free Health Camps
- National/International Yoga Day; National Arogya Diwas & Dhanwantari Jayanti
- ICT materials development and broadcasting.
- School Ayurveda & Yoga Program.
- Program for lactating mother (distribution of galactagogue medicines.
- Promotive program for senior citizens.
- Nagarik Arogya clinic for Non communicable diseases, NCDs.
- Healthy life (Swastha Jeevan) program.
- Production of Churna Aushadi (Medicine).
- Establishment of Citizen Wellbeing (Nagarik Arogya) Centers at the local level.

FAMILY WELFARE

4.1 CHILD HEALTH AND IMMUNIZATION SERVICE SECTION

BACKGROUND

The Child Health and Immunization Service Section is one of the four sections of the Family Welfare Division, Department of Health Services, which plans, executes and monitors several activities of child health and immunization services. Logistics Management Section of Management Division procures, stores and distributes vaccines throughout the country as planned by Child Health and Immunization Service Section, Family Welfare Division, while National Health Education Information and Communication Center (NHEICC) develops routine and supplementary child health and immunization IEC and social mobilization materials in close coordination with Family Welfare Division. Capacity building of health staff on routine immunization is executed through National Health and Provincial Health Training Centres in close collaboration with Family Welfare Division. Immunization and IMNCI related information are collected through HMIS Section (Integrated Health Information Management Section), Management Division, and is shared quarterly for review and feedback. The Child Health and Immunization Service Section of the Family Welfare Division coordinates with several stakeholders of immunization and child health to execute activities of the annual work plan.
This section has two programs: 1) National Immunization Program and 2) IMNCI program.

4.1.1 National Immunization Program

1. BACKGROUND

The National Immunization Program (NIP) of Nepal (Expanded Program on Immunization) was started in 2034 BS and is a priority program of the Government of Nepal. It is one of the successful public health programs of the Ministry of Health and Population and has achieved several milestones contributing to reduction in morbidity, mortality and disability associated with vaccine preventable diseases.

The National Immunization Program works closely with other divisions of the Department of Health Services and national centres of the Ministry of Health and Population, and different partners, including WHO and UNICEF, supporting the National Immunization Program. In the Decade of the Vaccines (2011 – 2020), the National Immunization Program has introduced several new and underutilized vaccines contributing towards achievement of Global Vaccine Action Plan targets of introducing new and underutilized vaccines in routine immunization. As per comprehensive Multi-year Plan for Immunization (cMYPI) 2017 - 2021, several other vaccines, including Typhoid Conjugate Vaccine (TCV) and Human Papillomavirus Vaccine (HPV) were planned for introduction in Nepal. Typhoid Conjugate Vaccine (TCV) was introduced in the National Immunization Program through a nationwide catch-up campaign conducted in Chaitra 25, 2078 to Baishakh 18, 2079 vaccinating 7.6 million children 15 months to under 15 years of age. Immediately after completion of the campaign, TCV was introduced in routine immunization and is given at 15 months of age. Nepal was the first country in the WHO South-East Asia Region (SEAR) to introduce TCV in NIP. Currently, the program provides vaccination against 13 vaccine-preventable diseases through almost 16,000 service delivery points in health facilities (fixed sessions), outreach sessions, and mobile clinics.

Nepal is the first country in the South-East Asia Region to have an Immunization Act, thus supporting and strengthening the National Immunization Program. Immunization Act 2072 was published in the Official Gazette on 26 January 2016. Based on the Act, Nepal has Immunization Regulation 2074, which was published in the Official Gazette on 6 August 2018. The Immunization Act of Nepal has recognized immunization as a right of all children. In line with this, provinces of Nepal also have developed its own provincial Immunization Act.

Since FY 2069/70 (2012/2013), Nepal has initiated and implemented a unique initiative known as ‘full immunization program’. This program addresses issues of social inequity in immunization as every child regardless of social or geographical aspect within an administrative boundary are meant to be fully immunized under this program. Over the

years, Nepal has witnessed participation of all stakeholders at all levels to

achieve full immunization. By the end of FY 2078/79, 70 out of 77 districts have been declared 'fully immunized'.

The National Immunization Program has a good track record of meeting the targets for control, elimination, and eradication of vaccine preventable diseases. Smallpox has now become history due to free status since 2034 BS and global eradication in 2037 BS (8 May 1980 AD). Maternal and neonatal tetanus (MNT) was eliminated in Nepal in 2005 and the elimination status has been sustained since then. The last case of polio in Nepal was in 2010, and along with other countries of the WHO South-East Asia Region, Nepal was certified polio free in 2014 (27 March 2014). This status has been maintained since then. Nepal is one of the first countries in the world to introduce JE vaccine in routine immunization. In 2016, Japanese Encephalitis (JE vaccine), which initially was given only in 31 endemic Terai districts, was scaled up all over the country, thus further contributing towards control of Japanese encephalitis in Nepal.

In August 2018, Nepal was certified as having achieved control of rubella and congenital rubella syndrome. This certification is two years ahead of the regional target year of 2020 and one year ahead of the national target of 2019. In July 2019, Nepal was certified of having achieved hepatitis B control among children through immunization as the prevalence of the disease (sero-prevalence of HBsAg) dropped to less than < 1% (0.13% only) among 5-6-year-old children. With this, Nepal became one of the first four countries (along with Bangladesh, Bhutan, and Thailand) in the WHO South-East Asia Region to control hepatitis B among children. Overall, the National Immunization Program is considered as the main contributor towards decline of infant and child mortality (Source: Nepal and the Millennium Development Goals, Final Status Report 2000-2015, National Planning Commission), and has contributed significantly in achieving MDG Goal 4 of reducing child mortality.

Even though measles burden has been reduced by > 95% compared to 2003, the national target of achieving measles elimination by 2019 has not been met. In September 2019, member countries of WHO South-East Asia Region, including Nepal, have resolved to eliminate both measles and rubella by 2023 to prevent deaths and disabilities caused by these highly infectious childhood killer diseases. Measles, which is one of the most infectious diseases, will require very high coverage (> 95%) with both the first and second routine immunization doses of measles-rubella (MR) vaccine in every community, municipality, district, province, and nationally. To quickly close the immunity gap to measles (and rubella), MoHP conducted nation-wide MR campaign in the month of Falgun and Chaitra 2076 extended till Ashad 2077 in two phases, including polio campaign (with bOPV) in 19 selected districts of Terai. Even during the COVID-19 pandemic situation in the second half of FY 2076/77, Nepal was able to complete its nation-wide vaccination campaign, as well as introduce rotavirus vaccine in the National Immunization Program.

The National Immunization Program produces evidence on the burden of vaccine preventable diseases and impact of vaccine introduction. The Programme for Immunization Preventable Diseases (WHO-IPD) of the World Health Organization, Nepal, provides technical assistance to the Ministry of Health and Population for nation-wide surveillance systems for acute flaccid paralysis (for polio), measles and rubella, neonatal tetanus, and acute encephalitis syndrome (for Japanese encephalitis). Further, with support of WHO-IPD, sentinel surveillance of selected vaccine preventable diseases (invasive bacterial diseases, rotavirus, and congenital rubella syndrome) is conducted in collaboration with academic institutions. The National Immunization Program with the technical support of WHO-IPD works with various immunization and vaccine preventable diseases surveillance committees and task forces which function as advisory and quality monitoring bodies of the program. The committees include National Immunization Committee, National Immunization Advisory Committee, National AEFI Investigation Committee, Inter-Agency Coordination Committee on Immunization, National Certification Committee for Polio Eradication, National Verification Committee for Measles and Rubella/CRS Elimination, National Task Force for Laboratory Containment of Polio, Expert Review Committee for Polio, Polio Legacy Committee, etc. Vaccine safety is monitored through AEFI surveillance. Since 2018, concurrent immunization supervision and monitoring has been conducted through program staff, partners, Surveillance Medical Officers (SMO) network, independent monitors, and immunization and VPD committee members at sub-national levels including assessment at communities producing real-time data for real-time action.

2. GUIDING DOCUMENTS OF NATIONAL IMMUNIZATION PROGRAM

There are several global, regional and national guiding documents for the National Immunization Program. The National Immunization Program has a Comprehensive Multi-year Plan for Immunization (cMYP) 2017 - 2021 aligned with global, regional, and national guidelines, policies, and strategies to guide the program for five years. All activities outlined in the cMYP are costed and have strategies for implementation. The main documents which have been taken in account and incorporated in cMYP 2017 - 2021 are Global Vaccine Action Plan, South-East Asia Regional Vaccine Action Plan,

National Immunization Act 2072, Immunization Regulation 2074 and Nepal Health Sector Strategy, and periodic recommendations from SEAR-ITAG (South-East Asia Region Immunization Technical Advisory Group) and polio and measles rubella certification committees.

After cMYP 2017-2021, development of the new National Immunization Strategy has been initiated which will be guided by the National Health Sector Strategy (NHSS) 2023-2030 and will align with both global and regional guidance such as Immunization Agenda 2030, Regional Vaccine Action Plan 2022 – 2030, Regional Strategic Plan for measles and rubella elimination in the WHO South-East Asia Region (2020-2024), Polio Endgame Strategy 2022 – 2026, Gavi 5.0 Strategy (including for immunization zero-dose children).

2.1. Comprehensive Multi-Year Plan for Immunization (cMYPI)

The comprehensive Multi-year Plan for Immunization (cMYP) 2017-21 ended in 2021 and national immunization strategy development has been initiated in 2022. The cMYP provides a plan for five years to achieve immunization related goals of the country. The objectives, strategies and activities set forth in the plan provide the framework required to meet the goal of reducing infant and child mortality and morbidity associated with vaccine-preventable diseases (VPDs). Furthermore, this plan addresses new challenges and expands the previous plan by providing guidelines for introduction of new vaccines, eradication, elimination, and control of targeted VPDs and strengthening of routine immunization.

2.1.1. Vision

Nepal: a country free of vaccine-preventable diseases.

2.1.2. Mission

To provide every child and mother high-quality, safe and affordable vaccines and immunization services from the National Immunization Program in an equitable manner.

2.1.3. Goal

Reduction of morbidity, mortality and disability associated with vaccine preventable diseases.

2.1.4. Strategic Objectives

Objective 1. Reach every child for full immunization

Objective 2. Accelerate, achieve and sustain vaccine preventable diseases control, elimination and eradication

Objective 3. Strengthen immunization supply chain and vaccine management system for quality immunization services

Objective 4. Ensure financial sustainability for immunization program

Objective 5. Promote innovation, research and social mobilization activities to enhance best practices

3. TARGET POPULATION

The National Immunization Program currently provides routine vaccination up to 23 months of age. The National Immunization Advisory Committee (NIAC) of Nepal recommended lifting the ceiling for vaccination from 23 months to 5 years for childhood vaccines, with a life-course approach. It is necessary to complete immunization within the recommended schedule as provided by the National Immunization Program. However, some children may miss vaccination at the recommended schedule. Therefore, NIAC recommended that if a child misses any vaccine dose in the recommended schedule, then opportunity should be provided so that those missed vaccine or vaccine dose(s) can be provided up to 5 years of age if not contraindicated. This is also critical to improve MR2 coverage on the path towards Measles-Rubella elimination. So, this policy has been implemented from FY 2077/78 with orientation at all levels.

Table 3.1.1. Target Population for FY 2078/79

Particulars	Population (Source: HMIS)
Under 1-year children (surviving infants)	520,049
12-23 months population	517,254
0-59 months population	2,621,989
Expected pregnancy	640,378

4. NATIONAL IMMUNIZATION SCHEDULE

Table 4.1.1. National Immunization Schedule

SN	Type of Vaccine	Number of Doses	Schedule
1	BCG	1	At birth or on first contact with health institution
2	bOPV	3	6, 10 and 14 weeks of age
3	DPT-Hep B-Hib	3	6, 10 and 14 weeks of age
4	Rotavirus Vaccine	2	6 and 10 weeks of age
5	fIPV	2	14 weeks and 9 months of age (new schedule implemented in FY 2079/80)
6	PCV	3	6, 10 weeks and 9 months of age
7	Measles-Rubella	2	First dose at 9 months and second dose at 15 months of age
8	JE	1	12 months of age
9	TCV	1	15 months of age
10	Td	2	Pregnant women: 2 doses of Td one month apart in first pregnancy, and 1 dose in each subsequent pregnancy

Table 4.1.2. Immunization Schedule for missed children

<table>
<tr><th>Vaccine</th><th>Up to 12 months if missed in routine schedule</th><th>>12 months to 23 months if missed</th><th>24 months to 5 years if missed</th></tr>
<tr><td>BCG</td><td colspan="3">1 dose
- The standard dose of reconstituted vaccine is 0.05 mL for infants aged <1 year and 0.1 mL for children aged ≥1 year
- TST (Tuberculin Skin Test) not required before vaccination</td></tr>
<tr><td>Rotavirus</td><td colspan="2">2 doses with 1-month interval</td><td>Rotavirus vaccine should not be given to children above 2 years of age</td></tr>
<tr><td>bOPV</td><td colspan="3">3 doses with interval of 1 month between doses</td></tr>
<tr><td>fIPV</td><td colspan="3">2 doses with interval of 4 months between doses</td></tr>
<tr><td>PCV</td><td>3 doses with 1-month interval between doses</td><td colspan="2">2 doses with 2 months interval between doses</td></tr>
<tr><td>DPT-HepB-Hib (Pentavalent)</td><td colspan="2">3 doses with interval of 1 month between doses</td><td>3 doses
interval of 1 month between 1st & 2nd dose, and 6 months between 2nd & 3rd dose</td></tr>
</table>

MR	> 9 months to < 15 months of age 1st dose at first contact, and 2nd dose at 15 months of age. There should be at least 1-month interval between doses.		≥ 15 months to 5 years of age 2 doses with 1-month interval between doses
JE		1 dose	
TCV			≥ 15 months to 5 years of age 1 dose

5. MAJOR ACTIVITIES CONDUCTED IN FY 2078/79

5.1. Routine Activities

- Revision of immunization manuals and trainer's guideline
- Continued new vaccinator trainings at the provincial level
- Conducted independent routine immunization monitoring in all provinces
- Immunization data verification, validation and monitoring for sustainability of municipality for Full Immunization Declaration Program
- Printing of COVID-19 vaccination related IEC/BCC materials
- Immunization review meeting, RI(Routine Immunization) strengthening orientation and micro planning formulation at the subnational level
- Update of VPD technical guidelines (Polio Outbreak response), poster and register
- Printing and distribution of immunization monitoring chart
- Continued adverse events following immunization (AEFI) surveillance at all levels.
- Continued VPD surveillance through WHO-IPD SMO network
- TCV catch-up campaign and introduction of TCV in RI
- Three-days planning meeting for preparation of TCV campaign at the federal level
- Orientation to high level stakeholders, NIP related committees regarding TCV campaign and introduction in RI
- A three-days federal level workshop for preparation of guideline, form, formats for TCV campaign and introduction in RI
- Two days MTOT and planning meeting for TCV campaign and introduction of TCV in RI
- Media orientation on TCV campaign and introduction of TCV in RI
- Medical professionals, professional organizations, and media orientation on TCV campaign and introduction of TCV in RI in all seven provinces
- Opening of TCV campaign and introduction of TCV in RI at federal level

5.2. Additional Activities

- Update of key guiding documents for COVID-19 vaccination including National Deployment and Vaccination Plan (NDVP) for COVID-19 vaccines
- Review and update of COVID-19 campaign operational guidelines, training package, IEC materials, micro planning format, recording and reporting format, etc.
- Conducted Provincial Level review and planning Workshop on COVID-19 vaccination campaign and routine immunization
- Development of COVID-19 vaccines guiding documents for health workers
- MToT on Mid-Level Managers training on Immunization
- Conduction of post-campaign coverage survey of nation-wide Measles-Rubella vaccination campaign
- National workshop on dissemination of MR campaign coverage survey findings and development of provincial action plan based on MR risk assessment
- Provincial VPD surveillance review workshop
-

6. VACCINATION TARGET vs. ACHIEVEMENT, FY 2078/79

The cMYP 2017-21 has set the goals to reduce child morbidity, mortality and disability associated with vaccine preventable diseases, and one of the strategic objectives is to reach every child for full immunization. The NDHS survey 2022 shows that in 25 years, there has been significant reduction in infant and child mortality (Fig. 6). The National Immunization Programme has contributed significantly in reduction of child mortality by preventing vaccine preventable diseases.

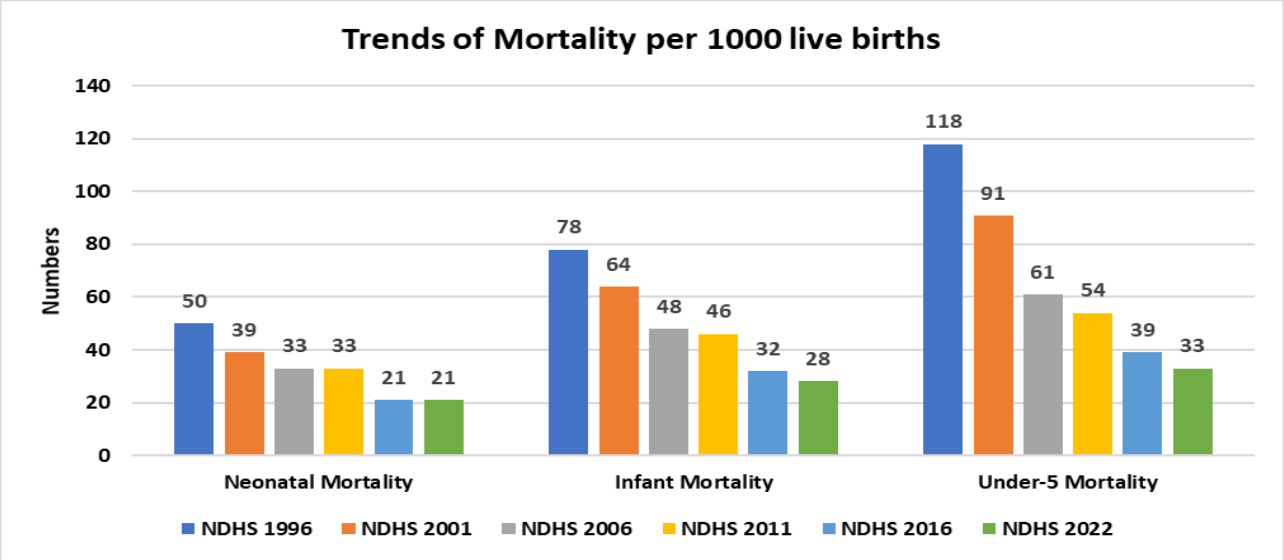


Figure 6. Trends in early childhood mortality
Source: Nepal Demographic and Health Survey.

6.1. National vaccination coverage

The tables and maps presented below show the routine immunization vaccination coverage and achievement status in FY 2078/79.

Table 6.1.1. National vaccination coverage by vaccine, FY 2078/79

S.N.	Antigens	Target population	Targets	Achievement (No)	% Achieved
1	BCG	under 1 year	520,049	539,789	104
2	DPT-Hep B-Hib1	under 1 year	520,049	513,744	99
3	DPT-Hep B-Hib2	under 1 year	520,049	503,113	97
4	DPT-Hep B-Hib3	under 1 year	520,049	494,843	95
5	DPT-Hep B-Hib3 including delayed dose given after 1 year of age	under 1 year	-	12,586	-
6	OPV1	under 1 year	520,049	512,338	99
7	OPV2	under 1 year	520,049	503,053	97
8	OPV3	under 1 year	520,049	495,897	95
9	OPV3 including delayed dose given after 1 year of age	under 1 year	-	12,586	-
10	fIPV1	under 1 year	520,049	498,315	96
11	fIPV2	under 1 year	520,049	483,444	93
12	Rota 1	under 1 year	520,049	490,291	94

S.N.	Antigens	Target population	Targets	Achievement (No)	% Achieved
13	Rota 2	under 1 year	520,049	471,210	91
14	PCV1	under 1 year	520,049	510,928	98
15	PCV2	under 1 year	520,049	499,412	96
16	PCV3	under 1 year	520,049	487,956	94
17	MR1	under 1 year	520,049	492,373	95
18	MR2	15 Months	517,254	480,032	93
19	JE	12 Months	517,254	495,882	96
20	TD2 & TD2+	pregnant women	640,387	458,923	72

Data source: IHMIS/MD, DoHS

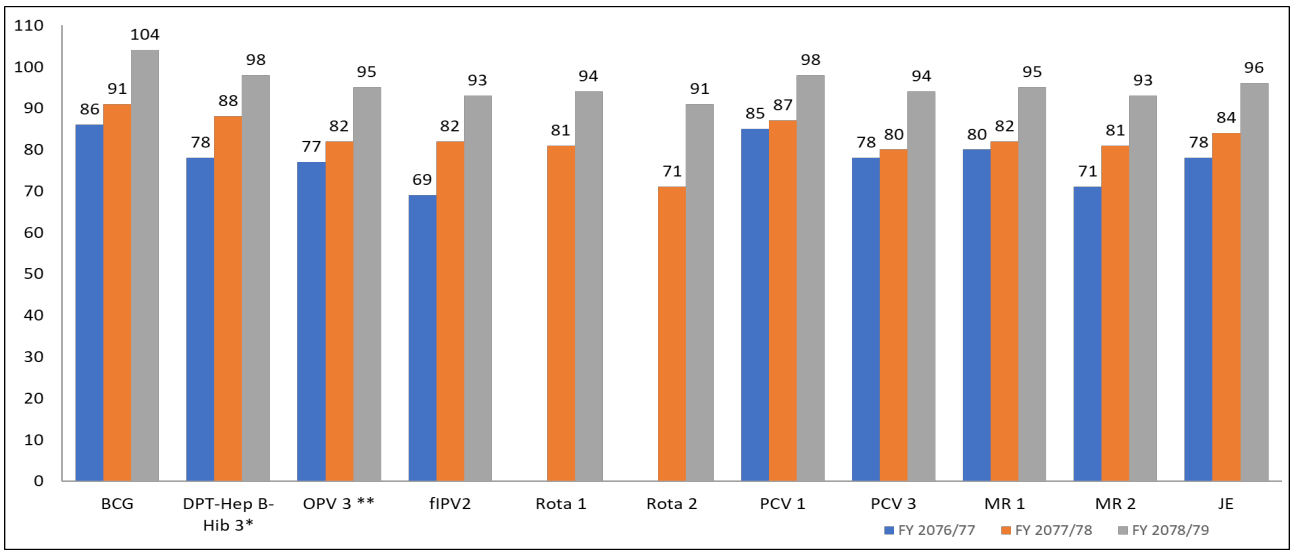


Figure 6.1.2. National Routine Immunization Administrative Coverage (%), Nepal, FY 2076/77 to 2078/79
Data source: IHMIS/MD, DoHS

Figure 6.1.2. shows national administrative coverage for selected antigens for three years, from FY 2076/77 to FY 2078/79. BCG coverage has increased by 13% points whereas the coverage of DTP-HepB-Hib3 and OPV3 has increased by 10% and 13% points respectively in FY 2078/79 compared to FY 2077/78. For FY 2078/79, the national fIPV2 coverage was 93%. PCV1 coverage was 98% whereas coverage of PCV3 was 94%. MR1 and MR2 coverage was 95% and 93% respectively. For measles elimination, high coverage of both MR1 and MR2 is required (> 95%) at all levels. Therefore, coverage of both MR1 and MR2 coverage is still to be improved. The coverage of the JE vaccine has also increased to 96% in FY 2078/79 from 84% in FY 2077/78. The reporting rate for immunization dataset in IHMIS for FY 2078/79 is 90% which is same as the previous fiscal year 2077/78 but slightly higher than FY 2076/77 (86%). The National Immunization Program was able to quickly bring the monthly vaccination coverage to the pre-pandemic era, which had decreased during the peak pandemic period, to at or above pre-pandemic phase.

6.2. Vaccination coverage by province

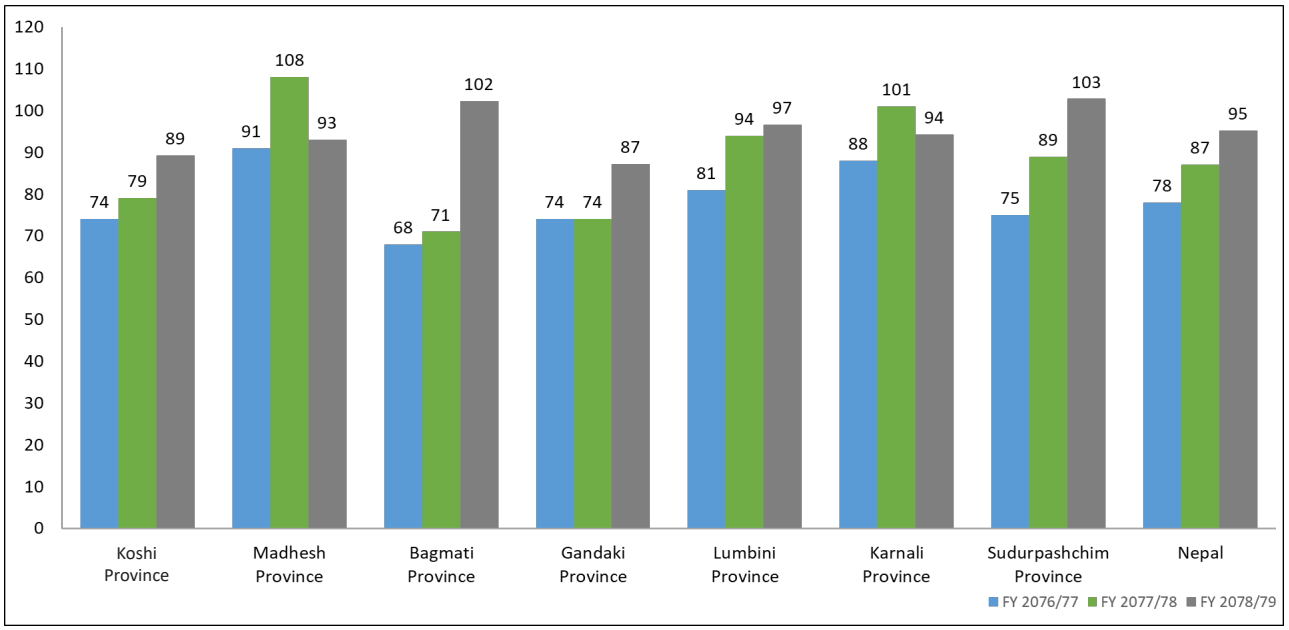


Figure 6.2.1. Province wise coverage (%) of DPT-HepB-Hib3, FY 2076/77 to FY 2078/79
Data source: IHMIS/MD, DoHS

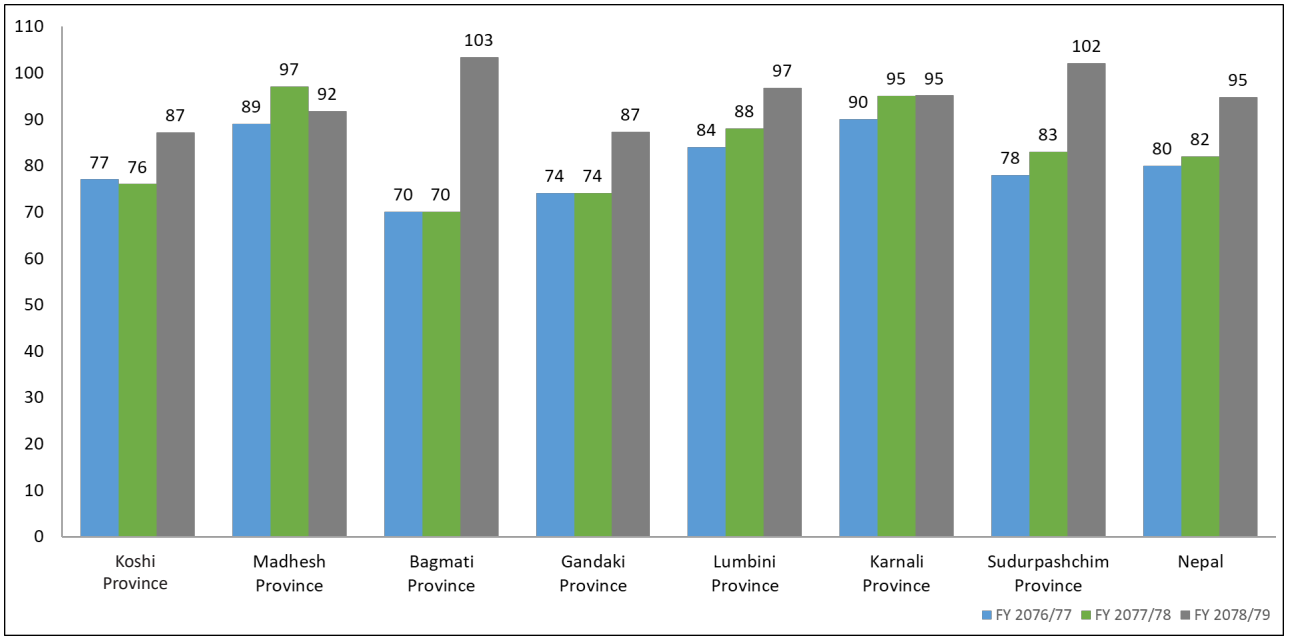


Figure 6.2.2. Province wise coverage (%) of measles-rubella first dose, FY 2076/77 to FY 2078/79
Data source: IHMIS/MD, DoHS

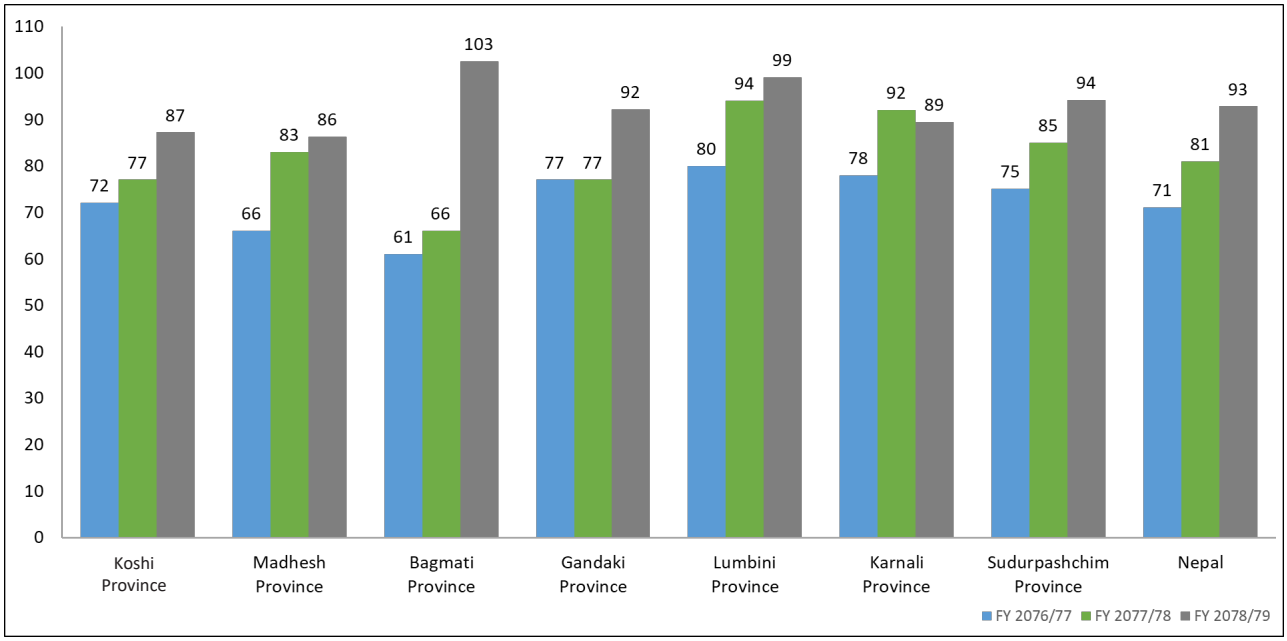


Figure 6.2.3. Province wise coverage (%) of Measles-Rubella second dose, FY 2076/77 to FY 2078/79
Data source: IHMIS/MD, DoHS

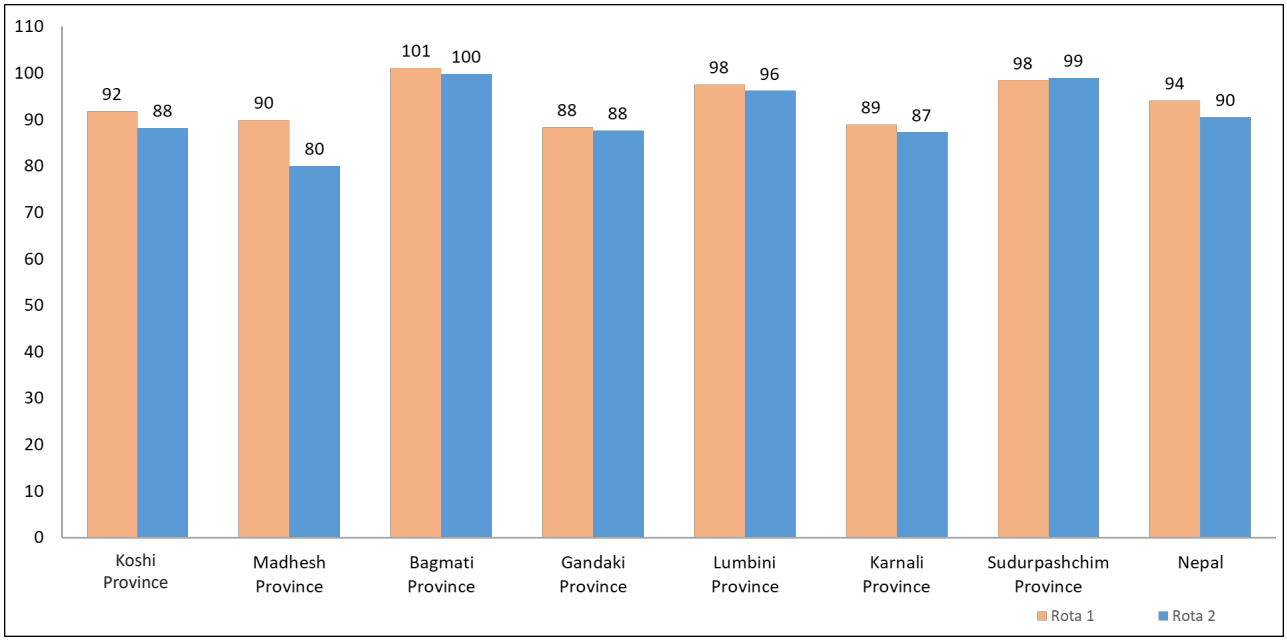


Figure 6.2.4. Province wise coverage (%) of Rotavirus vaccine 1 and 2, FY 2078/2079
Data source: IHMIS/MD, DoHS

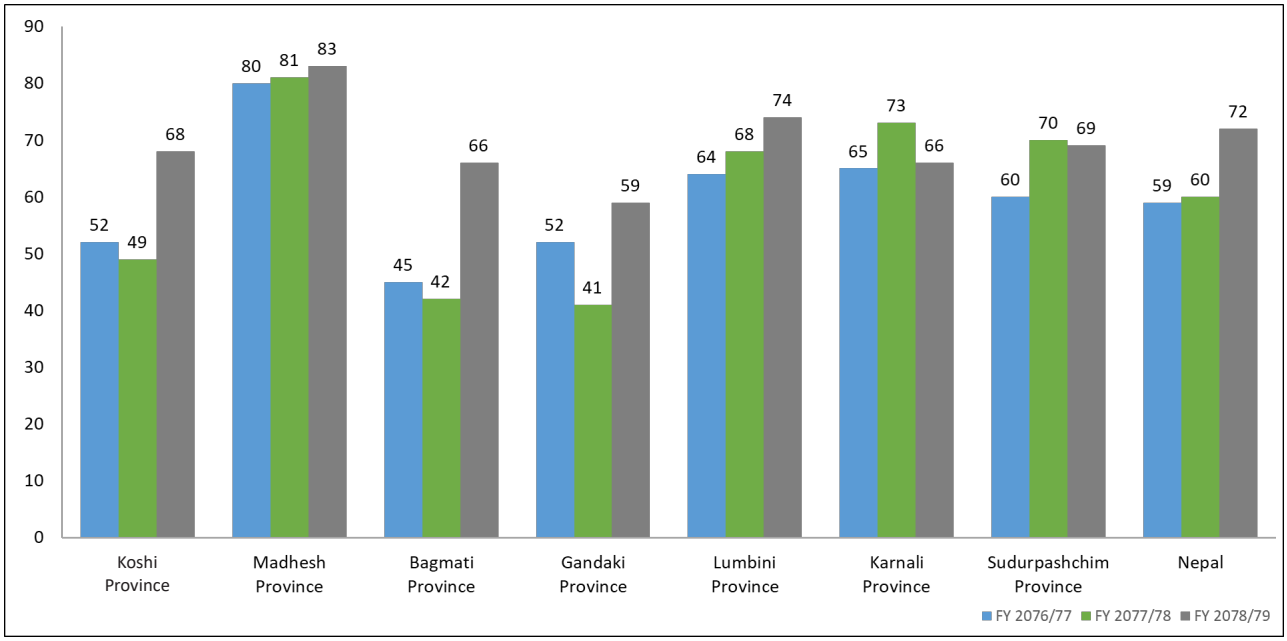


Figure 6.2.5. Province wise coverage (%) of Td2 andTd 2+, FY 2076/77 to FY 2078/79
Data source: IHMIS/MD, DoHS

Figure 6.2.1 to 6.2.5 illustrates province wise coverage for DPT-HepB-Hib3, MR1, MR2, rotavirus vaccine 1 and 2, and Td2/Td2+ respectively. Overall, the vaccination coverage of DPT-HepB-Hib3, MR1 and MR2 have increased in all provinces except Madhesh and Karnali Province for DPT-HepB-Hib3, Madhesh Province for MR1, and Karnali Province for MR2, where the coverage has decreased compared to previous year. In Karnali, MR1 coverage has remained the same compared to previous year. Rotavirus vaccine, which is a newly introduced vaccine in FY 2077/78 shows achievement of high coverage even after one year of introduction. Td2 and Td2+ coverage has increased in all provinces except Karnali and Sudurpaschchim Province. Even though higher coverages have been achieved in FY 2078/79, there is a susceptible cohort of children as the vaccination coverages were lower in previous years during the COVID-19 pandemic. Therefore, vaccination should be provided to all missed children, including utilizing vaccination schedule for missed children upto 5 years of age (Table 4.1.2).

6.3. Droput rates of vaccination

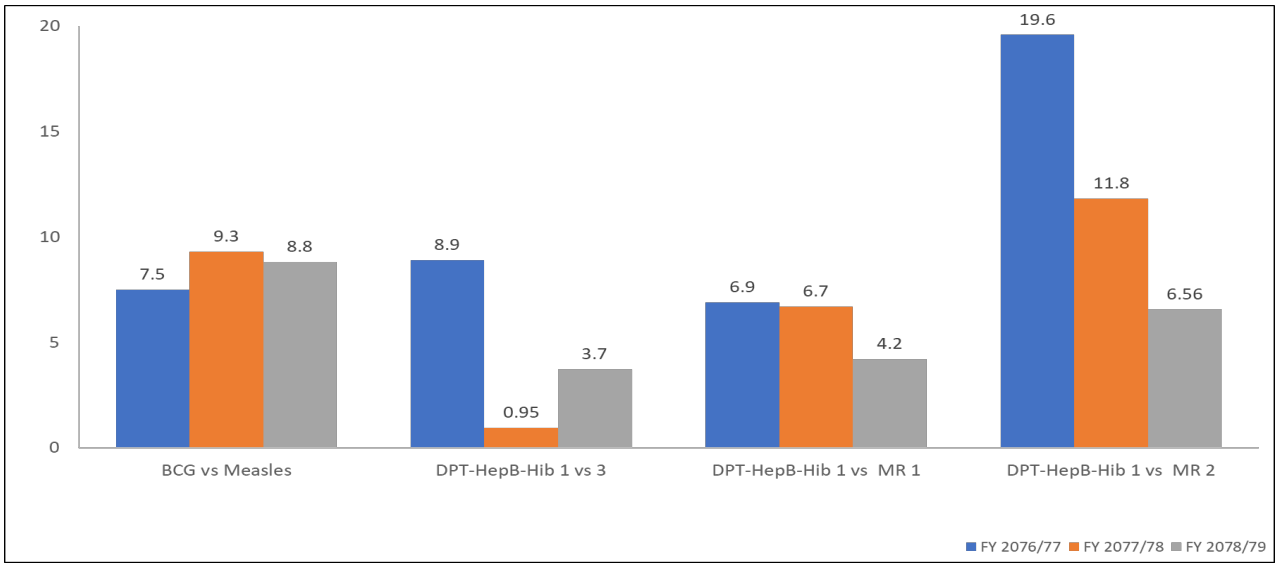


Figure 6.3.1. Dropout rates (%) of different vaccinations, FY 2076/77 to FY 2078/79
Data source: IHMIS/MD, DoHS

Figure 6.3.1 shows that national dropout rates for BCG vs MR1, DPT-HepB-Hib1 vs DPT-HepB-Hib3, DPT-HepB-Hib1 vs MR1 and DPT-HepB-Hib1 vs MR2. Dropout rates for BCG vs Measles, DPT-HepB-Hib1 vs MR1 and DPT-HepB-Hib1 vs MR2 have decreased compared to previous year showing improvement while DPT-HepB-Hib1 vs DPT-HepB-Hib3 had increased. All drop-out rates are below 10%.

6.4. Vaccine wastage rates

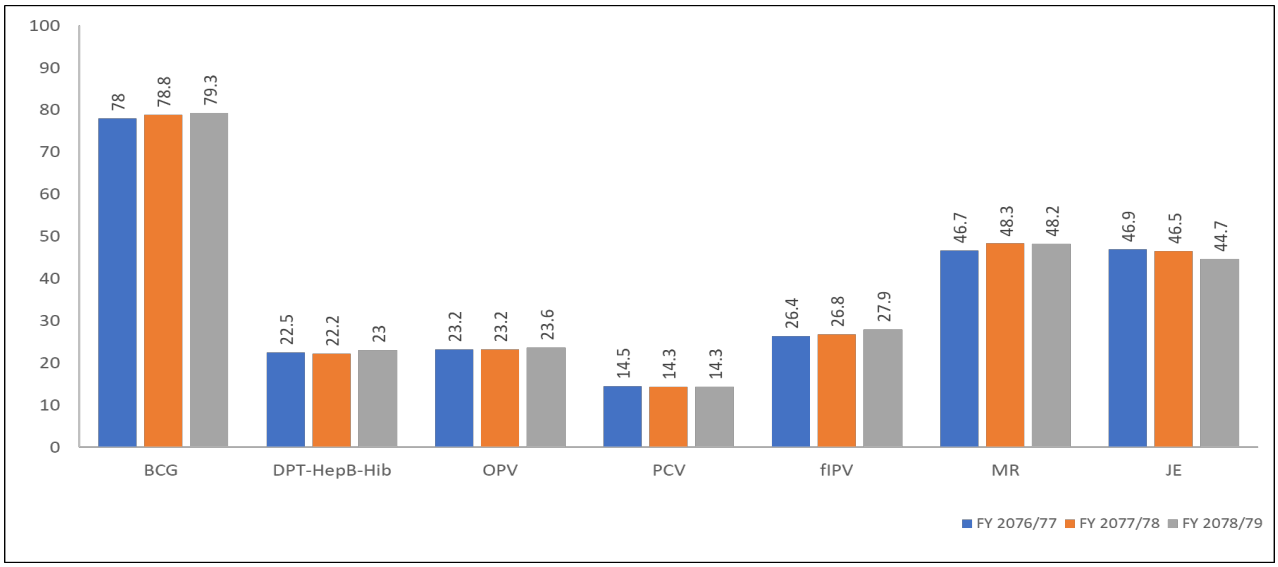


Figure 6.4.1. Vaccine wastage rates (%), FY 2076/77 to FY 2078/79
Data source: IHMIS/MD, DoHS

The above figures combine open and closed vial wastage rates. For all reconstituted vaccines (BCG, MR, and JE) that need to be discarded within 6 hours (1 hour only for JE) or at the end of immunization session whichever comes first, opened vial wastage rates are expected to be higher. Further, in Nepal, for BCG, fIPV, MR and JE vaccines, at least 'one vial per session' policy is used, and small session sizes because of sparse population in hilly and mountainous terrain have to be allowed higher opened vial wastage rates so that no child is missed. Because of these reasons, the wastage rates for BCG is higher than the indicative wastage rates of 50%. The wastage rate of MR has remained same in FY 2078/79 and it is below the indicative wastage rate of 50%. The wastage rate of JE has decreased slightly but remained high (44.7%) as it should be discarded within 1 hour from opening. For DPT-HepB-Hib and OPV, the national wastage rates are below the indicative wastage rate of 25% for both vaccines. For PCV, the national wastage rate is 14.3% which is above the indicative wastage rate of 10%. The wastage rate of fIPV is 27.9% as fractional dose is used.

6.5. Measles-rubella second dose coverage, number of immunized and unimmunized children by district

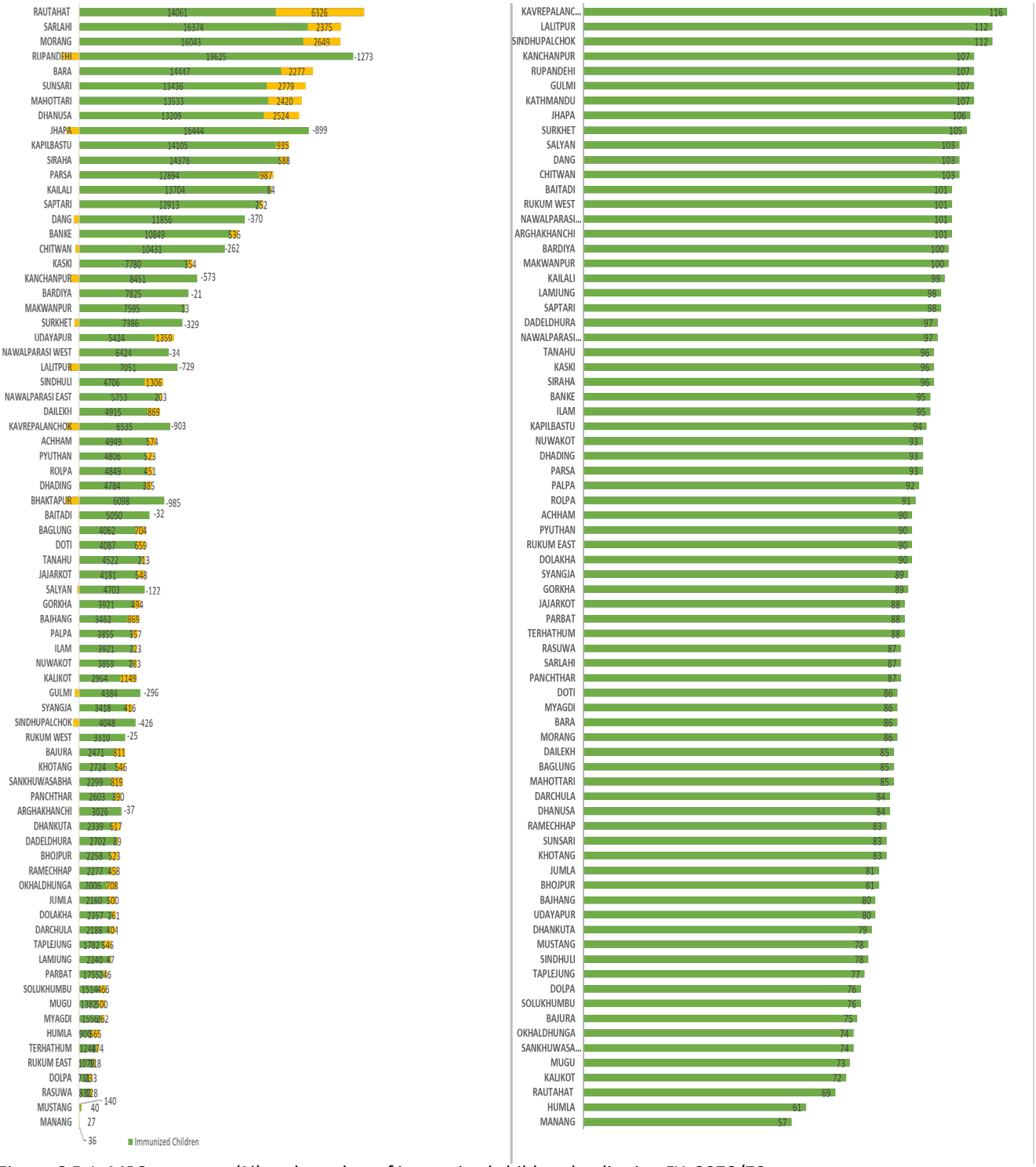


Figure 6.5.1. MR2 coverage (%) and number of immunized children by district, FY 2078/79
*Negative number shows immunized more than target for the district.

Data source: IHMIS/MD, DoHS

Figure 6.5.1 shows the district wise coverage of MR2 and number of children vaccinated with MR2. The national coverage of MR2 is 93%. 39 districts have achieved MR2 coverage 90% and above, 24 districts have MR2 coverage between 80-89%, and 14 districts have MR2 coverage between 50-79%.

6.6. Access and utilization of immunization services:

The National Immunization Program monitors the status of the districts by accessibility and utilization of immunization services. Districts are categorized in category 1 to 4 on the basis of DPT-HepB-Hib1 coverage and dropout rate of DPT-HepB-Hib1 vs DPT-HepB-Hib3 to know the accessibility and utilization of immunization services respectively.

Table 6.6.1. District categorization based on access (DPT-HepB-Hib1 coverage) and utilization (DPT-HepB-Hib1 vs. DPT-HepB-Hib3 drop-out), FY 2078/79

Category 1 (less Problem) High Coverage (<90%) Low Drop-Out (<10%)	Category 2 (Problem) High Coverage (<90%) High Drop-out (<10%)	Category 3 (Problem) Low Coverage (<90%) Low Drop-out (<10%)	Category 4 (Problem) Low Coverage (<90%) High Drop-out (<10%)
TERHATHUM, PANCHTHAR	DHANUSA	TAPLEJUNG	
ILAM, JHAPA,	MAHOTTARI	SANKHUWASABHA	
MORANG, SUNSARI	RAUTAHAT	SOLUKHUMBU	
SAPTARI, SIRAHA		OKHALDHUNGA	
SARLAHI, BARA		KHOTANG	
PARSA, SINDHUPALCHOK	3 districts	BHOJPUR	
DHADING, NUWAKOT		DHANKUTA	
KATHMANDU, LALITPUR		UDAYAPUR	
BHAKTAPUR, CHITWAN		DOLAKHA	
KAVREPALANCHOK		RASUWA	
MAKWANPUR, KASKI		RAMECHHAP	
LAMJUNG, SYANGJA		SINDHULI	
PARBAT, RUKUM EAST		GORKHA	
PYUTHAN, GULMI		MANANG	
ARGHAKHANCHI		MUSTANG	
NAWALPARASI WEST		MYAGDI	
RUPANDEHI, KAPILBASTU		TANAHU	
DANG, BANKE		NAWALPARASI EAST	
BARDIYA, DAILEKH		BAGLUNG	
JAJARKOT, RUKUM WEST		ROLPA, PALPA	
SALYAN, SURKHET		DOLPA, MUGU	
BAJURA, DARCHULA		HUMLA, JUMLA	
BAITADI, DADELDHURA		KALIKOT	
DOTI, ACHHAM		BAJHANG	
KAILALI, KANCHANPUR			
47 Districts		27 Districts	

Data source: IHMIS/MD, DoHS

Note: The given DPT-HepB-Hib3 coverages used in the table above does not include delayed vaccines given after 1 year of age

Table 6.6.1 shows that 47 districts are in category 1 (good access, good utilization). This is an increase from 42 districts in this category in the previous fiscal year, showing improvement in immunization access and utilization at the sub-national level. Three districts are in category 2 (good access, poor utilization), whereas 27 districts are in category 3 (poor access, good utilization). There is no district in category 4 (poor access, poor utilization).

6.7. Programmatic risk assessment based on routine immunization and vaccine preventable disease (measles)

Programmatic risk for FY 2078/79 was derived using surveillance and immunization coverage indicators from the last three years and is given below. The previous programmatic risk assessment was published in the Annual Report 2077/78.

The parameters used for the risk assessment model are: (a) unimmunized children, (b) immunization coverage, (c) measles cases and (d) measles outbreak. Risk scoring of districts and municipalities are based on routine immunization coverages and vaccine preventable disease surveillance (measles) indicators as follows:

a) 3-year average of DTP-HepB-Hib 3 coverage (%) and number of infants missed DTP-HepB-Hib 3
b) 3-year average of MR2 coverage (%) and Number of 12-23 months old children missed MR2
c) 3-year average annual confirmed measles case count (any age)
d) 3-year sum of confirmed measles outbreak count

Table 6.7.1. Risk scoring matrix for districts and municipalities

Risk domain	Indicators	Score criteria and significance	Score value	Min-Max summative scores	Risk category
1st year of life risk of VPD (1YLR)	3-year average of Penta3/DTP3 coverage (%) and Number of infants missed DTP3	DTP3>=80% and Non-DTP3 children <national median value: Program performing well and least epidemiological risk from susceptible population	1	Minimum score across 4 domains = 2 (1+1+0+0) Maximum score across 4 domains = 13 (4+4+3+2)	Score: 2-4 = Low Risk Score: 5-7 = Moderate Risk Score: 8-10 = High Risk Score: 11-13 = Very High Risk
		DTP3<80% and Non-DTP3 children <national median value: Program not performing but less epidemiological risk from susceptible population	2		
		DTP3>=80% and Non-DTP3 children >=national median value: Program performing well but significant epidemiological risk from susceptible population	3		
		DTP3<80% and Non-DTP3 children >=national median value: Program not performing well and greatest epidemiological risk from susceptible population	4		
2nd year of life risk of VPD (2YLR)	3-year average of MR2 coverage (%) and Number of 12-23 months old children missed MR2	MR2>=80% and Non-MR2 children <national median value: Program performing well and least epidemiological risk from susceptible population	1		
		MR2<80% and Non-MR2 children <national median value: Program mot performing0 but less epidemiological risk from susceptible population	2		
		MR2>=80% and Non-MR2 children >=national median value: Program performing well but significant epidemiological risk from susceptible population	3		
		MR2<80% and Non-MR2 children >=national median value: Program not performing well and greatest epidemiological risk from susceptible population	4		
VPD Risk life course (measles as Tracer)	3-year average annual confirmed measles case count (any age)	Average case count: 0 -- lowest risk	0		
		Average case count: <2 -- low risk	1		
		Average case count: 2-3 -- moderate risk	2		
		Average case count: 4 and above -- highest risk	3		
Measles outbreak risk (larger susceptible pockets)	3-year sum of confirmed measles outbreak count	No outbreaks in 3 years - lowest risk	0		
		1 outbreak in 3 years - moderate risk	1		
		>1 outbreak in 3 years - high risk (one OB would likely give natural immunity for next year)	2		

The assumptions for risk scoring matrix as given above in Table 6.7.1 and is largely based on vaccination coverage reported (administrative coverage). The actual risk will be based on the actual vaccination coverage
District level programme risk analysis shows 7 (9%) districts are at “Very High Risk (VHR)”, 21 (27%) districts are at “High Risk (HR)”, 25 (32%) districts are at “Medium Risk (MR)” and 24 (31%) districts in “Low Risk (LR)”.

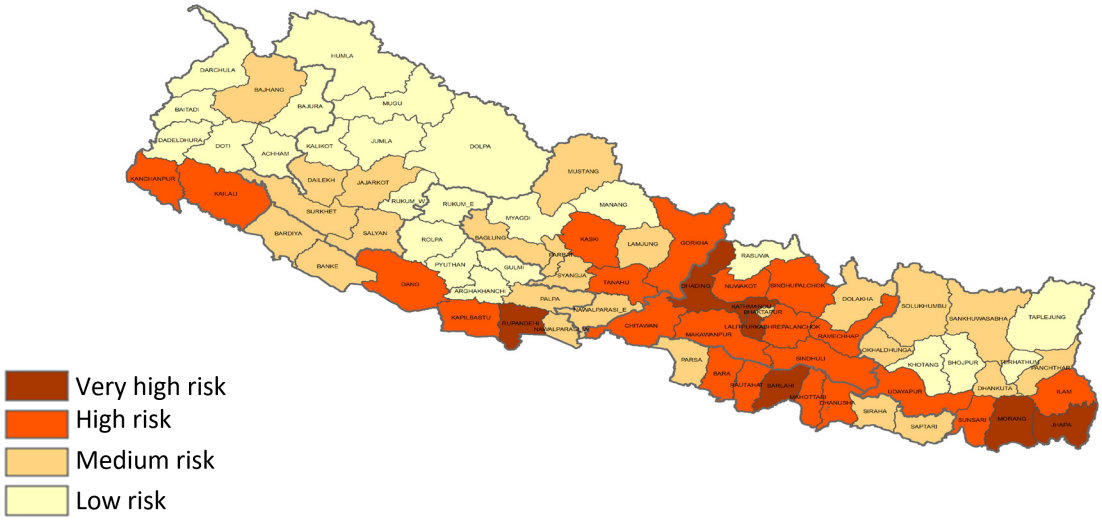


Figure 6.7.1: District wise programmatic risk assessment
Data source: IHMIS/MD, DoHS

Municipalities' level programmatic risk shows 6 (1%) municipalities in very high risk, 159 (21%) municipalities in high risk, 319 (42%) municipalities in medium risk and 269 (36%) municipalities in low risk.

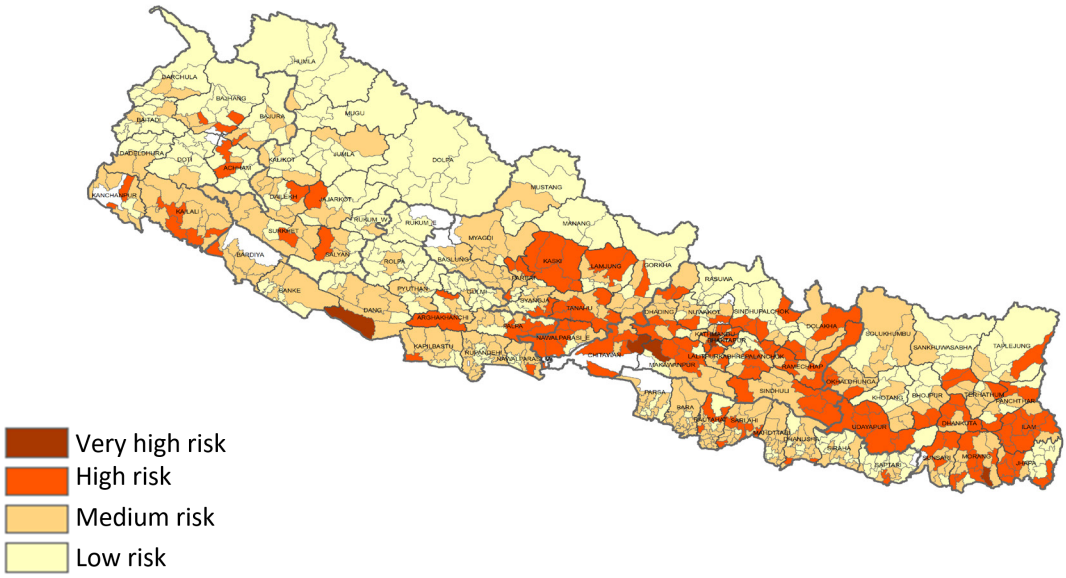


Figure 6.7.2: Municipalities-wise programmatic risk assessment
Data source: IHMIS/MD, DoHS

6.8. COVID-19 vaccination campaign

COVID-19 vaccination was introduced in Nepal on 27 January 2021. Since, then, there has been significant progress in the rollout of COVID-19 vaccines. COVID-19 vaccination campaign has been driven by guiding documents; National Vaccine and Deployment Plan (NDVP) and WHO-SAGE prioritization roadmap. Country prioritized health workers, frontline workers, and elderly populations above 65 years as priority groups followed by higher age group (above 55 years of age), co-morbid population and then the remaining population ≥ 18 years of age. COVID-19 vaccination with mRNA vaccine for 12-17 years age group started on 29 December 2021 and paediatric vaccination with mRNA vaccine targeting 5-11 years age group started on 23 June 2022.

First booster dose of COVID-19 vaccine in high-risk groups (frontline workers, elderly population ≥ 60 years and population ≥ 18 yearvs with immunocompromised conditions) started from 16 January 2022. From 10 February 2022 onwards, first booster dose was provided to ≥ 18 years population, and first booster dose for 12 – 17 years age group was started from 9 June 2022 onwards. Second booster dose vaccination was started from 6 November 2022 onwards to population ≥ 55 years of age, persons with moderately and severely immunocompromised conditions, persons with co-morbidities, pregnant women, and health workers.

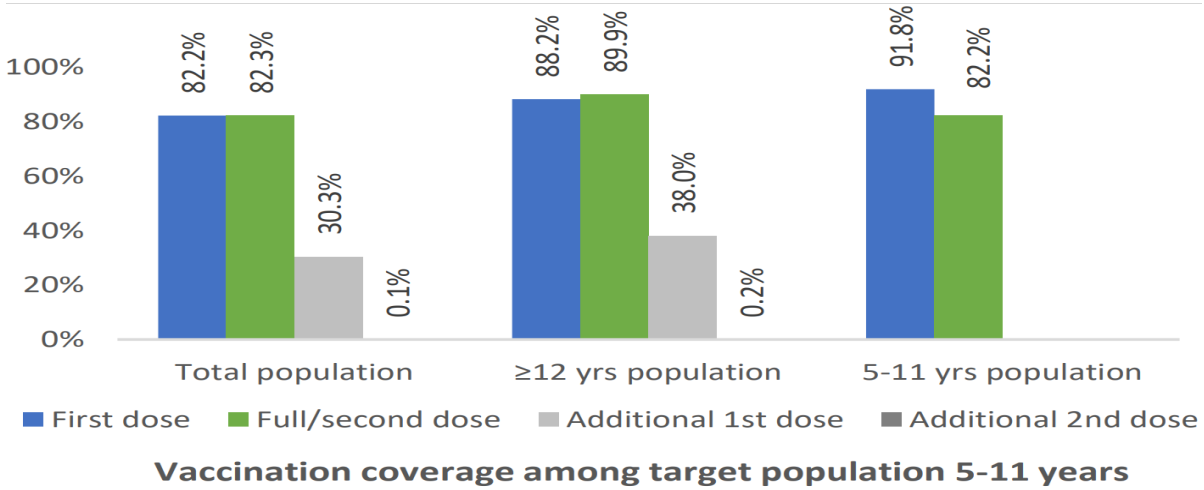


Figure 6.8.1. COVID-19 vaccination coverage by age group as of 27 December 2022

*J&J vaccine administered are added to Full/second dose. Therefore, in some cases, second dose coverage is higher than the first

Data source: IHMIS/MD, DoHS

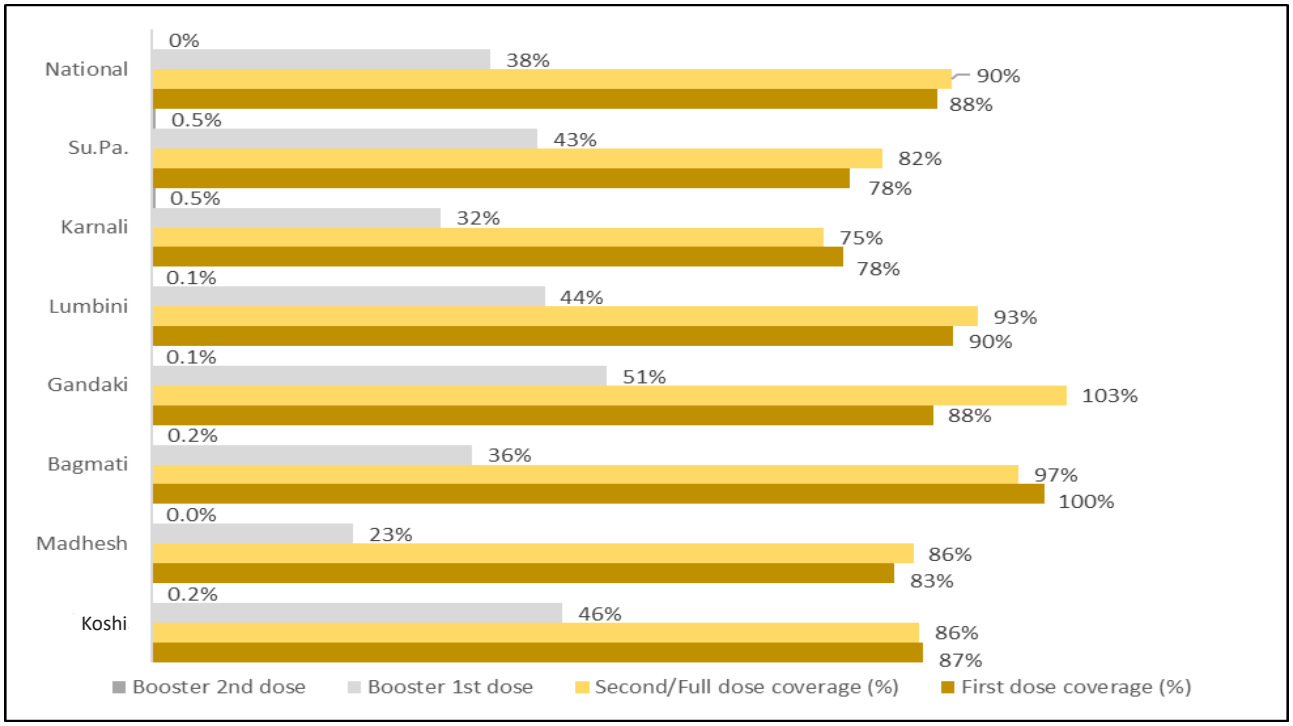


Figure 6.8.2 COVID-19 vaccination coverage among target population ≥ 12 years age by province, as of 27 Dec 2022

*J&J vaccine administered are added to Full/second dose. Therefore, in some cases, second dose coverage is higher than the first

Data source: IHMIS/MD, DoHS

Figures 6.8.1-2 shows coverage of COVID-19 vaccination among different population groups. The first and second dose coverage of COVID-19 vaccination among the total population is 82.2% and 82.3% respectively whereas the coverage of the first booster dose is only 30.3% which is lower. The first and second dose coverage of COVID-19 vaccination in population ≥ 12 years age is 90% and 88% respectively. The first and second dose coverage of COVID-19 vaccination in the population ≥ 12 years of age is above 80% in Koshi, Madhesh, Bagmati, Gandki and Lumbini Provinces whereas it is

below 80% in Karnali province. In Sudurpashchim province, second dose coverage in the population ≥ 12 years of age is above 80%. The first and second dose coverage of COVID-19 vaccination in the 5 to 11 years age group is 91.8% and 82.2% respectively.

6.9. Typhoid vaccination campaign and introduction of typhoid vaccine in routine immunization

Nepal is estimated to have one of the highest cases of typhoid in the world. Global Burden of Disease study 2017 estimates that there were 351 typhoid cases per 100,000 people in 2017, with 105,026 total cases and 1,042 deaths. To significantly reduce high morbidity and mortality caused by typhoid in the country, specifically among children under 15 years of age, the National Immunization Program of Nepal conducted nation-wide catch-up campaign with typhoid conjugate vaccine (TCV) from 25 Chaitra 2078 to 18 Baisakh 2079 (8 April to 01 May 2022). A total of 7,690,182 children of 15 months to under 15 years of age were vaccinated achieving 99.7% coverage. Province wise coverage is given in Figure 6.9.1. Among 77 districts, 66 districts achieved >90% coverage, 10 districts achieved 80 – 90% coverage, whereas one district achieved <80% coverage. After completion of the campaign, TCV was introduced in routine immunization and is given at 15 months of age.

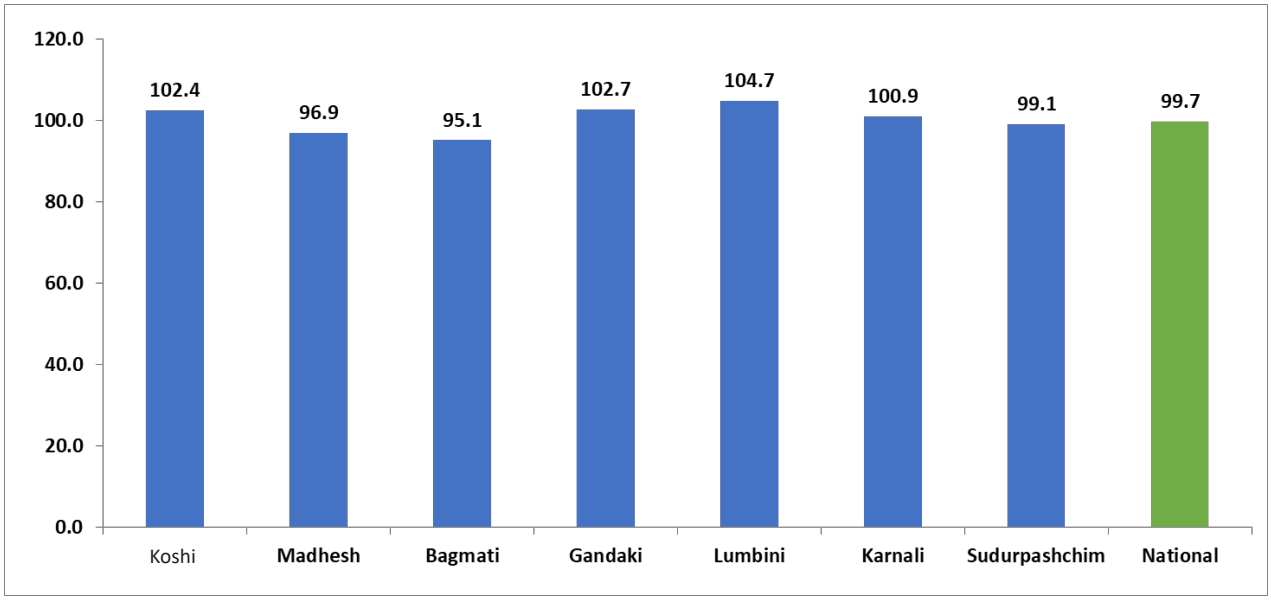


Figure 6.9.1 National and province wise typhoid vaccination campaign coverage (%), FY 2078/79

7. VACCINE-PREVENTABLE DISEASES SURVEILLANCE

One of the strategic objectives of cMYPI 2017-21 is to accelerate, achieve and sustain vaccine-preventable disease control, elimination, and eradication. Strategic approaches within this objective are to sustain polio-free status for the global eradication of the disease, achieve measles elimination and rubella/CRS control by 2019, accelerate JE control, sustain MNT elimination status, accelerate hepatitis B vaccination, and expand surveillance of other vaccine-preventable diseases. While high coverage with vaccines included in routine immunization is important to achieve this objective, high-quality surveillance is important to know the status of these diseases to progress towards the achievement of this objective.

To support polio eradication activities, surveillance of acute flaccid paralysis for polio was started in Nepal in 1998. In 2003, measles (and rubella) and neonatal tetanus surveillance were integrated into the AFP/polio surveillance network. In 2004, surveillance of acute encephalitis syndrome for Japanese encephalitis was integrated into the AFP/ polio surveillance network. With the support of WHO-IPD, surveillance for these diseases is conducted throughout the country through 734 routine weekly zero-reporting sites, 630 case-based measles surveillance sites, and 817 informers. Further, sentinel surveillance of invasive bacterial diseases (IBD), rotavirus, and congenital rubella syndrome is also conducted in Nepal.

Sentinel surveillance for invasive bacterial diseases (pneumococcus, Hib, and meningococcus) has been conducted at Patan Hospital since 2009. Similarly, sentinel surveillance for rotavirus disease has been conducted at Kanti Children's Hospital since 2009. Surveillance data from the IBD sentinel surveillance site was crucial for the informed introduction of

the Haemophilus influenzae type b vaccine (introduced in 2009), and the pneumococcal conjugate vaccine (introduced in 2015) in routine immunization of Nepal. Similarly, data from the rotavirus sentinel surveillance site was crucial for an informed recommendation for the rotavirus vaccine introduction in Nepal. In February 2018, rotavirus sentinel surveillance sites were expanded to two more sites with geographical representation – B.P. Koirala Institute of Health Sciences and Nepalgunj Medical College. Further, sentinel surveillance of CRS (congenital rubella syndrome) is conducted through four sentinel sites in Kathmandu Valley- Kanti Children's Hospital, Tribhuvan University Teaching Hospital-Paediatric Department, Patan Academy of Health Sciences and Tilganga Eye Hospital.

7.1. Acute flaccid paralysis surveillance, FY 2078/2079 (2021)

The last case of polio in Nepal was reported in August 2010. Along with the other countries in the South-East Asia Region, Nepal was certified polio-free in 2014. Since then, Nepal has maintained this status. For sensitive surveillance of polio, there are two main cardinal indicators: 1) non-polio AFP rate which should be at least 2 per 100,000 (SEAR standard) under 15 years population, and 2) adequate stool collection rate which should be 80% or more.

Figure 7.1.1. Reported acute flaccid paralysis (AFP) cases by district, FY 2078/2079 (2021)
Source: FWD and WHO-IPD, Nepal

Figure 7.1.1 shows the total reported AFP cases by the district for FY 2078/2079. The total number of AFP cases reported was 261 cases from 68 districts. The remaining 9 districts (Solukhumbu, Ramechhap, Rasuwa, Mustang, Rukum-East, Dolpa, Jumla, Mugu, Humla) did not report any AFP cases. Most of these districts are sparsely populated with relatively a smaller number of under 15 years population. At least one AFP case per year from any district with 50,000 under 15 years population is expected for quality surveillance of the AFP.

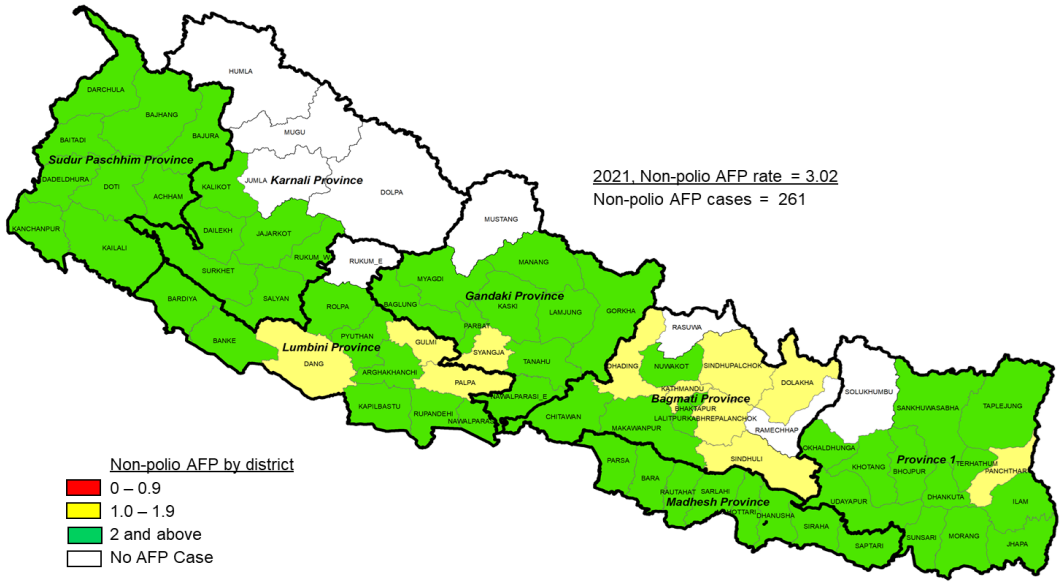


Figure 7.1.2. Non-polio Acute Flaccid Paralysis (NP AFP) rate by district, FY 2078/2079 (2021)
Source: FWD and WHO-IPD, Nepal

Figure 7.1.2 shows the non-polio AFP rate by the district. The National non-polio AFP rate is 3.02 per 100,000 under 15 years population, which is above the required rate of at least 2 per 100,000 under 15 years population. There are 68 districts that have reported AFP cases, out of which 57 districts have met the non-polio AFP target rate of 2 or more, whereas 11 districts have a non-polio AFP rate between 1 – 1.9, and 9 districts have a non-polio AFP rate below 1 per 100,000 under 15 years population.

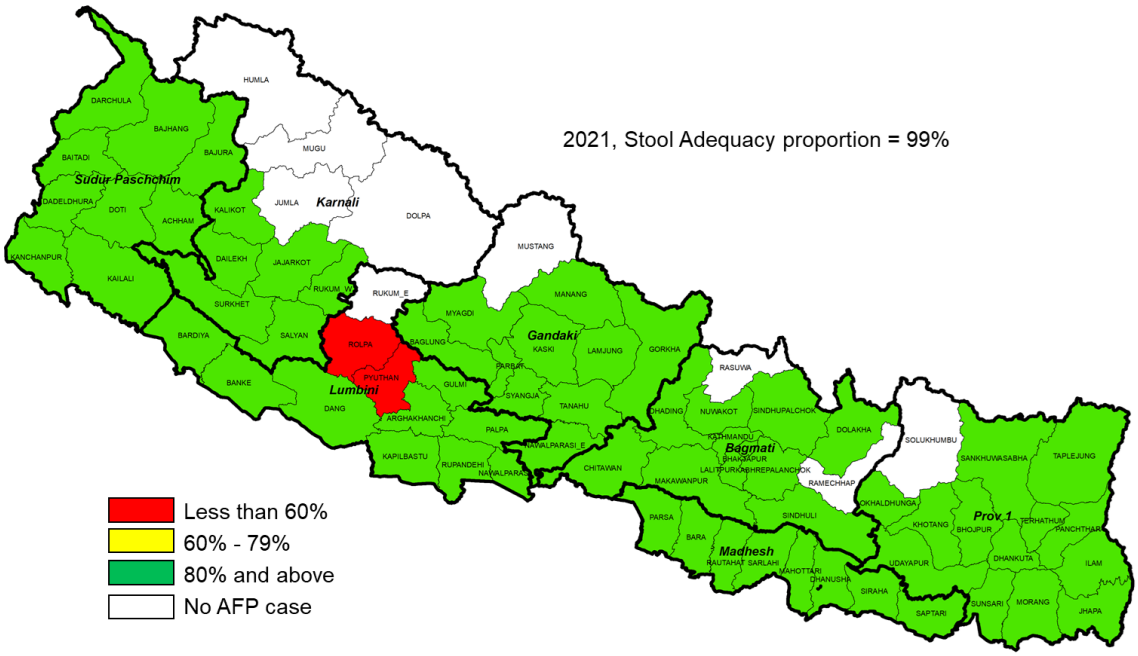


Figure 7.1.3. Adequate stool collection rate of AFP cases by district, FY 2078/2079 (2021)
Source: FWD and WHO-IPD, Nepal

Figure 7.1.3 shows an adequate stool collection rate from reported AFP cases. The national AFP stool col- lection rate is 99%, which is above the target of 80% or more for this indicator. Among 68 districts that have reported AFP cases, 66 districts have achieved an adequate stool collection rate of at or above 80% whereas in two districts (Rolpa and Pyuthan) stool adequacy rate is less than 60%.

Table 7.1.1. Non-polio AFP rate and stool collection adequacy rate by province, FY 2078/2079 (2021)

Province	Non-Polio AFP cases	Non-Polio AFP rate	Stool Adequacy
Koshi Province	37	2.61	100%
Madhesh Province	58	3.21	100%
Bagmati Province	52	2.79	100%
Gandaki Province	31	4.31	100%
Lumbini Province	43	2.94	91%
Karnali Province	11	2.10	100%
Sudurpaschhim Province	29	3.44	100%
Total	261	3.02	**99%**

Source: FWD and WHO-IPD, Nepal

Table 7.1.1 shows non-polio AFP cases, non-polio AFP rate, and adequate stool collection rate by province. All provinces have achieved a non-polio AFP rate above 2 per 100,000 under-15 years population, and an adequate stool collection rate above 80%.

Environmental Surveillance

Environmental Surveillance (ES) for poliovirus examines composite human faecal samples from untreated wastewater collection systems typically located downstream from high-risk populations in defined geographical areas. ES supplement AFP surveillance and play an important role to document the absence of indigenous wild poliovirus; no importations of the virus via international travelers, vaccination switch information and identify vaccine derived poliovirus in defined geographical areas. Since November 2017, National Public Health Laboratory (NPHL) has been conducting ES for poliovirus from five sites in Kathmandu Valley. The five permanent ES sites are Sewer Inlet Chamber- Chabahil, Bagmati Manahara Confluence, Bagmati/Dhobikhola confluence, Tukucha, and Shovabagawati.

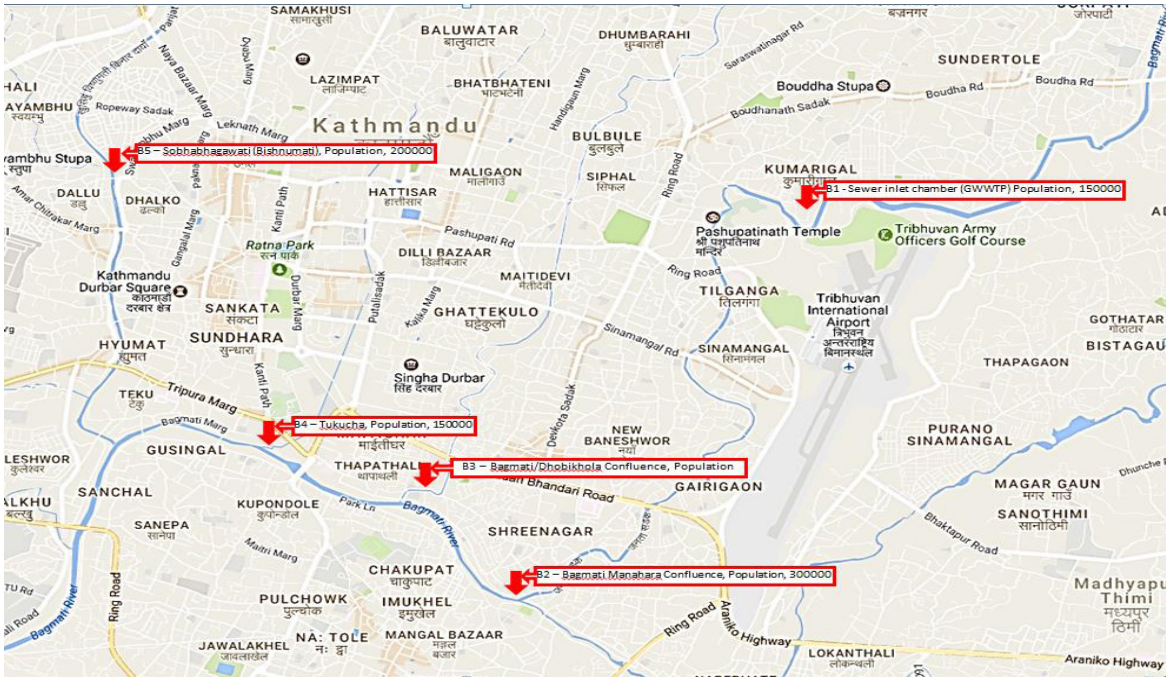


Figure 7.1.4. Map of environmental surveillance sampling sites- Kathmandu Valley
Source: Environmental Surveillance for Poliovirus Nepal, NPHL 2016

Viruses Detected in Environmental Sewage samples (2020-2021)

Figure 7.1.5. shows viruses detected in sewage samples from five different sites of Kathmandu Valley in 2020 and 2021. The ES data system showed Sabin viruses and Non-polio Enterovirus (NPEV). The ES has not detected any type 2 Sabin after the trivalent oral polio vaccine (tOPV) switched to the bivalent oral polio vaccine (bOPV). There are no findings of any vaccine-derived poliovirus (VDPV) and wild polioviruses. Due to the COVID-19 pandemic and restricted movement, NPHL could not conduct the collection and processing of ES samples from 13 Weeks to 46 Weeks, in 2020. NPHL resumed ES sample collection and processing in 47 Week 2020. At present, due to an interrupted international flight to the regional reference lab (RRL), Bangkok, NPHL has been sending concentrated samples to the reference laboratory (RRL), Mumbai India for isolation and characterization of polioviruses.

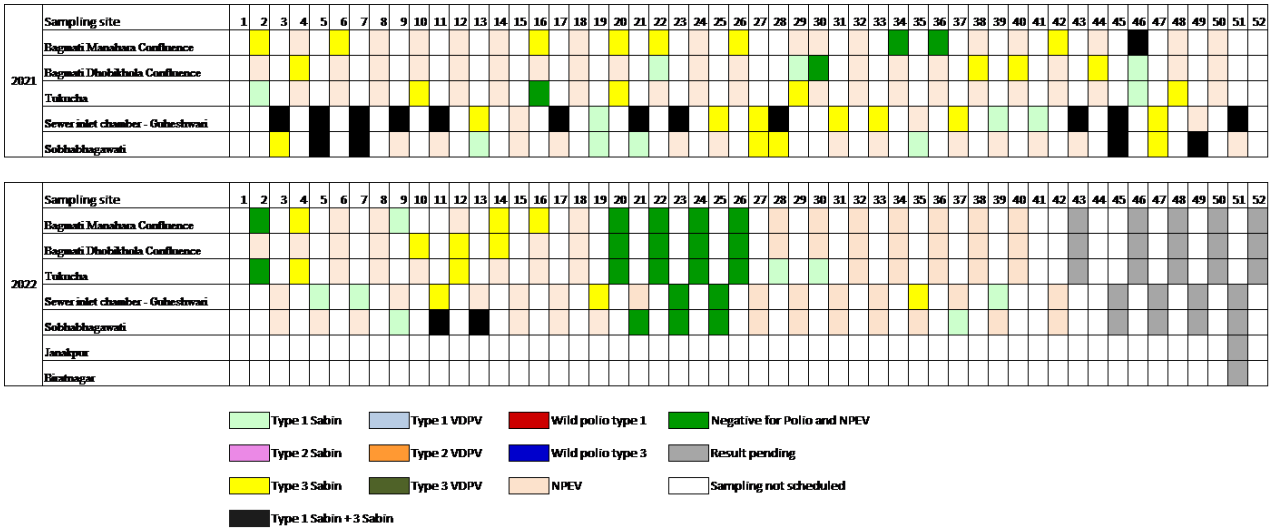


Figure 7.1.5. Environmental surveillance of polio viruses (sewage samples, 2020-2021)
Source: FWD and WHO-IPD, Nepal

Laboratory containment of poliovirus, wild as well as vaccine-derived poliovirus, is a part of the polio eradication program of the Ministry of Health and Population. No laboratories in Nepal isolate polioviruses. Both AFP stool samples and ES samples are shipped to the polio reference lab in Bangkok. However, some laboratories in Nepal have facilities for long-term storage and some are storing potentially polio-infectious materials at deep sub-zero temperatures. Therefore, to confirm the non-retention policy and update the inventories of laboratories, research and diagnostic laboratories must be visited and reviewed. NPHL works as the secretariat of the National Task Force for Laboratory Containment of Poliovirus (NTFLC) and follow-up on the recommendations made by the NTFLC.

7.2. Measles-rubella surveillance, FY 2078/2079

In August 2018, Nepal was certified as having achieved control of rubella and congenital rubella syndrome (CRS). This certification is two years ahead of the regional target year of 2020 and one year ahead of the national target of 2019. Control of rubella and CRS is achieved if there is a 95% or more reduction in the number of rubella cases from 2008 levels. Nepal achieved a 97% reduction in rubella cases in 2017 (22) as compared to 2008 (786). However, even though the reduction in the number of measles cases has been 98% in 2017 (99) compared to 2003 (5419), measles cases have not been reduced to zero which is required for measles elimination. Figure 7.2.1 shows that there has been a drastic reduction in measles and rubella cases in Nepal. Supplementary immunization activities (campaigns), the introduction of the rubella vaccine, and the achievement of high coverage of measles-rubella first dose in routine immunization have been the main factors for this achievement. For the elimination of measles, high coverage of both doses of measles-rubella vaccination is required (≥ 95%) at all sub-national levels. The coverage of the measles-rubella second dose is still not satisfactory. To progress towards measles and rubella elimination by 2023 as per the resolution, a nationwide measles vaccination campaign was conducted in FY 2076/2077 including strengthening of routine immunization.

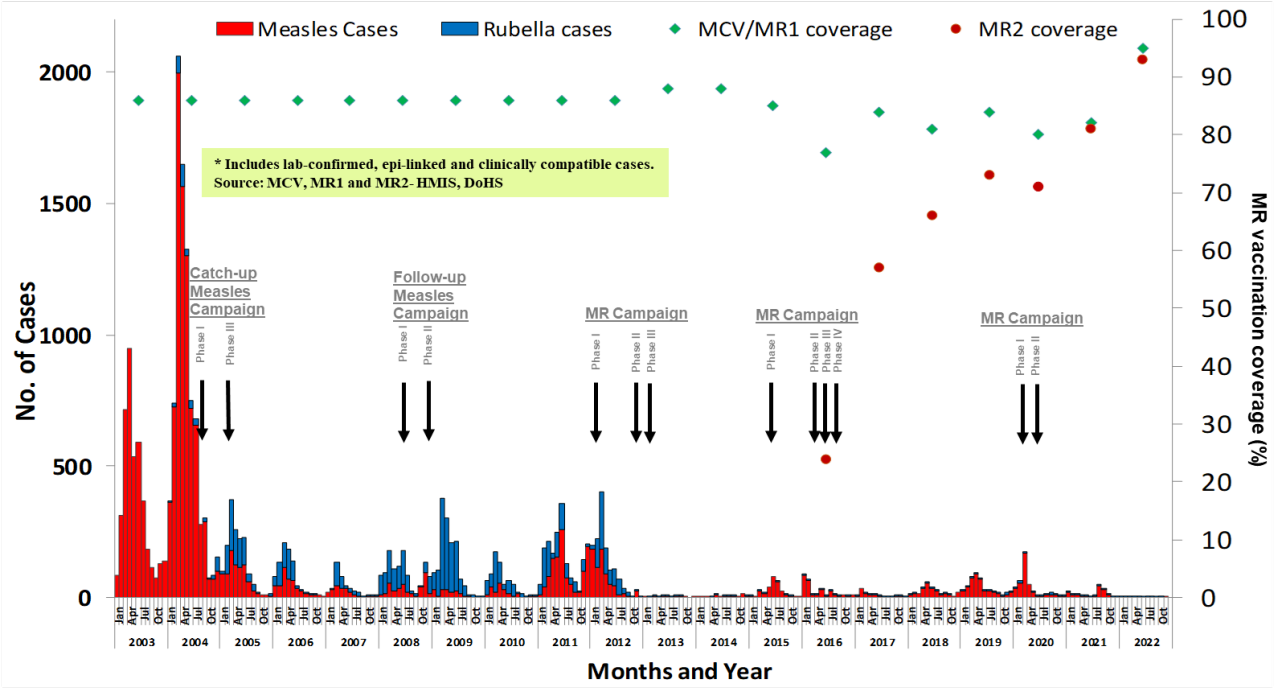


Figure 7.2.1. Confirmed measles and rubella cases and MCV/MR1/MR2 coverage, Nepal, 2003- 2022
Source: FWD and WHO-IPD, Nepal

-Measles vaccination is given in Nepal since the start of EPI in all districts (covered 75 districts by 1988)
-Measles-Rubella (MR) first dose started in 2013; Measles Rubella (MR) second dose started in September 2015

Figure 7.2.1 and Table 7.2.2 shows laboratory-confirmed measles and rubella cases by district and province respectively. A total of 144 laboratory-confirmed measles and 44 laboratory-confirmed measles cases were identified through case-based measles surveillance sites. Among the total lab-confirmed measles cases in FY 2078/2079, the majority is from Karnali Province 61 (43%), Lumbini Province 30 (21%), followed by Madhesh Province 20 (14%).

One of the cardinal indicators for measles-rubella surveillance is the non-measles non-rubella rate (NMNR rate) which should be at least 2 per 100,000 populations. That is, at least 2 suspected measles cases (which after laboratory tests are non-measles and non-rubella) per 100,000 population should be reported for quality measles-rubella surveillance. All provinces have achieved an NMNR rate above 2. The national NMNR rate is 3.48 per 100,000 population.

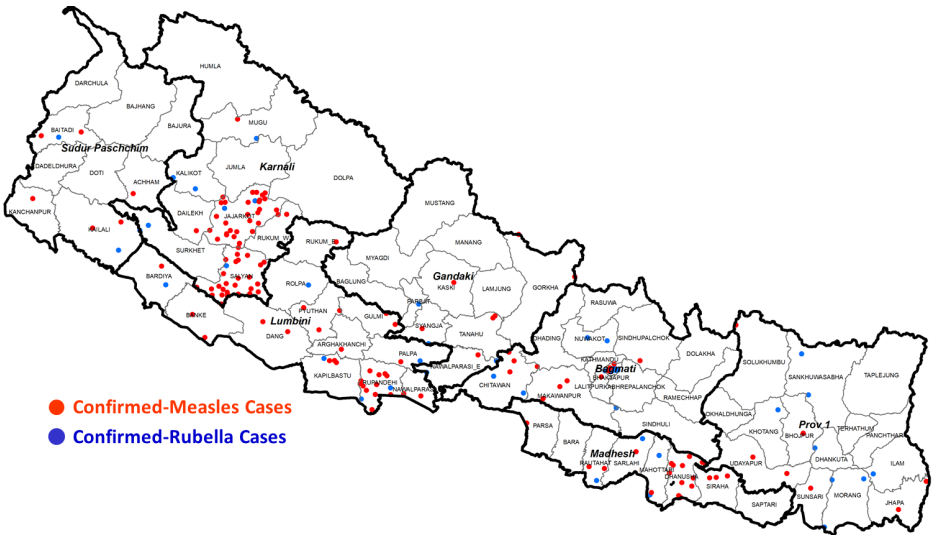


Figure 7.2.2. Confirmed measles and rubella cases by district, FY 2078/2079 (2021)
Source: FWD and WHO-IPD, Nepal

Table 7.2.2. NMNR rate and confirmed measles and rubella cases by province, FY 2078/2079 (2021)

Province	NMNR cases	NMNR rate	Confirmed Measles	Confirmed Rubella
Koshi Province	183	3.38	7 (5%)	8 (18%)
Madhesh Province	168	2.27	20 (14%)	5 (11%)
Bagmati Province	291	4.13	12 (8%)	11 (25%)
Gandaki Province	211	7.97	7 (5%)	3 (7%)
Lumbini Province	273	4.60	30 (21%)	7 (16%)
Karnali Province	187	6.47	61 (43%)	8 (18%)
Sudurpaschhim Province	104	2.17	6 (4%)	2 (5%)
Total	**1417**	**4.07**	**144 (100%)**	**44 (100%)**

Source: FWD and WHO-IPD, Nepal
NMNR: non-measles non-rubella

7.3. Acute encephalitis syndrome (AES) surveillance, FY 2078/2079

As a concentrated Japanese encephalitis (JE) control measure, phase-wise mass vaccination campaigns started in 2006 and were completed in 31 high-risk districts by 2011. JE vaccine was introduced in a phase-wise manner in the routine immunization to these 31 districts by 2012. After these measures were taken, the JE burden was reduced significantly in Nepal. However, over the years, as identified by surveillance, JE was reported from other districts of Nepal as well. Following a mass-vaccination campaign in the remaining districts in 2016, the JE vaccine was introduced in the routine immunization of all remaining 44 districts in July 2016. As shown in Figure 7.3.1, the JE burden in Nepal has reduced significantly in 2019 compared to the initial years when surveillance was started.

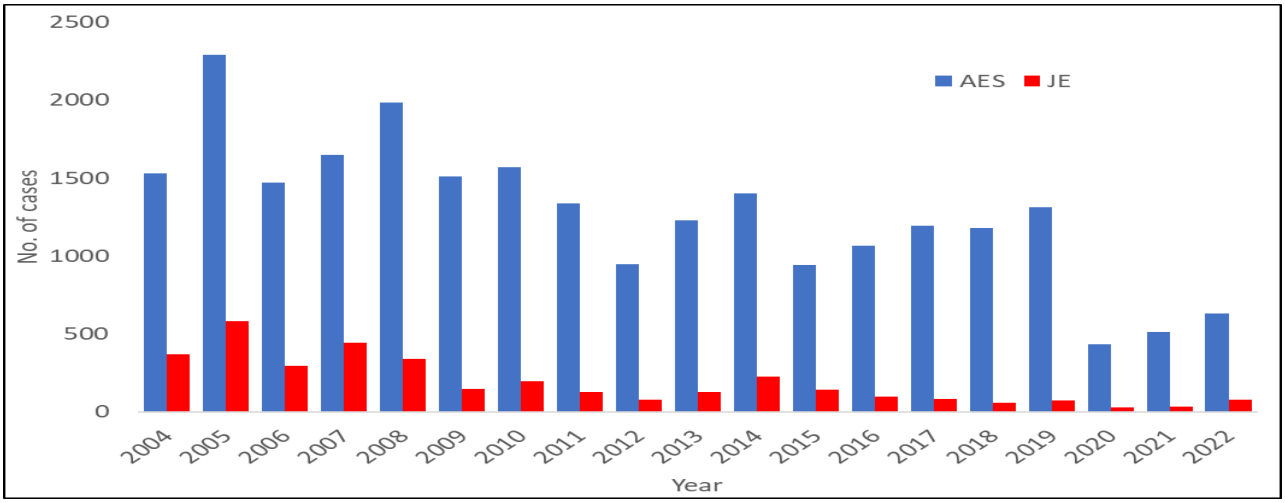


Figure 7.3.1. Reported AES and lab-confirmed Japanese encephalitis cases, Nepal, 2004 – 2022
Source: FWD and WHO-IPD, Nepal

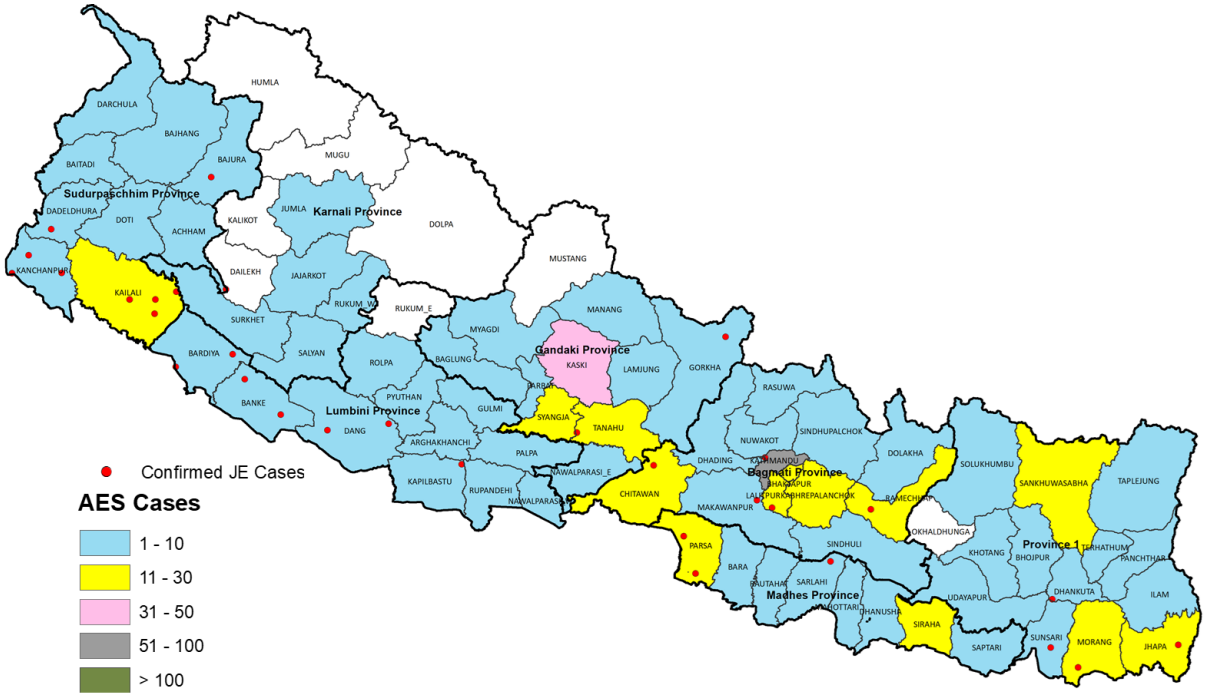


Figure 7.3.2. Reported AES and laboratory-confirmed Japanese encephalitis cases by district, FY 2078/2079 (2021)
Source: FWD and WHO-IPD, Nepal

Figure 7.3.2 shows that all districts have reported AES cases in FY 2078/2079. Out of the total districts, Kathmandu district reported a higher number of AES cases between 51-100, Kaski district reported AES cases between 31-50, and thirteen districts (Jhapa, Morang, Sankhuwasabha, Siraha, Ramechhap, Lalitpur, Bhaktapur, Sindhupalchok, Parsa, Chitwan, Tanahu, Syangja, Kailali) have reported AES cases between 11-30. In total, 512 AES cases were reported (Table 7.3.1). Among the total reporte d AES cases, only 28 (5.4%) were laboratory confirmed for JE. This is a major reduction compared to the years before the JE vaccination was started when around 25-30% of the AES cases were positive for JE. The majority of laboratory confirmed JE cases (10 out of 28; 36%) were reported from Sudurpaschim Province.

Table 7.3.1. Reported AES cases and Lab-confirmed JE cases by province, FY 2078/2079 (2021)

Province	AES cases	JE cases
Koshi Province	75	4
Madhesh Province	52	2
Bagmati Province	161	5
Gandaki Province	116	1
Lumbini Province	48	6
Karnali	15	0
Sudurpashchim	45	10
Total	**512**	**28**

Source: FWD and WHO-IPD, Nepal

7.4. Neonatal tetanus surveillance, FY 2078/2079 (2021)

In Nepal, neonatal tetanus (NNT) elimination was achieved in 2005. This status has been maintained since then. In FY 2078/79, five (5) NNT cases were reported from Makawanpur, Chitwan, Bardiya and Dadeldhura district (Fig 7.4.1). The estimated number of total live births in the fiscal year 2078/2079 is 638,125. The national incidence rate of NNT is 0.006 per 1,000 live births.

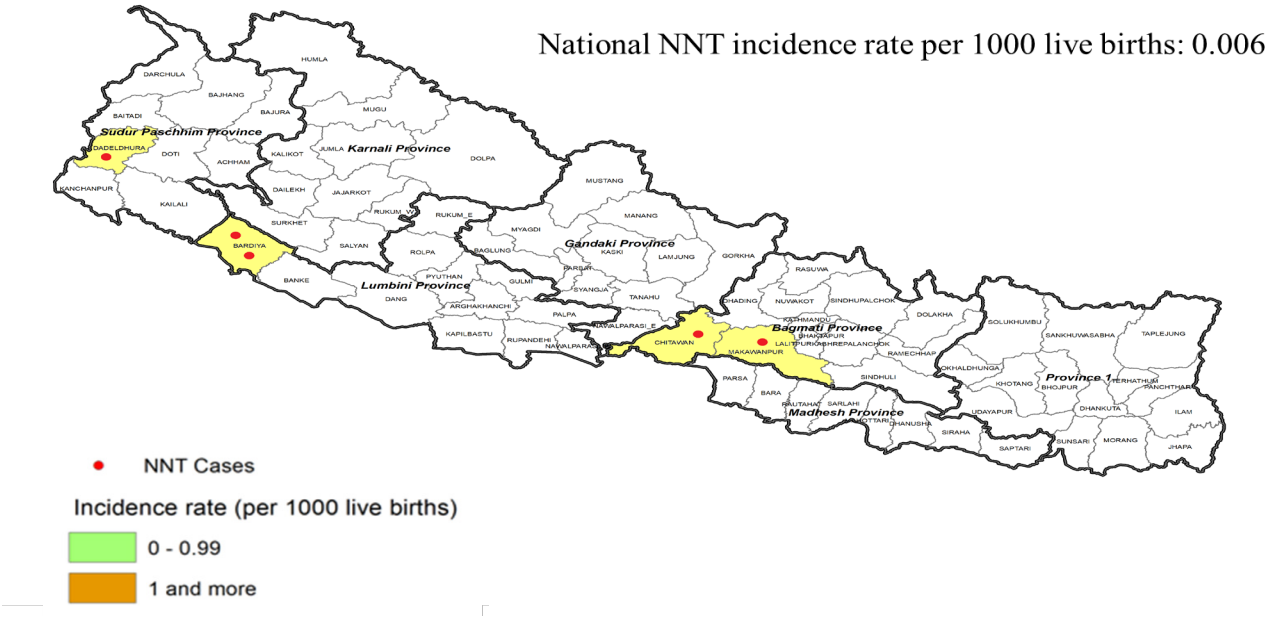


Figure 7.4.1. Neonatal tetanus cases, FY 2078/2079 (2021)
Source: FWD and WHO-IPD, Nepal

8. PROBLEMS/CONSTRAINTS AND ACTIONS TO BE TAKEN

The provincial review meetings in 2078/79 identified the following problems and constraints and recommended action to be taken at different levels of the immunization delivery system.

Problems/Constraints	Action to be taken	Responsibility
Inadequate HRH especially in Metro/Sub - Metropolitan, MCH / Institutional clinics, and ill-defined JD of AHW and ANM (for vaccinations)	-Provision for sufficient vaccinators for the Metro / Sub-Metropolitan, MCH / Institutional Clinics -Incorporate responsibility of delivering immunization service in the Job Description of all HA, SAHW, AHW/ANM to conduct immunization sessions	MoH/DoHS/HO, Local Government
Poor quality immunization program data: Under and over-reporting.	-Only Joint supportive supervision of Immunization as per HMIS. -Strengthen supportive supervision at all levels -Provision of DQSA to the PHD and districts	HF/HO/Province/ FWD/HMIS
Poor Inventory keeping and distribution system	-Update inventory of cold chain equipment with their cold chain capacity and vaccine, syringes, diluents etc., and use of stock control register. Maintain maximum and minimum stock levels.	PHLMC/District Vaccine Store
Sustainability of FID	-Orientation, capacity building, and empowerment of local government -Accelerate Full Immunization declaration at all levels -Coordination with intersectoral stakeholders	MoHP, MoFAGA, DoHS/FWD, Province, Local Government
Cold chain and vaccine management	-Effective implementation of EVM training at all levels -Supportive supervision and onsite coaching at all levels -Strengthen the bundling mechanism for vaccine and logistics distribution	MD/FWD/NHTC/ HO
Inadequate CC Equipment and inadequate repair, maintenance, and replacement, lack of technician	-Provision of engineer and refrigerator technician at regional/provincial level -Supply of cold chain spare parts -Replacement of aging equipment, regular repair of cold chain equipment	DoHS/ MD/FWD
Inadequate vaccine store capacity esp. central level	-Strengthen the vaccine stores with new buildings in the central store	MoHP, DoHS, MD, FWD
Immunization waste management	-Development of separate immunization waste management guidelines -Develop basic infrastructure and equipment for waste management as per National Healthcare Waste Management guideline	MoHP, DoHS, MD
Ownership and coordination at all levels	-Regular meetings with subnational level stakeholders and discussion on immunization -Timely information dissemination and orientation from the federal level and review of guidelines and immunization activities	DoHS/ MD/FWD
Slow consumption of COVID-19 booster doses	-Identify low coverage districts/palikas, find out reasons and conduct vaccination -Increase in number of COVID-19 vaccination session sites during campaign -Provide vaccination through regular fixed session sites (big hospitals, urban areas) -Review of COVID-19 vaccination program at different levels for identification of gaps and implement appropriate actions	DoHS/ MD/FWD/PHD/HO/ Local Government

4.2 Integrated Management of Neonatal and Childhood Illnesses (IMNCI)

4.2.1 Background

Chronological development: Integrated Management of Neonatal and Childhood Illness (IMNCI)

In Nepal, child survival intervention began when the Control of Diarrhoeal Disease (CDD) Program was initiated in 1983 and the Acute Respiratory Infection (ARI) Control Program initiated in 1987. For the management of ARI Cases from household level and to maximize ARI related services, referral model and treatment model at the community level were piloted. An evaluation of this intervention in 1997 revealed that the treatment model was more effective and popular in the community than the referral model. In 1997/98, ARI intervention was combined with CDD and named the CB-AC program. One year later two more components, nutrition and immunization, were also incorporated in the CBAC program. The IMCI program was piloted in Mahottari district and was extended to the community level as well. Finally, the government decided to merge the CBAC into IMCI in 1999 and named it as Community-Based Integrated Management of Childhood Illness (CB-IMCI) as both of the programs targeted the same population with involvement of similar Health Service Providers. CBIMCI mainly focused on five major childhood diseases like pneumonia, diarrhoea, malaria, measles, and malnutrition. The strategies adopted in IMCI were improving knowledge and case management skills of health service providers, overall health systems strengthening and improving community and household level care practices. After successful piloting of low osmolar ORS and Zinc supplementation, it was incorporated in the CB-IMCI program in 2005. Nationwide implementation of CB-IMCI was completed in 2009 and revised in 2012 incorporating important new interventions.

Community-Based New Born Care Program

In 2004, the Government of Nepal formulated the National Neonatal Health Strategy, an effort and step towards improving neonatal survival and health in the country. Although Nepal had made a huge progress in reduction of under-five and infant mortality till 2005, the reduction of neonatal mortality was observed to be very sluggish because the country had no targeted interventions for new-borns especially at community level. Based on National Neonatal Health Strategy 2004, 'Community-Based New-born Care Program (CB-NCP)' was designed in 2007, and piloted in 2009 in 10 districts. CB-NCP incorporated seven strategic interventions: behaviour change communication, promotion of institutional delivery, postnatal care, management of neonatal sepsis, care of low-birth-weight New-born, prevention and management of hypothermia and recognition and resuscitation of birth asphyxia. Furthermore, in September 2011, the Ministry of Health and Population decided to implement the Chlorhexidine (CHX) Di gluconate (7.1% w/v) aiming to prevent umbilical infection of the newborn. After the evaluation in the 10 districts, the government decided to scale up in 41 districts covering 70% population by the year 2014.

The CB-IMCI program contributed to reducing the prevalence of pneumonia and diarrhoea significantly over the period. The health care seeking behaviour and practices were found improved at the household level. CB-IMCI program became a role model for community-based programs of Nepal with adoption of community-based approaches and behaviour change communication strategies for case management. Other interventions that significantly contributed to reduce post-neonatal child mortality were bi-annual supplementation of Vitamin A program and immunization program. On the other hand, essential New-born care practices were also improved in CB-NCP implemented districts.

In both the programs (CB-IMCI and CB-NCP), FCHVs were considered as frontline health service providers. Though FCHVs played a significant role for promotion of healthy behaviours at community level, expected service delivery was not achieved due to their limited technical skills for case management and overburden of work. CB-NCP and CB-IMCI had similarities in interventions, program management, service delivery and target beneficiaries. Additionally, both programs had interventions like management of neonatal sepsis, promotion of essential New-born care practices, infection prevention and control practices, and management of low birth weight with Kangaroo Mother Care (KMC). Considering these issues, MoHP decided to integrate CB-NCP and IMCI into a new package i.e. CB-IMNCI to reduce inequities in delivery of child health services and improve health governance.

Community-Based Integrated Management of New-born and Childhood Illnesses (CB-IMNCI)

CB-IMNCI is an integration of CB-IMCI and CB-NCP Program as per the decision of MoHP on 2071/6/28 (October 14, 2015). This integrated package of child-health intervention addresses the major problems of sick newborn such as birth asphyxia, bacterial infection, jaundice, hypothermia, and low birthweight. The program aims to address major childhood illnesses like Pneumonia, Diarrhoea, Malaria, Measles and Malnutrition among under 5 year's children in a holistic way. Since 2016, CB-IMNCI program has been implemented in 77 districts of the country.

In CB-IMNCI program, FCHVs carry out health promotional activities for maternal, new-born and child health and provide

essential commodities like distribution of iron, zinc, ORS, chlorhexidine which do not require assessment and diagnostic skills, and immediate referral in case of any danger signs that appear among sick new-borns and children. Health service providers counsel and provide health services like management of non-breathing cases, low birth weight babies, common childhood illnesses, and management of neonatal sepsis. Also, the program has provisioned for the post-natal visits by trained health service providers through primary health care outreach clinics.

The program is envisioned for the Child Health & Immunization Services Section (CHISS), Family Welfare Division with overall responsibility of planning, management and quality assurance and monitoring of the CB-IMNCI program. The CHISS has been focusing continuously on monitoring, supportive supervision, onsite coaching to enhance the clinical skill among service providers, and Routine Data Quality Assessment (RDQA) to strengthen the CB-IMNCI program. The program aims to reach the unreached population and communities through implementation of equity and access program (EAP).

Facility-Based Integrated Management of Childhood and Neonatal Illnesses

The Facility-Based Integrated Management of Neonatal and Childhood Illnesses (FB-IMNCI) was initiated in 2016 with a package designed specially to address and bridge existing gaps in the management of Neonatal and Childhood cases referred from peripheral level health institutions to higher institutions. The package is linked with the on-going Community Based Integrated Management of Neonatal and Childhood Illness (CB-IMNCI). This package addresses the major causes of childhood illnesses with Emergency Triage and Treatment (ETAT) practice at Health Facility and thematic approach to common childhood illnesses towards diagnosis and treatment especially new-born care, cough, diarrhoea, fever, malnutrition and anemia. It aims to capacitate a team of health service providers at district hospitals with required knowledge and skills to manage complicated under-five and neonatal cases to ensure timely and effective management of referral cases. This training package is delivered to Paramedics and Nursing staff (3 days) and Medical Officers (6 days) working at district, provincial and federal hospitals.

Comprehensive New-Born Care program

For the purpose of reducing Neonatal mortality (as nearly half of all under-5 deaths are New-born deaths- WHO, 2021) and for the timely management of sick New-born, "Comprehensive New-born Care Training Package (For Level II Hospital Care)" was developed in order to provide training to pediatricians, senior medical officers and medical officers working in the hospitals providing level II care services. The package is strengthening the health system supported by fully trained and skilled health service providers in all tiers of health facilities. This is a 6-days training package focused to help Medical Officers to develop basic skills and knowledge necessary for the management of small and/or sick new-born. This package covers counseling, infection prevention & control practices, care of new-born, feeding, neonatal resuscitation, thermal protection, fluid management, identification, and management of small &/or sick neonates, management for low birth weight and neonatal sepsis and common neonatal procedures. The training was started from 19th December, 2016 and is conducted annually every year. The National Health Training Centre has developed a Comprehensive New-born Care Training (Level II) package in 2017 and has been conducting training for Nurses in coordination with the Family Welfare Division.

Free New-Born Care Services

Since 2015, the Government of Nepal (GoN) has made provisions on treating sick newborn free of cost through all tiers of its health care delivery outlets. Aim of this program is to prevent any sort of deprivation to health care services of the newborn due to poverty. Based on the treatment services offered to the sick-newborn, the services are classified into 3 packages: A, B and C. The new born corners in health posts and PHCCs offer Package 'A', district hospitals with Special Newborn Care Unit (SNCU) offer Package 'B', provincial and other tertiary hospitals offer Neonatal Intensive Care Unit (NICU) services for Package 'C'. The government has made provisions of the required budget and issued directives to implement the free newborn care packages throughout Nepal. The goal of the Free Newborn Care Service Package is to achieve the sustainable development goal to reduce newborn mortality through increased access to newborn care services. The program includes the provision of disbursing Cost of Care to respective health institutions required for providing free care to inpatient sick New-born.

Nepal Every New-born Action Plan (NENAP)

MOHP initiated NENAP with the vision of a country where there are no preventable deaths of New-born or stillbirths, where every pregnancy is wanted, every birth celebrated and women, babies and children survive, thrive and reach their full potential. NENAP includes four strategic directions: equitable utilization of health services, quality for all, multi-sectoral approach and reform, particularly for poor and vulnerable populations. NENAP aims to achieve an NMR of less than 11 deaths per 1000 live births and a stillbirth rate of less than 13 stillbirths per 1000 total births in every province by the year 2035.

Kangaroo Mother Care Program

Kangaroo mother care (KMC) is a proven, cost-effective intervention to care for stable preterm/LBW babies that is being implemented by the Government of Nepal as a part of CB-IMNCI program. The KMC program aimed to prevent hypothermia, treat low birth weight babies and small sick new-borns through continuous and prolonged skin-to-skin (STS) contact between mother and baby.

Equity and access program

The Equity and Access Program was developed to increase the access to new-born & child health services by the maximum mobilization of the local community. It mainly targets the inaccessible under-five new-borns and children by utilising the community based integrated management of neonatal & childhood illness program (CBIMNCI) in communities.

Revision of CB-IMNCI Treatment Chart Booklet:

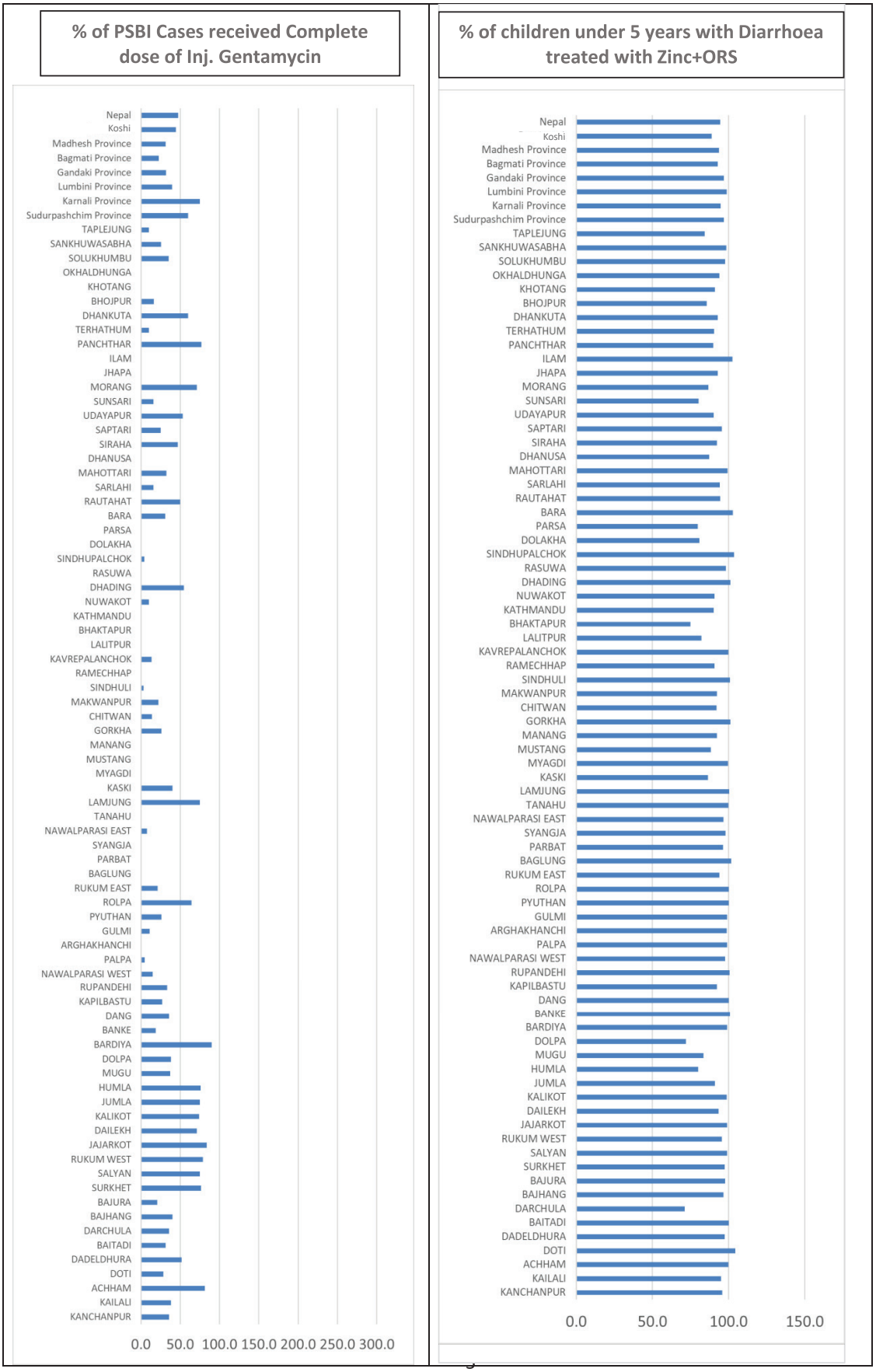
The treatment chart booklet has been revised in order to support health workers for the classification, treatment & management of the disease properly. It is mainly designed for the health worker to manage babies up to two months old and to evaluate, classify and treat a sick child from two months of age to five years old.

Routine Data Quality Assessment (RDQA)

Routine Data Quality Assessment is regular data testing system to test the quality of data coming from information system and to carry out improvement programs by measuring various aspects such as structure and structure of monitoring and evaluation of overall information system management, definition of indicators, guidelines of records and reports, records and reporting materials, data management process and use of data.

Onsite coaching

Onsite coaching is to develop skill & confidence enhancement of health service providers at the service point. The concept of onsite mentoring was developed to enhance the service provider's knowledge skills in order to perform the care service delivery effectively. It helps to improve knowledge & skills through creating an enabling working environment for service providers. Onsite coaching helps to retain their skills to improve their capacity for assessing, treating & managing cases.


% of PSBI Cases received Complete dose of Inj. Gentamycin
Nepal
Koshi
Madhesh Province
Bagmati Province
Gandaki Province
Lumbini Province
Karnali Province
Sudurpashchim Province
TAPLEJUNG
SANKHUWASABHA
SOLUKHUMBU
OKHALDHUNGA
KHOTANG
BHOJPUR
DHANKUTA
TERHATHUM
PANCHTHAR
ILAM
JHAPA
MORANG
SUNSARI
UDAYAPUR
SAPTARI
SIRAHA
DHANUSA
MAHOTTARI
SARLAHI
RAUTAHAT
BARA
PARSA
DOLAKHA
SINDHUPALCHOK
RASUWA
DHADING
NUWAKOT
KATHMANDU
BHAKTAPUR
LALITPUR
KAVREPALANCHOK
RAMECHHAP
SINDHULI
MAKWANPUR
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TANAHU
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SYANGJA
PARBAT
BAGLUNG
RUKUM EAST
ROLPA
PYUTHAN
GULMI
ARGHAKHANCHI
PALPA
NAWALPARASI WEST
RUPANDEHI
KAPILBASTU
DANG
BANKE
BARDIYA
DOLPA
MUGU
HUMLA
JUMLA
KALIKOT
DAILEKH
JAJARKOT
RUKUM WEST
SALYAN
SURKHET
BAJURA
BAJHANG
DARCHULA
BAITADI
DADELDHURA
DOTI
ACHHAM
KAILALI
KANCHANPUR
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% of children under 5 years with Diarrhoea treated with Zinc+ORS
Nepal
Koshi
Madhesh Province
Bagmati Province
Gandaki Province
Lumbini Province
Karnali Province
Sudurpashchim Province
TAPLEJUNG
SANKHUWASABHA
SOLUKHUMBU
OKHALDHUNGA
KHOTANG
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TANAHU
NAWALPARASI EAST
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4.2.2 Goals, targets, objectives, strategies, interventions and activities of IMNCI & New-born Care program
Goal: Improve New-born child survival and ensure healthy growth and development.

Targets: Target for reduction of NMR, U-5MR & Stillbirths by NHSS, NENAP, SDGs

Indicators (Per 1000 live births)	Nepal Health Sector Strategy (2015-2020)	NENAP, By 2035	v
Neonatal Mortality Rate	17.5	11	At least as low as 12
Stillbirths		13	
Under-five Mortality Rate	28	21	At least as low as 20*

*- Target revised by National Planning Commission, Nepal, global target is 25 per 1000 live births

Objectives

- To reduce neonatal morbidity and mortality by promoting essential New-born care services & managing major causes of illness
- To reduce morbidity and mortality by managing major causes of illness among under 5 years children

Strategies

- Quality of care through system strengthening and referral services for specialized care
- Ensure universal access to health care services for New-born and young infant
- Capacity building of health service providers and FCHVs
- Increase service utilization through demand generation activities
- Promote decentralized and evidence-based planning and programming

4.2.3 Major interventions

- New-born Specific Interventions
  - Promotion of birth preparedness plan
  - Promotion of essential new-born care practices and postnatal care to mothers and new-born
  - Identification and management of non-breathing babies at birth
  - Identification and management of preterm and low birth weight babies
  - Management of sepsis among young infants (0-59 days) including diarrhoea

- Child Specific Interventions
  - Case management of children aged between 2-59 months for 5 major childhood diseases (Pneumonia, Diarrhoea, Malnutrition, Measles and Malaria)

- Capacity enhancement & quality assurance
  - Onsite Coaching (guidelines development /revision, coach development, and coaching & mentoring
  - Routine Data Quality Assessment

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  - Onsite coaching (guidelines development /revision, coach development, and coaching & mentoring)
  - Routine Data Quality Assessment

- Cross-Cutting Interventions
  - Behavioural change communications for healthy pregnancy, safe delivery and promotion of personal hygiene and sanitation
  - Improved knowledge related to Immunization and Nutrition and care of sick children
  - Improved interpersonal communication skills of HSPs and FCHVs
  - Increased community participation through equity & access program (EAP).

Vision 90 by 30

The CB-IMNCI program has a vision to provide targeted services to 90% of the estimated population by 2020 as shown in the diagram.

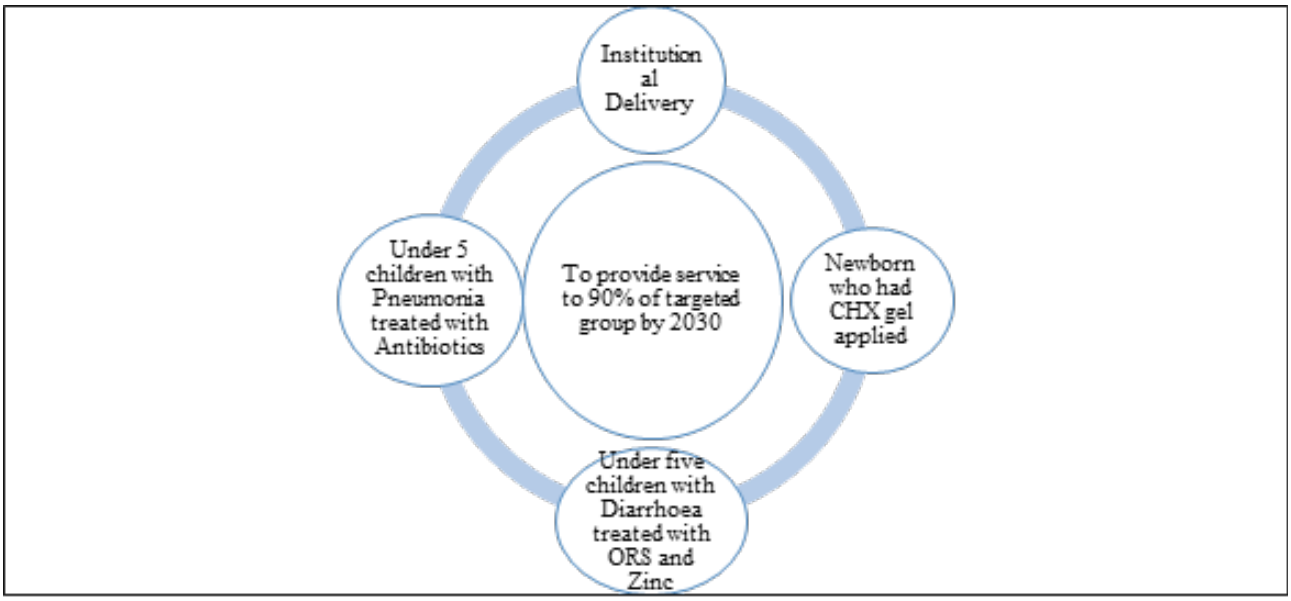


Figure 4.2.1 CB IMNCI Program Vision

4.2.4 Major activities

Major activities carried out under the IMNCI programme in FY 2078/79 are as shown in the table below:

Capacity Building
FB IMNCI Training for Medical Officer
FB IMNCI training for nursing staffs and paramedics
CBIMNCI onsite coaching for health workers
Capacity building of provincial and district level managers and focal persons through orientation (7 provinces-7)
Review and planning meeting with province and district stakeholders at all provinces
CBIMNCI training to health service providers
Orientation of Equity and Assess guideline
Training on Routine Data Quality Assessment (RDQA)
IEC/ BCCC activities at Federal, Provincial, District and local level
Procurement: Equipment and supplies
Procurement of various equipment, commodities, and medicines for IMNCI programs (ORS, Zinc, Amoxicillin, Gentamycin, Chloro-hexidine gel) at provincial level.
Procurement and distribution of Chlorhexidine (Navi Malham) from federal level.
Finalization of specification for SNCU/NICU and KMC unit equipment
Procurement of equipment for SNCU/NICU
Preparation/Revision of Guidelines, Protocols and Packages
Development of Preterm Care Guideline
Revision of CBIMNCI Coaching guideline and Equity and Access Guideline
Revision of FB-IMNCI training package

New-born Care Services Mentoring Guideline updated
Revision of Comprehensive New-born Care (Level II) Training package
Establishing/Strengthening SNCU/NICU
Total NICU established till date: 13 hospitals Total SNCU established till date: 61hospitals
Printing of training materials
Printing of FB-IMNCI training manuals, Comprehensive New-born Care (Level II) Training Materials (Guidelines, Handbook, Chart, Flex, etc.)
Implementation of New-born services and programs
Implementation of Free New-born Care Program at federal, provincial, district and local level hospital.
Implementation of Point of Care Quality Improvement Program (POCQI)
Orientation on Recording & Reporting tools of New-born Care Program

Neonatal Mortality Rate and Under-five Mortality Rate (National and Global Status)

Globally, under-5 years children mortality rate decreased by 59%, from an estimated rate of 93 deaths in 1990 to 37 deaths per 1000 live births in 2020. One in every 11 children died before reaching age 5 years in 1990 while one in every 27 children in 2018. As per WHO Report 2020, an estimated 5 million under 5 years old children died, mostly from preventable and treatable causes and among them, approximately half of deaths were New-born deaths (within 28 days of birth). As per NDHS 2016, Neonatal Mortality Rate and U-5 Mortality Rate was found 21 and 39 per 1000 live births and Government of Nepal has set a target to reduce NMR and U-5MR to as low as 12 and 20 per 1000 live births by 2035.

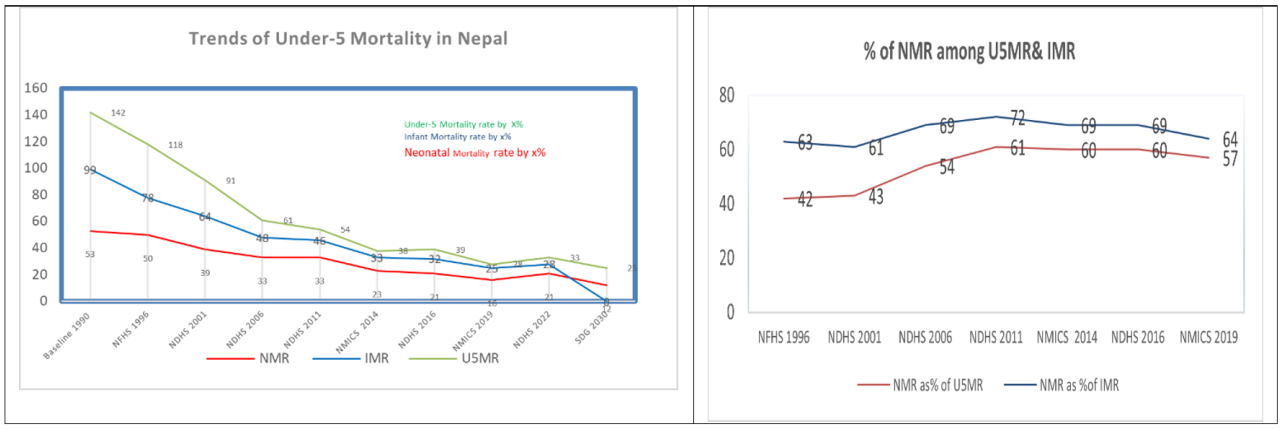


Figure 4.2.2 Under five years children Mortality Rate Global and National Status

4.2.5 IMNCI Program Monitoring Key Indicators and current status of NMR and u-5 MR

Regular monitoring is important for the evaluation of the program and ultimately for the purpose of improvement of the program. Therefore, the CB-IMNCI program has identified 6 major indicators to monitor the programs that are listed below:

- % of institutional delivery
- % of new-born who had applied Chlorhexidine gel immediately after birth
- % of infants (0-2 months) with PSBI receiving complete dose of Injection Gentamicin
- % of under 5 children with pneumonia treated with antibiotics
- % of under 5 children with diarrhoea treated with ORS and Zinc
- Stock out of the 5 key CB-IMNCI commodities at health facility (ORS, Zinc, Gentamicin, Amoxicillin, CHX)
-

All indicators except the last one are obtained from HMIS. It is expected that if there is high institutional delivery, there would be good essential New-born care and immediate management of complications like birth asphyxia that will ultimately contribute in reducing the neonatal mortality.

Table 4.2.1: Status of CB IMNCI program monitoring indicators by province

Indicators	Year	Koshi	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudur paschim	National
% of Institutional Delivery	2076/77	63.4	53.6	67.8	46.5	81.4	77.5	71.1	**65.6**
	2077/78	59.7	54.4	61.7	42.3	79.7	87.1	82.5	**64.9**
	2078/79	72.1	57.2	98.6	64.4	94.2	82.6	92.8	79
% of newborn applied with CHX Gel	2076/77	70.7	73.9	74.2	89.8	78.2	95.3	95	79
	2077/78	74.9	70.5	71.3	88.3	87.1	81.3	94.1	79.2
	2078/79	85.1	73.6	64.7	96.6	94.2	95.5	96.9	82.9
% of PSBI Cases received complete dose of Inj. Gentamycin	2076/77	18.7	39.3	13.6	20.6	51.4	66.9	55.8	44.65
	2077/78	37.8	16.6	25.2	22.8	61.9	65.2	69	50
	2078/79	44.4	31.6	22.8	32.1	39.5	75.2	59.8	47.4
% of pneumonia cases treated with antibiotics	2076/77	171.3	240.1	133.9	161.9	138.2	104.1	138.4	155.9
	2077/78	169.8	206.8	149.2	133.1	121.7	102.1	131.7	149.7
	2078/79	136.5	201.2	119.9	107.1	100.3	101	115.4	126.1
% of diarrheal cases treated with ORS and Zinc	2076/77	93	92.1	93.8	99.9	96	95.8	96.7	94.8
	2077/78	92.1	97.1	94.4	102.4	96.8	96.3	97.2	96.2
	2078/79	88.8	93.6	92.8	96.9	98.7	94.8	97	94.5

Source: IHIMS/MD FY 2078/79

The national average for institutional deliveries in 2078/79 was 79 percent, with lowest in Madhesh Province (57.2 %) and highest in Bagmati Province (98.6 %). Chlorhexidine was applied in 82.9 % of new-born umbilical cord (HF+ FCHV) among total reported live births. Province wise variation was observed in CHX use with highest use in Sudurpaschim (96.9%) and lowest in Bagmati Province (64.7%). Nearly half of the PSBI cases among under two months old children received a complete dose of Inj. Gentamycin at the national level in FY 2078/79. Only two provinces i.e., Karnali and Sudurpaschim have administered complete doses of Gentamicin in more than 50% of PSBI cases whereas five provinces have administered in less than 50 % of cases with lowest 22.8 % complete dose administration in Bagmati Province.

Use of antibiotics for pneumonia treatment (excluding FCHVs, includes pneumonia cases of HF & PHC-ORCs) was more than 100 percent in all seven provinces, with national average of 126.1%, highest use was observed in Madhesh Province (201.2%) and lowest in Lumbini (100.3%). Pneumonia cases reported by FCHV were used to be included till FY 2073/74. The figure exceeded 100 percent because the treatment of cases by antibiotics other than pneumonia was also added like skin infection, ear infection etc. which is actually a reporting error. As per the IMNCI treatment protocol, all diarrhoeal cases should be treated with ORS and Zinc. In the year 2078/79, 94.5% of U5 children suffering from diarrhoea were treated with ORS and Zinc at National level with, highest in Lumbini (94.5%) and lowest in Koshi Province (88.8 %).

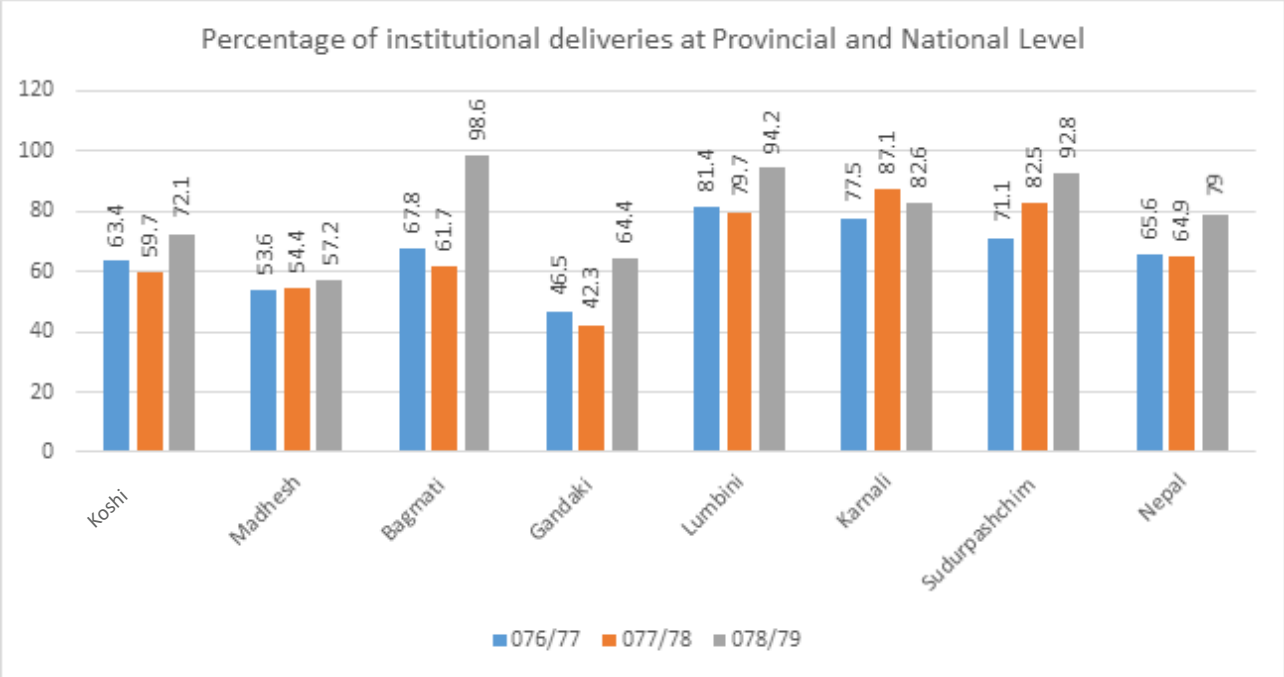


Figure 4.2.3 Percentage of institutional delivery at provincial and national level of three FY.

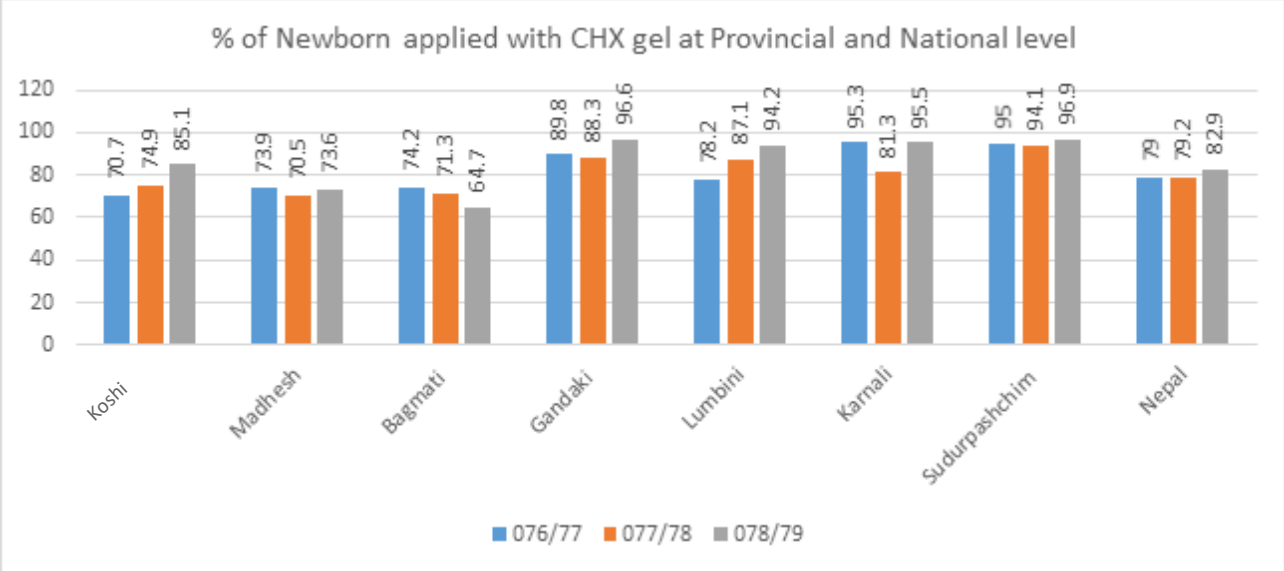


Figure 4.2.4 Percentage of new-born applied with CHX Gel at provincial and national level of three FY.

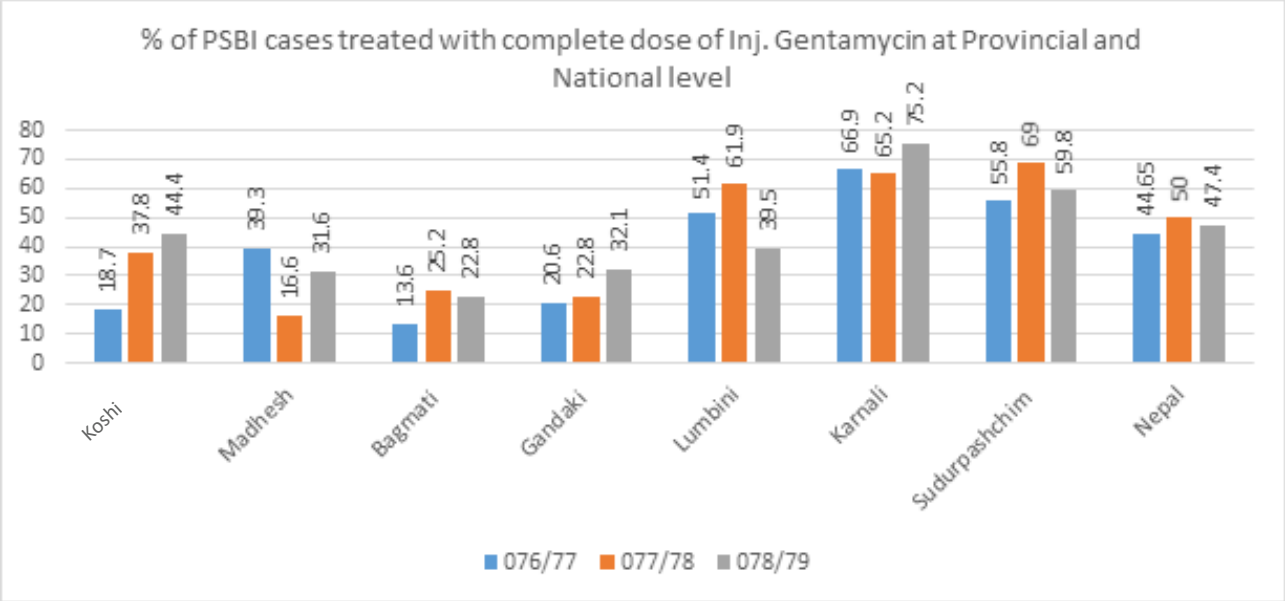


Figure 4.2.5 Percentage of PSBI cases treated with complete dose of Injection Gentamycin at provincial and national level of three FY.

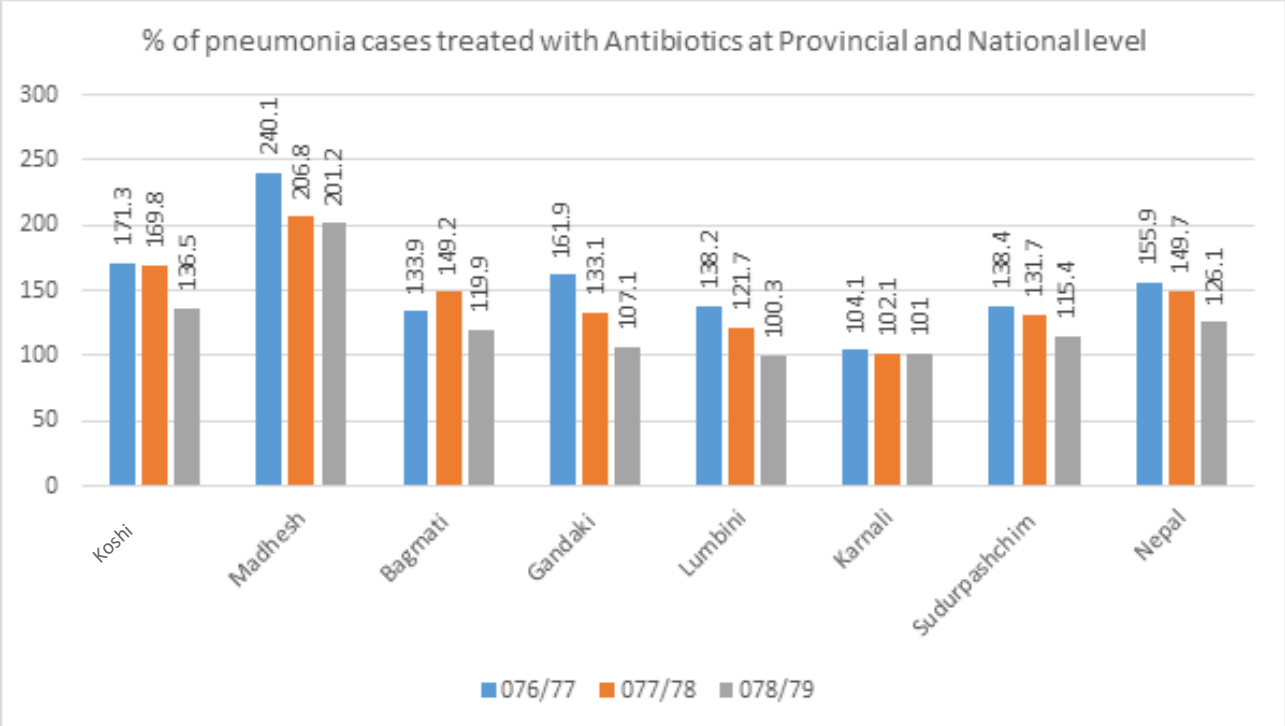


Figure 4.2.6 Percentage of pneumonia cases treated with antibiotics at provincial and national level of three FY.

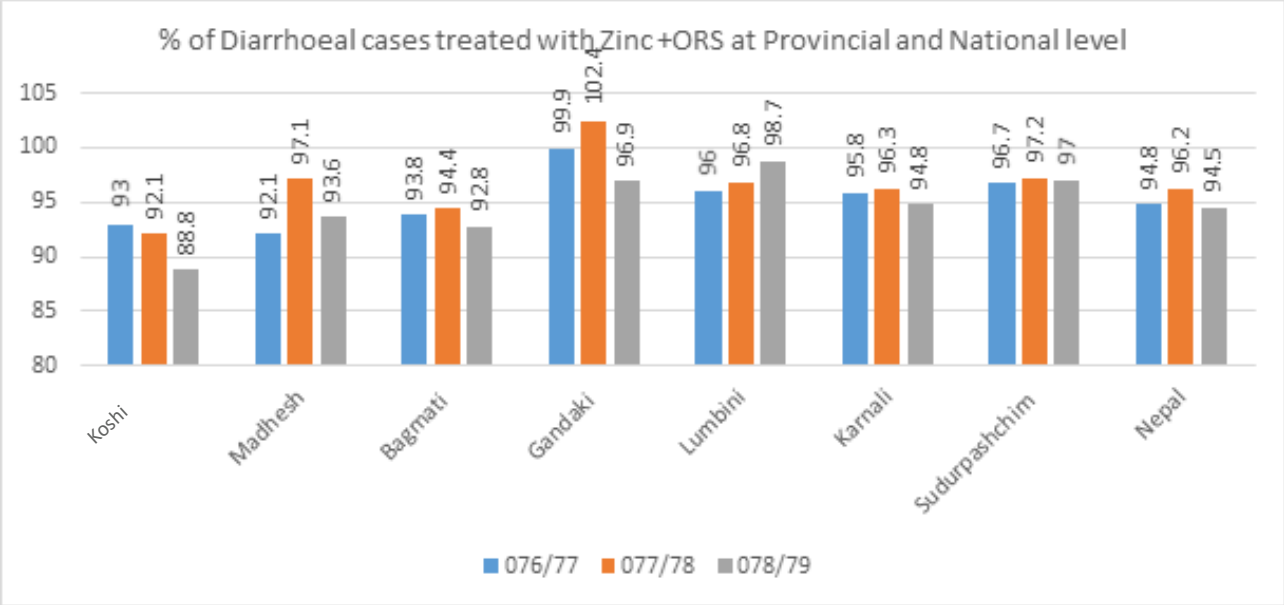


Figure 4.2.7 Percentage of diarrhoeal cases treated with Zinc+ ORS at provincial and national level of three FY.

4.2.6 Key Achievements in the management of 0-28 days New-born

Since FY 2064/65, IMNCI services data (as received from Health Facilities, PHC-ORCs and FCHVs) has been incorporated into HMIS. Therefore, from FY 2064/65 onwards, service provided at community level (PHC/ORCs and FCHVs) is considered as community level data whereas total service provided from Health Facility level in addition with community level constitutes the national aggregate data for this program. CB-IMNCI program has been initiated from FY 2071/72 and from FY 2071/72 Health Facility Level and Primary Health Care/OutReach Clinics (PHC/ORC) data has been incorporated into HMIS. Consequently, the role of FCHV at community level has been redefined and limited to counseling service for New-born care. Obviously, the treatment protocol has also been changed and the role of FCHVs at the community level has been assigned as health promoters/counselors rather than health service providers. As per the new reporting and recording system, the achievements of management of under 5 children are given in the table below.

Table 4.2.2: Classification and treatment of 0-28 days Newborn cases by province

Indicators	Year	Koshi	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudur paschim	National	
									No.	% among total cases
Total Cases (HF+ORC)	2076/77	7945	6650	5451	2787	8349	4672	7043	**42897**	**NA**
	2077/78	2755	3631	2446	1701	6361	2148	2571	**21813**	**NA**
	2078/79	6120	5438	4273	2284	6976	3328	4532	**32951**	
Possible Severe Bacterial Infection (PSBI) HF+ORC	2076/77	569	478	405	174	959	929	829	**4243**	**9.89**
	2077/78	190	357	161	50	714	422	426	**2320**	**10.63**
	2078/79	656	325	328	202	1233	687	730	**4161**	
Local Bacterial Infection (HF+ORC)	2076/77	4539	4086	2705	1225	3122	2244	3914	**21835**	**50.9**
	2077/78	1433	1918	1224	540	1350	966	1276	**8707**	**39.91**
	2078/79	3387	3539	2010	982	2630	1408	2203	**16159**	
Jaundice (HF+ORC)	2076/77	276	244	220	230	290	124	74	**1458**	**3.4**
	2077/78	127	139	119	150	192	80	64	**871**	**3.9**
	2078/79	284	134	237	197	244	132	73	**1301**	

% of low weight or feeding problem (HF Only)	2076/77	2.5	2.4	2.8	3	3.4	5.1	4.5	**1409**	**3.3**
	2077/78	5	8.4	2.6	1.7	3.5	13.5	8.9	**1292**	**5.9**
	2078/79	10.2	5.3	15.2	6.2	12	6	8.3	**1764**	**9.4**
Referred (HF+ORC)	2076/77	448	293	223	145	354	183	230	**1876**	**4.4**
	2077/78	161	143	129	72	274	115	99	**993**	**4.5**
	2078/79	274	180	264	148	412	179	237	**1694**	
Deaths (HF+ORC)	2076/77	16	15	14	21	15	4	30	**115**	**0.26**
	2077/78	13	16	14	4	40	17	19	**114**	**0.52**
	2078/79	27	9	5	3	27	2	11	**84**	
FCHV Program										
Sick Baby	2076/77	2234	2180	1736	562	1774	560	1782	**10828**	**NA**
	2077/78	2554	2463	1373	591	1183	378	655	**9197**	**NA**
	2078/79	1716	2595	1365	274	1744	381	1416	**9491**	
Treated with Cotrim and Referred	2076/77	371	520	145	122	322	298	227	**2005**	**18.5**
	2077/78	293	668	218	9	195	104	101	**1588**	
	2078/79	240	516	85	12	177	70	104	**1204**	
Deaths	2076/77	226	63	165	54	144	118	118	**936**	**NA**
	2077/78	531	80	345	52	195	103	209	**1515**	**NA**
	2078/79	305	91	382	84	573	199	290	**1914**	

Source: HMIS

A total of 32,951 new-born cases were registered and treated both in the health facility and the PHC/ORC clinic in FY 2078/79. The trend shows that the treatment of new-borns in HF and PHC/ORC clinics has increased by 11,138 compared to last year. The highest of 6,976 new-born cases in Lumbini Province and lowest of 2,284 in Gandaki Province were treated.

In total 4,161 cases were classified as Possible Severe Bacterial Infection (PSBI) at the national level which is 2% higher than that of previous year (11.7 %). The proportion of PSBI was highest in Lumbini Province (22%) and lowest in Gandaki Province (4.1 %). Likewise, 50.9% of total cases were classified as Local Bacterial Infection (LBI), 3.39% as Jaundice, 3.26% as Low Birth Weight or Breast-Feeding Problem. Data shows there is not any remarkable change in classification and treatment of LBI and Jaundice however, there is a slight decrease in treatment of Low Birth Weight or Breast-Feeding Problem from 5.6 to 3.26 compared to last year. The proportion of LBI is highest in Koshi Province (20.78%) and lowest in Gandaki province (5.6%).

FCHV had identified 9,491 cases of sick New-born in FY 2078/79. Among them, 18.5% were treated with amoxicillin and referred by FCHV. a total of 1,914 deaths have been reported by FCHV in FY 2078/79.

4.2.7 Key achievement for Management of 2-59 months children Incidence & Case Fatality of Diarrhoea among Under 5 years children

Table 4.2.3: Incidence and case fatality of Diarrhea among children under 5 years of age by Province

Indicators	Year	Koshi	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudur pas-chim	National
Estimated <5 years popula-tion prone to Diarrhoea	2076/77	496934	629490	647368	252307	511668	182278	293876	3013891
	2077/78	497208	634058	652626	251327	514162	183481	295726	3028588
	2078/79	449567	679890	446927	207346	474473	184033	262950	2705186
Incidence of Di-arrhoea/1000 U5 Population	2076/77	329	355	220	249	350	656	553	350
	2077/78	298	339	213	235	357	653	547	339
	2078/79	309.8	325.5	310.8	262.8	346.6	595.2	601	364.8
Diarrhoeal Deaths	2076/77	50	10	5	3	1	5	0	74
	2077/78	14	3	28	0	3	1	1	50
	2078/79	9	3	10	4	0	2	6	34
Diarrhoea Case Fatality Rate per 1000 (HF+ORC)	2076/77	0.16	0.12	0.14	0.16	0.01	0.08	0	0.15
	2077/78	0.38	0.04	0.81	0	0.05	0.02	0.02	0.16
	2078/79	0.27	0.04	0.33	0.27	0	0.05	0.14	0.12

Source: HMIS

As shown in table 4.2.3, incidence of diarrhoea per thousand under 5 years children was 364.8 per 1,000 in FY 2078/79, with high incidence at Sudurpaschim Province (601) followed by Karnali Province (595.2) and lowest incidence reported at Gandaki Province (262.8). The incidence of diarrhoea has increased in FY 2078/79. In FY 2078/79, a total of 34 deaths were reported among them 10 deaths were reported from Bagmati Province, followed by nine deaths in Koshi Province. No death was reported from Lumbini Province.

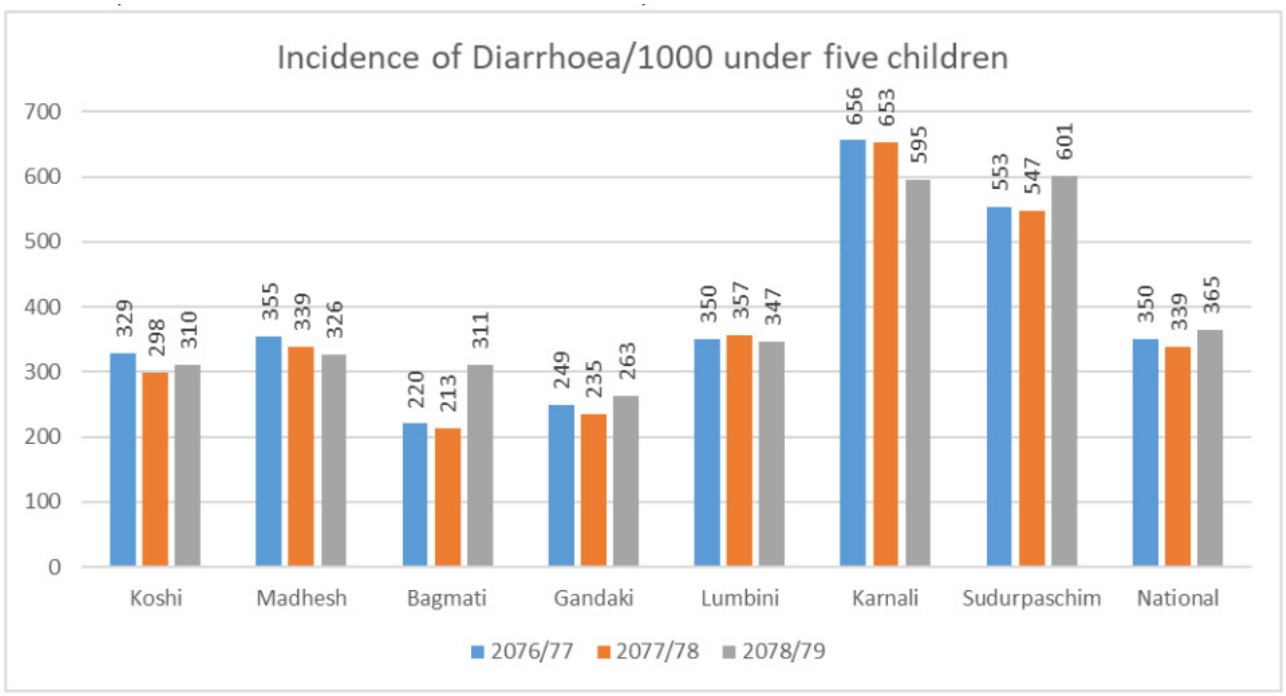


Figure 4.2.8 Trend of incidence of Diarrhoea per under fire years children (FY 2076/77 - FY 2078/79)

Diarrhoea- Classification of diarrhoeal cases by province

The IMNCI program has created an enabling environment for health service providers for better identification, classification and treatment of diarrhoeal diseases. As per IMNCI national protocol, diarrhoea has been classified into three categories: 'No Dehydration', 'Some Dehydration', and 'Severe Dehydration'.

In FY 2078/79, a total of 923861 diarrhoeal cases were reported out of which nearly one third (30%) were reported from health facilities and ORC and the rest more than two third (70%) by FCHVs which showed a similar trend like that of previous year. While there was a decreasing trend in diarrhoeal cases in all provinces in FY 2078/79. Among registered cases in Health Facilities and PHC/ORC, more than three fourth (87.67%) were classified as having no dehydration, about one fifth (12%) some dehydration. Severe dehydration remained below 1% across all provinces and at national level as well. More than 80% of diarrhoea cases reported at all provinces were found to have no dehydration diarrhoea.

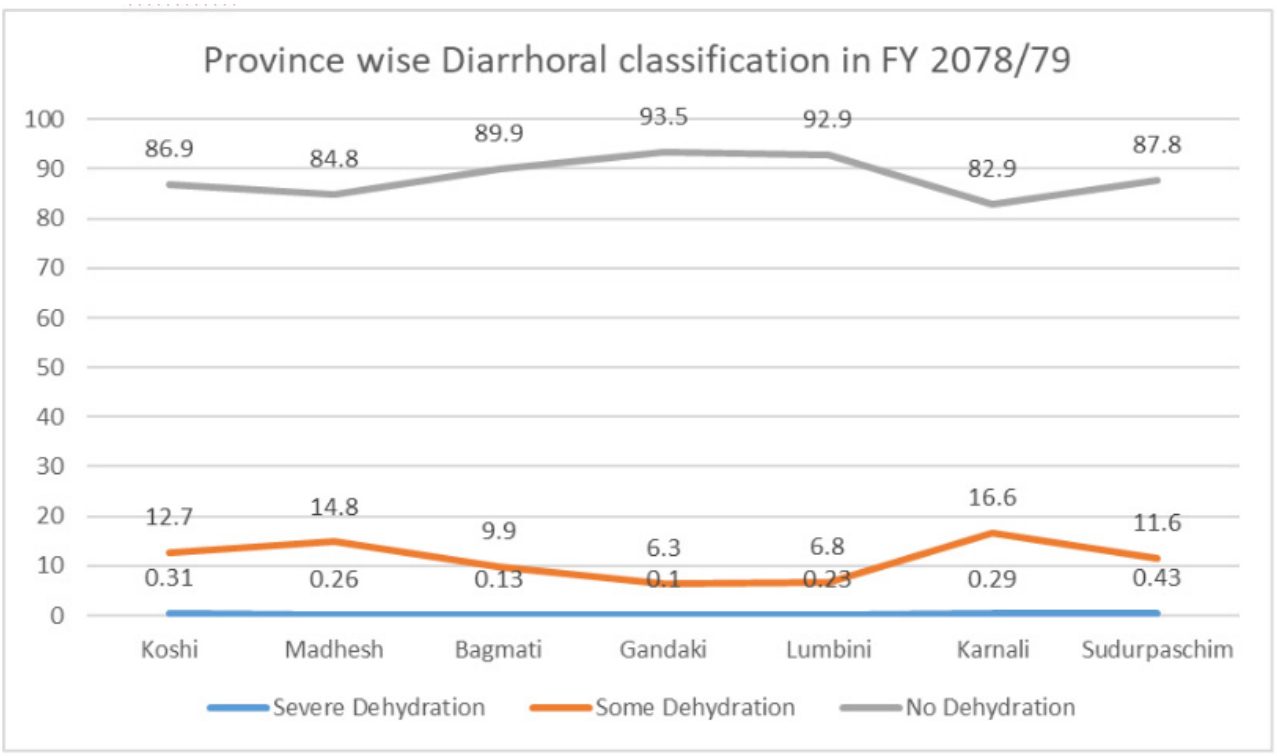


Figure 4.2.8 Total diarrhoeal cases and classification of cases at provincial level

Table 4.2.4: Reported diarrhoeal cases and classification of cases by province (2-59 months children)

Indicators	Year	Koshi	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudur paschim	Total National Cases
Total Diarrhoeal Cases (HF+ORC+FCHV)	76/77	158134	207882	139378	61502	173743	114258	158105	1013002
Percent distribution by Province		15.61	20.52	13.76	6.07	17.15	11.28	15.61	100
	77/78	199795	136393	57845	178961	114791	156857	988163	988163
		14.52	20.21	13.80	5.85	18.11	11.61	15.87	100
	78/79	198164	131157	50336	161043	106363	145733	923861	923861
		14.18	21.44	14.19	5.44	17.43	11.51	15.77	100

Diarrhoeal Cases (HF+ORC)	Total Diarrhoal cases (HF+ORC)	76/77	40204	80990	35454	17919	55141	41661	53534	314909
		77/78	36563	78979	34733	17304	57808	45635	48180	319182
		78/79	33021	73779	30148	14676	47675	39892	42627	845246
	No Dehydration	76/77	33399	66365	31329	16198	49741	34072	37768	268872
			83.1	81.9	88.4	90.4	90.2	81.8	86.8	85.38
		77/78	31021	66558	31028	15953	53174	38030	41863	277627
			84.84	84.27	89.33	92.19	91.98	83.33	86.92	86.98
		78/79	28725	62611	27113	13725	44318	33072	37469	741099
			86.9	84.8	89.9	93.5	92.95	82.9	87.8	87.67
	Some Dehydration	76/77	6618	14322	4041	1701	5246	7421	5672	45021
			16.5	17.7	11.4	9.5	9.5	17.8	13	14.3
		77/78	5471	12217	3651	1343	4564	7492	6205	40943
			14.96	15.46	10.51	7.76	7.89	16.41	12.88	12.82
		78/79	4192	10969	2993	935	3244	6632	4974	33939
			12.69	14.86	9.92	6.37	6.8	16.62	11.66	4.01
	Severe Dehydration	76/77	187	309	84	20	154	168	94	1016
			0.47	0.38	0.24	0.11	0.28	0.4	0.22	0.32
		77/78	71	204	54	8	70	113	92	612
			0.19	0.25	0.15	0.046	0.12	0.24	0.19	0.19
		78/79	104	199	42	16	113	118	184	846
			0.31	0.26	0.13	0.10	0.23	0.29	0.43	0.10
FCHV Program	Diarrhoeal Cases	76/77	117930	126886	103924	43583	118602	72597	114571	698093
			11.19	12.04	9.87	4.13	11.25	6.89	10.87	66.27
		77/78	106958	120816	101660	40541	121153	69156	108697	668981
			15.98	18.05	15.19	6.06	18.11	10.33	7.27	67.69
		78/79	98044	124385	101009	35660	113368	66471	103106	642043
			15.27	19.37	15.73	5.55	17.65	10.35	16.05	69.5

Treatment of diarrhoea: In FY 2078/79, the proportion of diarrhoeal cases treated with ORS and Zinc as per IMNCI national protocol at national level was 95% which was almost similar to the previous year trend. There was a slight difference among provinces but more than 90% of diarrhoeal cases were found treated with Zinc and ORS in all provinces. Likewise, less than 1% of severe diarrhoeal cases were treated with intravenous (IV) fluid at health facilities level in all provinces and at national level as well.

Table 4.2.5: Treatment of diarrhoea cases by province

Indicators	Year	Koshi	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudur paschim	National
Total Cases (HF+ORC+F-CHV)	2076/77	158134	207882	139378	61502	173743	114258	158105	1013002
	2077/78	143521	199795	136393	57845	178961	114791	156857	988163
	2078/79	131065	198164	131157	50336	161043	106363	145733	923861

Diarrhoeal cases treated with Zinc+ORS (HF+ORC+F-CHV)	2076/77	147065	191468	130578	61458	166713	109502	152880	959844
		93%	92.1%	93.8%	99.9%	96%	95.8%	96.7%	94.80%
	2077/78	132243	194054	128793	59206	173177	110516	152475	950484
		92.14%	97.12%	94.42%	102.35%	96.76%	96.27%	97.2%	96.18
	2078/79	28712	69893	28245	14510	47997	37081	42687	269125
		88.8%	93.6%	92.8%	96.9%	98.7%	94.8%	97%	94.5%
Diarrhoeal cases provided intravebous Fluid (HF)	2076/77	243	523	227	70	399	292	143	1897
		0.21%	0.41%	0.22%	0.16%	0.34%	0.40%	0.12%	0.27%
	2077/78	265	496	109	25	269	232	215	1611
		0.25%	0.41%	0.11%	0.06%	0.22%	0.34%	0.20%	0.24%
	2078/79	467	422	177	33	244	275	269	1887
		0.48	0.34	0.18	0.09	0.22	0.41	0.26	0.29

Source: HMIS

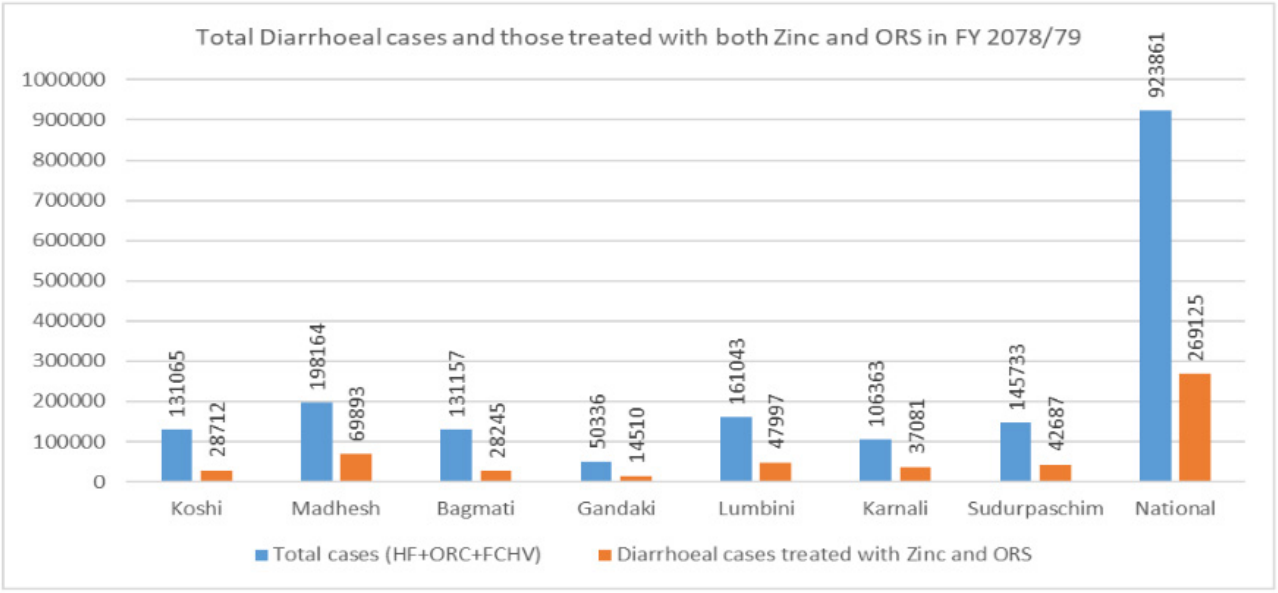


Figure 4.2.9 Total diarrhoeal cases (HF+ORC+FCHV) and cases treated with Zinc + ORS

Acute Respiratory Infections

ARI management is one of the components of IMNCI program. As per IMNCI protocol, every ARI cases should be correctly assessed and classified as no pneumonia, pneumonia or severe pneumonia, and given home therapy, treated with appropriate antibiotics or referred to higher centre as per indications.

Table 4.2.6: Acute respiratory infection (ARI) and pneumonia cases by provinces

Indicators	Year	Koshi	Mad-hesh	Bagmati	Gandaki	Lumbini	Karnali	Sudur paschim	National
Target Population under 5 years prone to ARI	2076/77	496934	629490	647368	252307	511668	182278	293876	3013891
	2077/78	497208	634058	652626	251327	514162	183481	295726	3028588
	2078/79	449567	679890	446927	207346	474473	184033	262950	2705186
Total ARI cases (HF+ORC)	2076/77	147621	156829	104459	55347	139947	89985	102541	796709
	2077/78	114823	140479	82336	46436	107492	74217	78662	644445
	2078/79	130020	130553	97405	53982	117915	78383	94246	702504
ARI Incidence per 1000 <5 years children	2076/77	655	480	428	563	578	993	904	594
	2077/78	549	458	385	507	515	889	832	533
	2078/79	666.3	438.9	635.4	665.2	593.5	906.4	1034.4	643.2
Total Pneumonia Cases (HF+ORC)	2076/77	25491	19380	19351	6729	22037	18031	18004	129034
	2077/78	15728	14764	11958	4196	11332	12098	10391	80465
	2078/79	18661	11705	14727	5161	13802	15127	14260	93443
Incidence of Pneumonia per 1000 per U5 children	2076/77	51	31	30	30	27	99	61	43
	2077/78	52	40	31	28	38	95	64	45
	2078/79	62.7	37.5	54.9	36.2	43.1	112.5	83.5	55.1
% of Pneumonia among ARI Cases (HF+ORC)	2076/77	17.3	12.4	18.5	12.2	15.7	20	17.6	16.2
	2077/78	13.69	10.5	14.52	9.03	10.54	16.3	13.2	12.48
	2078/79	14.35	8.96	15.11	9.56	11.70	19.29	15.13	13.30
% of Severe pneumonia among new cases	2076/77	0.25	0.26	0.16	0.07	0.18	0.37	0.19	0.22
	2077/78	0.12	0.25	0.11	0.08	0.12	0.24	0.19	0.16
	2078/79	0.19	0.13	0.11	0.06	0.05	0.41	0.33	0.18
% of Pneumonia treated with Antibiotic (HF+ORC)	2076/77	171.3	240.1	133.9	161.9	138.2	104.1	138.4	155.9
	2077/78	169.8	206.8	149.2	133.1	121.7	102.1	131.7	149.7
	2078/79	136.5	201.2	119.9	107.1	100.3	101	115.4	126.1
Deaths due to ARI (HF+ORC)	2076/77	23	3	31	10	3	5	30	105
	2077/78	20	29	14	1	11	7	2	84
	2078/79	12	5	16	0	15	2	6	56
ARI Case Fatality Rate per 1000 at HF	2076/77	0.16	0.02	0.3	0.08	0.02	0.06	0.29	0.13
	2077/78	0.17	0.20	0.17	0.02	0.10	0.09	0.02	0.13
	2078/79	0.03	0.01	0.04	0	0.03	0.01	0.02	0.02
FCHV Program									
Total ARI Cases	2076/77	177883	145722	173126	86772	155650	91031	163218	993402
	2077/78	157932	149835	168676	80965	157326	88871	167308	970913
	2078/79	159889	155860	176202	75865	164018	88262	163962	984058

Source: HMIS

In FY 2078/79, a total of 702,504 ARI cases were registered in HFs and PHC/ORCs, out of which 13.3 % were categorized as pneumonia cases and 0.18 % were severe pneumonia cases. The incidence of pneumonia (both pneumonia and severe pneumonia at HF and PHC/ORC) at national level was 55.1 per 1000 under five years of age. The incidence of pneumonia among children under five years increased more than 10% compared to that of last FY. Highest ARI incidence was observed at Sudurpaschim Province (1034/1000 U5 children) followed by Karnali (906/1000 U5 children) and least at Madhesh (439/1000 U5 children). Similarly, Karnali and Sudurpaschim Province had the highest percentage of pneumonia cases among ARI cases (19.29 % and 15.1%) and Madhesh Province had the lowest (8.96%).

In FY 2078/79, the total ARI-related deaths at health facilities were reported to be 56 which is lower compared to previous FY 2077/78 which was 84. The ARI case fatality rate per thousand at health facilities decreased to 0.02 per 1000 in FY 2078/79 compared to last fiscal year FY 2077/78 which was 0.13. The ARI case fatality rate shows a wide variation between the provinces ranging from the lowest 0 per 1000 in Gandaki Province to the highest 0.04 per 1000 in Bagmati.

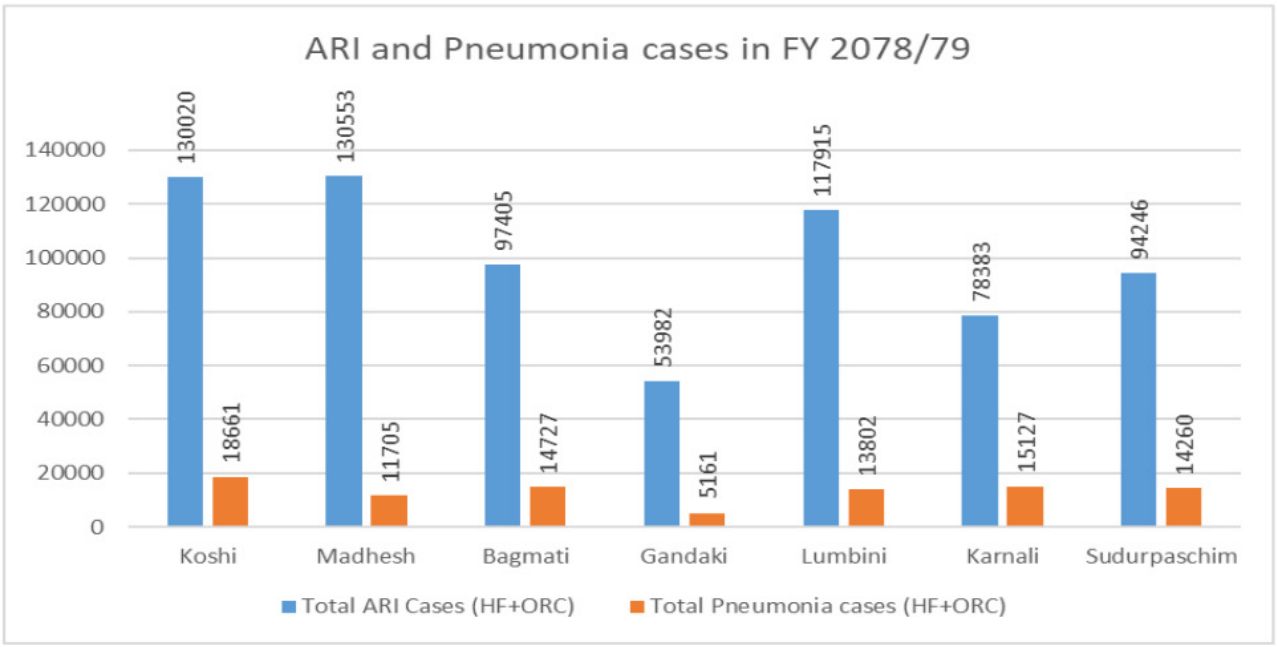


Figure 4.2.10 Total ARI and Pneumonia cases (HF+ORC) at provincial level

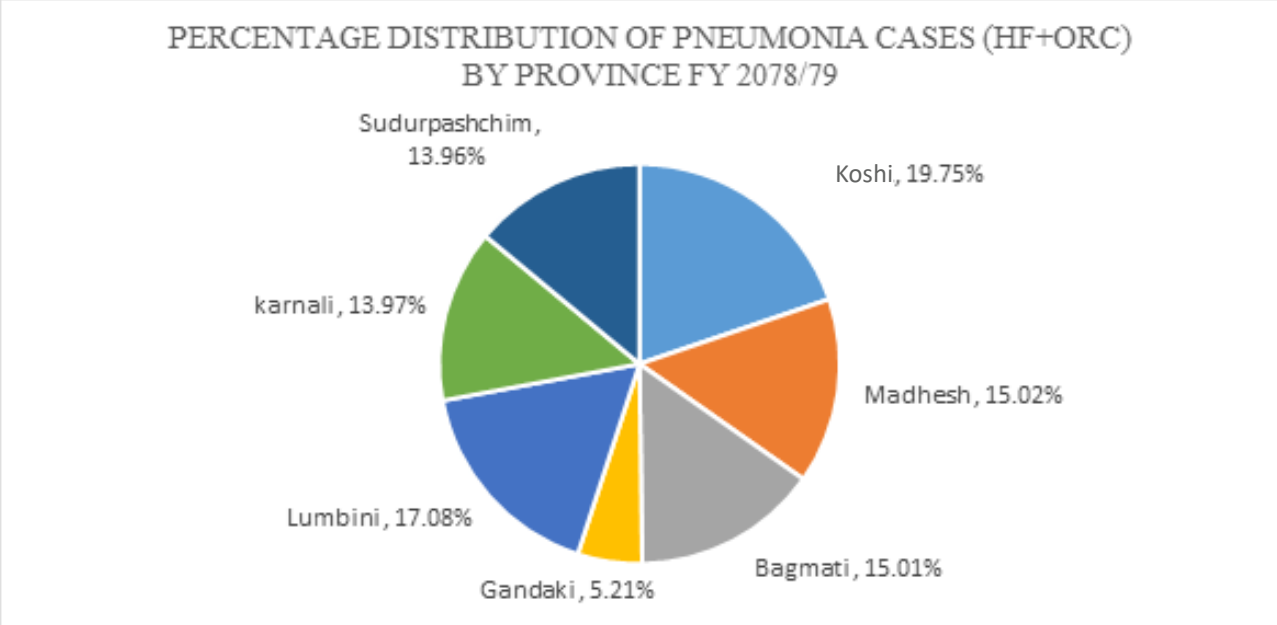


Figure 4.2.11 Percentage distribution of Pneumonia cases by province FY 2078/79

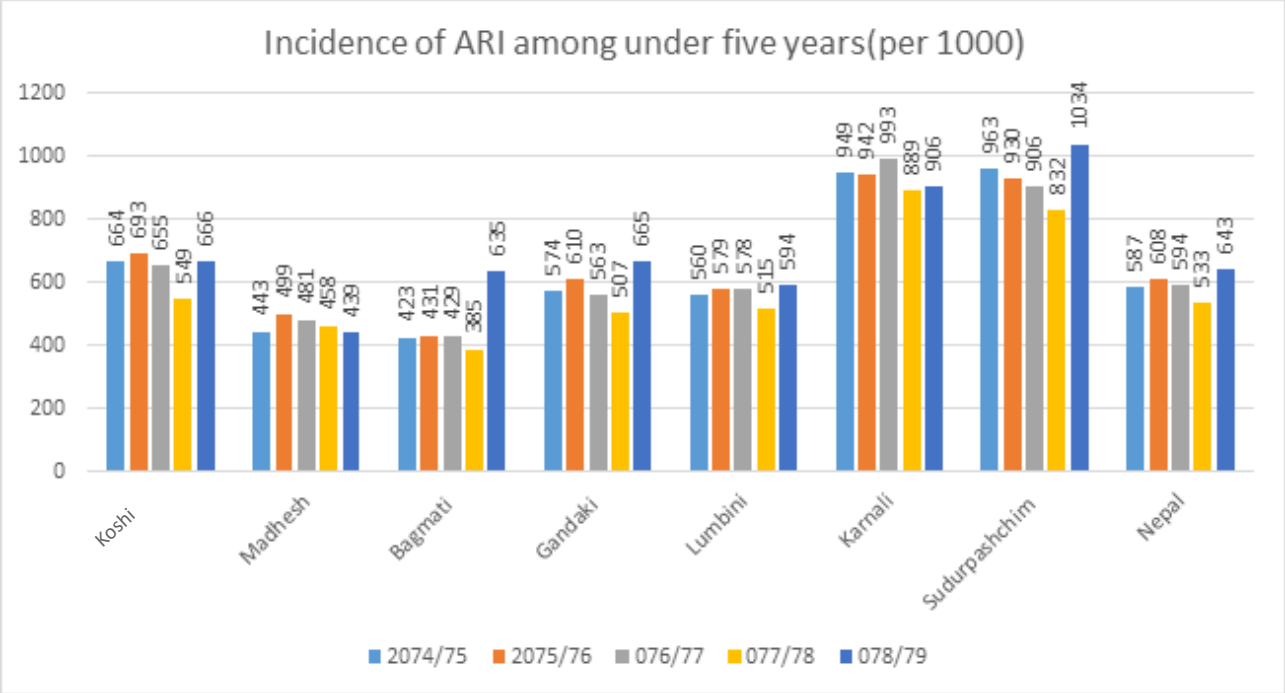


Figure 4.2.12 Province Wise Incidence of ARI among 1000 children under five years (FY 2074/75-FY 2078/79)

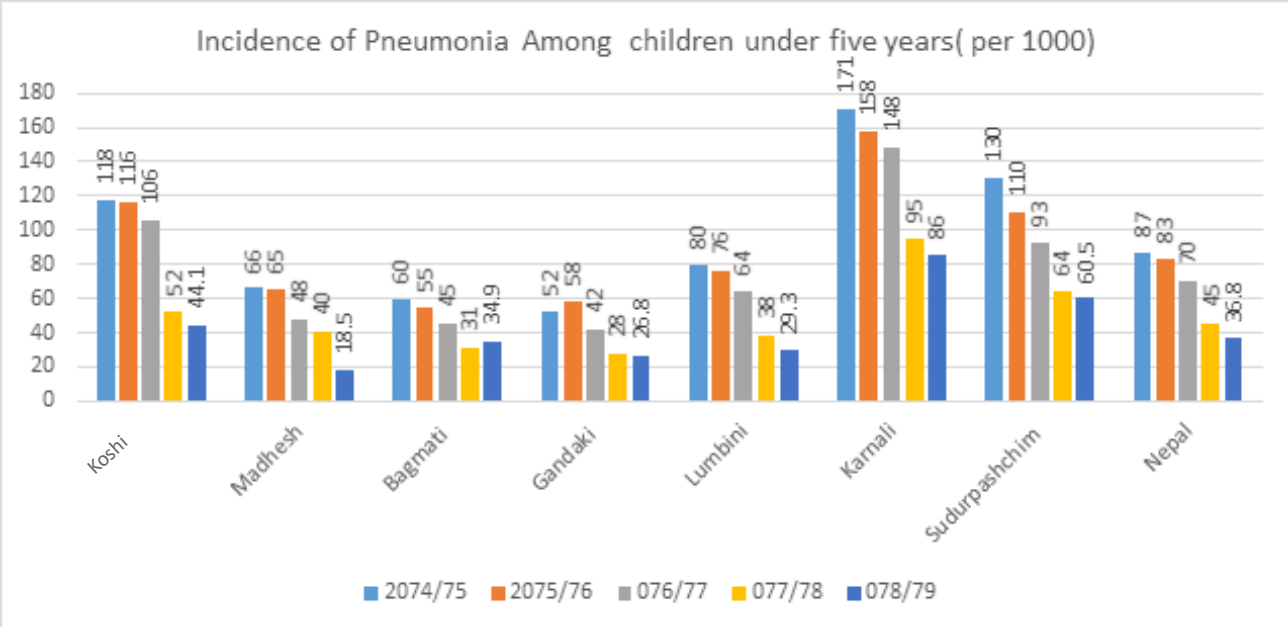


Figure 4.2.13 Province Wise Incidence of pneumonia among 1000 children under five years (FY 2074/75-FY 2078/79)

Other common childhood illnesses (2-59 months children)

The IMNCI Program also focuses on identification and treatment of malaria, malnutrition, measles, and of other common illnesses among children under five years; ear infection, very severe febrile disease and anaemia. The interventions to address malnutrition among children are led by the Nutrition Section and interventions to address measles and other vaccine preventable diseases are being led by the child health & immunization services section, and malaria is led by EDCD. The Child Health & Immunization services section-IMCI program actively collaborates with NPI Program, Nutrition Sections and with EDCD for the reduction of measles, malnutrition and malaria in an integrated approach.

Table 4.2.6: Classification of cases as per CB-IMNCI protocol by province (FY 2078/79)

Indicators	Year	Koshi	Mad-hesh	Bagmati	Gandaki	Lumbini	Karnali	Sudur paschim	National
Malaria Falciparum	2076/77	26	6	1	8	13	3	35	92
	2077/78	3	12	2	0	19	3	0	39
	2078/79	19	16	1	0	0	0	2	38
Non-Falciparum	2076/77	40	172	5	21	146	19	36	439
	2077/78	17	11	3	0	18	0	14	63
	2078/79	34	12	3	2	39	9	13	112
Very Severe Febrile Disease	2076/77	55	123	66	19	330	66	22	681
	2077/78	12	70	27	3	21	13	26	172
	2078/79	35	84	24	9	12	40	19	223
Measles	2076/77	83	333	260	30	92	62	22	681
	2077/78	77	154	121	15	59	36	30	492
	2078/79	73	124	96	18	25	22	38	396
Ear Infection	2076/77	13423	26130	9847	5817	16629	9282	9256	90384
	2077/78	11819	27672	8669	4610	15772	9126	8016	85684
	2078/79	11444	24287	8255	4313	14516	8048	8223	79086
Severe Malnutrition	2076/77	607	1882	519	307	1226	764	1060	6365
	2077/78	422	1521	512	212	1212	595	933	5407
	2078/79	543	2028	559	258	2030	915	1942	8275
Anaemia	2076/77	394	1131	550	227	848	268	350	3768
	2077/78	381	713	569	64	395	106	238	2466
	2078/79	318	676	464	186	372	176	307	2499

Source: HMIS, 2078/79

Under the IMNCI program, health service providers identified 38 falciparum malaria cases, 112 non- falciparum malaria cases, 292 measles cases, 79,086 ear infection cases, 8,275 severe malnutrition cases and 2,499 anemia cases in children under five years of age in FY 2078/79. There were 223 reported cases of very severe febrile disease in this fiscal year. Three year trend shows an increasing trend of severe malnutrition, non-falciparum, anemia, and very severe febrile disease, whereas a decreasing trend of ear infection, measles, & Malaria Falciparum at national level.

4.2.8 Problem, constraints and actions to be taken and responsibility

Problem/ Constraint	Action to be taken	Responsibility
No provision of CBIMNCI dedicated officer at province & municipalities	Assign an officer for this report of CBIMNCI	MoHP, DoHS, FWD Province, Local levels
Difficulties to implement free new-born care guideline since last FY as expected.	Coordination and collaboration between hospitals, Palikas, HOs and FWD. Orientation on new-born care guideline at provincial, district and local level for effective implementation.	Hospitals, Local Levels, HO, FWD
Lack of designated Human Resource in Hospital for SNCU/NICU/KMCU	Deployment of HR as per need on contract Training to MO, nursing and related staff about NICU/ SNCU/ KMCU.	MoHP, FWD, Province, Hospitals
Inadequate IEC and BCC activities as compared to the approved program implementation guideline, so as to improve the demand of CH services	Prioritize IEC/SBCC interventions to improve the demand for CH services by all concerned stakeholders.	NHEICC, FWD, HO, Local Levels, HF
Frequently stockouts of essential commodities in districts, municipality and community level.	Timely supply of commodities based on the LMIS Reports.	FWD, MD, Province, Local levels
Lack of equipment to deliver new-born and child health services at service delivery points	Timely procurement and supply of equipment in timely on first quarter of Fiscal Year.	MD, FWD, Province, Local levels
Poor service data quality and inconsistency of data of service data quality.	Carry out RDQA-online/offline Strengthen regular feedback mechanisms and supervision and monitoring in coordination with M&E section of MoHP.	MD, FWD, Province, Local levels
Low coverage &quality of care.	-Strengthen quality improvement system -Enhance the use of health facility quality improvement tools -Onsite coaching -Supportive supervision & mentoring	MD, FWD, Province, HO
Increasing proportion of severe pneumonia cases	-Targeted interventions (BCC activities, and for early detection, treatment and referral) need to be focused -Effective implementation of EAP , RDQA& onsite coaching	Province, HO
Limited engagement of private sectors	-Ensure and encourage involvement of private sector to ensure quality services are provided with proper follow up of childhood treatment protocols at each level	DoHS, FWD. Province, Local levels
Inappropriate referral mechanism	-Strengthen the referral mechanism and referral pathway feedback & sharing the outcome of the case management.	FWD, HO, Province, Local levels

4.3 Nutrition

4.3.1 Background

Nutrition is the intake of food, considered in relation to the body's dietary needs and its appropriate utilization. Good nutrition is essential for sound health and the prevention of diseases. It involves consuming a varied and balanced diet that includes all essential nutrients, such as carbohydrates, proteins, fats, vitamins, and minerals. Deviance from the recommended dietary needs, i.e. insufficiency (undernutrition) or the excess (over nutrition) of macro or micronutrients in our daily diet results in different manifestations of malnutrition. The usual outcomes of undernutrition are stunting, underweight, wasting and micronutrient deficiencies while the most notable form of overnutrition is obesity. Inadequate nutrition, owing to factors such as the limited of access to nutritious food, poor feeding practices, or certain health conditions that interfere with nutrient absorption, can lead to a variety of health problems in children, adults, and the geriatric population, including growth failure, weakened immune systems, and increased susceptibility to infections and diseases. Over nutrition, on the other hand, resulting from the high intake of unhealthy, calorie-rich foods, a lack of physical activity, or underlying health conditions that exacerbate the body's ability to regulate food intake can lead to weight gain (overweight) and obesity, which multiples the risk of non-communicable diseases such as diabetes, heart disease, and some types of cancer.

Malnutrition is a significant public health problem in Nepal, with malnutrition rates ranking among the highest in the South Asia region. From 1996 to 2022 (NDHS), the national prevalence of stunting among children under five years declined from 57% (severe) to 25% (moderate) while wasting among the same age group dropped from 15% (severe) to 8% (moderate). Despite the gradual reduction in stunting and wasting, the low weight-for-age (underweight) and high prevalence of anemia continues to be a significant impediment to health, social and economic development. With the prevalence of underweight among children under five years at 19% (NDHS 2022), Nepal is faced by a moderate public health problem. Speaking of anemia, over one-third (43%) of children under five years and around one-fourth (23.1%) of women (15-49 years) are anemic in Nepal (NDHS 2022). The situation is even more alarming in the 6-23 months' age group, with over 65% children suffering from anemia. Among the many basic, underlying and immediate causes of malnutrition, poverty, lack of access to clean water and sanitation, poor hygiene practices, and inadequate care and feeding practices for young children are the most pertinent ones.

Addressing malnutrition requires a multifaceted approach that addresses the underlying causes and promotes access to nutritious food and other essential nutrients. The Government of Nepal has recognized the problem of malnutrition and has taken steps to address it through various policies and programs. These include the National Nutrition Strategy and the National Nutrition Joint Action Plan, which aim to improve the nutritional status of the population with a particular focus on pregnant and lactating women, infants, and young children through a range of interventions, including promoting exclusive breastfeeding for the first six months of life, integrated management of acute malnutrition (IMAM) and strengthening the health care system. In addition to these, the Government of Nepal has also implemented several other initiatives to address malnutrition. For example, the government has introduced micronutrient supplementation programmes such as Micro Nutrient Powder (MNP), iron folic acid supplementation, school health and nutrition programme., biannual Vitamin A and deworming tablet distribution programme.

The Government of Nepal (GoN) is dedicated to ensuring that all its citizens have access to adequate nutritious food, healthcare, and other social services that influence nutrition outcomes. The Constitution of Nepal (2015) guarantees all citizens the right to food, health, and nutrition. The GoN is committed to meeting the internationally agreed World Health Assembly (WHA) global nutrition targets by 2025, as well as Goal 2 of the Sustainable Development Goals (SDG) of achieving zero hunger by 2030 (in comparison to the NDHS 2011 baseline levels).

Nutrition targets

SN	Global nutrition targets for 2025 and 2030	Base year situation	Progress	Nepal's WHA target	Nepal's SDG targets
		2011	2022	2025	2030
1	Achieve 40% reduction in the number of children under-5 who are stunted	40.5%	25%	25%	15%
2.a	Achieve a 50% reduction of anaemia in women of reproductive age	35%	34%	18%	10%
2.b	Achieve a 50% reduction of anaemia in children	46.2%	43%	23.1%	10%

SN	Global nutrition targets for 2025 and 2030	Base year situation	Progress	Nepal's WHA target	Nepal's SDG targets
		2011	2022	2025	2030
3	Achieve a 30% reduction in low birth weight	12.1%	-	8%	–
4	Ensure no increase in childhood overweight	1.4%	1.1%	≤1.4%	–
5	Increase rate of exclusive breastfeeding in first 6 months to at least 50%	69.6%	56 %	>50%	–
6	Reduce and maintain childhood wasting to less than 5%	10.9%	8 %	5%	4%

At the national level, childhood undernutrition, as measured by stunting and underweight, decreased significantly. From 2001 to 2016, stunting prevalence decreased by 21·4 percentage points and underweight prevalence decreased by 15·7 percentage points. Projections based on these results suggest that stunting prevalence will be 21·6 % in 2025 and 14·3 % in 2030. Similarly, wasting prevalence will be 9 % in 2025 and 8·4 % in 2030. Based on the above findings, Ne- pal appears on track to achieve the WHA's nutrition targets for stunting but unlikely to achieve the targets for wasting

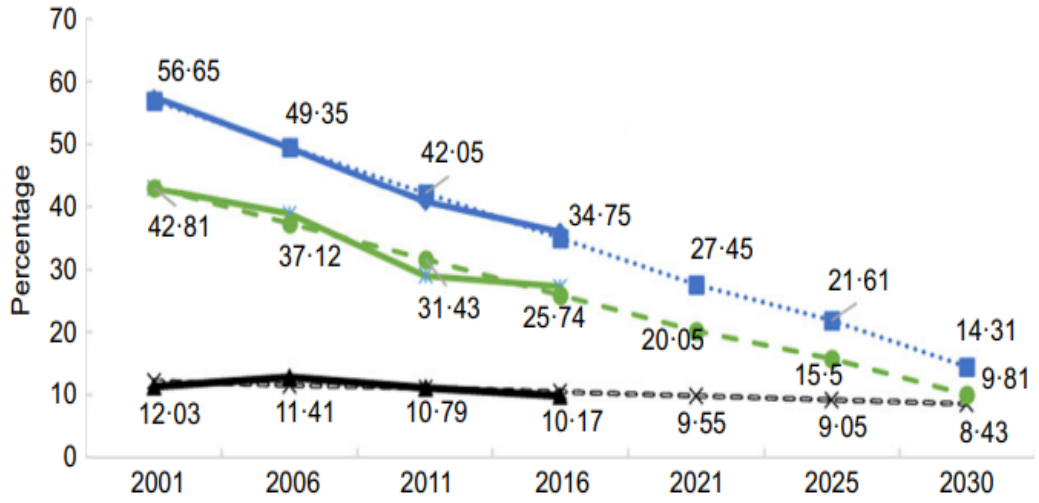


Figure 4.3.1 Trend of key nutrition indicators and target (2001-2030)

This annual report can help to track progress and identify areas where additional efforts are needed to improve the nutritional status of the population.

4.3.2 Efforts to achieve the nutrition target

Starting in 1978, the Government of Nepal (GoN) launched the National Nutrition Strategy, which was followed in 1986 by the Second Nutrition Strategy, also known as the Pokhara Declaration I and II respectively. These previous policy strategies were heavily a single sector driven. The Joint Nutrition Support Program, which ran from 1989 to 1992, was the first attempt at multi-sectoral nutrition programming (JNSP). Despite its efforts at multi-sectorality, the JNSP was unable to become effective due to a lack of sector engagement at its inception. The health sector developed the National Nutrition Policy in 2004, once again as a single sector response.

Nepal is a member of the Global SUN Movement. Nepal is an early riser in the Scaling Up Nutrition (SUN) Movement, becoming the fifth country to join on 5 May 2011 with a letter of commitment to scaling up nutrition by catalyzing collective action to end malnutrition in the country. The Nutrition Assessment and Gap Analysis (NAGA) was completed in 2011 and endorsed by the National Planning Commission (NPC), resulting in the development of the Multi-Sector Nutrition Plan in Nepal for the period 2013 to 2017, with full engagement of other sectors and a national coordination mechanism led by the National Planning Commission. Building on the lessons learned from MSNP I, the Cabinet approved MSNP II, which runs from 2018 to 2022, in November 2017.

The establishment of an effective Nutrition coordination architecture at the national, province, district, municipality,

and ward levels, characterized by a High-Level Nutrition and Food Security Steering Committee and a National Nutrition and Food Security Coordination Committee, followed by regular dialogue with parliamentarians, UN Agencies and Development Partners, Multi Sector Technical Working Groups, Academia Platform, Civil Society Alliance for Food Security, and other stakeholders. The creation of the National Nutrition and Food Security Portal, a digital database containing all MSNP-related guidelines, studies, policy documents, and stakeholder mapping are the major key achievements of MSNP. Similarly, The Nepalese government's annual nutrition expenditure more than tripled from USD 49.7 in 2013/14 to USD 110.2 in 2016/2017 and USD 185.80 in 2017/18.

One of our National Health Policy 2076's objectives is to improve nutritional situation, adulterated and harmful foods shall be discouraged and promotion, production, use and access to qualitative and healthy foods shall be expanded. To achieve this objective, National Health Policy 2076 has following nutritional strategies:

1. Multi-sectoral nutrition policy and food security programs will be updated and implemented with high priority.
2. Short-term, medium-term and long-term measures will be adopted at all levels with emphasis on food diversification and balanced diet consumption to improve the micro nutritional status of different age groups including women and children.
3. Programs will be developed and operated by strengthening school health programs and nutrition education.
4. Domestic production will be promoted by encouraging the consumption of various nutritious and healthy foods.

National Nutrition Strategy 2077

After The Constitution of Nepal 2072 B.S., federal structure, there is also a need to determine the strategic method and implementation framework suitable for the transformed structure. It is necessary to revise and update the national strategy on nutrition to the provisions of the existing National Health Policy 2076. This strategy has been prepared to incorporate the nutrition related strategies included in the fifteenth plan 2076/77-2080/81. The duration of this strategy will be from 2077 to 2087 (2020 to 2030). Thereafter (if necessary, even earlier) this strategy will be modified as required.

Basic principles and concepts:

i. Federally structured nutrition plan and activities;
ii. Gender equality and social inclusion;
iii. Program expansion to underserved groups and communities;
iv. Transparency, responsibility, and accountability;
v. Good governance;
vi. Evidence-based nutrition service;
vii. Private sector engagement;
viii. Mobilization of local resources; and
ix. Community participation.

Vision

To prepare well-nourished, healthy, happy and capable citizens

Mission

To build a nutrition friendly society

Goal

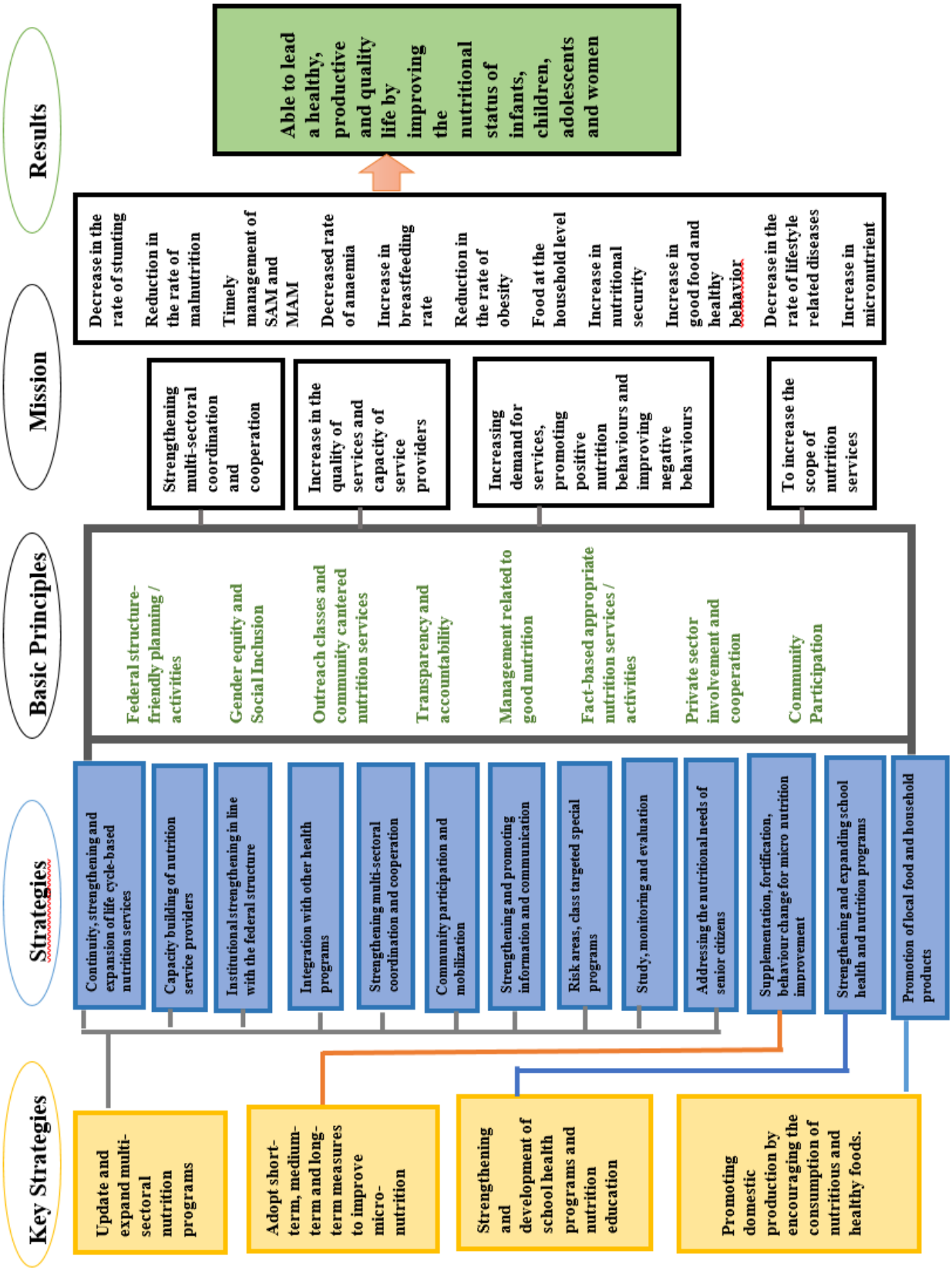
To reduce the current problem of malnutrition in line with the Sustainable Development Goals by 2030

Objectives:

1. Improve the nutritional status of infant, young children, adolescent girls and women by increasing access to nutrition specific and nutrition sensitive services.
2. Improve the quality of nutrition specific and nutrition sensitive interventions and build capacity of the service providers.
3. Increase the demand of nutrition specific and nutrition sensitive interventions through public awareness,
4. promote good nutrition behaviors and inhibit harmful behaviors.
5. To increase the scope of nutrition services in accordance with time.

The key strategical areas of National Nutrition Strategy 2077 are:

Key Strategy	Strategy
Multi-sectoral nutrition policy and programs including food security will be updated and implemented with high priority.	**Strategy 1.1:** To continue, strengthen and expand the life cycle-based nutrition service **Strategy 1.2:** To continue coordination and support to improve the quality of nutrition sensitive services **Strategy 1.3**: To increase the capacity of nutrition service providers to provide nutrition services **Strategy 1.4:** To make institutional arrangements and strengthen in accordance with the federal structure for the implementation of the programs and activities decided by the Multisector Nutrition Plan. **Strategy 1.5:** To strengthen multi-sectoral coordination and cooperation **Strategy 1.6:** To integrate nutrition services with other health sector programs **Strategy 1.7:** To strengthen and promote nutrition related information and communication **Strategy 1.8:** To conduct special nutrition programs for the inaccessible classes, communities and regions **Strategy 1.9:** To promote nutrition research **Strategy 1.10:** To make the monitoring and evaluation of nutrition services effective **Strategy 1.11:** To take appropriate initiatives to address the nutritional needs of senior citizens
Short-term, medium-term and long-term measures will be adopted at all levels with emphasis on food diversification and balanced diet to improve the micro-nutrition status of different age groups including women and children.	**Strategy 2.1:** Supplementation to prevent, control and treat micronutrient deficiencies (Short term strategy) **Strategy 2.2:** To fortify various micronutrients in food to prevent micronutrient deficiency in women, adolescents and children (Midterm Strategy). **Strategy 2.3**: To conduct programs for social behaviour change to prevent micronutrient deficiency in women, adolescents and children (Long term strategy).
Programs will be developed and operated by strengthening school health programs and nutrition education.	**Strategy 3.1:** To strengthen and expand the school health and nutrition program
Domestic production will be promoted by encouraging the consumption of various nutritious and healthy foods.	**Strategy 4.1:** To promote domestic food production by encouraging consumption of various nutritious and healthy foods.


Results
Able to lead a healthy, productive and quality life by improving the nutritional status of infants, children, adolescents and women
Mission
Decrease in the rate of stunting
Reduction in the rate of malnutrition
Timely management of SAM and MAM
Decreased rate of anaemia
Increase in breastfeeding rate
Reduction in the rate of obesity
Food at the household level
Increase in nutritional security
Increase in good food and healthy behavior
Decrease in the rate of lifestyle related diseases
Increase in micronutrient
Strengthening multi-sectoral coordination and cooperation
Increase in the quality of services and capacity of service providers
Increasing demand for services, promoting positive nutrition behaviours and improving negative behaviours
To increase the scope of nutrition services
Basic Principles
Federal structure-friendly planning / activities
Gender equity and Social Inclusion
Outreach classes and community cantered nutrition services
Transparency and accountability
Management related to good nutrition
Fact-based appropriate nutrition services / activities
Private sector involvement and cooperation
Community Participation
Strategies
Continuity, strengthening and expansion of life cycle-based nutrition services
Capacity building of nutrition service providers
Institutional strengthening in line with the federal structure
Integration with other health programs
Strengthening multi-sectoral coordination and cooperation
Community participation and mobilization
Strengthening and promoting information and communication
Risk areas, class targeted special programs
Study, monitoring and evaluation
Addressing the nutritional needs of senior citizens
Supplementation, fortification, behaviour change for micro nutrition improvement
Strengthening and expanding school health and nutrition programs
Promotion of local food and household products
Key Strategies
Update and expand multi-sectoral nutrition programs
Adopt short-term, medium-term and long-term measures to improve micro-nutrition
Strengthening and development of school health programs and nutrition education
Promoting domestic production by encouraging the consumption of nutritious and healthy foods.

Over the last three decades, Nepal has made significant progress in improving the nutritional status of the population and reducing malnutrition through a combination of community-based nutrition programs, the implementation of a maternal and child nutrition program and the implementation of a strong focus on monitoring and evaluation. For the Fiscal Year 2078/79, National Nutrition Programme are implementing in three ways as follows:

A. Nationwide programme
a. Maternal, Infant and Young Child Nutrition (MIYCN)
b. Growth Monitoring and Promotion (GMP)
c. Control and Prevention of Iron Deficiency Anemia
d. Control and Preventions of Vitamin A Deficiency Disorders
e. Control and Prevention of Iodine Deficiency Disorders
f. Control of Intestinal Helminths Infestations
g. School Health and Nutrition Program (Adolescent IFA distribution)
h. Nutrition in emergency

B. Scale up programme
a. Integrated Infant and Young Child Feeding and Multiple Micronutrient Powder (Balvita) Community Promotion Program
b. Integrated Management of Acute Malnutrition (IMAM) Program
c. Maternal and Child Health and Nutrition (MCHN) Program
d. Maternal Baby Friendly Hospital Initiative (MBFHI)
e. Nutrition Rehabilitation Home (NRH)

4.3.4 Achievement

The Growth Monitoring and Promotion (GMP) intervention is a major component of the nutrition program in Nepal, which seeks to keep track of the weight gain over time in children within the 0-23 months' age group. As depicted in the bar chart above, the percentage of children aged 0-23 months registered for GMP at the national level witnessed a 25.5 percentage point increment from fiscal year 2076/77 (65.2%) to 2078/79 (90.7%). The coverage of GMP registration across the seven (7) Provinces also reflects the substantial reach of GMP among the targeted age group, with Provincial values ranging from a low of 78.1% in Province No. 1 to a high of 103.7% in Sudurpaschim Province. Besides Sudurpaschim, four other provinces had a GMP registration exceeding 90%, namely Bagmati, Gandaki, Lumbini, and Karnali. Meanwhile, Madhesh Province had a GMP registration of 85.4%, which is the second lowest figure in fiscal year 2078/79.

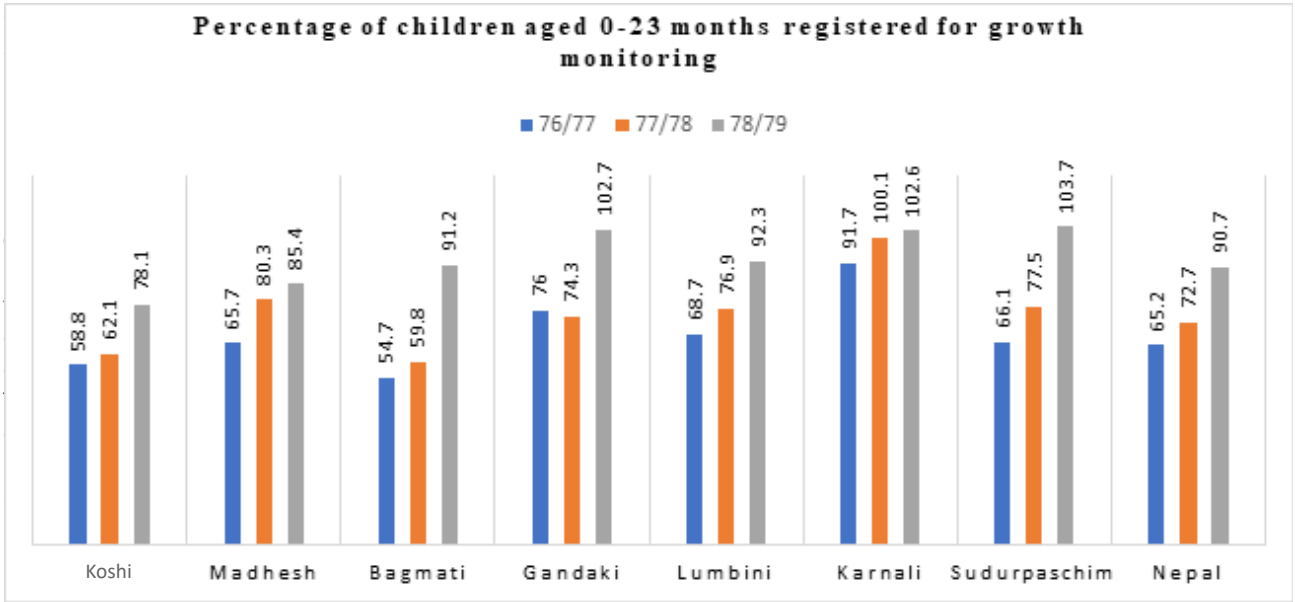


Figure 4.3.2 Percentage of children aged 0-23 months registered for growth monitoring

Average number of growth monitoring visits

The average number of growth monitoring visits refers to the median number of times a child, registered for GMP, is taken for growth monitoring over a period of 24 months. It is a measure of the overall effectiveness of the growth monitoring program, which helps to identify areas requiring additional resources. Ideally, a child registered for GMP should

be weighed at the nearest health facility or PHC-ORC at least once every month till s/he reaches the age of two years- meaning the maximum number of growth monitoring visits a child under two years of age can be documented for is 24.

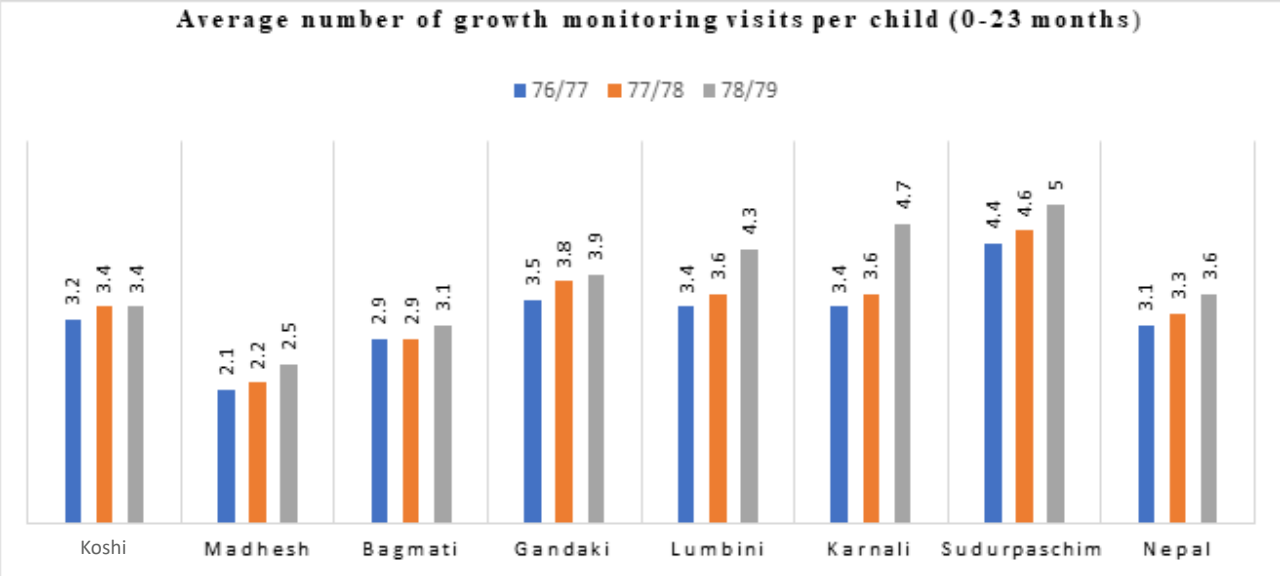


Figure 4.3.3 Average number of growth monitoring visits by Provinces (FY 2076/77-FY 2078/79)

As shown in the bar chart above, the average number of visits among children aged 0-23 months in Nepal across the last three fiscal years was poor with figures ranging from 3.1 to 3.6. Despite the slight increase in numbers from fiscal year 2076/77 to 2078/79, the average visit statistic stands far below the ideal number of 24 in all seven provinces and points at pertinent issues within the GMP Program. Provincially, the average number of GMP visits ranged from a low of 2.5 in Madhesh Province to a high of five (5) in Sudurpaschim Province. Likewise, the average number of growth monitoring visits in the other provinces, namely Koshi, Bagmati, Gandaki, Lumbini, and Karnali, stood at 3.4, 3.1, 3.9, 4.3, and 4.7 respectively.

Underweight

Underweight is a form of undernutrition which signifies that a child has a low weight for his/her age. It is a commonly used composite metric to underline malnutrition that can include elements of stunting and wasting i.e. an underweight child can have a reduced weight for their age due to being too short for their age and/or being too thin for their height. Normally, a new born child's body weight doubles at six months, triples at 12 months, and quadruples at 24 months.

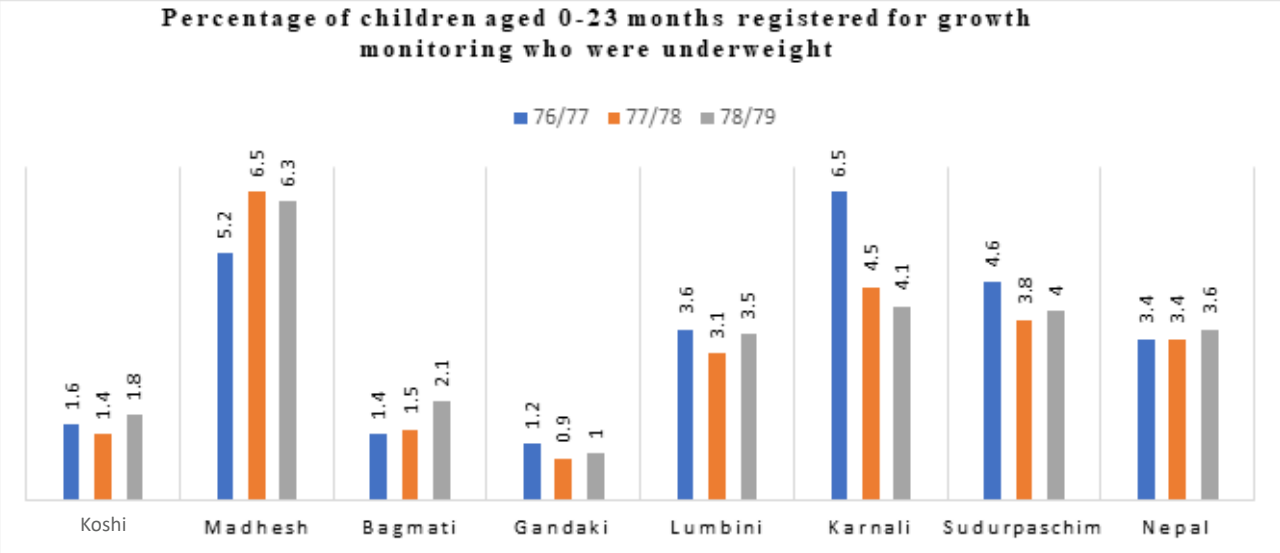


Figure 4.3.4 Percentage of underweight children registered for growth monitoring

The aforementioned bar chart highlights the percentage of children aged 0-23 months who had a low weight-for-age (underweight) in the last three fiscal years. From 2076/77 to 2078/79, the prevalence of underweight at national level underwent a slight increase from 3.4% to 3.6%. Three provinces, namely Koshi, Madhesh, and Bagmati Province had a similar trend across the same time period, with the prevalence of underweight undergoing a slight increase from 1.6 to 1.8%, 5.2 to 6.3%, and 1.4 to 2.1% respectively. The remaining provinces witnessed a minor improvement in the prevalence of underweight among children aged 0-23 months, with Karnali Province achieving a significant decrease from 6.5 to 4.1% across the three-year period. Overall, Madhesh Province had the highest prevalence of underweight children under two years of age with a figure of 6.3% while Gandaki Province had the least with a prevalence of just 1%. In the remaining provinces, namely Karnali (4.1%), Sudurpaschim (4%), Lumbini (3.5%), Bagmati (2.1%), Koshi (1.8%), the prevalence of underweight ranged from 1.8 to 4.1%. However, these prevalence figures at national and provincial level rank much lower than the 16.3% underlined by the recent round of NDHS (2022). The 12.7 % point difference between the NDHS and HMIS data at national level may be due to inherent discrepancies in the HMIS data, poor compliance from parents/caretakers for follow-up GMP visits or the inability to reach pocket areas with large numbers of underweight children.

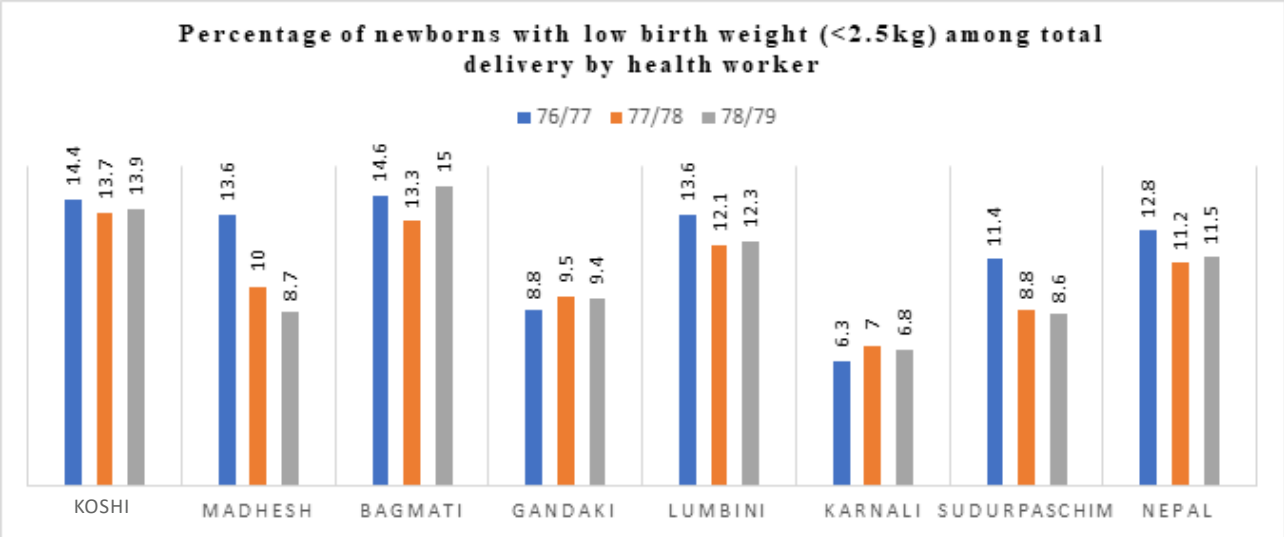


Figure 4.3.5 Percentage of low birth weight among total deliveries by health worker

Similarly, the figure above delineates the province wise prevalence of low birth weight (<2.5kg) among total deliveries performed by health workers from fiscal year 2076/77 to 2078/79. The data shows that the percentage of newborns with low birth weight among total deliveries by health workers varies among the different provinces, with Madhesh, Gandaki and Karnali provinces having the highest percentage of low-birth-weight newborns in all three fiscal years, ranging from 13.6% to 14.6%. On the other hand, the percentage of low-birth-weight newborns among total deliveries by health workers in Lumbini province is consistently the lowest among all provinces, ranging from 8.8% to 9.4%. Overall, the data suggests that there are variations in the percentage of low-birth-weight newborns among the different provinces, with Madhesh, Gandaki, Karnali having the highest percentage and Lumbini province having the lowest percentage. Considering the LBW status nationally and the national commitment to reduce the same to below 10 percent by 2030 (SDG), integrated approaches targeting the various causes of LBW needs to be intensified in all districts through coordinated and collaborative efforts of the Federal, Provincial and Local governments.

Infant and young child feeding (IYCF)

Infant and young child feeding refers to the practice of feeding infants and young children from birth to two years of age. It is a critical aspect of child survival, growth, and development. Infant and Young Child Feeding is a set of well-known and common recommendations for appropriate feeding of new-born and children under two years of age. The time between a child's birth and 2 years of age is a critical window of opportunity to ensure the child's develop- ment through optimum feeding practices. Even mild or moderate undernutrition during this period can cause irrevers- ible damage. As an infant completes 6 months of age, a mother's milk is no longer sufficient to fulfill the child's increas- ing nutritional need. Proper infant and young child feeding practices can help prevent malnutrition and other health problems in children. Since FY 2072/73, the IYCF program has been running in all 77 districts.

The Optimal IYCF Practices

1. Early initiation of breastfeeding; immediately after birth, preferably within one hour

2. Exclusive breastfeeding for the first six months of life i.e.,180 days (no other foods or fluids, not even water; but allows infant to receive ORS, drops, syrups of vitamins, minerals and medicines when required)
3. Timely introduction of complementary foods (solid, semisolid or soft foods) after the age of six months i.e., 180 days
4. Continued breastfeeding for 2 years or beyond

Early Initiation of Breast Feeding

Within an hour of birth, the baby can be protected from infection and the risk of newborn mortality is decreased by starting breastfeeding. It improves the mother-baby emotional bond and extends the time a mother breastfeeds her child exclusively. The production of breast milk is stimulated when a mother starts breastfeeding within an hour of giving birth. Colostrum, or the first milk that is produced in the first few days, is a vital source of nutrition and immune support for the newborn.

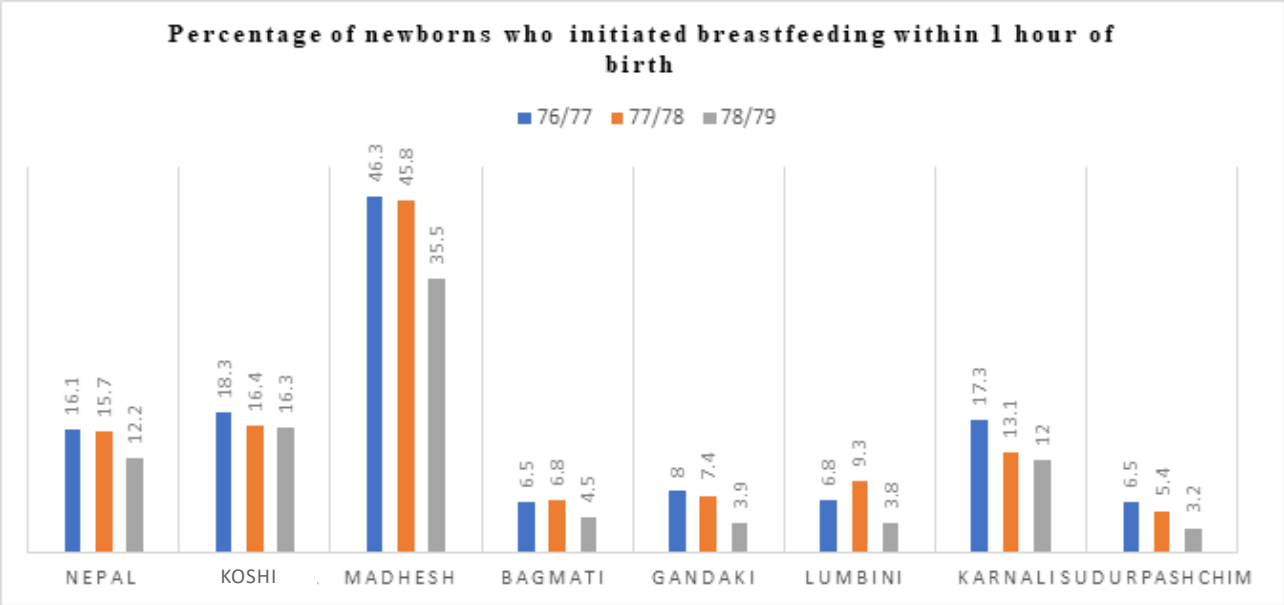


Figure 4.3.6 Percentage of newborns who initiated breastfeeding within 1 hour of birth

The table provides data on the percentage of newborns who initiated breastfeeding within one hour of birth in different provinces of Nepal for the fiscal years 76/77, 77/78, and 78/79. The data shows that the percentage of newborns who initiated breastfeeding within one hour of birth varies among the different provinces, with Madhesh province having the highest percentage in all three fiscal years, ranging from 35.5% to 46.3%. On the other hand, the percentage of newborns who initiated breastfeeding within one hour of birth in Lumbini, Karnali, and Sudurpaschim provinces is consistently the lowest among all provinces, ranging from 3.8% to 9.3%. Overall, the data suggests that there are variations in the percentage of newborns who initiated breastfeeding within one hour of birth among the different provinces, with Madhesh province having the highest percentage and Lumbini, Karnali, and Sudurpaschim provinces having the lowest percentage. It also shows a trend of decrease in percentage of newborns initiating breastfeeding within an hour of birth over the years in Nepal.

Exclusive Breastfeeding

Breast Milk provides all of the energy and nutrients that the infant requires during the first months of life, and it continues to provide up to half or more of a child's nutritional needs during the first six months of life, and up to one-third of a child's nutritional needs during the second year of life. Exclusive breastfeeding is the practice of feeding infants only breast milk, either directly from the breast or expressed, for the first 6 months of life. It is recommended by WHO and UNICEF as it has been linked to a reduced risk for many illnesses in children and mothers. Other benefits include improved nutrition, digestion, immunity, and bonding between mother and baby. If a child is exclusively breastfed, he or she does not need any other type of feeding for the first six months of life.

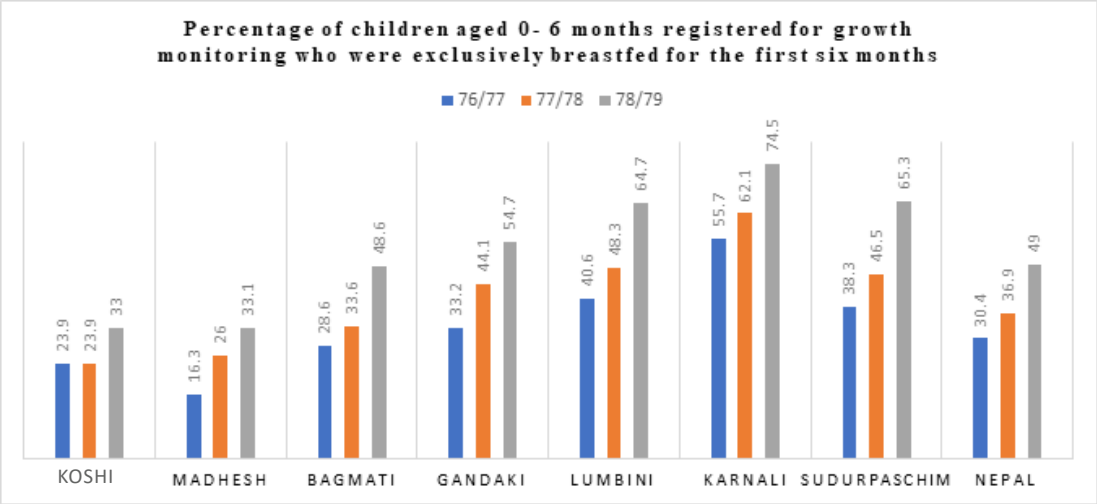


Figure 4.3.7 Percentage of children aged 0- 6 months registered for growth monitoring who were exclusively breastfed for the first six months

The figure shows the percentage of children aged 0-6 months who were registered for growth monitoring and were exclusively breastfed for the first six months in different provinces and regions of Nepal. The overall percentage of children who were exclusively breastfed for the first six months was 30.4% in 76/77 and 36.9% in 77/78. The highest percentage of children who were exclusively breastfed for the first six months was in the Sudurpaschim province at 55.7% in 76/77 and 62.1% in 77/78. The lowest percentage of children who were exclusively breastfed for the first six months was in the Madhesh region at 23.9% in 76/77 and 26% in 77/78. In 78/79, the overall percentage of children who were exclusively breastfed for the first six months was 49%. The highest percentage of children who were exclusively breastfed for the first six months was in the Karnali province at 74.5% in 78/79 and the lowest percentage of children who were exclusively breastfed for the first six months was in the Madhesh region at 33.1% in 78/79.

Timely introduction of complementary foods

The timely introduction of complementary foods is recommended for infants aged 6 months and older. This is because the need for energy and nutrients exceeds what can be provided through exclusive breastfeeding. Studies have found that while the timing of complementary feeding may not lead to improved nutritional status, it is still important to introduce these foods in a timely manner. Delays in introducing complementary foods can lead to inadequate nutrition and poor child feeding practices.

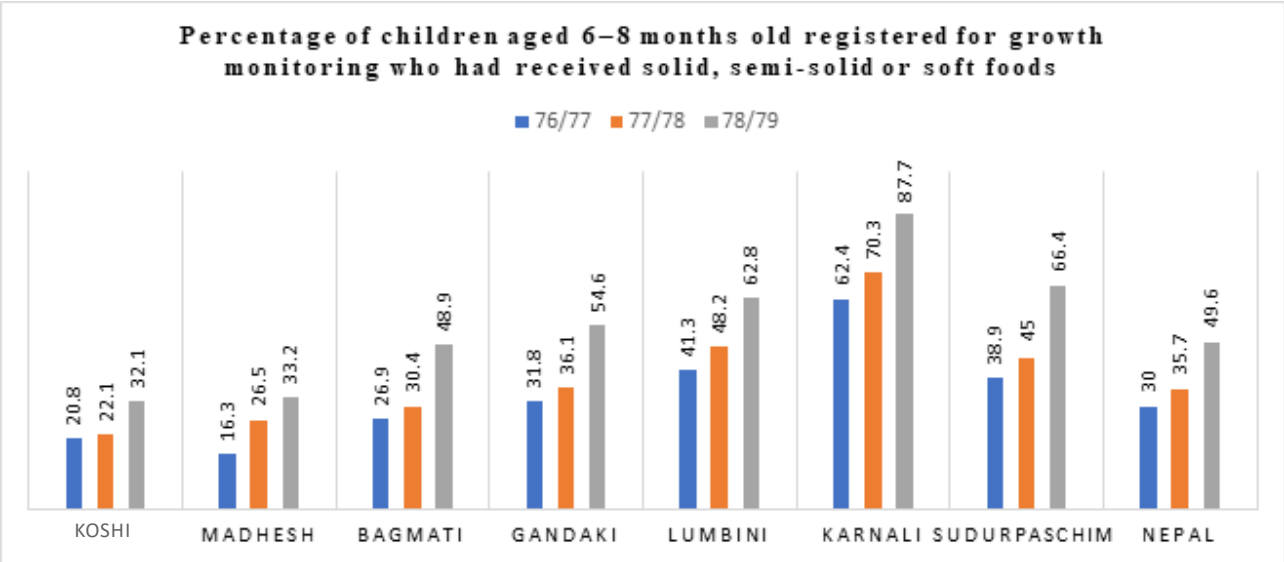


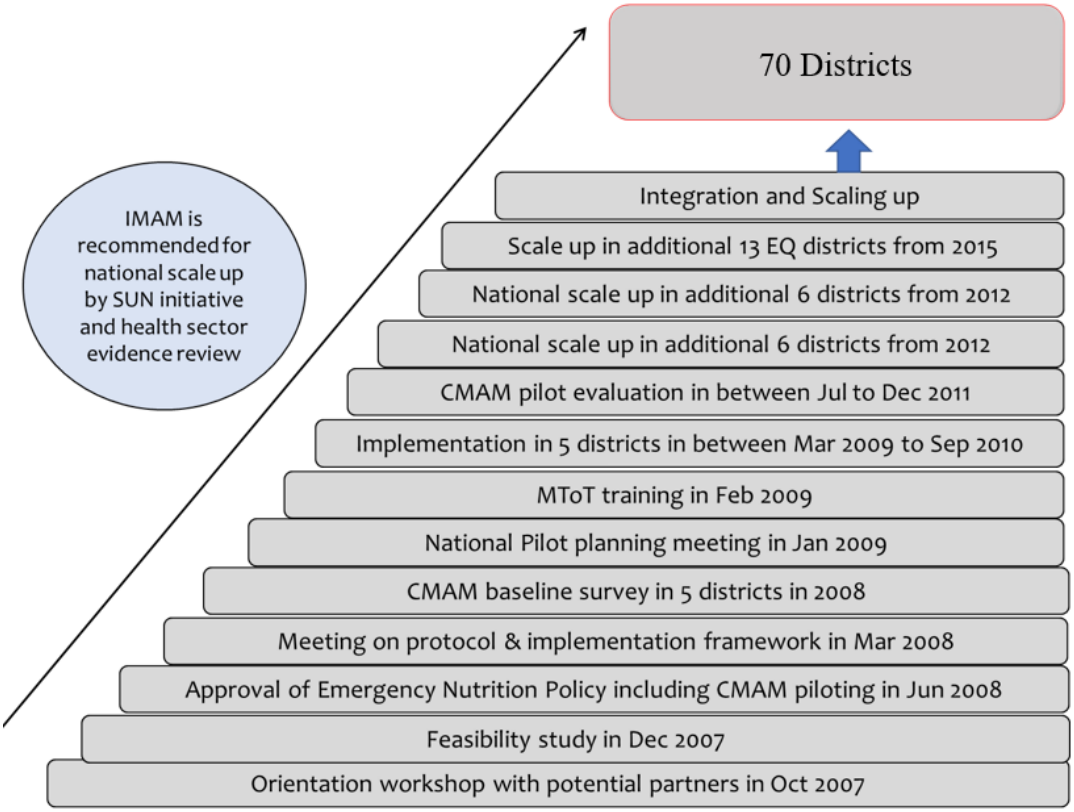
Figure 4.3.8 Percentage of children aged 6–8 months old registered for growth monitoring who had received solid, semi-solid or soft foods

The data presented above shows the percentage of children aged 6-8 months old who were registered for growth monitoring and had received solid, semi-solid or soft foods in different provinces and regions of Nepal. The overall percentage of children who had received solid, semi-solid or soft foods was 30% in 76/77 and 35.7% in 77/78. The highest percentage of children who had received solid, semi-solid or soft foods was in the Sudurpaschim province at 62.4% in 76/77 and 70.3% in 77/78. The lowest percentage of children who had received solid, semi-solid or soft foods was in the Madhesh region at 20.8% in 76/77 and 26.5% in 77/78. In 78/79, the overall percentage of children who had received solid, semi-solid or soft foods was 49.6%. The highest percentage of children who had received solid, semi-solid or soft foods was in the Sudurpaschim province at 87.7% in 78/79 and the lowest percentage of children who had received solid, semi-solid or soft foods was in the Madhesh region at 33.2% in 78/79. It can be seen that the percentage of children who had received solid, semi-solid or soft foods increased over the years in all the provinces and regions of Nepal.

Integrated Management of Acute Malnutrition (IMAM)

The Integrated Management of Acute Malnutrition (IMAM) programme has been implemented in Nepal since 2008, with the help of UNICEF. The programme was initially piloted in five districts and then scaled up to seven provinces across the country. The programme is owned and managed by the government of Nepal, with local governments declaring their commitment to eliminate all forms of malnutrition. The IMAM programme addresses acute malnutrition through a community-based approach, which includes nutrition education, therapeutic feeding, and health services. It also aims to integrate acute malnutrition management into a broader set of interventions and approaches for addressing malnutrition in general. The IMAM program will be expanded to include many more districts with the implementation of the Comprehensive Nutrition Specific Interventions (CNSI) training package. IMAM is a continuum of care model for acute malnutrition that consists of four components that work together to optimize malnutrition treatment based on the severity of the condition.

a. Community mobilization for identification of acutely malnourished children through screening from Female Community Health Volunteer (FCHV) using identification of acutely malnourished children and height-weight from health workers and referred to Outpatient Therapeutic Center (OTC) or Inpatient Therapeutic Center (ITC) if children with Severe Acute Malnutrition (SAM) is identified.
b. Outpatient therapeutic center manage the children under the age of five who have SAM but no medical complications with ready-to-use therapeutic foods (RUTF)
c. Inpatient therapeutic center manages children under the age of five with SAM who have medical complications and children under the age of 6 months according to protocols on an inpatient basis.
d. Nutrition Rehabilitation Home (NRH) provide facility-based management of severe acute malnutrition integrated with hospital services with nutrition education and counselling to the guardians/parents for the management of moderate acute malnutrition as well as good nutrition and health care practices for their children.



Total number of MUAC screening performed by FCHVs

For the active identification of malnourished cases at community level, FCHVs are mobilized for the MUAC screening of children aged 6-59 months. Based on the MUAC tape, children are categorized as either Red (Severe Acutely Malnourished), Yellow (Moderately Acute Malnourished), or Green (Normal). To ensure a wide coverage of the screening, FCHVs carried out screening during the EPI Clinics, PHC-ORCs, HMG meetings, and the bi-annual Vitamin A Supplementation campaigns. The table below underlines the cumulative total of the monthly MUAC screening performed by FCHVs in the last fiscal year, disaggregated in terms of the aforementioned Green, Yellow, and Red categories. Nationally, FCHVs conducted MUAC screening for a cumulative total of 3,106,578 times, with green category standing out as the major category (97.7%) when compared to the Yellow (2.1%) and Red (0.2%). The screening at province level reflects the same scenario with green classification as the major outcome of classification while the yellow and green categories have a meager share ranging from 0.7 to 4.2 percent and 0.1 to 0.5 percent respectively.

Table 4.3.1 Total number of MUAC screening performed by FCHVs in FY 2078/79

Name of Province	Green		Yellow		Red		Total screened (times)
	No. of times	Percent	No. of times	Percent	No. of times	Percent	
Koshi	288709	98.5	4188	1.4	290	0.1	293187
Madhesh	593821	96.9	17173	2.8	2068	0.3	613062
Bagmati	660429	99.2	4734	0.7	366	0.1	665529
Gandaki	152391	99.3	1057	0.7	93	0.1	153541
Lumbini	469792	97.3	11710	2.4	1184	0.2	482686
Karnali	175591	95.3	7683	4.2	914	0.5	184188
Sudurpaschim	693836	97.1	18992	2.7	1557	0.2	714385
Nepal	**3034569**	**97.7**	**65537**	**2.1**	**6472**	**0.2**	**31,06,578**

Outpatient Therapeutic Center

Outpatient therapeutic centers for the treatment of malnutrition offer services to severely malnourished children without any medical complication and having a normal appetite aged 6-59 months. These centers provide therapeutic feeding approaches such as therapeutic food distribution, and it covers 85-90% of SAM cases in the community and provides services through the local health facility.

Table 4.3.2 Total number of children aged 6-59 months admitted in OTC in FY 2078/79

Total number of children aged 6-59 months admitted in OTC			
Province	**2076/77**	**2077/78**	**2078/79**
Koshi	293	274	1195
Madhesh	2187	2782	5050
Bagmati	186	371	903
Gandaki	346	281	580
Lumbini	1288	1347	3794
Karnali	772	688	2661
Sudurpaschim	1510	1360	4674
Nepal	**6582**	**7103**	**18857**

From the above table, the total number of children aged 6-59 months admitted in OTC were increased in this fiscal year. The increase in trend was due to the implementation of CNSI training to the health workers as well as to the FCHVs. According to data from the last three fiscal years (2076/77, 2077/78, and 2078/79), the number of children admitted to OTC nearly tripled.

Inpatient Therapeutic Center

Inpatient therapeutic centers (ITC) are facilities that provide inpatient care for malnutrition with medical complications as well as malnourished children under the age of six months. These facilities typically provide malnourished children with intensive nutritional support, medical care, and monitoring. ITCs has been established throughout Nepal to address the high rates of malnutrition among children and adults. These facilities are typically located in hospitals and are staffed by trained medical professionals. They offer a variety of services, such as therapeutic feeding programs, micronutrient supplementation, and medical care for malnutrition complications. Overall, the introduction of ITC in Nepal was a significant step toward addressing the country's malnutrition problem.

Table 4.3.3 Total number of children aged 6-59 months admitted in ITC in FY 2078/79

Total number of children aged 6-59 months admitted in ITC			
Province	**2076/77**	**2077/78**	**2078/79**
Koshi	27	9	23
Madhesh	48	86	92
Bagmati	6	23	18
Gandaki	5	25	12
Lumbini	19	27	62
Karnali	37	39	37
Sudurpaschim	49	65	80
Nepal	**191**	**274**	**324**

This table depicts the number of children aged 6-59 months admitted in ITC for the treatment of malnutrition in various provinces of Nepal for the fiscal years 2076/77, 2077/78, and 2078/79. In the fiscal year 2078/79, Koshi had 23, Madhesh had 92, Bagmati had 18, Gandaki had 12, Lumbini had 62, Karnali had 37, and Sudurpaschim had 80 children aged

6-59 months admitted in ITC. The total number of children aged 6-59 months admitted in ITC for Nepal in this fiscal year was 324.

Overall, it seems that the number of children aged 6-59 months admitted in ITC in Madhesh and Sudurpaschim province have the highest number and the number of children aged 6-59 months admitted in ITC has been increasing over the years. While Koshi, Gandaki, and Bagmati have a decreasing trend in the number of ITC and Lumbini and Karnali have an increasing trend in the number of children aged 6-59 months admitted in ITC over the years.

SPHERE STANDARD

Table 4.3.4 Total deaths, defaulter, recovered and discharged in FY 2078/79

Province	Total discharge	Death (n)	%	Defaulter (n)	%	Recovered (n)	%
Koshi	804	1	0.12	97	12.06	561	69.78
Madhesh	4697	6	0.13	408	8.69	3505	74.62
Bagmati	646	1	0.15	96	14.86	418	64.71
Gandaki	474	9	1.90	30	6.33	377	79.54
Lumbini	3265	2	0.06	513	15.71	2479	75.93
Karnali	2102	6	0.29	427	20.31	1330	63.27
Sudurpaschim	4192	5	0.12	271	6.46	3281	78.27
Nepal	**16180**	**30**	**0.19**	**1842**	**11.38**	**11951**	**73.86**

This table shows the number of cases of malnutrition that were treated in various provinces of Nepal, and the outcomes of those treatments for FY 2078/79. The “Recovered” column shows the number of cases of malnutrition that were treated and successfully recovered. The “Defaulter” column shows the number of cases of malnutrition that were treated but did not complete the treatment or did not follow up as recommended. The “Death” column shows the num- ber of cases of malnutrition that died during the treatment.

The majority of children who were discharged from malnutrition treatment in each province appear to have recovered successfully. The percentage of children who have recovered ranges from 63.27% in Karnali to 79.54% in Gandaki. The death rate is relatively low, ranging from 0.06% in Lumbini province to 1.90% in Gandaki province. The default rate is relatively high, ranging from 6.33% in Gandaki province to 20.31% in Karnali province. Overall, the table indicates that malnutrition treatment programs in Nepal have been successful in assisting a large number of children to recover, but there is still room for improvement in terms of reducing the number of patients who do not complete the recommended treatment or follow-up.

Nutrition Rehabilitation Center (NRC)

Nutrition rehabilitation homes (NRC) in Nepal provide care and treatment to children who are severely malnourished. To help malnourished children regain their health, these homes typically offer a combination of medical care and therapeutic feeding. They may also educate and support families on proper nutrition and healthcare practices in order to prevent future malnutrition. The facilities and staff who run these homes may differ. Some are run by the central government, while others are run by provincial governments.

There are a total 26 NRCs in Nepal in all seven provinces. There are 4 NRCs in Koshi, 3 NRCs in Madhesh Province, 6 NRCs in Bagmati Province, 3 NRCs in Gandaki Province, 3 NRCs in Lumbini Province, 3 NRCs on Karnali Province and 4 NRCs in Sudurpaschim Provinces. Similarly, 11 NRCs are under the central government, 13 NRCs are under the provincial government, 1 NRC (Jiri Hospital) is under the local government and 1 NRC (Sunakothi) is run by the non-government organisation. List of NRC is given below in the table.

List of NRC

S.N.	Province	District	Name of NRH	Bed No	Responsibility
1	Koshi Province	Jhapa	Mechi Hospital	10	Province government
2		Morang	Koshi Hospital	10	Federal government
3		Sunsari	B.P. Koirala Institute of Health Sciences (BPKIHS)	10	Federal government
4		Okhaldhunga	Rumjatar Hospital	5	Province government
5	Madhesh Province	Saptari	Gajendra Narayan Hospital	10	Federal government
6		Dhanusha	Janakpur Hospital	10	Federal government
7		Parsa	Narayani Hospital	10	Federal government
8	Bagmati Province	Kathmandu	Kanti Children Hospital	10	Federal government
9		Lalitpur	Sunakothi NRH	20	Nepal Youth Foundation
10		Dolakha	Jiri Hospital	5	Local government
11		Sindhupalchok	Chautara Hospital	5	Province government
12		Chitwan	Bharatpur Hospital	10	Federal government
13		Makawanpur	Hetauda Hospital	5	Province government
14	Gandaki Province	Kaski	Pokhara Academy of Health Sciences	10	Federal government
15		Baglung	Dhawalagiri Hospital	10	Province government
16		Parbat	Parbat Hospital	5	Province government
17	Lumbini Province	Rupandehi	Lumbini Hospital	10	Province government
18		Banke	Bheri Hospital	17	Federal government
19		Dang	Rapti Academy of Health Sciences	10	Federal government
20	Karnali Province	Surkhet	Surkhet Hospital	10	Province government
21		Dailekh	Dailekh Hospital	5	Province government
22		Jumla	Karnali Academy of Health Sciences	10	Federal government
23	Sudurpaschim Province	Dadeldhura	Dadeldhura Hospital	5	Federal government
24		Kailali	Seti Hospital	10	Province government
25		Kanchanpur	Mahakali Hospital	10	Province government
26		Bajura	Bajura Hospital	5	Province government

The table below shows data on the number of cases of MAM and SAM in different NRCs. The data includes information on admissions, discharges, recoveries, defaulters, and deaths for both MAM and SAM cases.

Koshi has the least number of cases, with 96 MAM cases and 169 SAM cases. Madhesh has the highest number of MAM cases with 103, and the highest number of SAM cases with 443. The highest number of recoveries for both MAM and SAM cases is seen in the Gandaki province. The highest number of deaths is seen in Lumbini province with 3 deaths due to MAM and 1 death due to SAM. Overall, the total number of cases for both MAM and SAM across all provinces is 1,719 and 1,284 cases respectively.

Table 4.3.5 Province wise MAM and SAM cases distribution in FY 2078/79

S. N	Name of province	MAM case					SAM case				
		Admission	Discharge	Recovered	Defaulter	Death	Admission	Discharge	Recovered	Defaulter	Death
1	Koshi	96	96	80	16	0	169	162	88	74	0
2	Madhesh	103	108	100	8	0	443	413	366	29	1
3	Bagmati	141	132	57	7	0	214	202	91	37	3
4	Gandaki	167	219	208	10	0	128	205	187	12	0
5	Lumbini	121	187	137	2	3	247	146	72	46	1
6	Karnali	74	74	60	10	0	131	131	92	23	0
7	Sudurpaschim	124	106	106	1	0	387	392	388	7	0
	National	**826**	**922**	**748**	**54**	**3**	**1719**	**1651**	**1284**	**228**	**5**

The detailed district wise report from NRCs was provided below.

Table 4.3.6 NRCs wise MAM and SAM cases in FY 2078/79

S.N.	Name of NRH	MAM Case					SAM Case				
		Admission	Discharge	Recovered	Defaulter	Death	Admission	Discharge	Recovered	Defaulter	Death
Koshi Province											
1	Mechi	62	66	56	10	0	107	107	71	36	0
2	Koshi	34	30	24	6	0	62	55	17	38	0
3	Khotang	0	0	0	0	0	0	0	0	0	0
4	Okaldhunga	0	0	0	0	0	0	0	0	0	0
	Total	**96**	**96**	**80**	**16**	**0**	**169**	**162**	**88**	**74**	**0**
Madhesh Province											
5	Rajbiraj	37	37	37	0	0	108	106	105	1	0
6	Birjung	0	0	0	0	0	210	198	181	0	0
7	Janakpur	66	71	63	8	0	125	109	80	28	1
	Total	**103**	**108**	**100**	**8**	**0**	**443**	**413**	**366**	**29**	**1**
Bagmati Province											
8	Kanti Hospital										
9	Bhartapur	35	32	23	7	0	113	110	73	37	0
10	Hetauda										

11	Sindhupal-chowk	0	0	0	0	0	34	30			
12	Jiri	22	23	0	0	0	11	10	0	0	0
13	Sunakothi	84	77	34	0	0	56	52	18	0	3
	Total	**141**	**132**	**57**	**7**	**0**	**214**	**202**	**91**	**37**	**3**
Gandaki Province											
14	Pokhara	78	79	75	1	0	70	65	54	2	0
15	Baglung	89	140	133	9	0	58	140	133	10	0
16	Parbat										
	Total	**167**	**219**	**208**	**10**	**0**	**128**	**205**	**187**	**12**	**0**
Lumbini Province											
17	Lumbini	33	33	28	2	3	134	120	72	18	0
18	Palpa										
19	Bheri hos-pital	88	154	109	0	0	113	26	0	28	1
	Total	**121**	**187**	**137**	**2**	**3**	**247**	**146**	**72**	**46**	**1**
Karnali Province											
20	Dhailekh	36	35	30	5	0	44	38	29	8	0
21	Surkhet	38	39	30	5	0	87	93	63	15	0
	Total	**74**	**74**	**60**	**10**	**0**	**131**	**131**	**92**	**23**	**0**
Sudurpaschim Province											
22	Kanchanpur	32	17	17	0	0	126	139	139	0	0
23	Dhadheld-hura	50	50	50	0	0	47	46	46	0	0
24	Dhangadi	13	12	12	1	0	147	142	139	6	0
25	Bajura	29	27	27	0	0	67	65	64	1	0
	Total	**124**	**106**	**106**	**1**	**0**	**387**	**392**	**388**	**7**	**0**

Integrated Infant and Young Child Feeding and Multiple Micronutrient Powder (Baal Vita) Community Promotion Program

The Integrated Infant and Young Child Feeding and Multiple Micronutrient Powder (Baal Vita) Community Promotion Program in Nepal is a program aimed at improving the nutrition of infants and young children in the country. The program focuses on promoting the appropriate feeding practices for infants and young children, as well as the use of multiple micronutrient powder to help prevent malnutrition. This program may include activities such as community-based education and counseling, distribution of multiple micronutrient powder, and monitoring and evaluation of program effectiveness. The goal of this program is to improve the overall health and nutrition of infants and young children in Nepal, which can have long-term benefits for the overall development and well-being of the country's population.

The Government of Nepal in collaboration with UNICEF and an implementing organization designed and launched an intervention project of an "Integrated IYCF and MNP project" among children 6-23 months as pilot programme in 2009 in six districts. The IYCF/MNP intervention includes the distribution of 60 sachets of Baal Vita containing 15 micronutrients including iron, zinc and other micronutrients to address the iron deficiency anemia to all children aged 6 to 23 months every six months. The recommended feeding regimen is to give the child one sachet of Baal Vita mixed into food every day for two months (60 days of daily intake). Every six months, families should return to pick up a new batch of 60 sachets, ensuring that the child consumes 180 sachets during the eligible period of 18 months. Baal Vita is given to families with children aged 6 to 23 months for free through local health institutions or female community health volunteers (FCHVs).

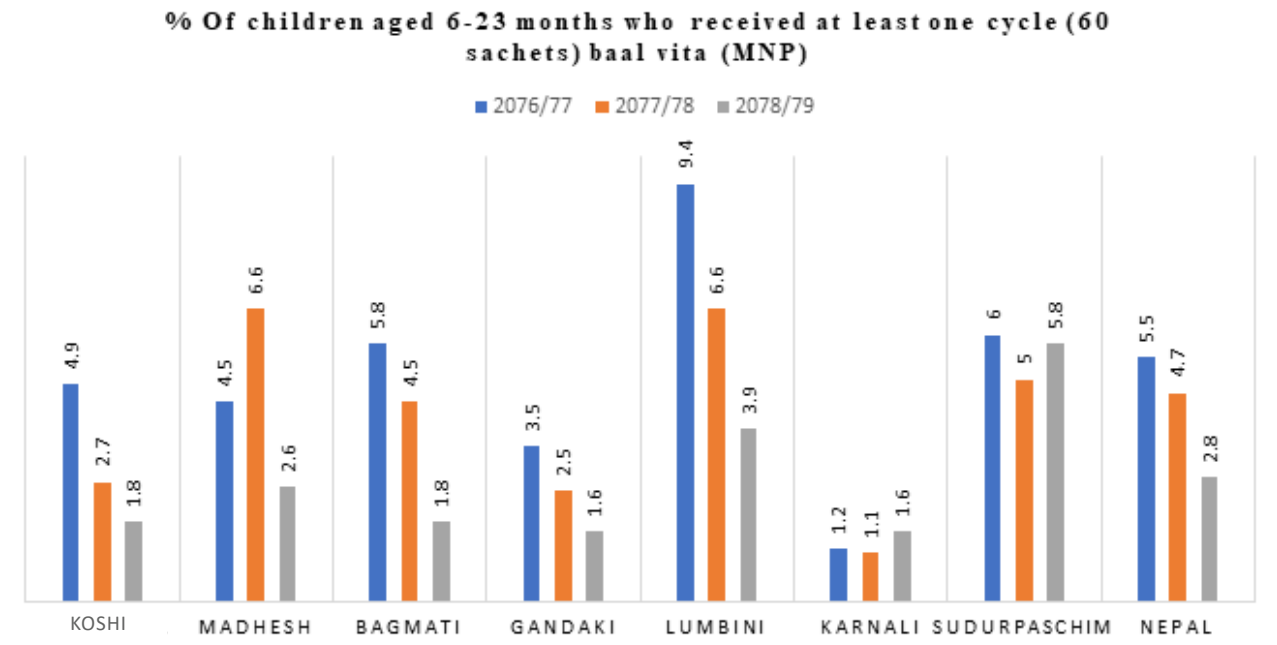


Figure 4.3.9 Percentage of children aged 06-23 months who received at least one cycle of baal vita (MNP)

The graph provided shows data on the percentage of children aged 6-23 months who received at least one cycle (60 sachets) of Baal Vita (MNP) in different provinces of Nepal for the years 2076/77, 2077/78 and 2078/79.

In the year 2076/77, Koshi had the lowest percentage of children receiving the supplement at 27.3%, while Bagmati had the highest percentage at 47.2%. In the following year, 2077/78, Madhesh had the highest percentage of children receiving the supplement at 56.3%, while Koshi had the lowest at 16.1%. In FY 2078/79, Sudurpaschim had the highest percentage of children receiving the supplement at 54%, while Bagmati had the lowest at 10.2%. Overall, the national average for the three years is 20.5%.

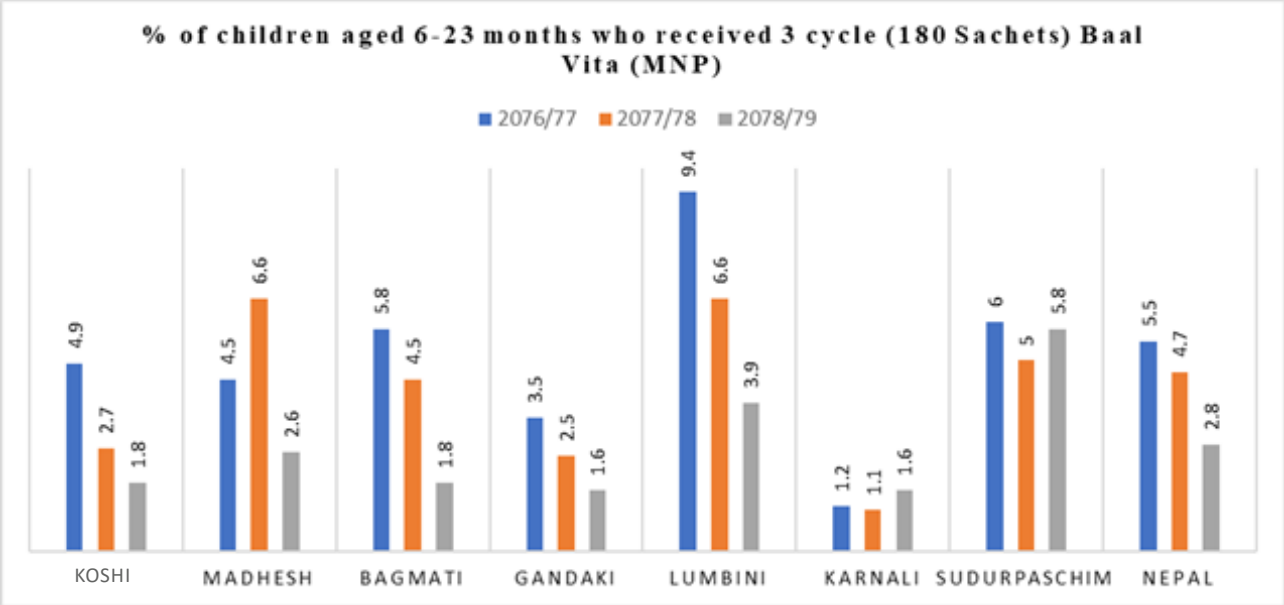


Figure 4.3.10 Percentage of children aged 06-23 months who received three cycle of baal vita (MNP)

The table below shows district wise coverage of children aged 6-23 months who received at least one cycle (60 sachets) of Baal Vita (MNP) in different provinces of Nepal for the years 2076/77, 2077/78, and 2078/79. The data shows the percentage of children in each province who received the Baal Vita supplement.

The data for each year shows that the coverage of the supplement is low and varies across different provinces. In the year 2076/77, Koshi had the lowest percentage of children receiving the supplement at 4.9%, while Lumbini had the highest at 9.4%. Similarly, in the year 2077/78, Koshi had the lowest percentage of children receiving the sup- plement at 2.7%, and Madhesh had the highest at 6.6%. In the year 2078/79, the coverage of the supplement is even lower, with Koshi having the lowest percentage of children receiving the supplement at 1.8% and Sudurpaschim having the highest at 5.8%. Overall, the national average for the three years is 2.8%.

It is clear that the coverage of the MNP supplementation is low and varies across different provinces. The low coverage may be caused by various factors such as lack of awareness about the supplement, lack of access to the supplement, or lack of follow-up to ensure that children receive the supplement as prescribed. It is important to address these issues and increase the coverage of the supplement to improve the nutrition and health of children in Nepal. Additionally, it would be important to track the progress of the program over time to ensure that the desired impact is being achieved. The percentage of Baal Vita received by children aged 6-23 months in various districts of Nepal is shown in the table below. The percentages vary greatly between districts, with some having extremely high percentages and others having extremely low percentages. For example, in the district of Kailali, 96.9% of children receive at least one cycle of Baal Vita (MNP), while 24.7% do in the district of Taplejung. Similarly, some districts, such as Baitadi, have a high percentage of children receiving three cycles of Baal Vita (MNP), while others, such as Taplejung, Bhojpur, and Dhankuta, have 0% of children receiving three cycles of Baal Vita (MNP). It is important to note that the table only provides a snapshot of data; when interpreting the data, other factors such as population size, accessibility, and socioeconomic status should be considered. It is also critical to consider Nepal's overall coverage of MNP and micronutrient deficiencies, as well as progress over time.

Table 4.3.7 District wise coverage of one cycle and three cycle Baal vita (MNP) in FY 2078/29

Name of the district	% of children aged 6-23 months who received at least one cycle (60 Sachets) Baal Vita (MNP)	% of children aged 6-23 months who received 3 cycle (180 Sachets) Baal Vita (MNP)
Taplejung	24.70	0.12
Sankhuwasabha	14.60	2.2
Solukhumbu	53.30	1.5
Okhaldhunga	37.60	9.1
Khotang	21.10	2.5
Bhojpur	8.00	0
Dhankuta	13.50	0
Terhathum	5.20	0
Panchthar	23.60	1.1
Ilam	9.80	0.02
Jhapa	11.70	0.78
Morang	18.00	3
Sunsari	12.30	2.4
Udayapur	7.40	0.14
Saptari	23.90	6.6
Siraha	13.10	0.27
Dhanusa	7.50	1.3
Mahottari	9.30	1.8
Sarlahi	12.60	2.2
Rautahat	41.70	4.9

Bara	12.60	1.5
Parsa	25.80	2.4
Dolakha	7.90	1.3
Sindhupalchok	5.20	1.1
Rasuwa	3.90	0.48
Dhading	6.60	1.7
Nuwakot	5.10	0.64
Kathmandu	8.30	0.13
Bhaktapur	14.30	3.3
Lalitpur	32.90	9.4
Kavrepalanchok	3.40	1.9
Ramechhap	20.70	3.6
Sindhuli	4.50	1.1
Makwanpur	17.70	2.9
Chitwan	4.00	0.28
Gorkha	35.80	6.7
Nawalparasi	29.10	2.7
Syangja	21.50	0.45
Parbat	0.00	0
Baglung	26.00	2.7
Rukum	50.90	7
Rolpa	21.70	2.4
Pyuthan	0.85	0
Gulmi	5.60	0
Arghakhanchi	0.00	0
Palpa	22.90	6.4
Nawalparasi	19.10	6
Rupandehi	26.40	6.1
Kapilbastu	22.20	4.3
Dang	18.10	1.5
Banke	20.80	0.03
Bardiya	51.80	10.5
Dailekh	35.10	6.9
Jajarkot	34.60	2.4
Rukum	21.60	2.4
Salyan	11.50	0.03
Surkhet	25.00	0.19
Bajura	23.60	1.3

Bajhang	20.90	1.9
Darchula	40.20	2.4
Baitadi	40.10	8.8
Dadeldhura	73.00	25.5
Doti	40.40	4
Achham	58.00	22.5
Kailali	96.90	0.98
Kanchanpur	21.60	0.01

Control and Prevention of Iron Deficiency Anemia

Iron deficiency anemia is a significant public health problem in Nepal, as it affects a large proportion of the population, particularly women and children. The government of Nepal has implemented several strategies to control and prevent iron deficiency anemia. Some of the key strategies include:

Fortification of food: The government has implemented mandatory fortification of wheat flour with iron.

Supplementation: The government has also implemented supplementation programs to provide iron and folic acid supplements to pregnant women and lactating mothers with 60 mg elemental iron and 400 micrograms folic acid to pregnant women for 225 days (180 tablets during pregnancy and 45 tablets post-partum) from their second trimester.

Other supplementation programme to prevent iron deficiency anemia includes, MNP distribution to children aged 6-23 months and IFA distribution to adolescents from the School Health and Nutrition (SHN) programme.

Health education: The government has also implemented health education programs to raise awareness about the causes and consequences of iron deficiency anemia and to promote healthy dietary practices and healthy behaviors.

Overall, the government of Nepal has implemented a comprehensive set of strategies to control and prevent iron deficiency anemia. However, there is still a need for more research to identify the most effective strategies and to ensure that the programs reach the people who need them the most.

The figure below shows the percentage of women in Nepal and various provinces who received a 180-day supply of Iron Folic Acid during pregnancy in the years 2076/77, 2077/78, and 2078/79. According to the data, the overall percentage of Nepalese women receiving the supply increased from 44% in 2076/77 to 60% in 2078/79. In 2078/79, the provinces of Gandaki and Lumbini had the highest percentages of women receiving the supply, with 80.2% and 75.8%, respectively. In 2078/79, the Bagmati Province had the lowest percentage, at 49.8%. The percentage of women receiving the supply has steadily increased in the Madhesh, Lumbini, Karnali, and Sudurpaschim Provinces over the years. Koshi saw a slight decrease in percentage, from 35.4% in 2077/78 to 33.3% in 2076/77, but an increase to 47.8% in 2078/79. The percentage of women receiving the supply in Bagmati province decreased consistently, falling from 28.7% in 2076/77 to 27.6% in 2077/78 and 49.8% in 2078/79.

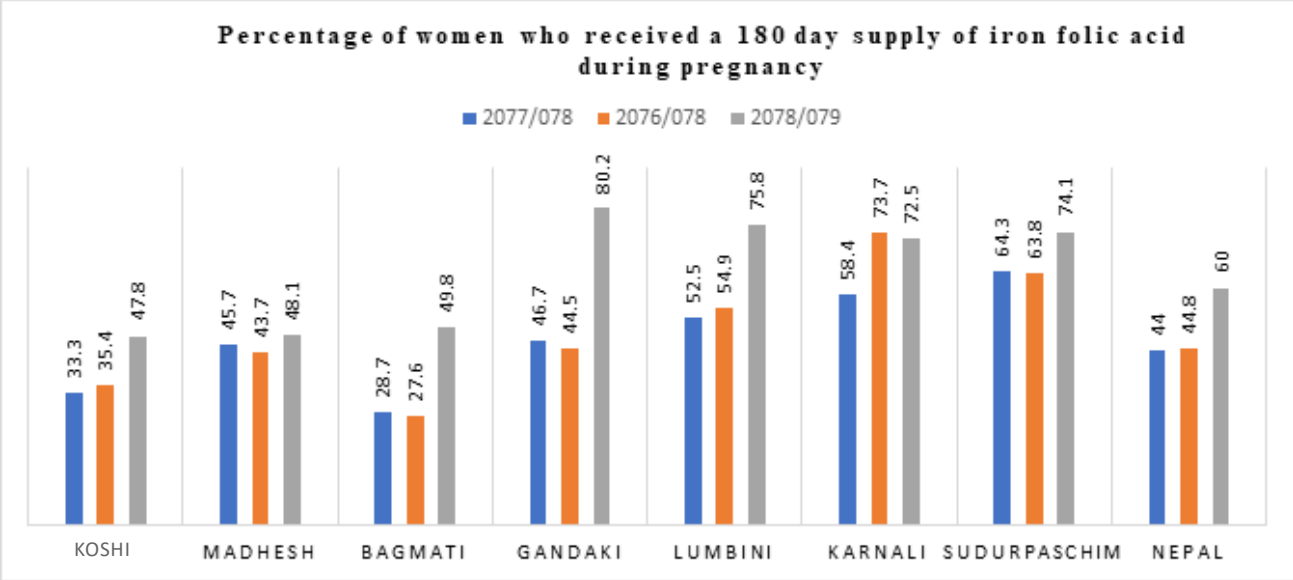


Figure 4.3.11 Percentage of women who received a 180 day supply of iron folic acid during pregnancy

Overall, the proportion of postpartum women who received a 45-day supply of IFA increased from 37.6% in FY 2076/77 to 52.6% in FY 2078/79. Looking at the individual provinces, it is clear that the percentage of postpartum women receiving a 45-day supply of IFA varies greatly. For example, in Koshi, the percentage has risen from 21.5% to 31.7%, while in Lumbini, it has risen from 45.4% to 69.7%. Sudurpaschim Province has the highest percentage of post-partum women receiving a 45-day supply of IFA, increasing from 57.8% to 88.9%. The lowest percentage, on the other hand, is seen in Koshi, where it has increased from 21.5% to 31.7%.

Control and Preventions of Vitamin A Deficiency Disorders

Vitamin A supplementation programs have been implemented in Nepal to address the high prevalence of vitamin A deficiency. These programs typically involve the distribution of vitamin A capsules to the children aged 6-59 months and lactating mothers within 45 days after childbirth. The program also includes health education and promotion activities to raise awareness about the importance of vitamin A for good health. The goal of the program is to reduce the prevalence of vitamin A deficiency and its associated health problems, such as blindness and increased risk of death from infections. Biannual distribution of Vitamin A to the children aged 6-59 months began in eight districts and was expanded nationwide by 2002. Through a campaign-style activity, FCHVs distribute the capsules to the targeted children twice a year (Baisakh 6 and 7) and (Kartik 2 and 3) each year. By 2010, Biannual distribution of Vitamin A to the children aged 6-59 months with gradual scaling-up had been successfully implemented nationwide.

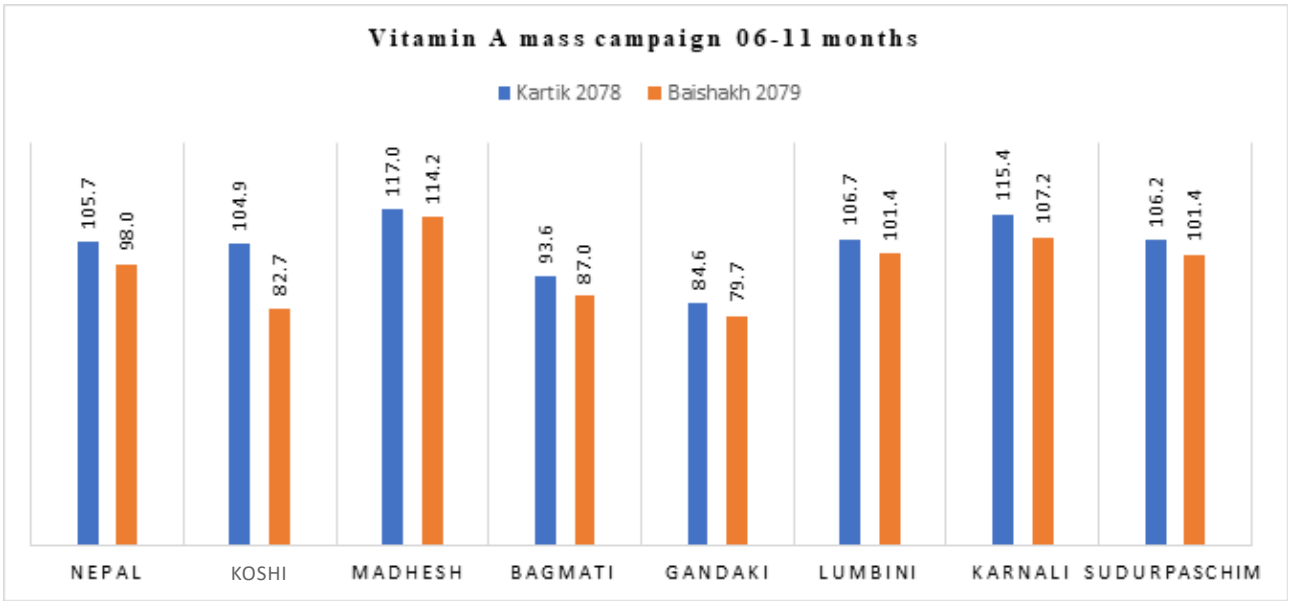


Figure 4.3.12 Percentage of 06-11 months children who received Vitamin A supplementation in the campaign

The graph depicts the distribution of Vitamin A in Nepal for fiscal year 2078/79 among the children aged 6-11 months. According to the data, the overall distribution of Vitamin A in Nepal fell from 105.7 in Kartik to 98.0 in Baisakh. Koshi had the greatest decrease in distribution, dropping from 104.9 in Kartik to 82.7 in Baisakh. Madhesh, on the other hand, saw its distribution increase from 117.0 in Kartik to 114.2 in Baishakh. Vitamin A distribution decreased in the Bagmati, Gandaki, Lumbini, Karnali, and Sudurpaschim regions between the two years, with the Karnali region experiencing the greatest decrease, falling from 115.4 in Kartik to 107.2 in Baisakh.

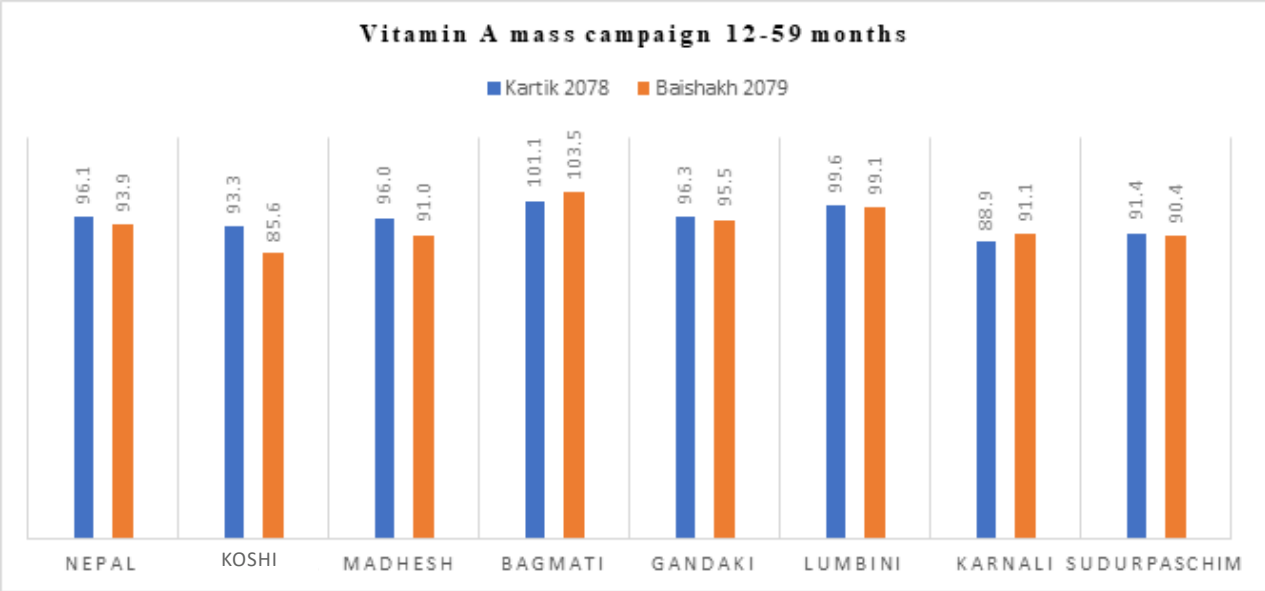


Figure 4.3.13 Percentage of 12-59 months children who received Vitamin A supplementation in the campaign

This graph depicts the distribution of Vitamin A supplements to children aged 12 to 59 months in Nepal, broken down by province and time period. The data ranges from Kartik 2078 to Baishakh 2079. During Kartik 2078, national coverage was 96.1%, and 93.9% during Baishakh 2079. Bagmati Province had the highest coverage, with 101.1% and 103.5% respectively during the two months. Karnali Province had the lowest coverage, with 88.9% and 91.1% respectively during the two months.

Control of Intestinal Helminths Infestations

Family Welfare Division has implemented biannual deworming tablet distribution to children aged 12-59 months with the goal of reducing childhood anaemia with parasitic infestation control through public health measures. This activity is combined with biannual Vitamin A distribution for children aged 6-59 months, which occurs in every ward across the country during the first week of Baishakh and Kartik each year. Deworming of target children began in a few districts in the year 2000, integrating with biannual Vitamin A supplementation, and the program was successfully implemented nationwide by the year 2010.

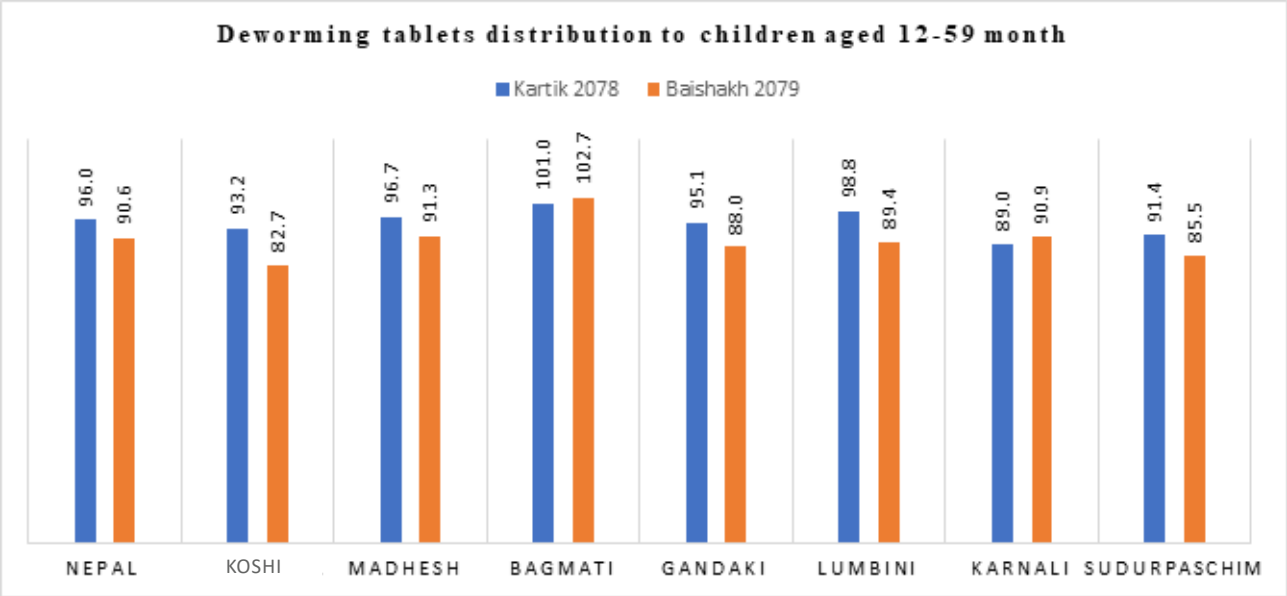


Figure 4.3.14 Percentage of 12-59 months children who received deworming tablets

The figure above shows the distribution of deworming tablets to children aged 12-59 months in Nepal, as well as in various provinces throughout the country, between Kartik 2078 and Baishakh 2079. Overall, national deworming tablet coverage is 96.0% for Kartik 2078 and 90.6% for Baishakh 2079.

When looking at coverage rates for specific provinces, Koshi has a slightly lower coverage rate than the national average, with 93.2% in Kartik 2078 and 82.7% in Baishakh 2079. Madhesh, on the other hand, has a higher rate of coverage than the national average, with 96.7% in Kartik 2078 and 91.3% in Baishakh 2079. Bagmati also has a higher coverage rate than the national average, with 101.0% in Kartik 2078 and 102.7% in Baishakh 2079. In Kartik 2078, the Gandaki and Lumbini provinces had coverage rates that were similar to the national average, with 95.1% and 98.8%, respectively. In Baishakh 2079, however, the coverage rate dropped to 88.0% in Gandaki and 89.4% in Lumbini. The Karnali and Sudurpaschim provinces have coverage rates that are lower than the national average, with 89.0% and 91.4% in Kartik 2078, respectively, and 90.9% and 85.5% in Baishakh 2079.

Control and Prevention of Iodine Deficiency Disorders

In 1973, the Ministry of Health and Population (MoHP) implemented a policy to fortify all edible salt to combat iodine deficiency disorders (IDD) through universal salt iodization. The Salt Trading Corporation is responsible for iodine fortification and distribution of all edible salt, while the MoHP is in charge of policy development and promotion of iodized salt. According to policy, the Government of Nepal uses the “Two-Child-Logo” to certify adequately iodized salt, and the DoHS has been mobilizing the social marketing system to raise awareness and increase household use. According to various national survey reports, the number of households using adequately iodized salt increased from 55% in 1998 to 95% in 2016.

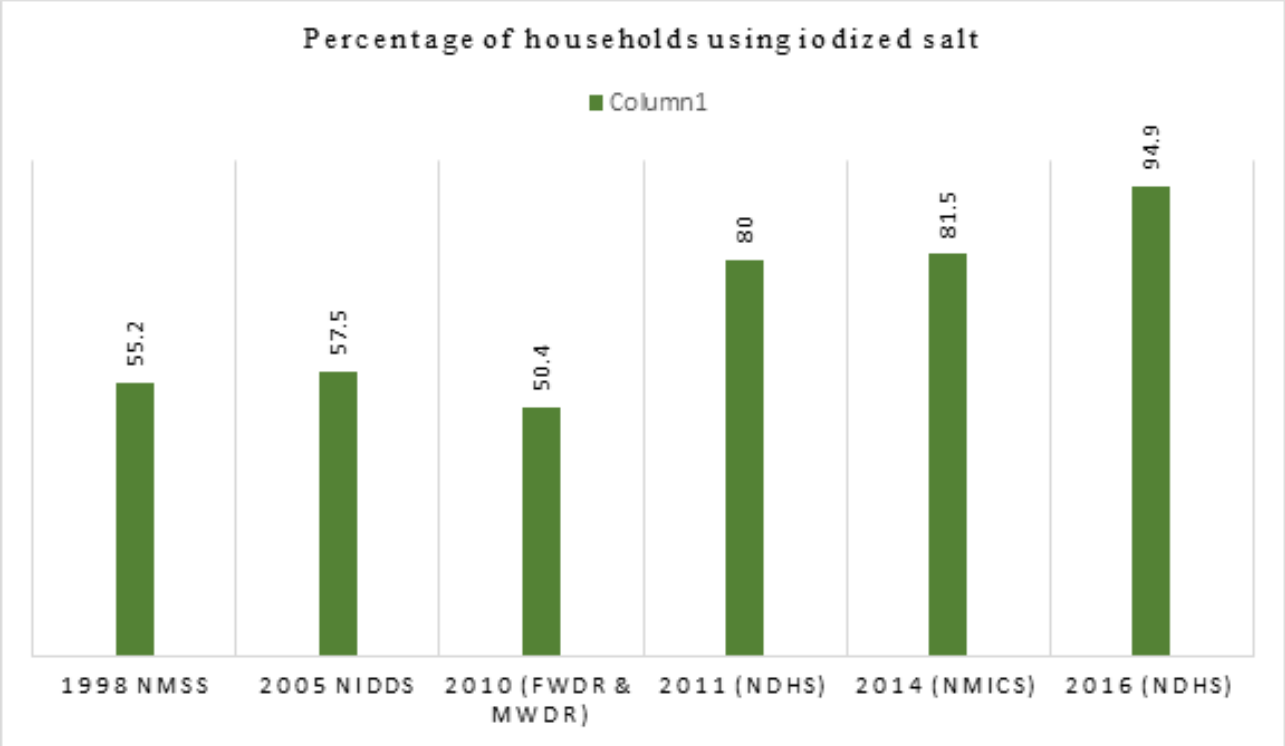


Figure 4.3.15 Percentage of 12-59 months children who received deworming tablets

The data provided is a collection of percentages of households using iodized salt from various years and sources. The percentage in 1998 from the National Micronutrient Survey was 55.2%, and it increased to 57.5% in 2005 from the National Iodine Deficiency Disorder Survey. However, in 2010, the percentage dropped to 50.4% from the Family Welfare and Demographic Survey and the Maternal and Child Health Survey. In 2011, the National Demographic and Health Survey reported an increase to 80%. In 2014, the National Micronutrient Indicator Survey reported 81.5%, and in 2016, the National Demographic and Health Survey reported 94.9%. Overall, the data shows an overall trend of an increase in households using iodized salt, with a slight decrease in 2010 but a significant increase in 2011 and 2016.Iodine Month is celebrated in Nepal in February to raise awareness about the importance of iodine in human health and to promote the consumption of iodized salt. For the FY 2078/79, Iodine month was celebrate with the slogan " उचित मात्रामा आयोडीनयुक्त नुन खाऔ, आयोडीनको कमीका कारण हुने समस्याबाट बचौ आफ्नो ".

Following activities were done during the iodine month from Family Welfare Division, Nutrition Section

1. Interaction meeting with stakeholders including Department of Food Technology and Quality Control and Salt Trading Corporation.
2. Monitoring and iodine testing in different shops and salt trading depots in Kathmandu Valley.
3. Monitoring and awareness raising on storage conditions of iodized salt at community level.
4. Raising awareness about the importance of iodine through public campaign.

School Health and Nutrition Program (Adolescent IFA distribution)

In June 2006, the Government of Nepal's Ministries of Health and Population and Ministry of Education collaborated to develop and approve the National School Health and Nutrition Strategy. The primary goal of the School Health and Nutrition Program is to improve the physical, mental, emotional, and educational status of students.
Four Strategic Objectives support this goal.

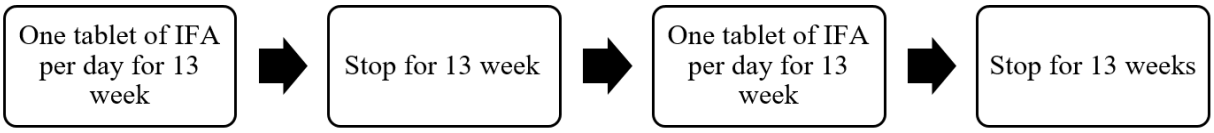
1. Increase schoolchildren's use of school health and nutrition services;
2. Improve the health of the school environment
3. Enhance your health and nutrition behaviors and habits.
4. Strengthen and improve the community support system and policy environment

The major activities under SHN Program are the biannual school deworming for all School-aged-children during the first week of Jestha and Mangsir every year and IFA distribution to adolescent girls in school.

IFA distribution to adolescent girls in school

Iron-Folic Acid (IFA) supplementation programs for adolescent girls have been implemented in Nepal since the FY 2072/73 as a public health intervention to prevent iron deficiency anemia. The program is targeted at girls aged 10-19 years old, and is usually provided through schools for school going adolescent girls and form health facilities for out of school adolescent girls.

The supplements are typically given one tablet of IFA per day for 13 weeks, then stopped for another 13 weeks before starting again for the next 13 weeks. In a year, one adolescent girl should take 26 tablets of IFA as described below



However, there are also some challenges in implementing IFA supplementation programs in Nepal. These include limited access to healthcare facilities and education in remote and rural areas, lack of awareness among adolescent girls and their families about the importance of taking IFA supplements, and cultural barriers that may discourage girls from taking the supplements. Overall, while IFA supplementation programs have been successful in improving the iron status of adolescent girls in Nepal, there is still room for improvement in terms of reaching more girls in remote and rural ar- eas, and addressing the cultural and awareness barriers that prevent girls from taking the supplements.

Training on Comprehensive Nutrition Specific Interventions (CNSI) Package

The Comprehensive Nutrition Specific Intervention is a 7-days training package for health workers developed through the meticulous integration of various nutrition specific programs such as IMAM, MIYCN, NiE, VAS, IFA, G1000s, and IYCF-MNP. Formally introduced from fiscal year 2075/76, the Government of Nepal has planned for the scale up of the package in all 77 districts by the end of fiscal year 2079/80 through its cascade down approach. The budget for the CNSI training has been allocated under the Provincial Health Training Centre (PHTC) and Provincial Human Resource Development Centre (PHRDC) due to its potential for acting as a focal point for both the Province, and Local Level. By the end of fiscal year 2078/79, the CNSI training package has been rolled out in 72 districts. For the five remaining districts within Bagmati Province, the said training will be completed in the upcoming fiscal year under the leadership of the PHTC.

Maternal and Child Health and Nutrition (MCHN) Program

The Government of Nepal and World Food Program Nepal (WFP) have signed an Operational Agreement for the implementation of the Maternal and Child Health and Nutrition (MCHN) Component in Karnali and Solukhumbu as the first priority districts over a five-year period from 2020 to 2023.
The MCHN's main goals are

1. To prevent and reduce anemia, stunting, and wasting,
2. To increase growth monitoring and promotion,
3. To improve access to and utilization of health nutrition services.

The government has prioritized the implementation of the MCHN programme in Humla, Jumla, Dolpa, Mugu, and Kalikot districts of Karnali Province and Solukhumbu district of Koshi. According to the agreement, the government purchases, supplies, and delivers food "Super Cereal" up to the WFP-managed logistic centers, and the WFP then ensures delivery, transportation, and distribution of food up to final delivery points, as well as food distribution at government health facilities for Pregnant and Lactating Women (PLW) and children aged 6 to 23 months within each program local level.

Maternal Baby Friendly Hospital Initiative (MBFHI)

Baby Friendly Hospital Initiative (BFHI) services in Nepal began in 1994, with the training of health workers from 22 hospitals across the country until 1996. Following training, these hospitals were evaluated by external and internal assessors through the Nepal Pediatric Society in 1997-98, and seven of them were certified as Baby Friendly Hospitals. Tribhuvan University Teaching Hospital, Paropakar Maternity & Women's Hospital, Patan Hospital, Bhaktapur Hospital, Hetauda Hospital, BP Koirala Institute of Health Science, and Koshi Zonal Hospital are among the seven hospitals. Be- cause of the stagnant neonatal mortality rate and declining IYCF practices, an assessment was conducted in all 7 BFHI hospitals

in 2011. The study yielded some intriguing results that all BFHI-certified hospitals were found to be failing to complete all ten steps of BFHI activities.

The Mother Baby Friendly Hospital Initiative (MBFHI) campaign was launched in five hospitals beginning in FY 2076/77. In FY 2077/78, MBFHI orientation was carried out in 5 additional hospitals, as well as a review of the previous five hospitals. In addition, MBFHI orientation was conducted in five new hospitals, and the MBFHI program was reviewed in ten hospitals in FY 2078/79. There are total 15 MBFHI hospitals certified till FY 2078/79

Nutrition in emergency

Family MUAC Approach Pilot Programme

Family MUAC is a practical method for detecting acute malnutrition at the community level by measuring and classifying MUAC. It is the most common type of anthropometric screening used at the community level to detect and refer children for acute malnutrition management. The family MUAC approach was created to enable mothers to identify undernutrition in their children and seek early treatment. This is critical because many children with acute malnutrition arrive at health facilities in critical condition as a result of delayed diagnosis. Mothers can easily learn to screen their children for edema using the relatively simple MUAC tapes. Mothers can take measurements on a regular basis, identify early signs of undernutrition and seek treatment before serious malnutrition occurs. Family MUAC was piloted in four districts; Kavre, Paanchthar, Spatari and Jumla.

4.3.5 Issues and challenges:

Efforts have been made to improve the nutrition situation in the country. Stunting has reduced to 25% (NDHS 2022) compared to 36% in 2016 (NDHS 2016). Wasting remains stagnant and is still in medium category (8%) (Nutrition Landscape Information System Interpretation Guide 2nd edition 2019 WHO). The prevalence of anemia has declined in both 6-59 months' children (43% in NDHS 2022 from 53% in NDHS 2016) and women of reproductive age (34% in NDHS 2022 from 41% in NDHS 2016). But it is still higher than the acceptable threshold of public health problems (20% each).

The major challenges for nutrition specific programs are as follows:

- Nutrition and Food Security Steering Committees (NFSCC) at different levels, MoHP platforms/ committees and Health Facility Operations and Management Committees (HFOMC) have been established to discuss the nutrition agenda and its relation to other components of health systems that are not functioning effectively.
- Federal, Provincial and Local level governments need coordination, cooperation and collaboration to implement nutrition activities and other health related components. This has increased duplication of activities whereas there is a gap in effective implementation of nutrition activities.
- GMP, IMAM, MNP and Adolescent IFA are key nutrition specific interventions. The coverage, compliance and quality of service is found to be poor.
- PHC ORC and Health Mothers Group Meeting are community-based sites where nutrition and other health activities are carried out. These outlets are not functioning effectively. There are no family based nutrition specific interventions.
- The trend of early initiation and exclusive breast feeding is decreasing whereas the trends of bottle feeding is increasing.
- The number of OTC has been increased but the coverage is minimal. Active screening for early diagnosis is not prioritized. ITC/SC has not been implemented effectively.
- Limited allocation of financial resources, delay in disbursement and inefficient utilization.
- Deep-rooted misconceptions, taboos and harmful socio-cultural practices related to food and nutrition.
- Emerging issues of the triple burden of malnutrition (undernutrition, overweight/obesity, and micronutrient deficiencies)
- Recording and reporting of nutrition program indicators within HMIS is inconsistent, incomplete, untimely, and unreliable for data centric planning.
- Procurement and supply of nutrition commodities (RUTF, MNP, IFA) is not timely. The transportation and storage of nutrition commodities at local levels is not satisfactory.
- OTC needs to be extended. But there is a lack of a Stadiometer (Height Board) and weight machine.
- Lesson learned:

- Active screening of 6-59 months' children enhances the early detection of malnutrition and support in timely management of acute malnutrition.
- Integrating and coordinating with the Education sector for School Health and Nutrition is a key to address malnutri- tion in adolescents.
- Coverage, compliance and relevancy of Vitamin A supplementation programs need to be studied to continue the same approach to control Vitamin A deficiency.
- Every health facility needs to be equipped to manage all forms of malnutrition in Children and Pregnant women (even for life cycle approach) and to promote proper nutrition behaviors.
- Key Priorities for Next Fiscal Year (2079/080)
- Scaling up of comprehensive nutrition services at all levels ensuring equitable access and provision of nutrition
- services for all children, adolescents and women of reproductive age.
- Strengthen the approaches for the prevention and management of acute malnutrition.
- Advocacy to include RUTF, ReSoMal and Therapeutic Milk (F75, F100) into the national essential drug list.
- Promote, protect and support breast feeding practices through harmonization of legislative provisions and its effective implementation, including the approval and implementation of the BMS act, establishment of breastfeeding corners in workplaces and public spaces and advocacy for paid maternity leave during the exclusive breastfeeding period.
- Improve multi sector coordination and collaboration and incorporation of the private sector in the provision of
- nutrition services.
- In depth analysis into the program modalities and effectiveness of micronutrient interventions, including operational research on transitioning from IFA supplementation to Multiple Micronutrient Supplementation in pregnancy, and the adoption of efficient and sustainable approaches to improve dietary quality such as large-scale food fortification.
- Strengthen the capacity of institutions and human resources to deliver quality services and strengthen nutrition information management systems to ensure quality data generation through timely and correct recording and reporting along with the implementation of Routine Data Quality Assessment (RDQA) at all levels.
- Strengthen logistics management of nutrition commodities to ensure a well-functioning supply chain.
- Intensify Social Behavior Change Communication to promote recommended nutrition behaviors.
- Scaling up of nutrition friendly health facility concept to all health facilities.
- Strengthen and scale up the Mother and Baby Friendly Hospital Initiatives (MBFHI) to all applicable hospitals and health facilities.
- Strengthen the School Health and Nutrition Program.
- Improve maternal nutrition through effective counselling during ANC visits, micronutrient supplementation and follow up visits by FCHV through health mother's groups and home visits.
- Strengthen the nutrition in emergency preparedness, response and recovery mechanism.
- Integrate nutrition in universal health coverage.
- Promote the consumption of locally available nutrient dense foods.
- Implement Quality Improvement Guidelines for Nutrition Services to improve the quality of the nutrition program.
- Promote sustainable food system integration with infant and young child feeding, adolescent and maternal nutrition to make nutritious diets more accessible and affordable.
- Advocate for adequate budget allocation for the nutrition program at all levels along with budget analysis and tracking.

4.4 Safe Motherhood and Newborn Health

4.4.1 Background

The fundamental right of citizens to free basic health services from the State is enshrined in the constitution of Nepal, 2015 and Maternal and Newborn Health (MNH) has always been given high priority in Nepal. The Right to safe motherhood and reproductive health act 2018 and its regulation respect, preserve and commit to fulfilling the rights of women to safe motherhood and reproductive health services and to ensure their safety, quality, and accessibility. Further over, Public Health Service Act 2018 and its regulation 2020 has considered safe motherhood and newborn health service as basic health services. Nepal is a signatory to the Sustainable Development Goal and has committed to one of the important targets to reduce the Maternal Mortality Ratio to less than 70 per 100,000 live births and reduce the Newborn Mortality Rate to less than 12 per 1000 live births by 2030. In this regard, Nepal has developed different policies, strategies, and guidelines to ensure that quality services are accessible, affordable, and available to all people especially targeting the unreached population.

In 1998, the Government's Safe Motherhood Policy adopted two key strategies to improve maternal health: ensur- ing that selected health facilities have emergency obstetric care services that are available 24 hours a day and the presence of health personnel with midwifery skills who can competently provide safe and effective delivery care. In 2001, only nine percent of Nepali women gave birth in a health institution and two in three women considered get- ting money for treatment to be a deterrent in accessing health care. There were huge differences in access to health facilities across Nepal's geographic terrain with only 41 percent of rural households living within 30 minutes of travel time from a health institution, compared to 89 percent of urban households, and differences in wealth, with only 29 percent of the poorest quintile living within 30 minutes of a health institution compared to 57 percent of the rich. Given this situation, encouraging women to give birth at a health institution was considered by the Nepal Government an important part of the strategy to improve maternal health.

The Family Welfare division (FWD) developed the Safe Motherhood and New-born Health (SMNH) Roadmap (SMNH), 2030 which aims to ensure a healthy life for and the well-being of, all mothers and newborns. Nepal's SMNH Road Map 2030 is developed with a focus on ending preventable maternal and newborn deaths, by building on the successes of the SMNH Programme and addressing the remaining challenges, especially around strengthening community health system platforms and improving institutional quality of care in an equitable manner. The roadmap has visualized the outcomes mentioned below to achieve the goals of the roadmap:

1. Increased the availability of high-quality maternal and newborn health services leaving no one behind.
2. Increased the demand for and utilization of equitable maternal, and newborn health services.
3. Improved governance and ensured accountability of maternal, and newborn health services.
4. Improved monitoring and evaluation of maternal, and newborn health services.
5. Strengthened emergency preparedness of maternal, and newborn health services.

4.4.2 Major activities in 2078/79

4.4.2.1 SMNH Roadmap 2030, ANC to PNC continuum of care and PNC program

Promoting to translate strategic direction to implementation, Family Welfare Division (FWD) had planned and allocated a budget across the Seven Provinces (in health directorate and health offices), and 753 local levels for SMNH roadmap 2030 orientation and action plan development aligning with ANC to PNC continuum of care, PNC home visit and SAS guideline orientation in cascading approach in FY 2078/79. FWD supported provinces to develop and finalize the orientation material (PPTs and schedule) and facilitated the orientation process to province focal persons and health managers from health directorates and health offices. Province-level long and short-term action plans were developed for prioritizing and inclusion into the AWPB for implementation. All 77 health offices provided orientation to 753 municipalities to make them aware of the strategic guides for SMNH service improvement through local-level planning and implementation.

4.4.2.2 Community level maternal and newborn health interventions

Revised pictorial card (BPP) attached to MNH card: The Government of Nepal continued focus on MNH activities at community level. The pictorial card (revised BBP card) had attached to the MNH card (HMIS) to ensure the availability and use of the BPP message to all pregnant women by getting the card during antenatal check-up. The combined BPP with MNH card was approved by MoHP in FY 2076/77. FWD provided the combined card to interested provinces for printing in FY 2077/78. In FY 2078/79, the approved combined MNH card had been printed (about 10,000 copies) by FWD with the support from NHSSP to local levels and distributed to the focused municipalities in Madhesh, Lumbini and Sudurpaschim province (38 local levels). Printed copies were also distributed to the province health directorates as a sample for printing. FWD also revised the BPP messages as per revised MNH card of HMIS in FY 2078/79 especially for ANC and PNC timing of check-up/visits.

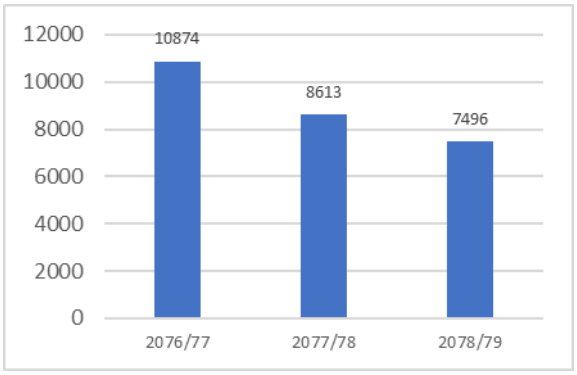


Figure 4.4.1 Number of women who have taken Misoprostol Tablets after home delivery

Matri Suraksha Chakki (MSC): Government of Nepal endorsed PPH prevention education and distribution of Matri Suraksha Chakki(Misoprostol) in 2066/67 and implemented through training to FCHVs for distribution of the Matri Suraksha Chakki 600 mcg (Misoprostol 200 mcg tablets) through FCHVs to prevent PPH during home deliveries. MSC tablet handed over to pregnant women by FCHV at 8th month of pregnancy and are advised to be taken orally immediately after the delivery of the baby and before the expulsion of placenta. This programme has been expanded gradually. In FY 2078/79, total 501 local levels from 56 districts received programme review and implementation budget from federal government. The number of women who have taken Misoprostol Tablets after home delivery has gradually decreased over the last three years.

4.4.2.3 SBA clinical mentors' refresher

FWD continued budget allocation to all provinces for the clinical mentor refresher program from FY 2077/78. The Virtual refresher was conducted in FY 2077/78 due to the inability to deliver in-person capacity building due to COVID 19 Pandemic. FWD provided support to the province for facilitating clinical mentoring review and refresher programs in 2078/79 in five provinces. About 106 clinical mentors and programme focal person of health offices (PHN) from were involved and received clinical mentor refresher orientation.

4.4.2.4 Rural Obstetric Ultrasound Programme

The Rural Ultrasound Programme aims for the timely identification of pregnant women with risks of obstetric complications to refer to comprehensive emergency obstetric and neonatal care (CEONC) centres. Trained nurses (SBA) scan clients at rural PHCCs and health posts using portable ultrasound machines. Women with detected abnormalities of the fetus are referred to a CEONC site for the needed services. This programme is mainly being implemented in the remote districts. In FY 2078/79, FWD allocated a program implementation budget in 365 local levels of 44 districts. In addition to this, Provincial governments have also expanded the program and allocated budgets for training HR and implementing the program.

4.4.2.5 Human resources

In FY 2078/79, a significant share of FWD's budget was allocated for recruiting human resources (Staff nurses for hospi- tals and ANMs for PHCC and health posts for birthing centers) on short term contracts to ensure 24-hour MNH services. Out of 753 Palikas, 716 received a budget (481,892,000 NPR) for recruiting ANM staff, and a total of 37 hospitals received a budget (21,356,000 NPR) for recruiting Staff Nurses.

In addition of this, FWD also provided CEONC funds (89,500,000 NPR) to 63 hospitals/CEONC sites to recruit the human resource needed to provide surgical management for obstetric complications at district hospitals (CEONC sites) and a budget (12,000,000 NPR) to nine overcrowding hospitals for recruiting Gynaecologist, Paediatrician, Anaesthesiologist and Anesthesia Assistant.

FWD has been coordinating with the National Health Training Centre (NHTC) and the National Academy for Medical Sciences (NAMS) for the pre-service and in-service training of health workers. NHTC provides training on SBA, ASBA, Anaesthesia assistant, operating theatre management, family planning (including implants and IUCD), CAC, and antenatal ultrasonography. In FY 2078/79, a total of 1,208 SBA and 10 ASBA were trained by NHTC. Till the end of FY 2078/79, a total of 11,596 SBA and 288 ASBA have been trained in the country. The proper placement of trained staff such as ASBAs and anaesthesia assistants (AAs) has been a continuous challenge. FWD continues to monitor the deployment of doctors (MDGP, OBGYN, ASBA) and AAs, and inform DOHS and MOHP as necessary for appropriate transfer. This has contributed to improved functionality of CEONC services.

4.4.2.6 Expansion and quality improvement of service delivery sites

FWD continued to expand 24/7 service delivery sites like birthing centres, BEONC, and CEONC sites at PHCCs, health posts, and hospitals. The expansion of service sites is possible mostly due to the provision of funds to contract short-term staff locally. By the end of 2078/79, CEONC services were established in 73 districts including the establishment of a new CEONC site in Nawalparasi East district of Gandaki Province. Furthermore, during the fiscal year, four primary hospitals (Mirchiya, Pokhariya, Melamchi & Rampur hospitals) initiated the CEONC services. Expansion of delivery services continues through the initiation of local government. Total of 2275 health posts and 175 PHCCs reported (HMIS) to have provided at least a case of delivery services in 2078/79.

4.4.2.7 Onsite clinical coaching and mentoring

Based on the strategic objectives of NHSS (2015-22) and NHS-SP (2022-30) focusing on improving quality services at the point of service delivery, Ministry of Health and Population has given high priority to improving quality of care through implementing onsite clinical coaching and mentoring program to enhancing knowledge and skills of service providers. FWD started to implement an on-site clinical coaching /mentoring program in 2073/2074 from 16 districts to enhance the knowledge and skill of SBA and non-SBA nursing staff providing delivery services at BC/BEONC and CEONC service sites. This program has been scaled up gradually and covered nationwide (753 local levels) in FY 2077/78 and it was continued in FY 2078/79. Till the end of FY 2078/2079 total of 331 SBA clinical mentors were trained from 77 districts (20 in FY 2073/074, 80 in 2074/075, 18 in 2075/076, 92 in 2076/077, 50 in 2077/078, and 71 in 2078/79). They are the key skilled persons who visit BC/BEONC sites and CEONC sites conduct onsite coaching/mentoring along with MNH readiness quality improvement self-assessment process to enhance the capacity of delivery service providers, HF staff and HFOMC members to make MNH service readiness. A set of models are used for model-based practice during clinical coaching. FWD and supporting partners provided these models (Skill Lab Material) to SBA clinical mentors in all districts. By end of FY 2078/79, 7411 MNH service providers received on-site clinical mentoring from SBA clinical mentors over the six years of program implementation (194 in FY 73/74,553 in 2074/75, 1008 in 2075/76, 1366 in 2076/77, 1785 in 2077/78, and 2505 in 2078/79) from total 1470 (56 in 2073/74, 157 in 2074/75, 312 in 2075/76, 200 in 2076/77, 329 in 2077/78, and 416 in 2078/79) health facilities (BC/BEONC, CEONC sites).

FWD developed the reporting system using Open Data Kit (ODK) mobile application and included the session in the mentor training to train clinical mentors. Clinical mentors have been reporting the program based on guidelines and tools about mentoring and MNH Quality Improvement (QI) self-assessment score achieved by service providers and health facilities through their mobile App from FY 2076/77.

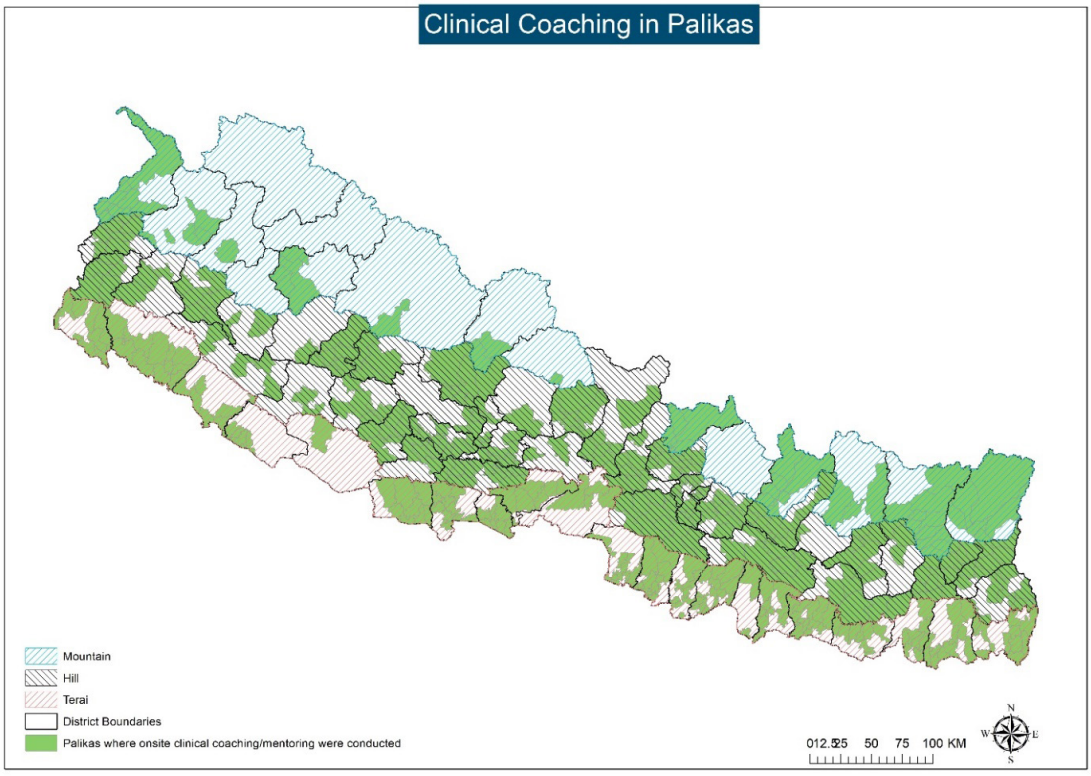


Figure 4.4.2 Coverage of clinical coaching and mentoring including MNH QI programme over the last three years (ODK reporting from 2076/77 to 2078/79).

4.4.2.8 MNH readiness Hospital and BC/BEONC Quality Improvement

Improvement in quality-of-service delivery through self-assessment, infection prevention demonstration, and action plan implementation are evidence-based effective programs as per outcome found in piloting districts, Taplejung and Hetauda hospital in FY 2070/2071. This Quality Improvement Process (QIP) using self-assessment tools and action plan implementation was initiated in the health system through AWPB from FY 2072/73 in the hospitals and PHCCs where CEONC services were available. MNH readiness hospital quality improvement process (HQIP) expanded gradually. Till the end of FY 2078/79 the HQIP/QIP programme expanded in 65 hospitals under the provincial adminstration. In addition to this QIP programme also expanded to PHCC with CEONC services in 77 districts. The cumulative number of CEONC sites with HQIP service expansion is seven in 2072/73, 13 in 2073/74, 38 in 2074/075, 62 in 2075/076, and 65 hospitals in each year from 2076/077 to 2078/79. Since FY 2076/77, HQIP process was integrated into onsite coaching and mentoring process at hospitals. The process of quality improvement is also being implemented in birthing centres in integration with SBA onsite clinical coaching/mentoring process. Till FY 2078/079, total QI reported BC/BEONC sites were 1195 (44 in FY 2073/74, 122 in FY 2074/75 and 267 in FY 2075/76, 139 in 2076/77, 252 in 2077/78, and 371 in 2078/79).

4.4.2.9 Emergency referral funds

Around 15% of pregnant women will develop potentially life-threatening complications that need skilled health care (WHO). Women need an immediate referral from BC/BEONC to nearby hospitals where CEONC services are available. To address this issue, FWD allocated emergency referral funds only to 6 remote hospitals of 6 districts (Taplejung, Panchthar, Sankhuwasabha, Ilam, Kailali and Bajura) in FY 2078/79 with more focus given to the local levels where BC/BEOBC are providing delivery services. Total of 60,000 Rupees in each local level was allocated for referral in FY 2078/79. The main objective of this program is to support emergency transport to women specially to disadvantaged populations (poor, Dalit, Janajati, and socially marginalized groups) who need emergency complication management and caesarean sections services. For the effective implementation of referral services and use of referral conditional budget at local level is crucial. The understanding of service providers about effective referral process (referral criteria, effective two-way communication between referring and referral receiving facilities before and after referral, transport management, quality Emergency Obstetric Complications (EOC) service readiness and Obstetric First Aid (OFA) management and as well as reporting system) is important. To address this important aspect of referral system strengthening, FWD supported Lumbini province to facilitate the workshops for local levels planning on referral system strengthening as an example in Arghakhachi. They could develop their contextual EOC referral guideline, endorsed, and initiated free referral implementation effectively with the commitment of allocating extra budget as per need in addition to federal conditional grants in FY 2078/79. This experience shows, budget allocation without facilitation about the effective referral process and its importance would not be fully understood by program focal person and managers for effective implementation reaching underserved women who need referral. The referral monitoring system (cause wise referral out) had been updated in HMIS in FY 2078/79.

The airlifting support for immediate transfer to higher centres is no longer implemented by the FWD as the emergency Airlifting program is now implemented by Presidential Women Uplifting Programme in the Ministry of Women, Children and Senior Citizens.

4.4.2.10 Vitamin K1 to newborn babies

In FY 2077/78, after the decision of the Ministry of Health and Population to introduce Vit K1 injection to newborn babies for preventing Vitamin K Deficiency Bleeding (VKDB), for the first time, Family Welfare Division allocated a budget to purchase injection Vitamin K1 for distributing in all BC/BEONC and CEONC sites. Injection Vitamin K1 needs to be given to newborn IM after breastfeeding within 1 hour of delivery.

4.4.2.11 Aama Surakshya Program and Free Newborn Programme

The government has introduced demand-side interventions to encourage women to institutional delivery. The Maternity Incentive Scheme, 2005 provided transport incentives to women to deliver in health facilities. In 2006, user fees were removed from all types of delivery care in 25 low HDI districts and expanded nationwide under the Aama Surakshya Programme in 2009. In 2012, the separate 4 ANC incentives programme was merged with the Aama Surakshya Programme.

4.4.3 Achievements

- Robson classification implementation Guideline 2078 endorsed to assess the cesarean section and introduced in CEONC hospitals.
- Expansion and strengthening of the CEONC program at 73 districts.
- MPDSR program has been expanded to 32 districts in FY 2078/79.

4.4.4 Antenatal care

In FY 2076/77, 433576 women utilised the ANC 1st visit service, while the number increased to 441,802 in FY 2077/78 and further increased to 479,981 in FY 2078/79. The provincial distribution of the number of women going for their first ANC visit was increased in Koshi, Madhesh and Bagmati Provinces, while remaining stagnant in Gandaki, Lumbini, Karnali, and Sudurpaschhim Provinces. However, there has been a growing trend in the number of women receiving 4 ANC visits over the last three years, with 416,965 women receiving 4 visits in FY 2078/79 compared to 336,505 in 2076/77. A significant increase in 4 ANC visits was observed in the Bagmati Province. The disparity between the proportion of women attending their first ANC visit and those attending all four visits highlights the importance of effective counseling and addressing barriers to accessing services during the antenatal period.

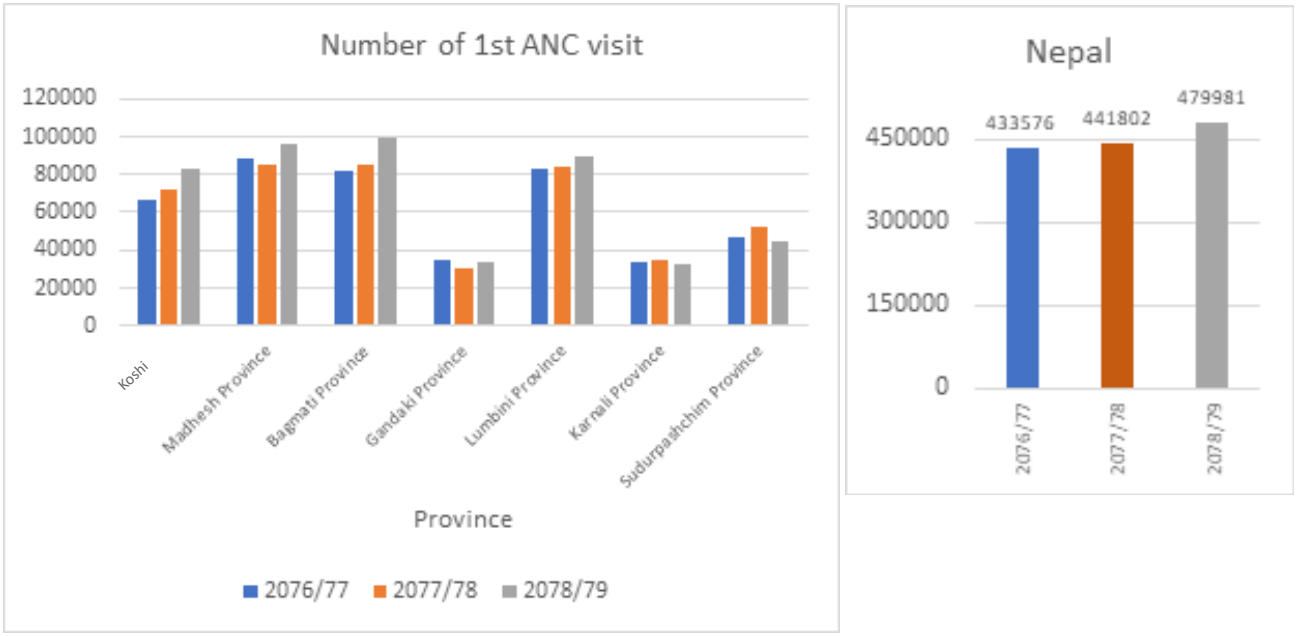


Figure 4.4.3 Province wise trend of 1st ANC visit (number) in three FYs (2076/77 - 2078/79)

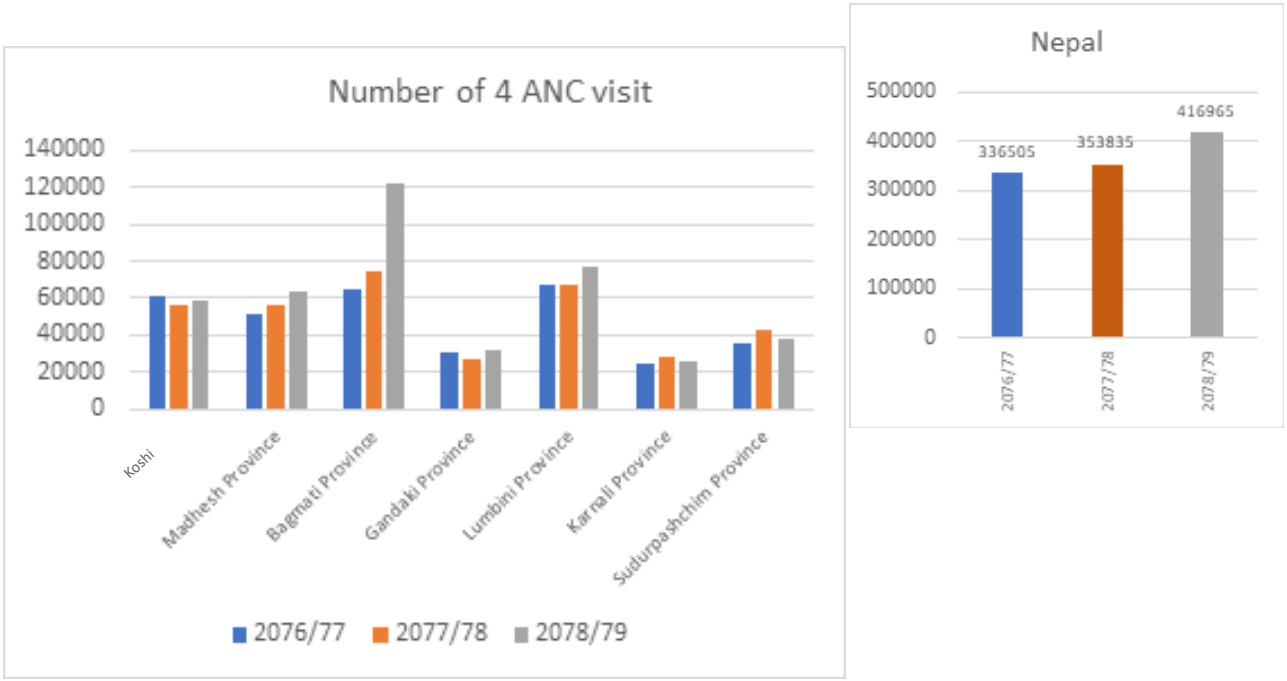


Figure 4.4.4 Province wise trend of Four ANC visit (number) in three FYs (2076/77 - 2078/79)

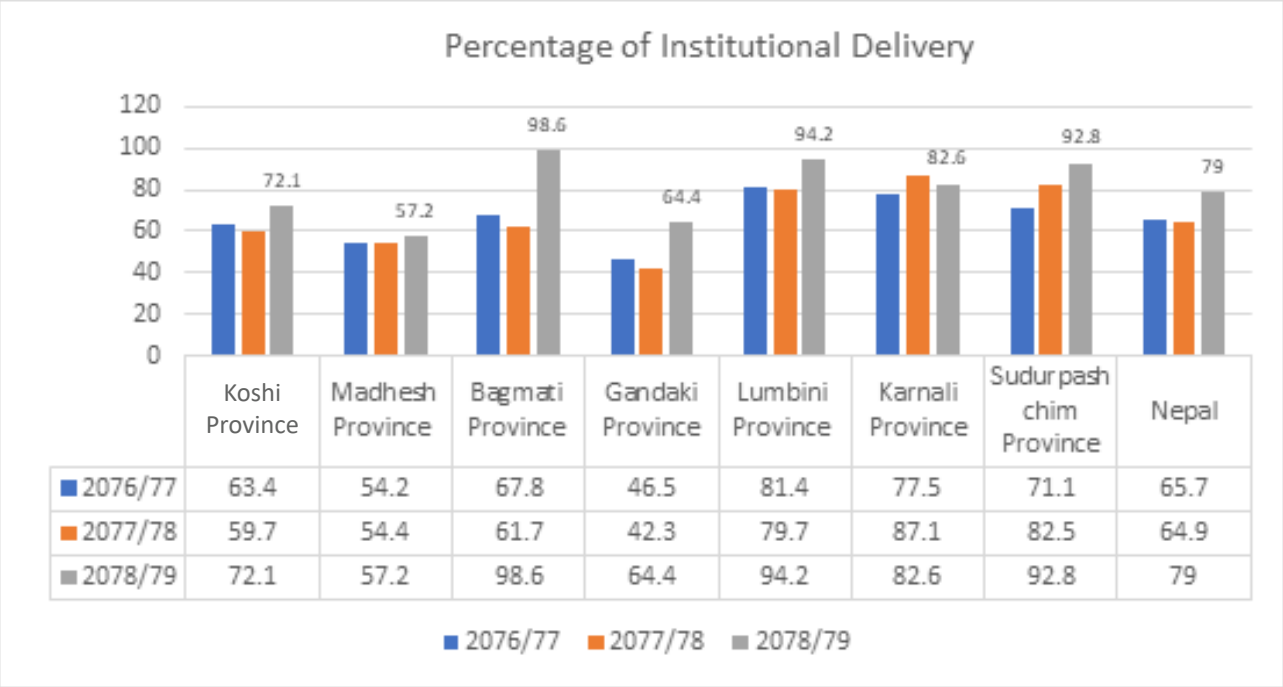
4.4.5 Delivery care

Delivery care services include:

- Skilled birth attendance at facility-based deliveries
- Early detection of complicated cases and management or referral (after providing obstetric first aid) to an appropriate health facility where 24 hours' emergency obstetric services are available; and
- Registration of births and maternal and neonatal deaths.

Although women are encouraged to deliver at a facility, home delivery using clean delivery kits with provision of miso- prostol to prevent post-partum haemorrhage and early identification of danger signs and complications, are import- ant components of delivery care in settings where institutional delivery services are not available or not used by the women.

4.4.5.1 Institutional Delivery



	Koshi Province	Madhesh Province	Bagmati Province	Gandaki Province	Lumbini Province	Karnali Province	Sudurpashchim Province	Nepal
2076/77	63.4	54.2	67.8	46.5	81.4	77.5	71.1	65.7
2077/78	59.7	54.4	61.7	42.3	79.7	87.1	82.5	64.9
2078/79	72.1	57.2	98.6	64.4	94.2	82.6	92.8	79

Figure 4.4.5 Province wise trend of institutional delivery in three FYs (2076/77 - 2078/79)

The percentage of women delivering at health facilities was increased to 79% in 2078/79 from 65.7% in FY 2076/77. The highest proportion of institutional delivery was observed in Bagmati (98.6%) and Lumbini (94.2%) provinces in FY 2078/79. The institutional delivery of Koshi, Madhesh, Gandaki was lower than the national average in 2078/79.

Figure 4.4.6 highlights the equity gaps in institutional deliveries amongst the highest and lowest-performing provinces in the past 3 years. There is a wide variation in percentage of women delivering at the health facilities amongst the highest and lowest performing provinces in the last 3 years resulting in an equity gap of 41% in FY 2078/79 (57.2% in Madhesh province compared to 98.6% in Bagmati Province).

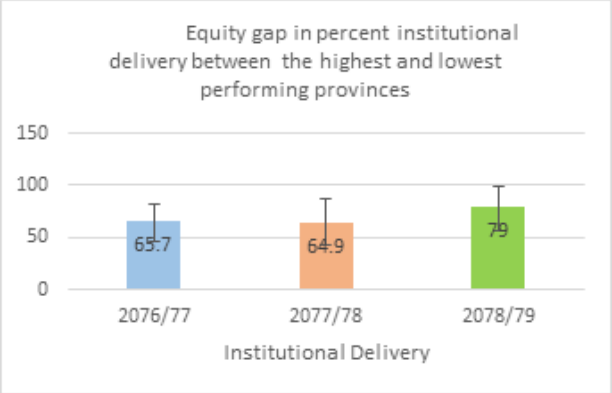
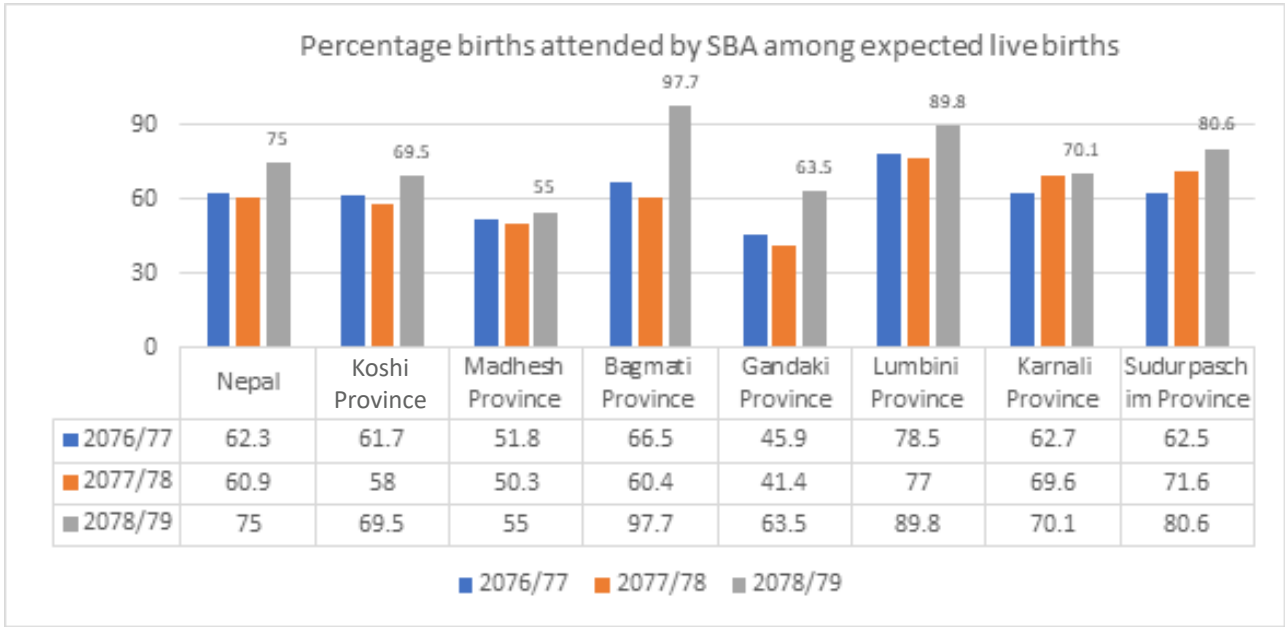


Figure 4.4.6 Equity gap in institutional delivery

4.4.5.2 Delivery attended by Skilled Birth Attendants (SBA)

There was an increase in the number of women delivered by Skilled Birth Attendant in all the provinces and at the national level from 62.3% in FY 2076/77 to 75% in FY 2078/79. SBA delivery has significantly increased in both Lumbini and Bagmati provinces, going from 78.5% in FY 2076/77 to 90% in FY 2078/79 and from 66.5% to 97% in FY 2076/77, respectively.



	Nepal	Koshi Province	Madhesh Province	Bagmati Province	Gandaki Province	Lumbini Province	Karnali Province	Sudurpaschim Province
2076/77	62.3	61.7	51.8	66.5	45.9	78.5	62.7	62.5
2077/78	60.9	58	50.3	60.4	41.4	77	69.6	71.6
2078/79	75	69.5	55	97.7	63.5	89.8	70.1	80.6

Figure 4.4.7 Province wise trend of SBA delivery in three FYs (2076/77 - 2078/79)

4.4.5.3 Emergency obstetric care:

Basic emergency obstetric and newborn care (BEONC) covers the management of pregnancy complications by assisted vaginal delivery (vacuum or forceps), the manual removal of placenta, the removal of retained products of the abortion (manual vacuum aspiration), and the administration of parenteral drugs (for postpartum haemorrhage, infection and pre-eclampsia, and eclampsia) and the resuscitation of newborns and referrals. Comprehensive emergency obstetric and newborn care (CEONC) includes surgery (cesarean section), anesthesia, and blood transfusions along with BEONC functions.

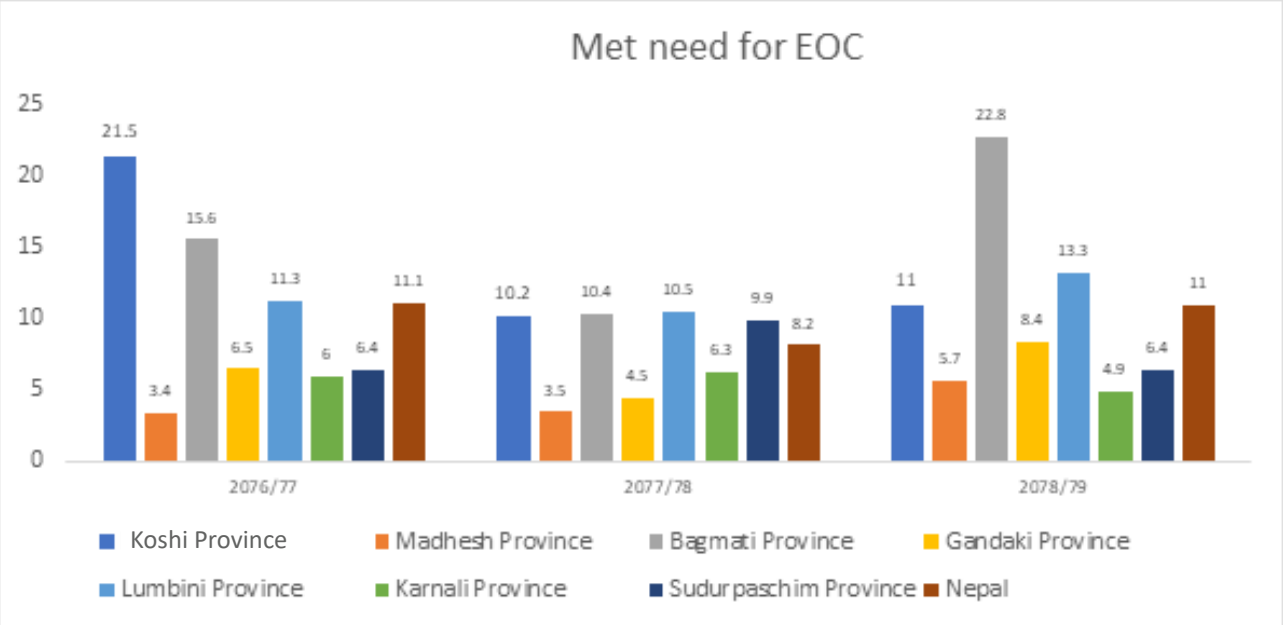


Figure 4.4.8 Province wise trend of EOC Met need in three FYs (2076/77 - 2078/79)

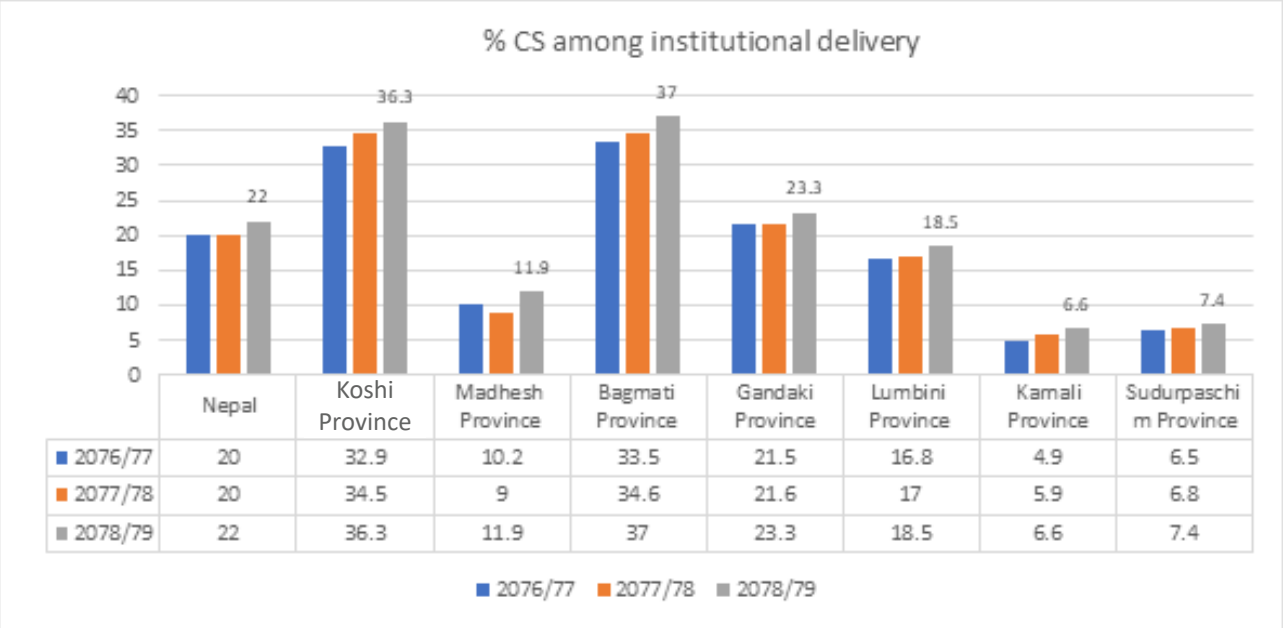
Table 4.4.1. Number of women treated for obstetric complications (2078/79):

Pregnancy Related complications	Koshi Province	Madhesh Province	Bagmati Province	Gandaki Province	Lumbini Province	Karnali Province	Sudurpashchim Province	Nepal
Eclampsia	215	243	170	60	282	39	57	**1066**
Pre-eclampsia	162	939	609	79	328	25	78	**2220**
Puerperal Sepsis	114	355	93	15	55	34	67	**733**
Haemorrhage	984	1123	1917	354	1573	337	562	**6850**
Obstructed labor	637	1707	567	295	2229	329	310	**6074**
Retained Placenta	508	512	476	154	621	594	315	**3180**
Ruptured uterus	37	60	29	14	43	23	25	**231**
Prolonged labour	721	1534	799	307	1329	520	384	**5594**

Met need for Emergency Obstetric Care is a very important indicator of quality of care received by women. The national average for EOC met needs is at 11% in the FY 2078/79 which is a slight increase from 8.2% of the previous fiscal year.

4.4.5.4 CS rate among institutional deliveries:

Cesarean section (C-section) is one of the key obstetric interventions that can save the lives of mothers and babies. Having said that, WHO has emphasized that C-sections are only beneficial when they are undertaken if medically neces- sary. C-section rates higher than 15% have not been justified from a medical standpoint and have been associated with significant and sometimes permanent complications, disability, or death. FWD has developed the Robson Ten Group Classification System (TGCS) implementation guideline and introduced it into 33 hospitals to monitor CS rates at health facilities using Robson criteria and has plans to scale the classification system for monitoring facility-based CS rates.



	Nepal	Koshi Province	Madhesh Province	Bagmati Province	Gandaki Province	Lumbini Province	Kamali Province	Sudurpaschim Province
2076/77	20	32.9	10.2	33.5	21.5	16.8	4.9	6.5
2077/78	20	34.5	9	34.6	21.6	17	5.9	6.8
2078/79	22	36.3	11.9	37	23.3	18.5	6.6	7.4

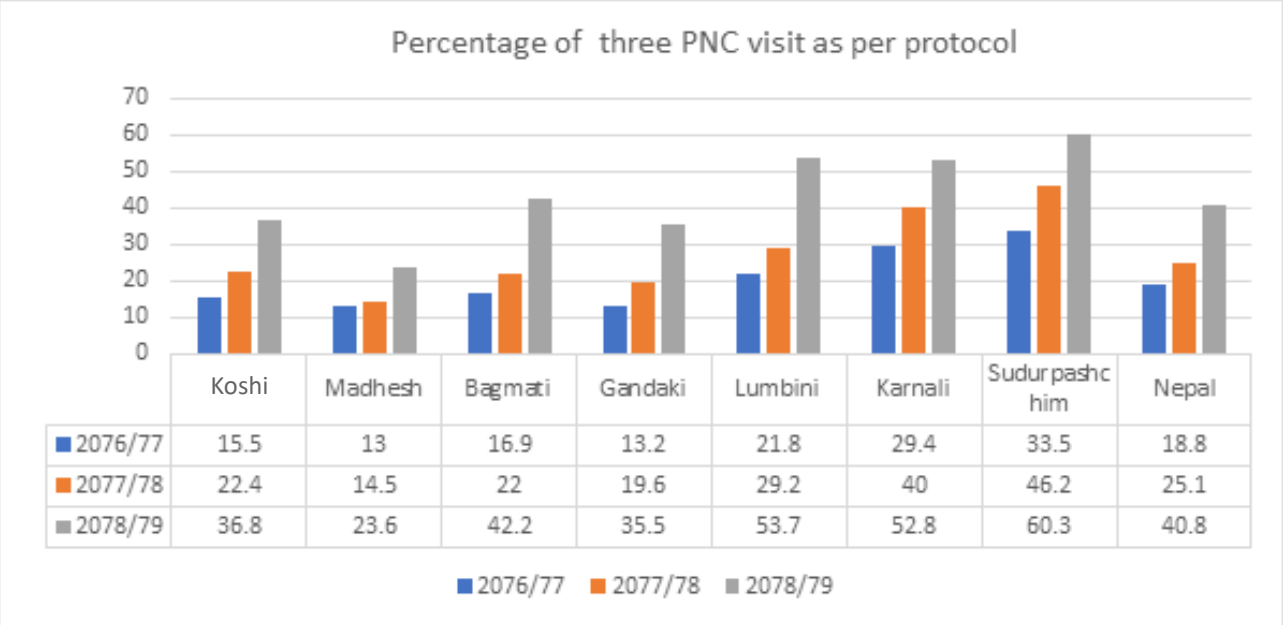
Figure 4.4.9 Province wise trend of C/S delivery in three FYs (2076/77 - 2078/79)

A slow rise in the rate of CS is witnessed in the past 3 years with the national average increasing from 20% in FY 2076/77 to 22% in FY 2078/79. Koshi and Bagmati province were the provinces with consistently high rates of CS (above 30%). Despite an increasing rate of institutional delivery, the CS rate in Karnali province is relatively at a lower range.

4.4.6 Postnatal care

Postnatal care services include beyond the recommended times of postnatal check-ups (1st, 2nd, 3rd, 4th). The guidelines encouraged all women for institutional delivery and stay in the health facility at least for 24 hours after delivery under the supervision and care of the health workers, as the first 24 hours of delivery is the crucial period for both mother and newborn. The postnatal care/ visit covers the following:

- Four postnatal check-ups, the first within 24 hours of delivery, the second on the third day, third on the seventh to fourteenth, and fourth on the 42 days after delivery.
- The identification and management of complications of mothers and Newborns, care immediately of health facilities and referrals to appropriate health facilities from the community.
- Breastfeeding as soon or within one hour of delivery and promotion of exclusive breastfeeding.
- Personal hygiene and nutrition education, and postnatal vitamin A and iron supplementation for mothers.
- Immunization of newborns.
- Postnatal family planning counselling and services.



	Koshi	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpashchim	Nepal
2076/77	15.5	13	16.9	13.2	21.8	29.4	33.5	18.8
2077/78	22.4	14.5	22	19.6	29.2	40	46.2	25.1
2078/79	36.8	23.6	42.2	35.5	53.7	52.8	60.3	40.8

Figure 4.4.10 Province wise trend of three PNC visits in three FYs (2076/77 - 2078/79)

The proportion of mothers attending three PNC visits as per the protocol increased from 19 percent in FY 2076/77 to 40.8 percent in FY 2078/79. The service utilization was found to be consistently highest in Sudurpaschim province throughout the past 3 years with almost two-third (60%) of the women receiving 3 PNCs as per protocol in 2078/79. The number of women attending three PNC has consistently been lower compared to other safe motherhood indicators and presents a significant challenge for the continuum of care. Socio-cultural and geographical factors could be the reasons for the low coverage while the perceived low importance of care during the postpartum period could also play a significant role.

4.4.6.1 PNC home visit (micro-planning for PNC)

Postnatal is a crucial period for mothers and newborns as many maternal and newborn deaths happen in this period. There is a need for quality PNC services. However, access to and utilization of postnatal care services is a major challenge due to various barriers (cultural, socio-economical, geographical), postnatal women are not accessing PNC services at HFs unless they have serious complications. To address this issue, FWD initiated the PNC home visit program in FY 2074/75 through allocating an annual budget to 30 municipalities from 15 districts and it has been expanding gradually. Till FY 2078/79, It has been expanded to 738 municipalities. The cumulative program expanded municipals were 30 in FY 2074/75, 51 in FY 2075/76, 229 in FY 2076/77, 396 in FY 2077/78, and 738 in FY 2078/79 from 76 districts to strengthen PNC services by mobilizing MNH service providers from health facilities to provide PNC at women's home. Out of 738 budgets allocated local levels, 636 (86%) local level implemented the program and 23 local levels were only able to provide orientation to the health workers till the end of FY 2078/79. According to the latest PNC home visit implementation guideline, the 1st PNC check-up should be done in 24 hours after delivery at a health facility (before discharge) for institutional birth and as soon as possible but within 48 hours of delivery at home for home birth. The 2nd check-up should be on the 3rd day (48 to 72 hours), the 3rd and 4th check-up during 7 to 14 days, and 42 days after delivery respectively. Home visit does not cover for 4th time check-up. Postnatal women and their babies were requested to come to health facilities on 42 days of delivery. The revised HMIS system included monitoring indicators for PNC home visits and 4 PNC visits as per protocol in FY 2078/79. According to the above data, the percentage of PNC three visits as per protocol is 40.8% of expected live births in FY 2078/79 which is a 63.2-point percent increase from FY 2077/78 (25%).

4.4.7 Utilisation of Services along the Continuum of Care

Figure below shows the utilization of services along the continuum of care and the differences in the service utilization be- tween the provinces. Major gaps in utilization exist along the continuum of care with a decreasing trend of service utilization from ANC visits to institutional delivery to PNC visits.

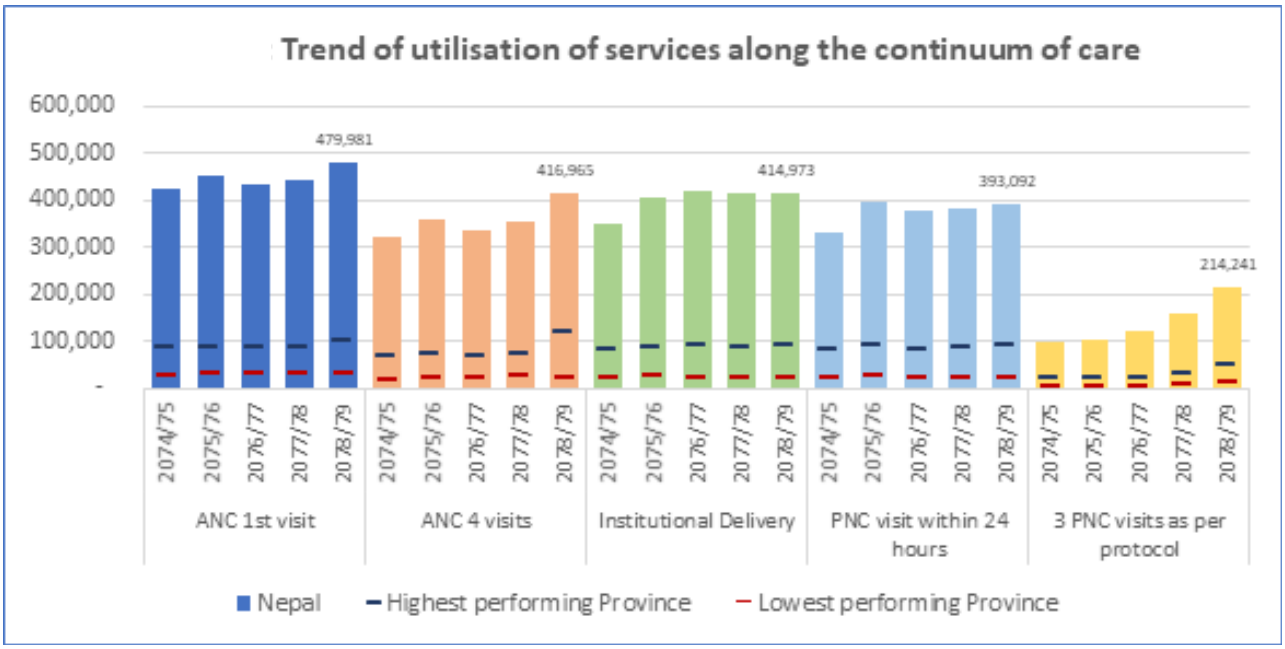


Figure 4.4.11 Trend of service utilization along with the continuum of care

Table 4.4.2: Utilisation of Services along the Continuum of Care

Province	ANC 1 visit					ANC 4 visits				
	2074/75	2075/76	2076/77	2077/78	2078/79	2074/75	2075/76	2076/77	2077/78	2078/79
Koshi	73997	68566	66143	71702	83187	51042	66587	61046	56339	58762
Madhesh	69677	84428	87943	84809	96154	44012	53312	51318	56085	63833
Bagmati	76258	88341	81802	85098	99673	65729	67425	64890	75176	121988
Gandaki	39960	40937	34386	30033	33880	35345	38766	31222	27259	31593
Lumbini	88000	89272	82729	83527	89834	68355	71873	67243	67427	76604
Karnali	29339	32434	33897	34646	32658	21000	23590	24999	28917	26341
Sudurpashchim	45631	46137	46676	51987	44595	35160	36934	35787	42632	37844
Nepal	422862	450115	433576	441802	479981	320643	358487	336505	353835	416965

Province	Institutional Delivery					PNC visit within 24 hours				
	2074/75	2075/76	2076/77	2077/78	2078/79	2074/75	2075/76	2076/77	2077/78	2078/79
Koshi	57411	67268	68332	64059	61624	53275	64169	65130	61572	59207
Madhesh	44289	68423	69601	69883	74598	43608	57752	53295	55585	58764
Bagmati	65265	81658	89892	81804	86266	57535	92800	75158	71796	81966
Gandaki	27636	27692	26643	23953	24747	26963	26961	26453	24653	25376
Lumbini	84007	87719	90572	88499	90525	80464	81765	84839	85522	90211
Karnali	25739	27934	29520	33160	30007	24915	27730	29353	31589	30073
Sudurpash-chim	44322	45293	45378	52634	47206	43688	44742	44769	52125	47495
Nepal	348669	405987	419938	413992	414973	330448	395919	378997	382842	393092

Province	PNC visits as per protocol				
	2074/75	2075/76	2076/77	2077/78	2078/79
Koshi	12935	9400	16740	24014	31455
Madhesh	17746	19505	16744	18633	30811

Bagmati	12910	17904	22449	29139	36903
Gandaki	7654	7568	7553	11126	13633
Lumbini	24212	21487	24218	32392	51614
Karnali	7353	9198	11182	15214	19178
Sudurpashchim	16775	20030	21343	29518	30647
Nepal	99585	105092	120229	160036	214241

4.4.8 Quality of Care:

Figure and the table below depicts the quality-of-care women received along the continuum of care reflecting the gap in the quality of care being provided between the highest and the lowest- performing provinces. Major gaps in quality of care exist along the continuum of care with only about three fourth (79.2%) of the women receiving 4 ANCs as per protocol and only around two-fifth (40.8%) of women receiving 3 PNC as per protocol in 2078/79. However, there is a significant improvement in both these indicators in relation to the previous FY. Considerable interprovincial gaps are also noticed in the quality of care with around a 32% difference in the proportion of women receiving 180 days' supply of IFA during pregnancy with 80.2% of women receiving it in Gandaki province while only 47.8% of the women received 180 days' supply of IFA during pregnancy in Koshi in the year 2078/79.

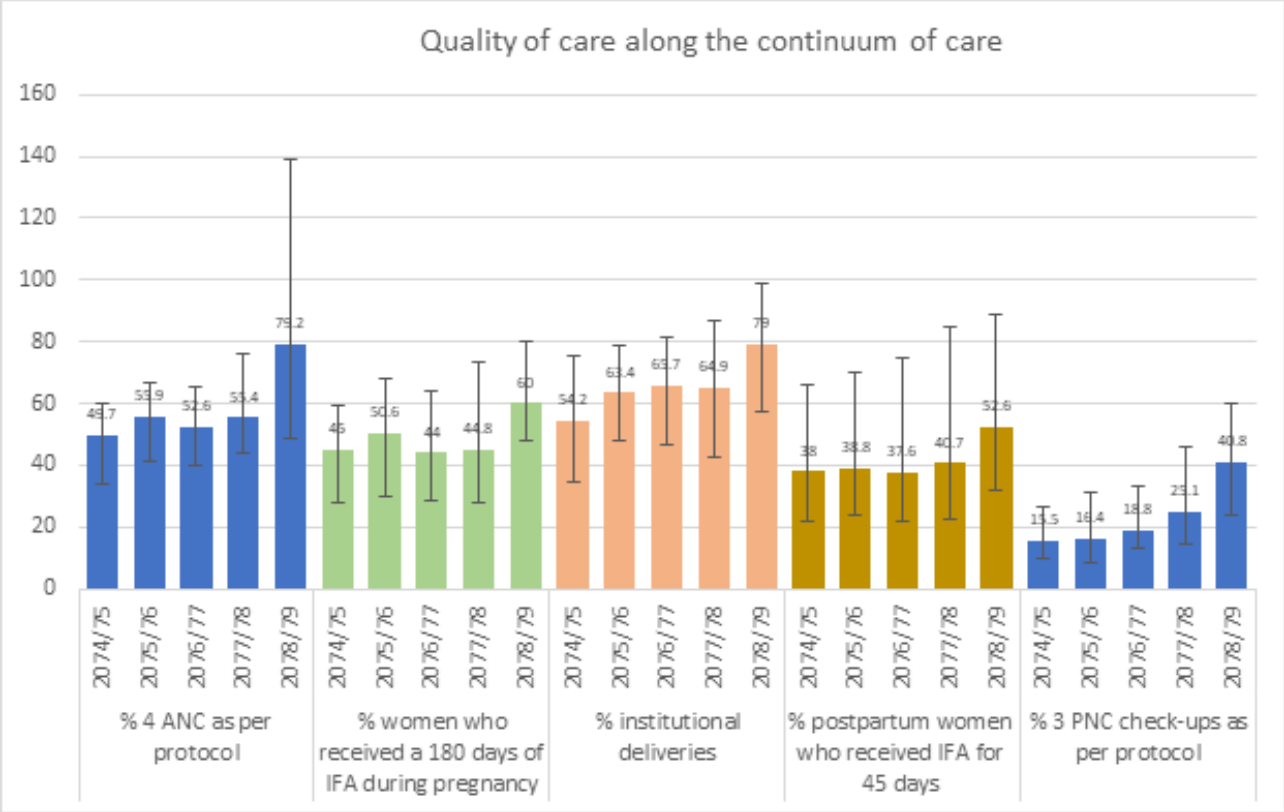


Figure 4.4.12 Quality of care along the continuum of care

Table 4.4.3: Quality of care along the continuum of care

Province	% 4 ANC as per protocol					% women who received a 180 days of IFA during pregnancy				
	2074/75	**2075/76**	**2076/77**	**2077/78**	**2078/79**	**2074/75**	**2075/76**	**2076/77**	**2077/78**	**2078/79**
Koshi	46.6	61.4	56.6	52.5	**68.5**	37.3	38.9	33.3	35.4	**47.8**
Madhesh	34.1	41.5	40	43.7	**48.8**	45.8	56.5	45.7	43.7	**48.1**
Bagmati	49.3	50.8	48.9	56.7	**139.1**	28.1	29.7	28.7	27.6	**49.8**

Gandaki	60.1	66.9	54.5	48.1	**82**	57.8	62.2	46.7	44.5	**80.2**
Lumbini	61	64.5	60.5	60.7	**79.5**	56.7	60.7	52.5	54.9	**75.8**
Karnali	54.8	61.8	65.6	76	**72.3**	59.3	61	58.4	73.7	**72.5**
Sudurpash-chim	54.9	57.9	56.1	66.8	**74.2**	51.2	68.2	64.3	63.8	**74.1**
Nepal	49.7	55.9	52.6	55.4	**79.2**	45	50.6	44	44.8	**60**

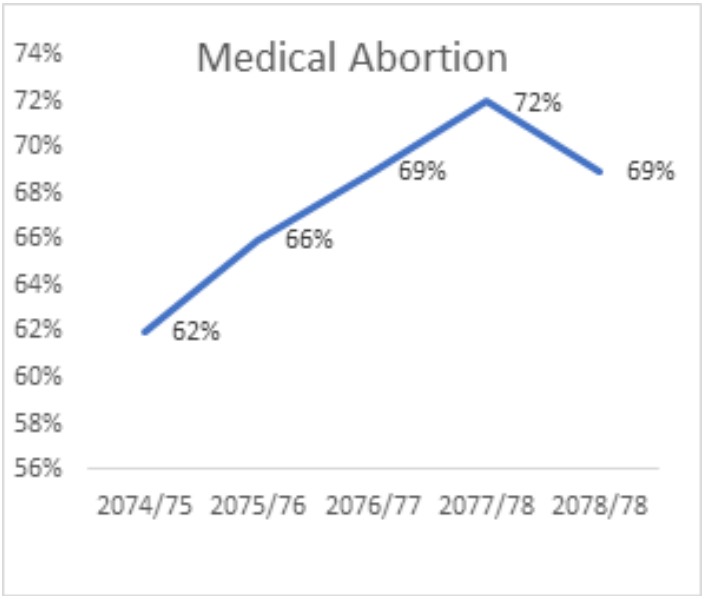
Province	**% Institutional deliveries**				
	2074/75	**2075/76**	**2076/77**	**2077/78**	**2078/79**
Koshi	52.5	62	63.4	59.7	72.1
Madhesh	34.4	53.3	54.2	54.4	57.2
Bagmati	49.1	61.6	67.8	61.7	98.6
Gandaki	47.1	47.8	46.5	42.3	64.4
Lumbini	75.2	78.8	81.4	79.7	94.2
Karnali	67.3	73.2	77.5	87.1	82.6
Sudurpashchim	69.4	71	71.1	82.5	92.8
Nepal	54.2	63.4	65.7	64.9	79

Province	% post-partum women who received IFA for 45 days					% 3 PNC check-ups as per protocol				
	2074/75	2075/76	2076/77	2077/78	2078/79	2074/75	2075/76	2076/77	2077/78	2078/79
Koshi	27.9	25.6	21.5	24.5	31.7	11.8	8.7	15.5	22.4	36.8
Madhesh	40	43.7	43.9	45.8	44.4	13.8	15.2	13	14.5	23.6
Bagmati	21.9	23.6	23.1	22.7	37.2	9.7	13.5	16.9	22	42.2
Gandaki	26.9	28.1	25.6	25.8	45.3	13	13.1	13.2	19.6	35.5
Lumbini	51.8	49.1	45.4	51.1	69.7	21.7	19.3	21.8	29.2	53.7
Karnali	66.1	70.3	74.7	84.9	80.1	19.2	24.1	29.4	40	52.8
Sudurpashchim	54.1	55.8	57.8	63.9	88.9	26.3	31.4	33.5	46.2	60.3
Nepal	38	38.8	37.6	40.7	52.6	15.5	16.4	18.8	25.1	40.8

4.4.9 Safe abortion service

The total number of safe abortion service users has increased to 90,733 in FY 2078/79 from 79,952 in FY 2077/78 and 87869 women in FY 2076/77. The highest number of safe abortion services was provided at Bagmati province (18,463) followed by Lumbini province (18415) and Koshi (15911). The least number of abortion services was provided in Karnali province (4,860).

In FY 2078/79, 69%(n=62,351) of the total safe abortion were medical abortion whereas remaining 28382 were surgical. The five years trend showed that the percentage of medical abortion users were increased from 2074/75 to 2077/78 whereas the percentage declined in 2078/79.



In this reporting period, 14.2% of the total pregnancies were terminated by induced procedure at the health facilities and 4.4% were induced using the surgical method. At the provincial level, Gandaki province had the highest pregnancy termination at health facilities (25.3%) whereas lowest termination were reported from Madhesh Province (4.9%).

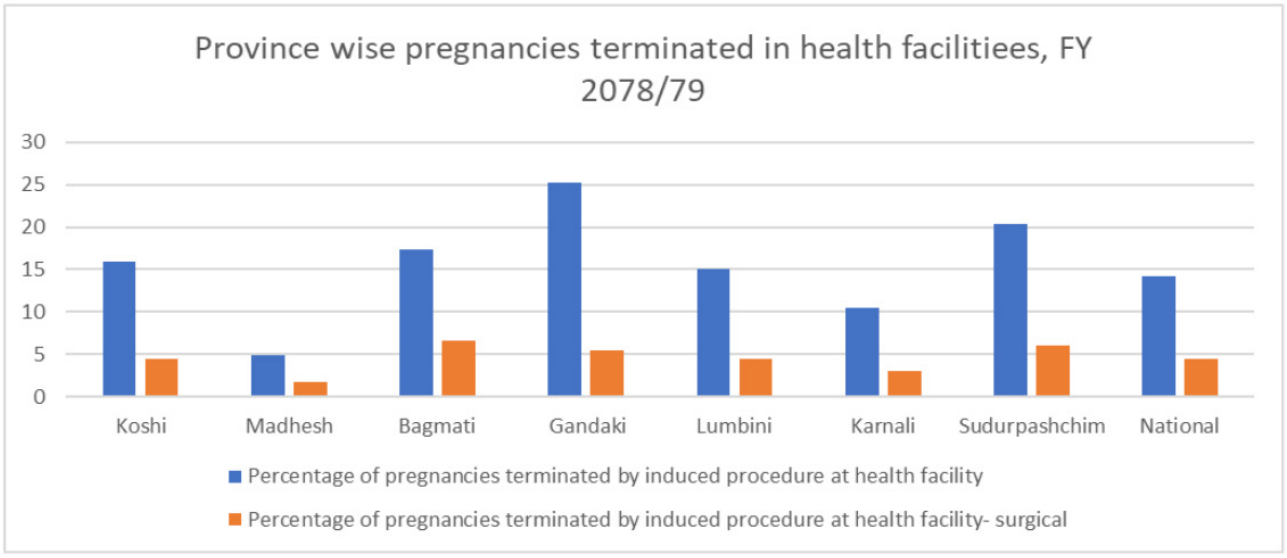


Figure 4.4.13 Percentage of pregnancies terminated in health facilities

Among the total safe abortion users, around 6% of the women were aged below 20 years. Lumbini province has the highest abortion service users aged less than 20 years whereas Karnali province has the least abortion service users. Among total medical abortion 9 % were below aged 20 and among total surgical abortion 14 % were below aged 20.

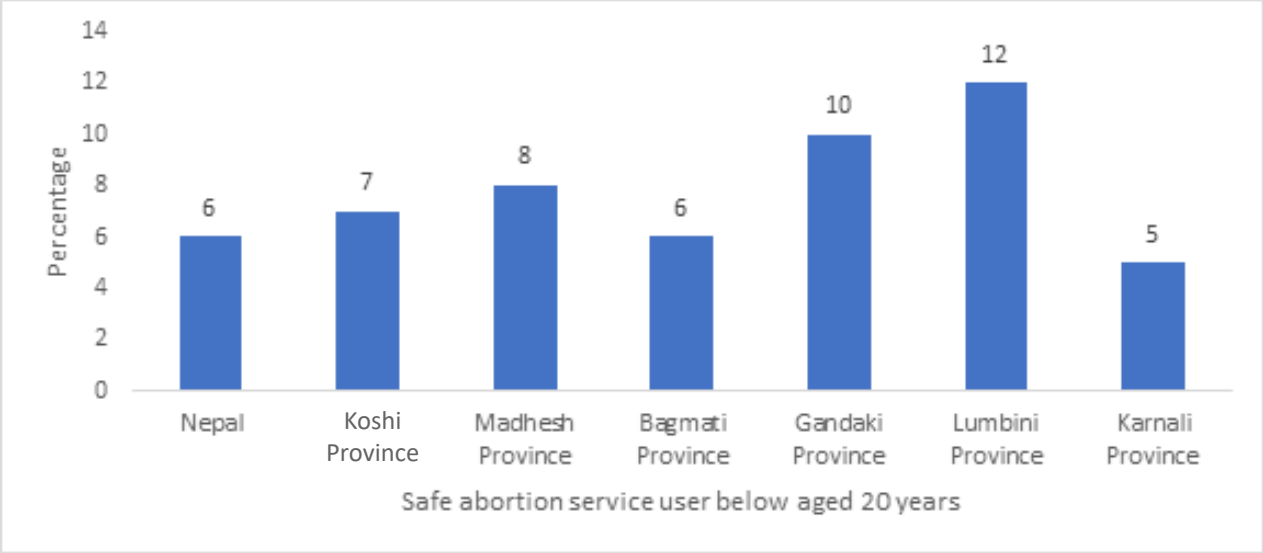


Figure 4.4.14 Safe Abortion Service User Below aged 20 years

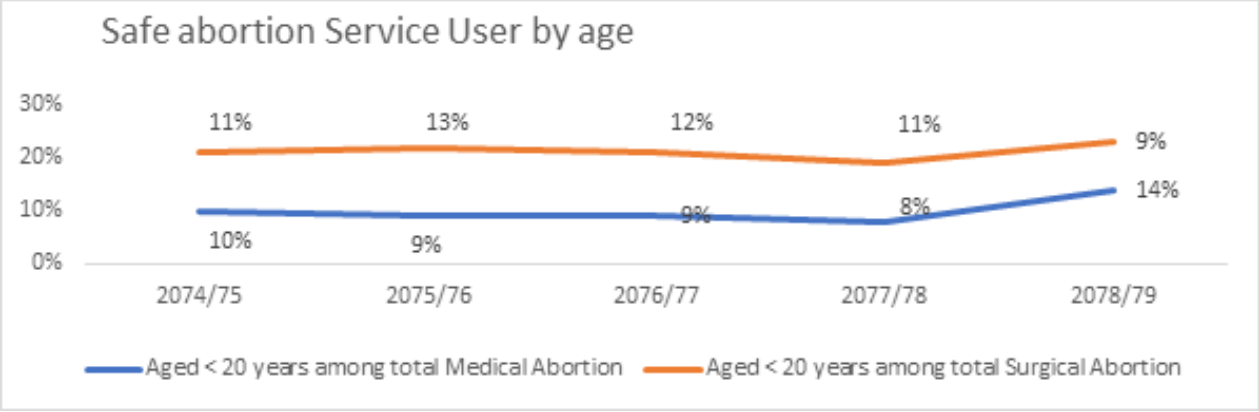


Figure 4.4.15 SAS among the women aged less than 20

The post abortion contraception has slightly decreased to 74.7% in 2078/79 from 76.7% in 2077/78. Madhesh province has the highest number of post abortion contraceptive users while Bagmati province has the least number of the post abortion contraceptive users. The acceptance of post abortion contraception among medical abortion service users was high compared to surgical abortion users. The acceptance of Short Acting Reversible Contraceptive is higher in comparison to the long acting reversible method. The use of LARC and SARC has increased as Post abortion contraception in comparison to last FY 2077/78.

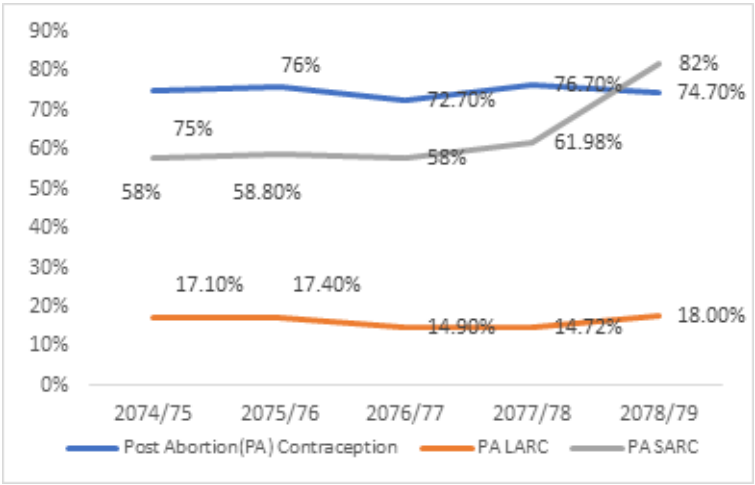


Figure 4.4.16 Post abortion Contraception- Method of abortion

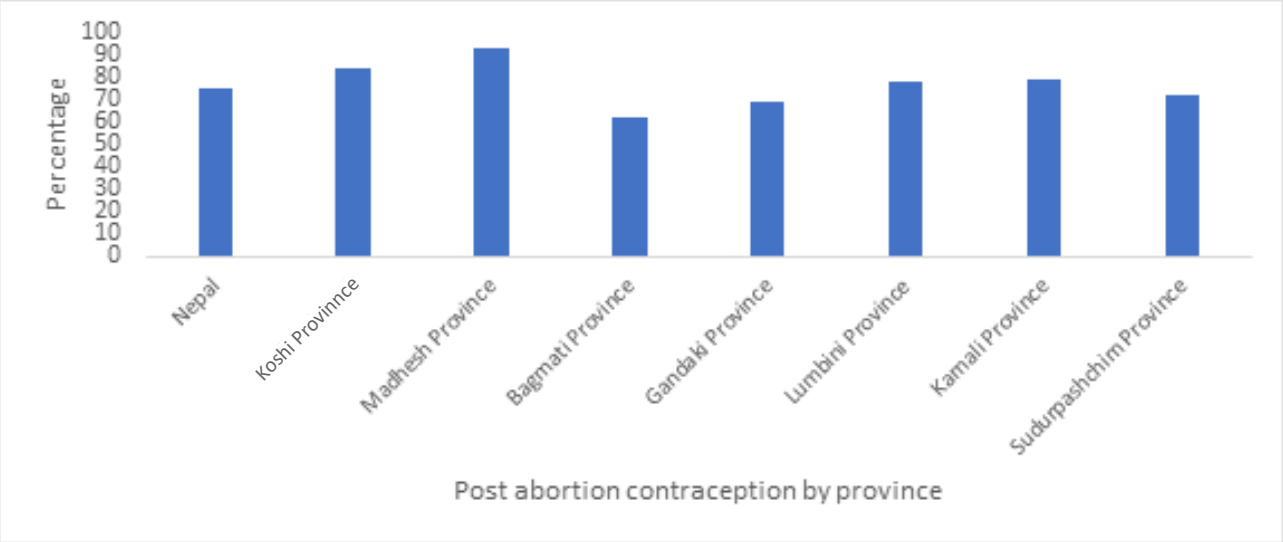


Figure 4.4.17 Post abortion contraception by province

Post abortion Care

In FY 2078/79, 14,269 women received PAC services. Similarly, 540 had post abortion complications after medical abortion and 548 had complications after surgical abortion. Likewise, a total of 6,381 were treated for abortion complications nationwide. Highest number of the women treated for abortion complications were also from Bagmati Province (2,571) followed by Lumbini Province (980) which is similar to the last FY.

Table 4.4.4 Number of CAC, PAC and Post Abortion Complication and Women Treated for Abortion

Province/National	Total Safe abortion Service	Total PAC services	Number of Post abortion Complication -Medical Abortion	Number of Post abortion Complication -Surgical Abortion	Number of women treated for abortion complications
National	90733	14269	540	548	6381
Koshi Province	15911	1909	107	191	902
Madhesh Province	7513	2301	70	64	235
Bagmati Province	18463	2590	45	38	2571
Gandaki Province	12450	738	40	13	363
Lumbini Province	18415	3406	33	162	980
Karnali Province	4860	1436	78	65	505
Sudurpashchim Province	13121	1889	167	125	825

4.4.10 Maternal and Perinatal Death Surveillance and Response (MPDSR) and Newborn Birth Defect

4.4.10.1 Maternal and Perinatal Death Surveillance and Response (MPDSR)

Maternal and Perinatal Death Surveillance and Response (MPDSR) is a continuous process of identification, notification, quantification, and determination of causes and factors to avoid all maternal and perinatal deaths, as well as the use of these information to respond with actions that will prevent future deaths. It was designed to measure and track all maternal deaths in real-time with the objective to understand the underlying factors contributing to mortality and to provide guidance on how to respond and prevent future deaths. The GoN has been prioritizing and implementing MPDSR in health facilities and districts with a plan for further strengthening and expansion.

FWD conducted policy dialogues and orientation on MPDSR to sensitize and orient policy makers from Health Directorates, Health Offices and Provinces. The participants also included the service providers from hospitals and districts. As of FY 2078/79, MPDSR is being implemented in 32 Districts and 94 Hospitals. Some hospitals and districts have already initiated and are in the partial implementation stage with the plan to complete in the fiscal year 2079/80. Most of the service providers have already been oriented on the revised tools and guidelines and implementation has started.

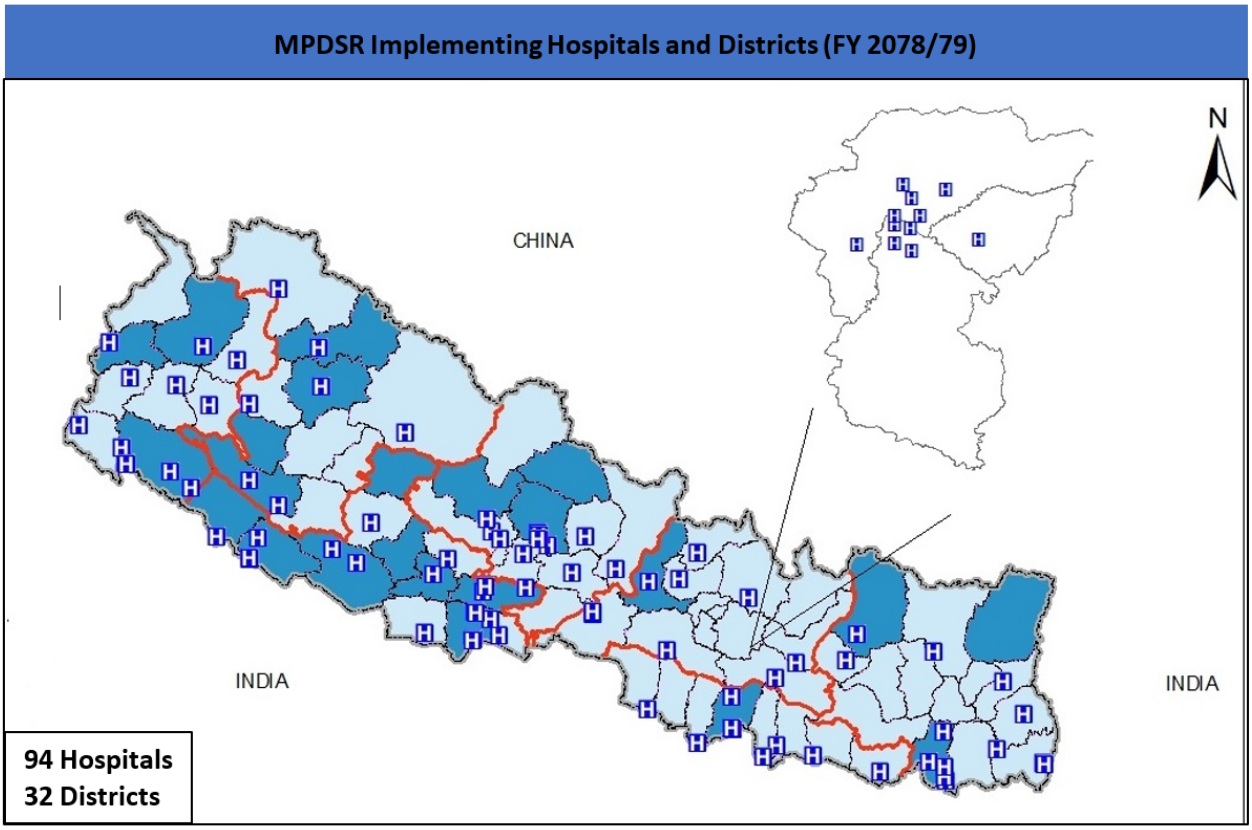


Figure 4.4.18 Status of MPDSR implementation until FY 2078/79

i. **Community-based MPDSR:** In FY 2078/79, a community-based MPDSR program was implemented in 32 districts (Figure 16). In the community based MPDSR program, only maternal deaths are reviewed, and responses are planned. There was a nationwide training of service providers on verbal autopsy during the post-census maternal mortality study and the government has allocated a budget at all Local levels to conduct a verbal autopsy of maternal deaths.

ii. **Hospital-based MPDSR:** MPDSR program was implemented in 94 hospitals in FY 2078/79. In the hospitals, the maternal death review (MDR) form is filled out for every maternal death, which is then reviewed. Whereas, in the case of perinatal death, the perinatal death review (PDR) form is filled for every perinatal death, but only the summary perinatal death review form is reviewed once a month and responses are planned.

iii. **Formation of MPDSR Committees at different levels:** As per the MPDSR guidelines, the National MPDSR Committee is chaired by the Director General, Department of Health Services, and MPDSR Technical Working Group (TWG) is chaired by the Director, Family Welfare Division. In addition, there are MPDSR committees at Health Directorate, Health Office, local level and health facility level. The committee meeting has to commence within 72 hours of every maternal death. The national committee and TWG

have been activated and will meet on quarterly basis and as per need.

iv. **MPDSR expansion and strengthening:** Under the leadership of the FWD the community-based MPDSR program has been expanded in 16 new districts and medical doctors from 27 district-level hospitals were trained on assigning the cause of death using the verbal autopsy tools. During these programs, they were oriented on the MPDSR situation of Nepal and various provinces, MPDSR process, their roles, and responsibilities, how to fill forms, and online reporting. Additionally, discussion on formulation, implementation and follow-up of the action plan were conducted.

v. **Review of MPDSR:** Various Provinces conducted a review of the MPDSR program at local levels and hospitals with the objective to review the progress on MPDSR.

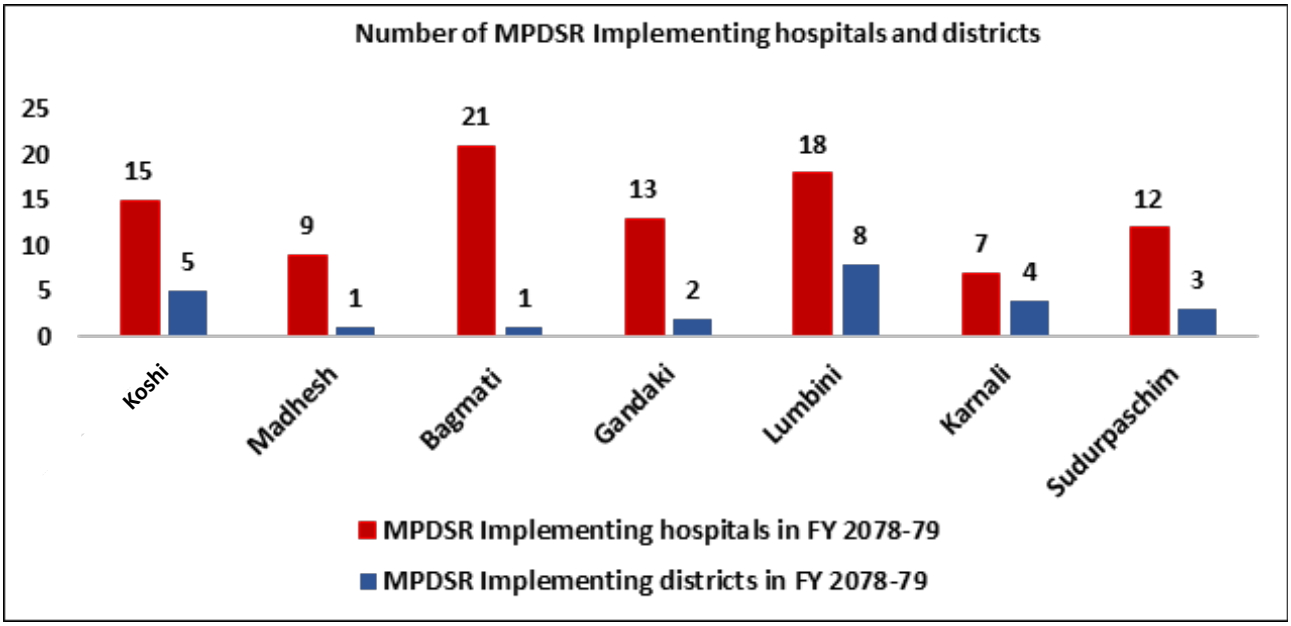


Figure 4.4.19 Number of MPDSR program implementing hospitals and districts

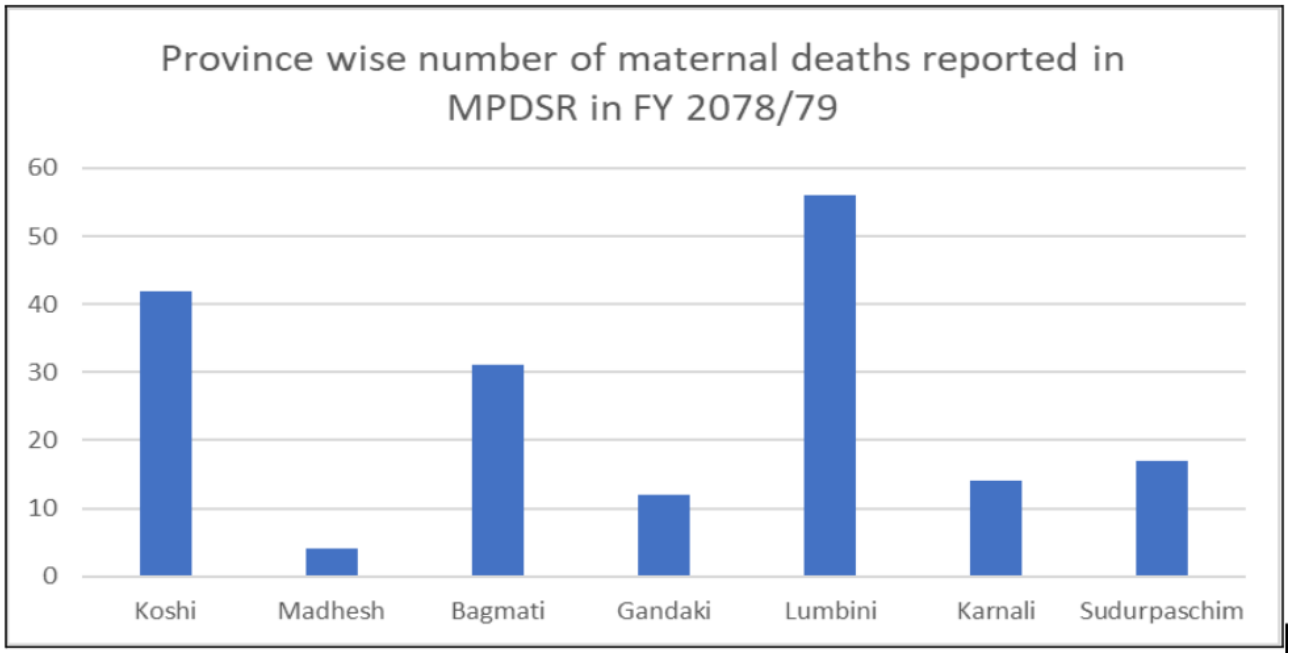


Figure 4.4.20 Province wise number of maternal deaths reported in MPDSR

In FY 2078/79, the majority of maternal deaths were reported from Lumbini province, followed by Koshi and Bagmati province. The low reporting of maternal deaths from the other four provinces needs to be further explored to ensure whether the number of deaths is actually less, or fewer deaths were reported.

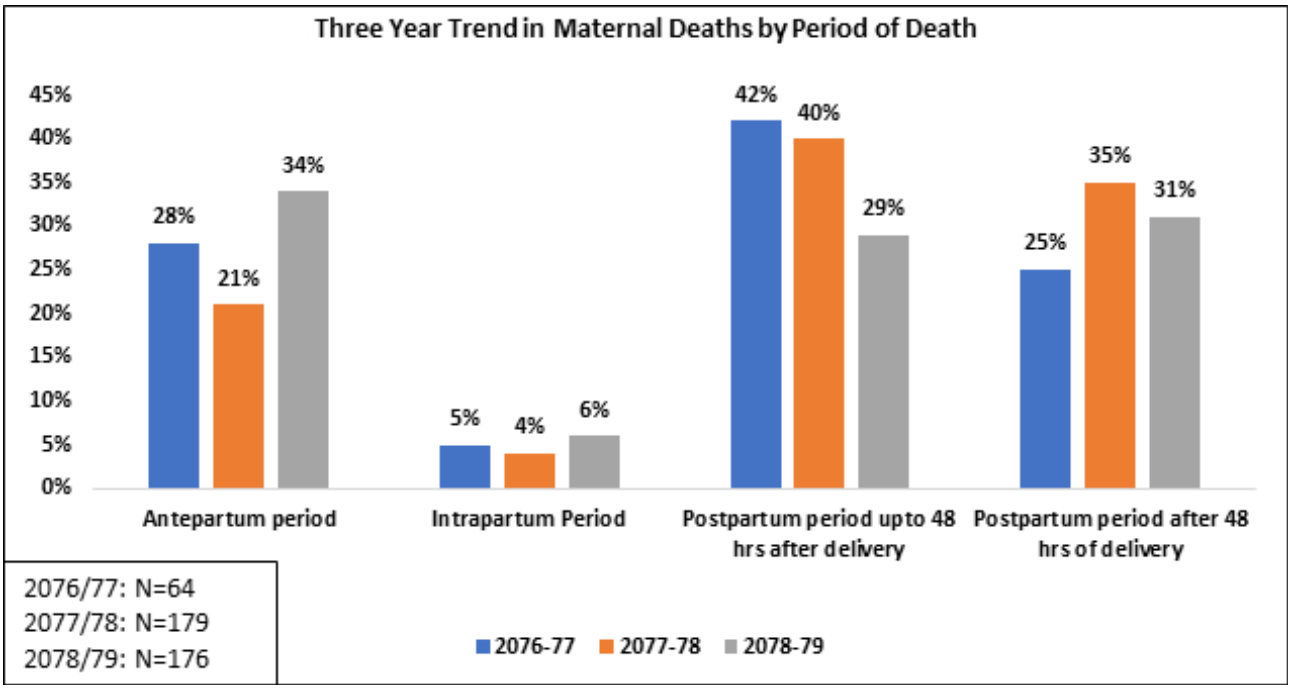


Figure 4.4.21 Three years trend in maternal death by period of death

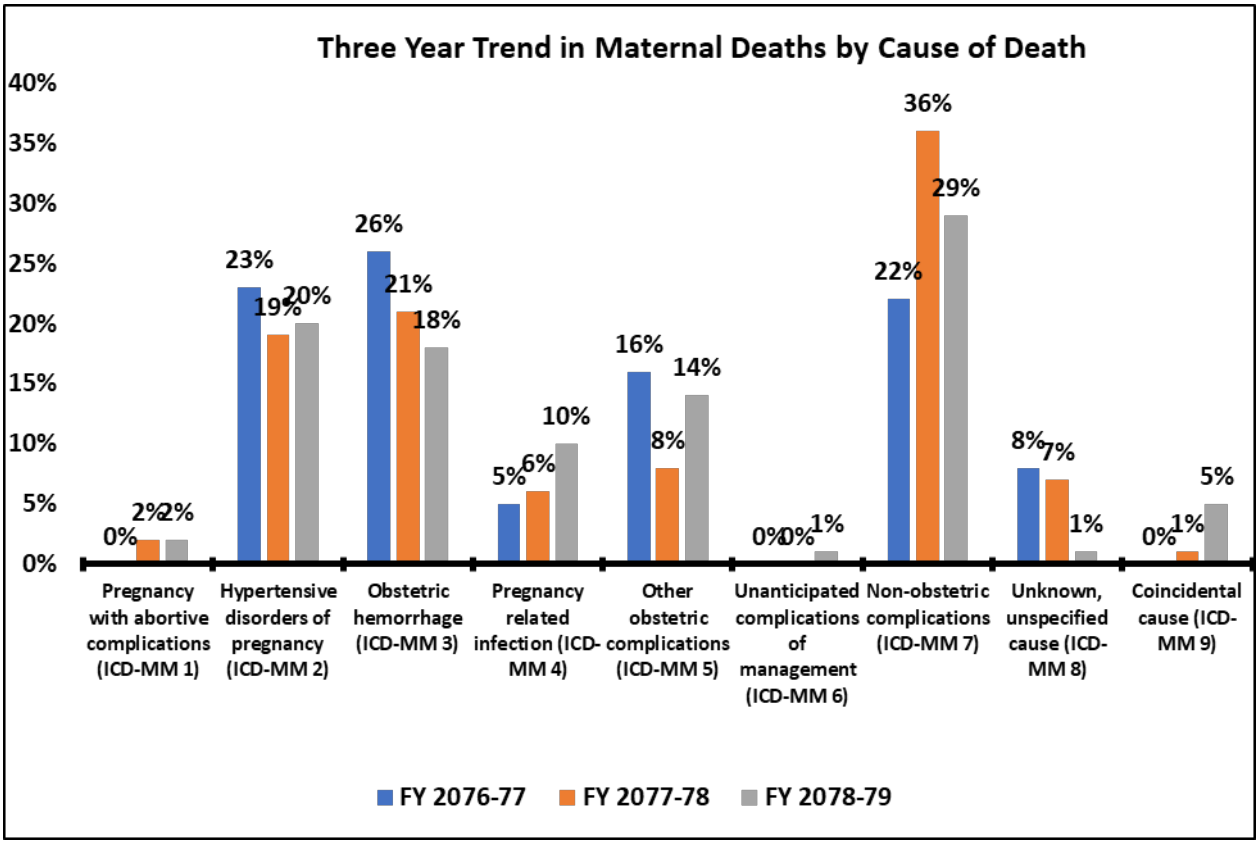


Figure 4.4.22 Three years trend in maternal death by causes of death

In FY 2078/79, a high percentage of maternal deaths were reported in the antepartum period (34%) followed by post-partum period after 48 hrs of delivery (31%), however this pattern was not consistent in FY 2077/78 and FY 2076/77. In the previous two fiscal years, high deaths occurred in the postpartum period up to 48 hrs after delivery.
Non-obstetric complications (ICD-MM 7) were the most common cause of maternal deaths in FY 2077/78 and FY 2078/79. In this reporting period, most deaths (29%) were reported due to non-obstetric complications, followed by Hypertensive disorders of pregnancy (20%) and Obstetric haemorrhage (18%).

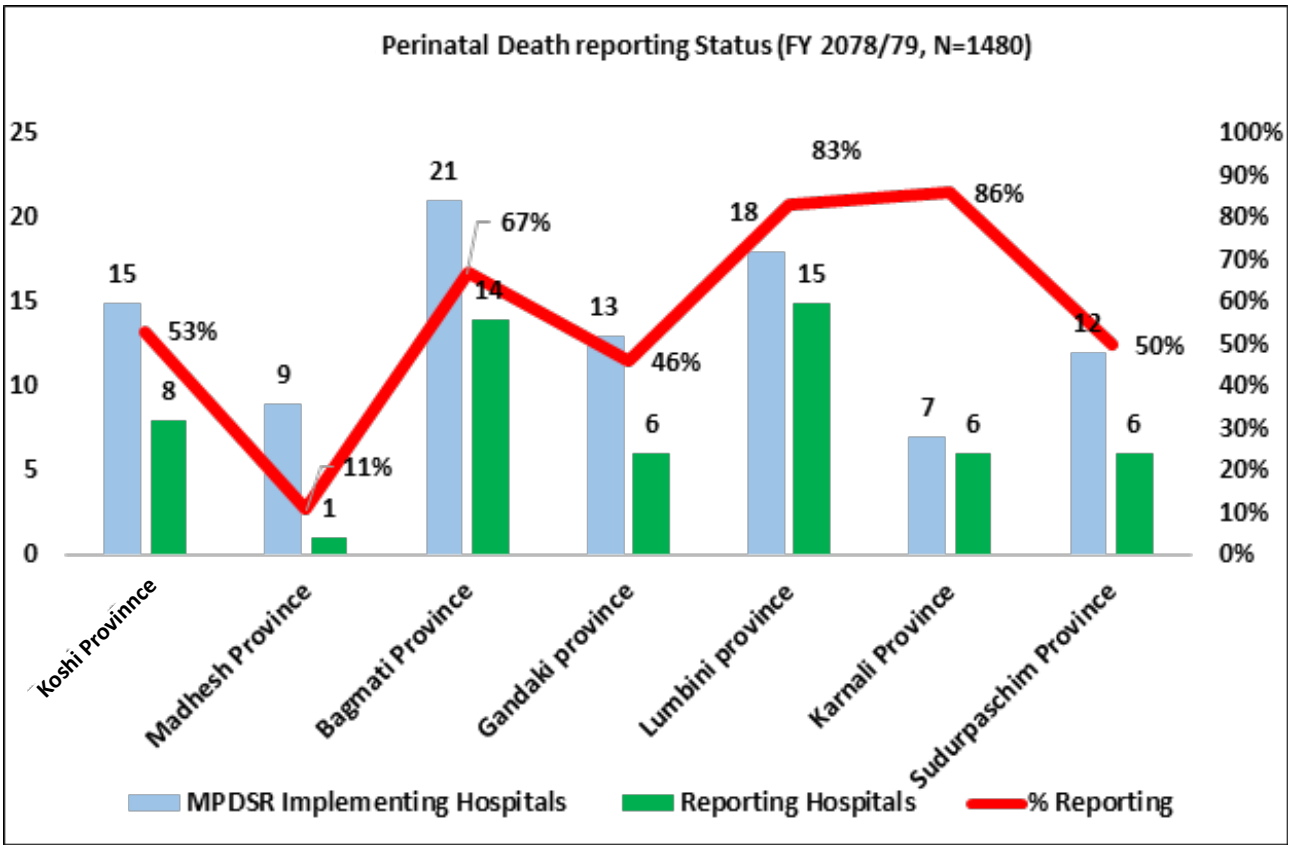


Figure 4.4.23 Perinatal Death Reporting status of FY 2078/79

In FY 2078/79, highest reporting percentage were from MPDSR implementing hospitals from Karnali province where 6 reporting hospitals out of 7 (86%) provided the perinatal death report. The lowest reporting is from Madhesh province where only 11% of facilities reported the perinatal deaths.

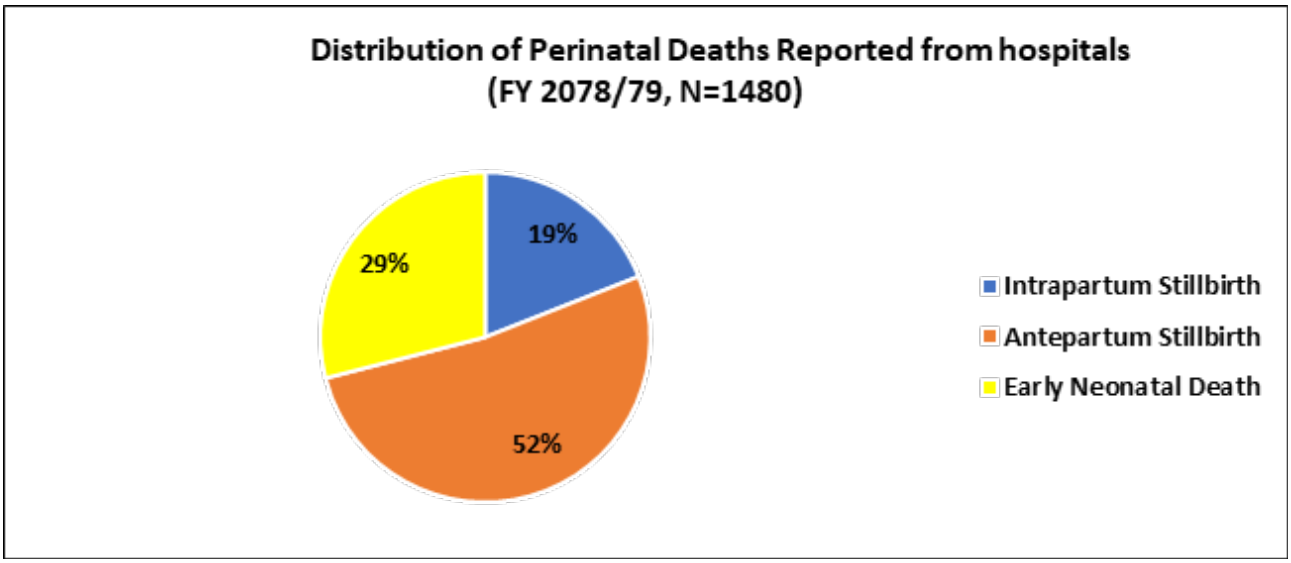


Figure 4.4.24 Perinatal Death by the period

Figure above showed that early neonatal deaths (52%) followed by ante-partum stillbirth (29%) were the most common perinatal deaths reported from hospitals in FY 2078/79.

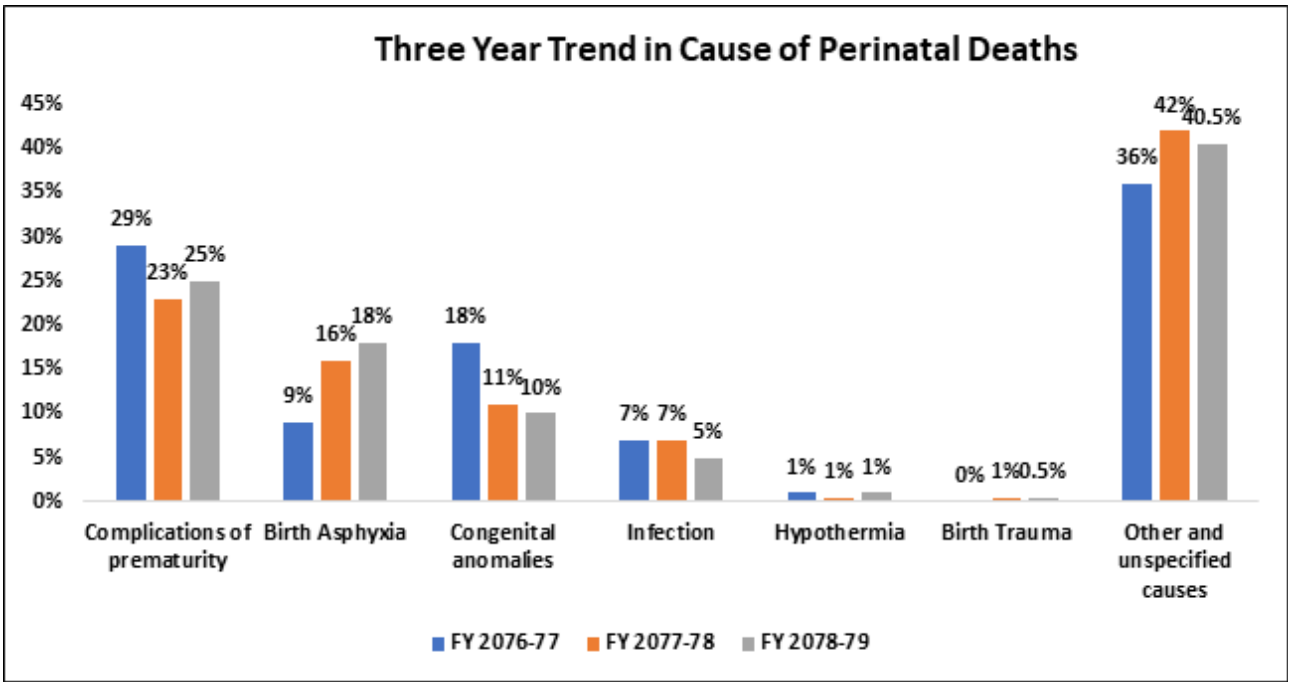


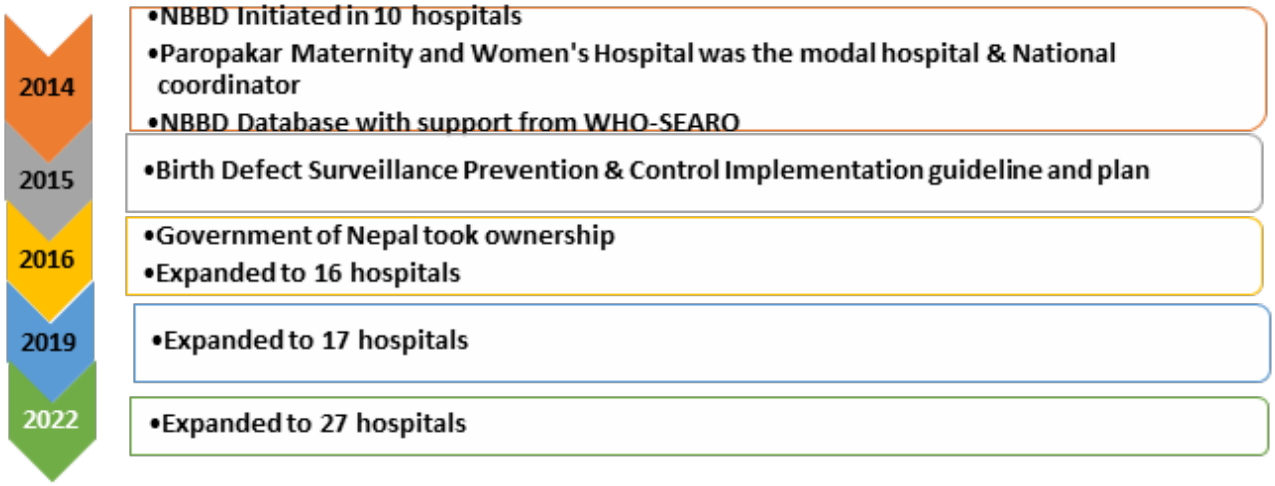
Figure 4.4.25 Three years trend of perinatal death

Three- year trend of perinatal cause of deaths showed that more than one third of deaths were classified as other and unspecified causes. Among the causes specified, complications of prematurity were the major cause of perinatal deaths.

4.4.10.2 Newborn Birth Defect Surveillance (NBBD)

Birth defects, also called congenital anomalies, or rare diseases (when the defect is very rare), are structural or function- al anomalies that occur during pregnancy. They can be identified before birth, at birth, or later in infancy. Birth defects are a leading cause of child death in the first year of life and those who survive may be severely disabled for life. Access to appropriate treatment or care can prevent disabilities in these children and even save their lives.

Birth Defect Surveillance in Nepal:



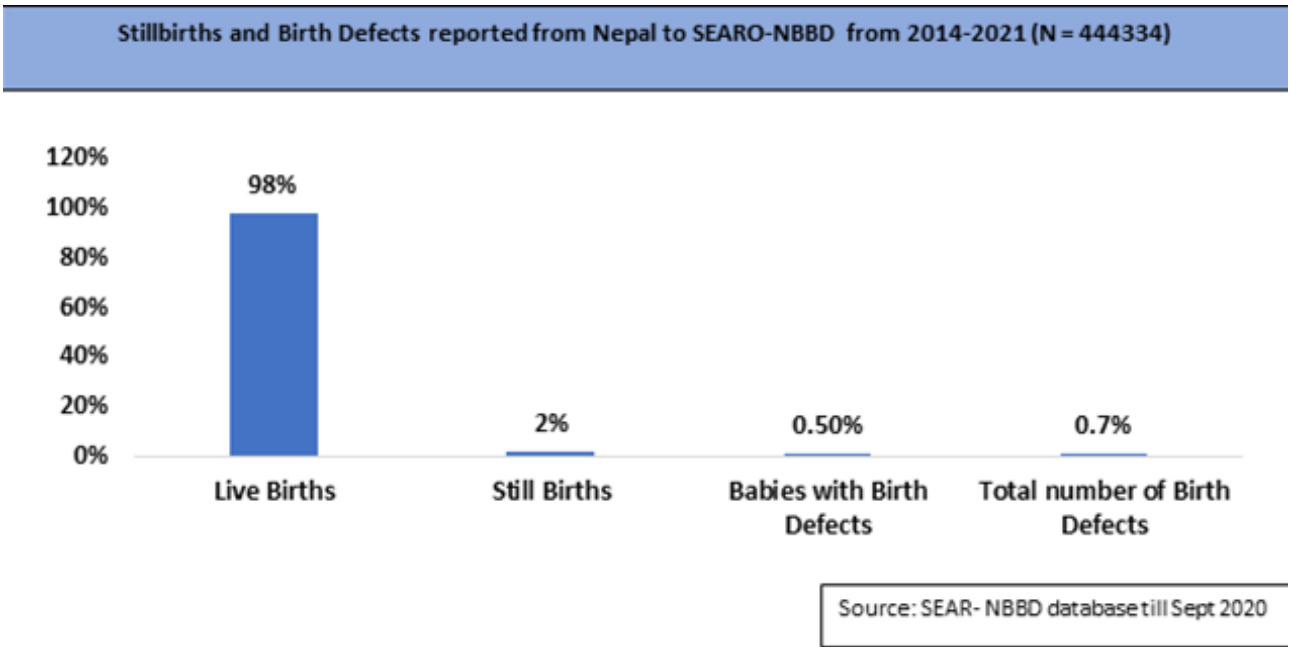


Figure 4.4.26 Still births and birth defects reported from Nepal to SEARO-NBBD from 2014-2021

Majority of birth defects reported orofacial cleft followed by neural tube defects and talipes equinovarus. The category "Others" includes numerous defects hence the percentage was high.

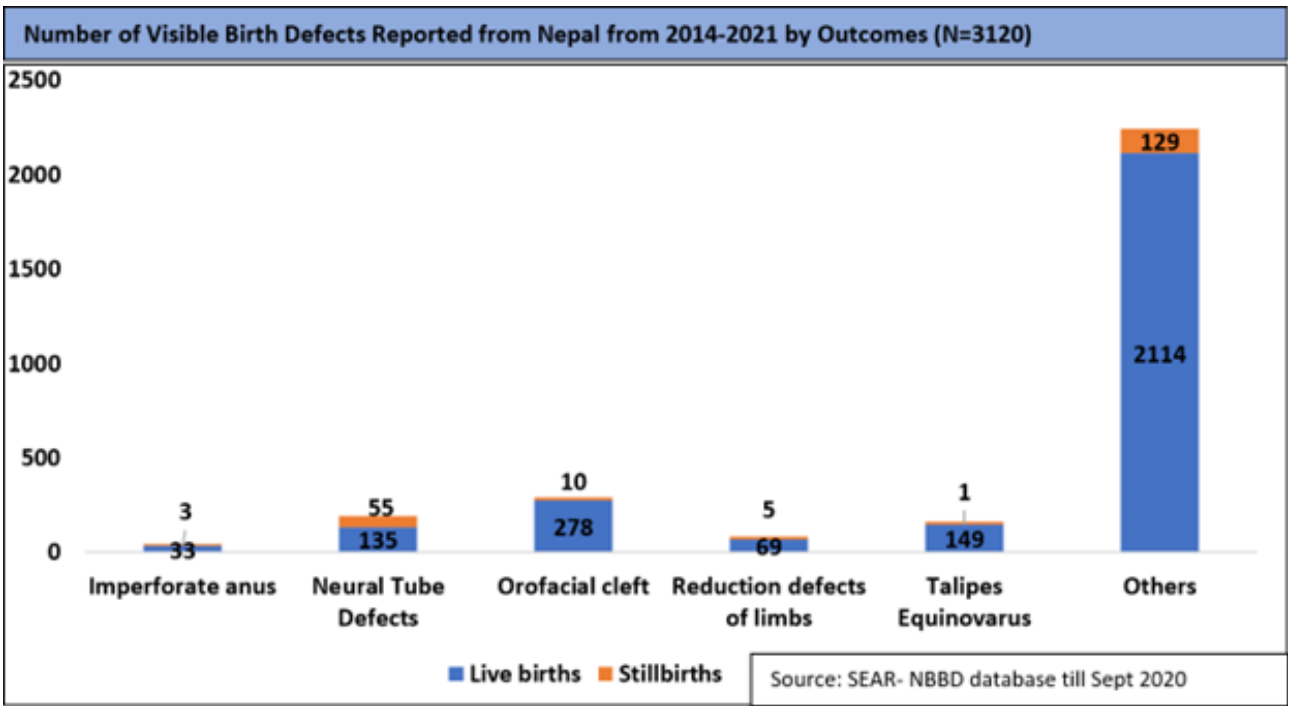


Figure 4.4.27 Number of visible birth defects reported from Nepal from 2014-2021 by outcomes

4.5 Family Planning and Reproductive Health

4.5.1 Family Planning and Reproductive Health

4.5.1.1 Background

Family Planning (FP) program is a long-standing program in Nepal. The aim of the National FP program is to ensure individuals and couples fulfill their reproductive needs and rights by using quality FP methods voluntarily based on informed choices. Government of Nepal (GoN) is committed to equitable and right based access to voluntary, quality FP services based for all individuals with special focus on hard-to-reach communities such as adolescents and youths, migrants, slum dwellers, ethnic minorities, sexual minorities, and other vulnerable groups ensuring no one is left behind. To achieve this, GoN is committed and striving to strengthen policies and strategies related to FP within the federal context, mobilize resources, improve enabling the environment to engage effectively with supporting partners, promote public-private partnerships, and involve health and non-health sectors. FP has been enshrined as a fundamental right in the constitution and included in the basic health service package under the Public Health Act 2018, thus paving a way towards universal health coverage. In addition, the safe motherhood and Reproductive Health Act 2018, safe motherhood and Reproductive Health Regu- lation 2020, 15th National Plan (2018/19-2022/23) as well as Safe Motherhood Roadmap (2020-2030) emphasizes the availability and accessibility of right-based FP services.

Modern Family planning (FP) refers to female sterilization, male sterilization, intrauterine contraceptive device (IUCD), implants, injectables, pills, condoms (male), lactational amenorrhea method (LAM), emergency contraceptive (EC) and standard days method (SDM). From program perspective, GoN through its subsidiary (FWD, PHD, PHLMC, Health section MoSD, and municipalities) are trying to ensure access to and utilization of client-centered quality FP services through improved contraceptive use with special focus to underserved populations, broaden the access to range of modern contraceptives method mix including long acting reversible contraceptives (LARC) such as IUCD and implant from service delivery points, reduce contraceptive discontinuation, sustain and scale up successful innovations, evidence generation and linking with FP service delivery and demand generation interventions.

FP information, education, communication, and services are provided through the government, social marketing, NGOs and the private sector (including commercial sectors). In the public health system, short acting reversible contraceptive methods are provided through all levels of health service centres. FCHVs provide information and education at community and distribute male condoms and resupply OCPs. Access to LARC services in remote areas is provided through satellite clinics, visiting service providers and mobile camps. Sterilization services are provided at static sites or through scheduled seasonal and mobile outreach services. FP services are also provided through private and commercial outlets such as NGO run clinics/centers, private clinics, pharmacies, hospitals, including academic hospitals. FP services and com- modities are made available by some social marketing (and limited social franchising) agencies.

4.5.1.2 Objectives, policies, and strategies

The overall objective of Nepal's FP programme is to improve the health status of all people through informed choice on accessing and utilizing client-centered quality voluntary FP.

The specific objectives are as follows:

- To increase access to and the use of quality FP services that is safe, effective, and acceptable to individuals and couples. A special focus is on increasing access in rural and remote places with focus on marginalized people with high unmet need, postpartum and post-abortion women and partner of labour migrants and adolescents.
- To increase contraceptive use, reduce unmet need for FP, unintended pregnancies, and contraceptive discontinuation.
- To create an enabling environment for increasing access to quality FP services to men and women including adolescents.
- To increase the demand for FP services by implementing strategic behaviour change communication activities.

4.5.3 Target of Family Planning

Selected FP targets and indicators to ensure universal access to sexual and reproductive health-care services, including for FP/SRH program are as follows:

Table 4.5.1: SDG targets and indicators

Target and Indicators	2022	Source	2025	2030 (SDG)
1. Proportion of women of reproductive age (aged 15-49 years) who have their need for family planning satisfied with modern methods	55	NDHS 2022	76	80
2. Contraceptive prevalence rate (mCPR) (%)	43	NDHS 2022	56	60
3. Unmet Need of Family Planning	21	NDHS 2022	15.2	10
4. Total Fertility Rate (TFR) (births per women aged 15-49 years)	2.1	NDHS 2022	2.1	2.1
5. Adolescent birth rate (aged 10-14 years; aged 15-19 years) per 1,000 women in that age group	71	NDHS 2022	43	30

4.5.4 Major activities in 2078/79

FP programs are implemented at various levels (federal, province and local level). Key activities carried out in 2078/79 are as follows:

- Provision of long-acting reversible services (LARCs-IUCD and Implant)
- Permanent FP Methods or Voluntary Surgical Contraception (VSC) camp and Institutional base.
- Provision of regular comprehensive FP service including post-partum and post abortion FP services.
- Micro planning for addressing unmet needs of FP in hard to reach and underserved communities.
- Provision of Roving ANM and Visiting Service Provider service to increase FP service use.
- Integration of FP with other SRH services (Nutrition, Immunization, etc.).
- Satellite clinic services for long-acting reversible contraceptives
- Contraceptive update for Obstetrician/Gynecologist, nurses & concerned key stakeholders.
- Introduce and availability of emergency contraceptive pills (ECP) services through all public health facili- ties and FCHVs.
- High level policy dialogue on family planning programs at federal level.
- Interaction with organization working with people with disabilities to improve Sexual and Reproductive Health (SRH) access.
- Interaction program on FP and RH including ASRH with pharmacist and marginalized communities.
- Public Private Partnership for family planning services in designated hospitals and medical colleges.
- Initiation and drafting on adolescent health and disability friendly service guidelines.
- Initiation and drafting on Infertility care management guidelines.
- Post COVID family planning services.
- Initiation and drafting of FP Sustainability Roadmap and FP Costed Implementation Plan.

4.5.5 Achievements in FY 2078/79 Family Planning Current users

Female sterilization (38%) occupies the greatest part of the contraceptive method mix among all current users, followed by Implant (18%), Depo (14%), male sterilization (12%), condom (7%), pills (6%) and lastly IUCD (5%) in 2078/79 (Figure 4.5.1). Although findings of the method mix from Nepal Demographic Health Survey (NDHS) 2022 shows the Depo remains the second preferred method after female sterilization. The HIMS data shows that Implant is the second most used method.

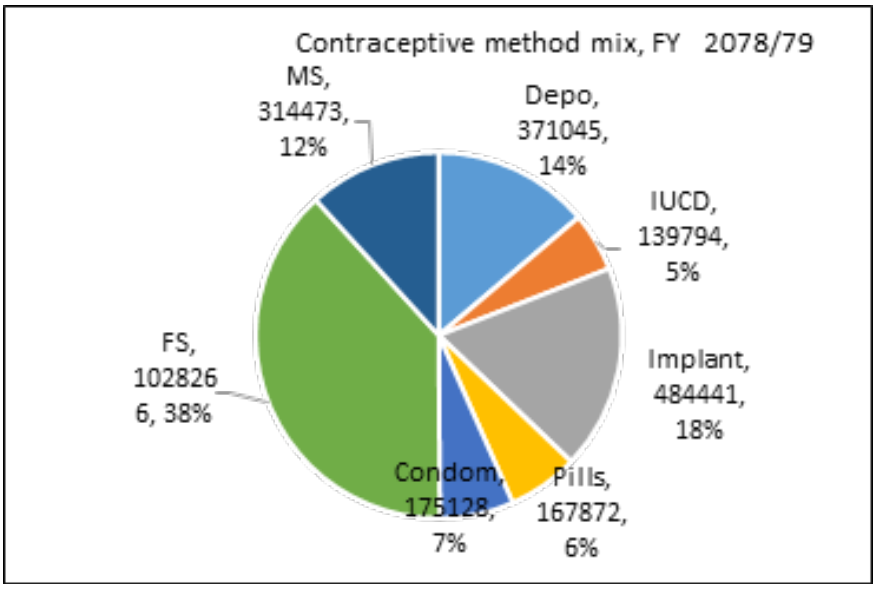


Figure 4.5.1 Contraceptive method mix FY 2078/79

Trend of Contraceptive method mix

The figure 4.5.2 shows the trend of contraceptive method mix in last five years. There are no significant changes in any of the contraceptive method.

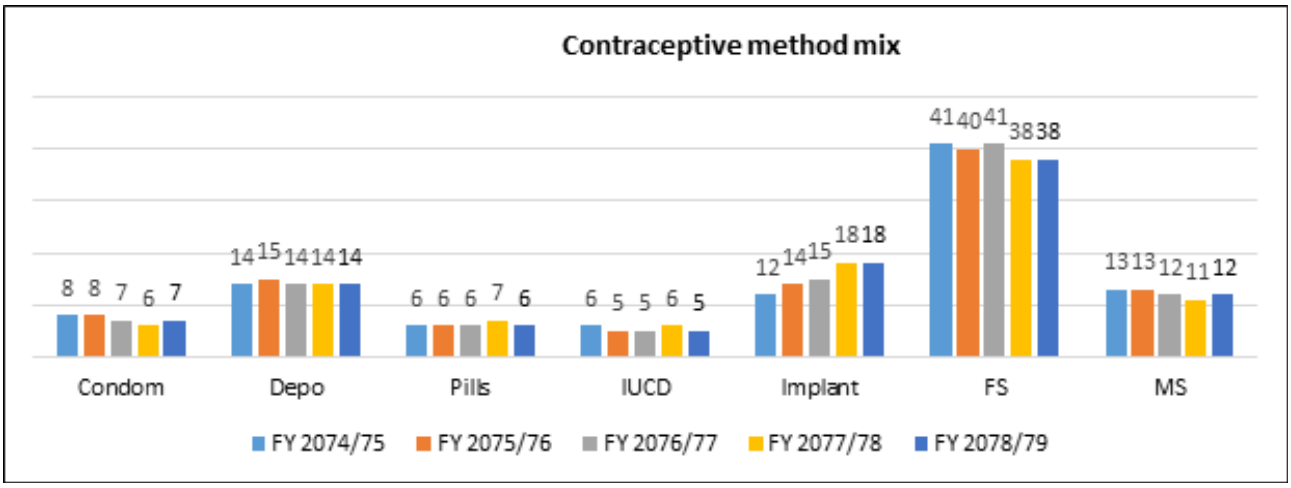


Figure 4.5.2 Trend of contraceptive method mix (FY 2074/75-FY 2078/79)

FP current users by Province

Table below shows the Spacing and Permanent method current FP users of Province and National level. The table shows that there is a certain increase of Spacing and Permanent method among all Provinces except Lumbini Province. Bagmati Province has the highest number of Spacing methods as compared to other Provinces while Karnali Province has the least users for Spacing family planning methods. Similarly, Madhesh Province has the highest number for Permanent family planning methods while Karnali Province has the least number of Permanent FP methods.

Table 4.5.2: FP current users (modern methods) by Province, 2074/75 to 2078/79

	Users	FY 2074/75	FY 2075/76	FY 2076/77	FY 2077/78	FY 2078/79
	Spacing	217,612	207,008	211,405	230,011	236,291
Koshi Province	Permanent	237,007	229,671	227,215	230,962	235,018
	Total Users	454,619	436,679	438,620	460,973	471,309
	Spacing	109,690	119,840	106,066	125,274	145,396
Madhesh	Permanent	483,155	469,828	465,200	469,753	484,099
	Total Users	592,845	589,668	571,266	595,028	629,495
	Spacing	255,126	219,993	229,343	275,309	280,963
Bagamati	Permanent	218,733	205,946	200,403	202,477	204,437
	Total Users	473,859	425,939	429,746	477,786	485,400
	Spacing	86,809	99,759	97,462	105,213	109,640
Gandaki	Permanent	101,644	96,638	94,799	95,669	96,693
	Total Users	188,452	196,397	192,261	200,881	206,332
	Spacing	272,205	310,419	257,695	292,726	272,727
Lumbini	Permanent	176,485	168,764	166,827	169,492	172,609
	Total Users	448,690	479,183	424,522	462,218	445,336
	Spacing	74,348	81,730	87,641	92,979	96,584
Karnali	Permanent	55,176	52,073	51,006	51,835	52,543
	Total Users	129,524	133,803	138,647	144,813	149,127
	Spacing	145,305	148,820	155,253	174,121	196,680
Sudurpaschim	Permanent	99,553	95,157	94,102	95,768	97,340
	Total User	244,858	243,977	249,355	269,889	294,020
	Spacing	1,161,095	1,187,569	1,144,865	1,295,633	1,338,280
Nepal	Permanent	1,371,752	1,318,077	1,299,552	1,315,956	1,342,739
	Total Users	2,532,848	2,505,646	2,444,417	2,611,589	2,681,019

Sterilization current users as % of MWRA

Among total Married women of Reproductive Age (MWRA), sterilization contributes about 20 % in contraceptive method mix. In Madhesh Province female sterilization ((FS) portion is 35.3% among MWRA, It is evident that female sterilization (minilap under local anaesthesia-ML/LA) is popular in Madhesh Province which has also contributed to the national average. Male sterilization (MS), on the other hand holds majority space in in Karnali Province

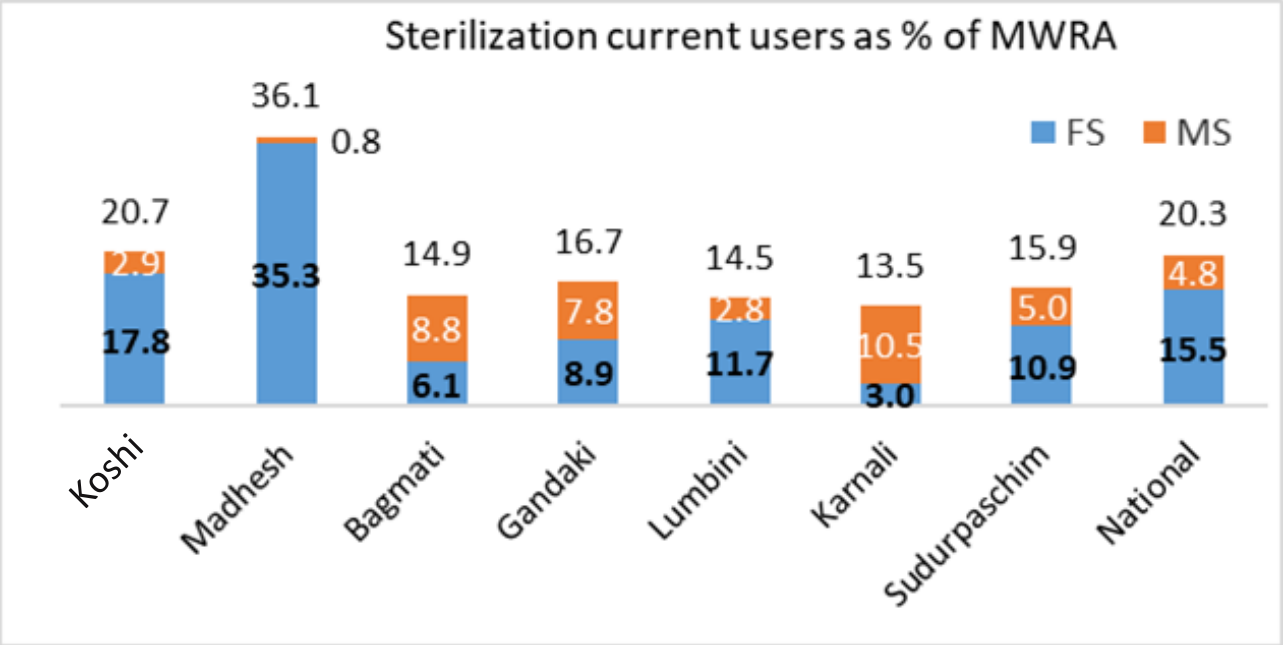


Figure 4.5.3 Sterilization current users as % of MWRA

Contraceptive Prevalence Rate

The modern contraceptive prevalence rate (mCPR) at national level stands at 41% in FY 2078/79 with minimal increment as compared to 39% in FY 2077/78. Modern Contraceptive Prevalence Rate was in decreasing trend between FY 2074/75 to FY 2076/77 while it has slightly increased in 2077/78 and 2078/79 at national level. In this fiscal year, Sudur- paschim Province has the highest mCPR (48%) while Bagmati (35%) has the lowest. Bagamati, Lumbini, Gandaki and Karnali provinces have mCPR less than national average 41% . District wise details on mCPR is in annex.

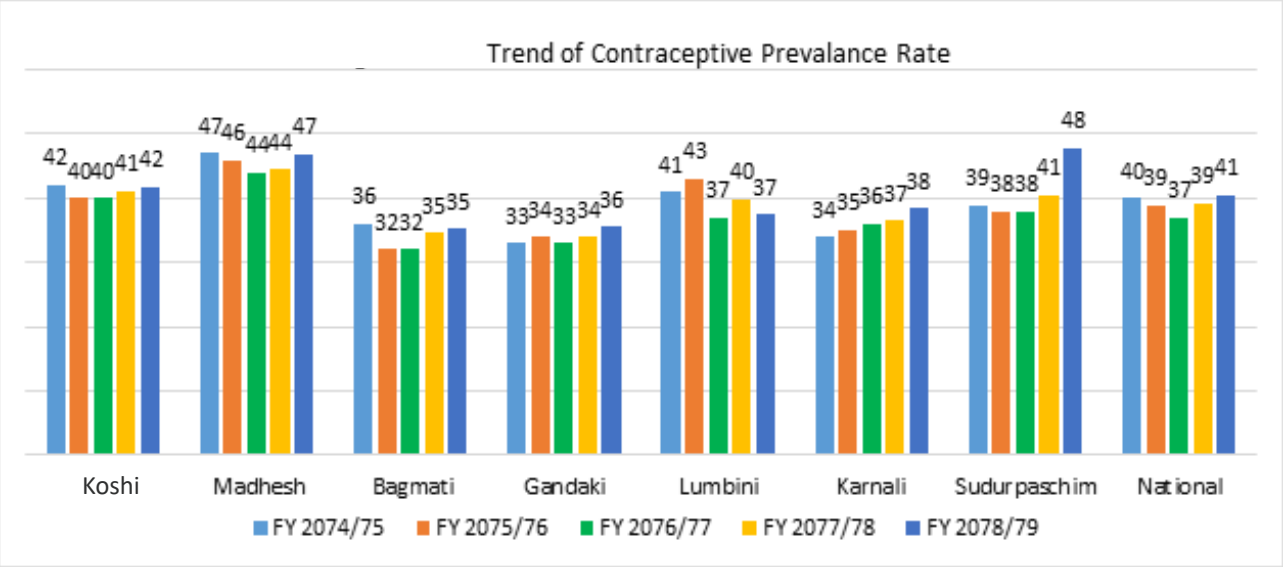


Figure 4.5.4 Province wise trend of the Contraceptive Prevalence Rate (FY 2074/75 to FY 2078/79)

The figure 4.5.5 below shows district wise mCPR. District wise data indicates that in 2078/79, 19 districts had mCPR greater than 50%, 53 districts had mCPR between 30-50% and 5 districts had mCPR less than 30%. Figure shows Parsa has the highest CPR (71) whereas Bhaktapur has the lowest CPR (21).

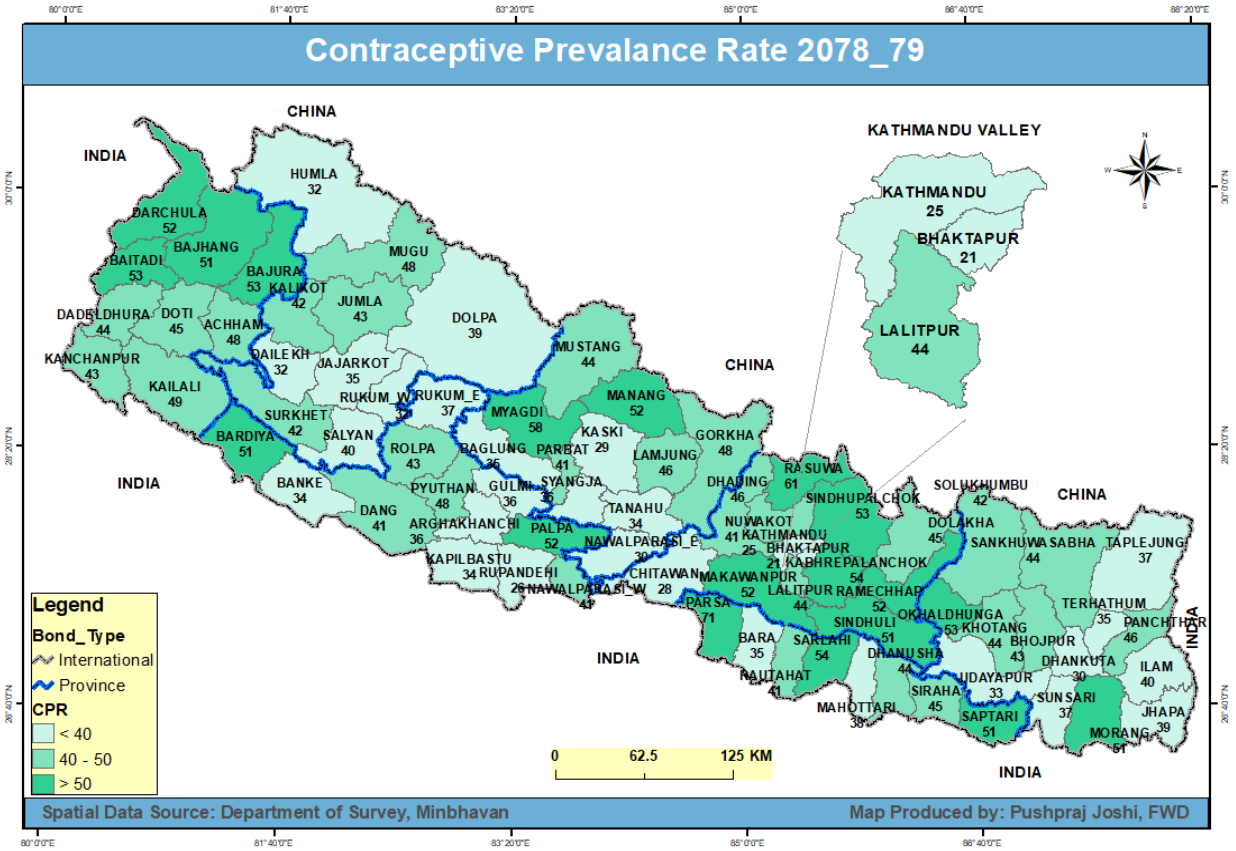


Figure 4.5.5 Map of district wise contraceptive prevalence rate FY 2078/79

New acceptors method mix

Depo (38%) occupies the greatest part of the contraceptive method mix for all method among new acceptors, followed by condom (23%), pills (19%), implant (14%), IUCD (2%), Female sterilization (3%) and lastly Male sterilization (1%) in 2078/79.

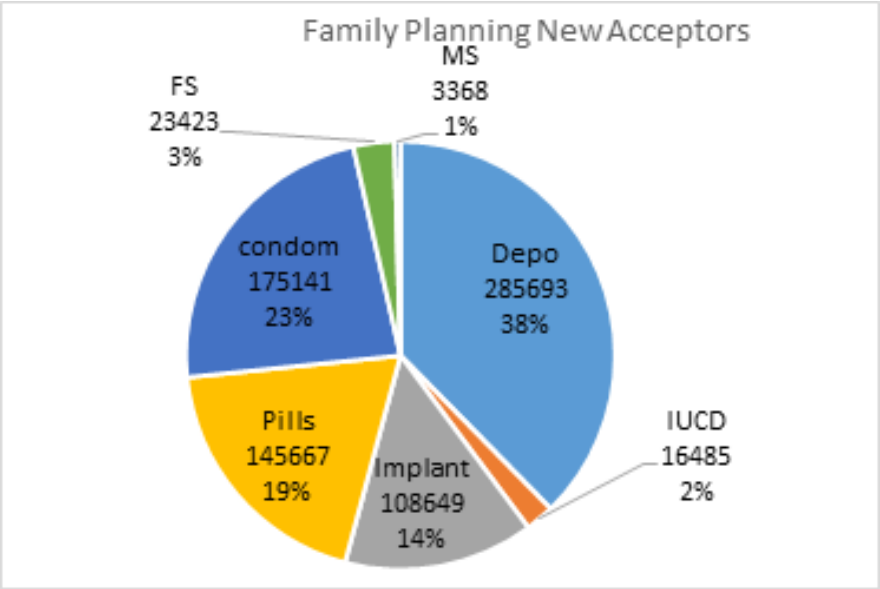


Figure 4.5.6 Family Planning new acceptors in FY 2078/79

New acceptors (all modern methods) by Province

Table 4.5.3:New acceptors (all modern methods) by Province, 2074/75 to 2078/79 (in 000)

	Year	2074/75	2075/76	2076/77	2077/78	2078/79
Koshi	SARCs	86184	96338	87089	91195	88953
	LARCs	25408	23450	19085	19289	23644
	Permanent methods	3930	6118	4219	3747	4056
	Total	115552	125906	110393	114221	116653
Madhesh	SARCs	79155	84265	83042	87805	97656
	LARCs	14272	15208	11689	16673	14424
	Permanent methods	8909	12562	8248	4553	14346
	Total	102336	112035	102979	103031	126426
Bagamati	SARCs	100611	88129	90477	85602	88073
	LARCs	32242	25354	22399	27027	27345
	Permanent methods	3020	1965	1566	2074	1968
	Total	135873	115448	114442	114704	117386
Gandaki	SARCs	47689	46417	46053	45979	46185
	LARCs	11822	9919	8378	10996	10560
	Permanent methods	1642	1389	1506	870	1024
	Total	61153	57725	55937	57845	57769
Lumbini	SARCs	146423	174629	123957	145617	118819
	LARCs	27426	29184	20983	24785	25240
	Permanent methods	4135	2502	3071	2665	3117
	Total	177984	206279	144011	173067	147176
Karnali	SARCs	57287	58935	65331	67542	64062
	LARCs	7117	9158	7701	8452	7724
	Permanent methods	1792	834	845	829	708
	Total	66196	68927	743877	76823	72494
Sudurpaschim	SARCs	81147	79609	84496	98910	102753
	LARCs	14253	13197	11951	14976	17197
	Permanent methods	2490	1624	1897	1666	1572
	Total	97890	94430	98344	115552	120522
National	SARCs	598496	628321	580444	622651	606501
	LARCs	132540	125434	102186	116198	125134
	Permanent methods	25918	26994	21352	16404	26791
	Total	756954	780749	703982	755253	758426

The new acceptors of family planning is highest in Lumbini province and followed by Madhesh Province. Permanent methods are increasing in trend only in Madhesh province.

Share of FS and MS new acceptors among total VSC new acceptors ecology wise

Female VSC new acceptors were highest in the Terai ecological region followed by Hill. However, the share of female VSC new acceptors is decreasing in the hilly region. This shows that FS is making its road in hill and indicates the increasing female participation in VSC services.

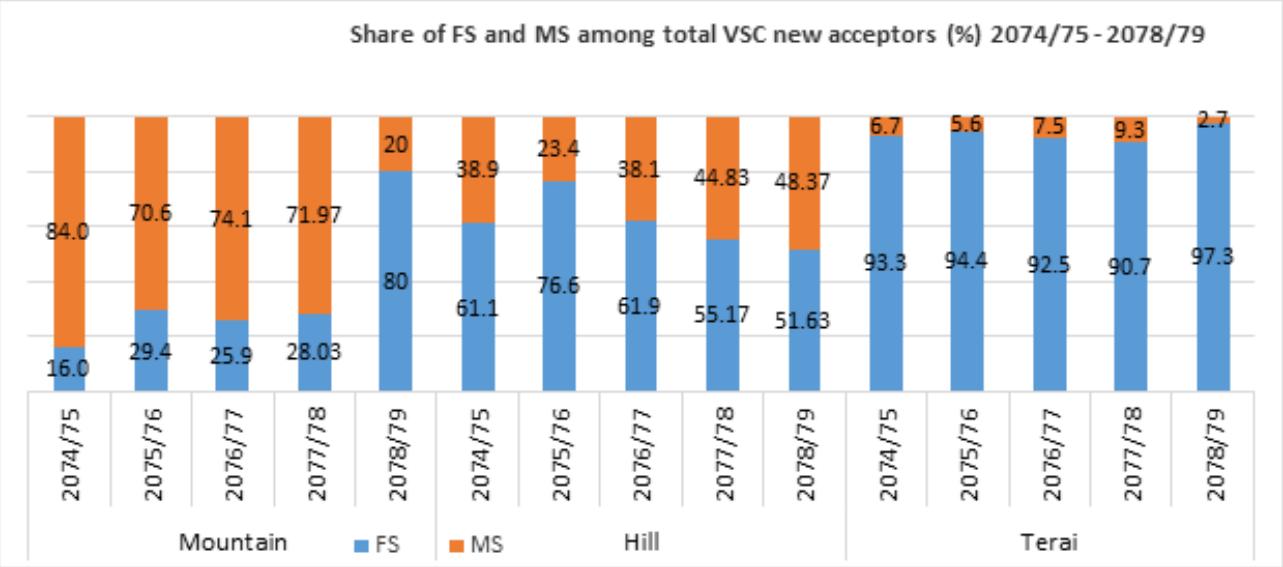


Figure 4.5.7 Share of FS and MS among total VSC new acceptors (FY 2074/75-2078/79)

Among the total new sterilization services, the majority of the services are utilized by females (87%) at national level. Share of minilap (FS) is highest in Madhesh province (99%) and is lowest in Karnali province (25%). Bagamati and Sudur-paschim provinces show that male participation in sterilization services is increasing. Share of FS is increasing in Koshi, Madhes, Gandaki, Lumbini and Karnali provinces.

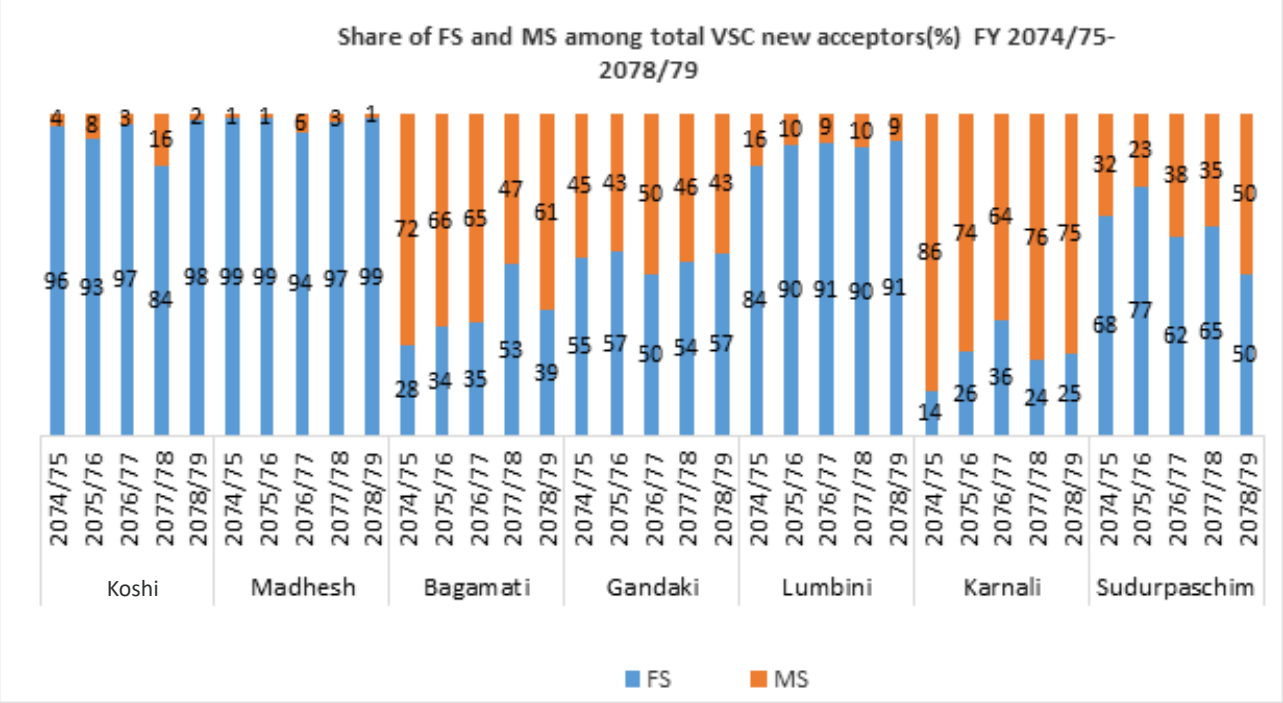


Figure 4.5.8 Province wise trend of FS and MS among total VSC new acceptors (FY 2074/75-2078/79)

New acceptors of spacing methods

Nationally, new acceptors of all temporary methods have increased in FY 2078/79 compared to the previous year. Highest numbers of new acceptors for spacing (temporary) methods in 2078/79 are reported in Lumbini province and lowest in Gandaki province.

Table 4.5.4: New acceptors (temporary methods) by Province, 2076/77 to 2078/79

FP method	Koshi			Madhesh			Bagmati			Gandaki			Lumbini			Karnali			Sudurpas-chim		
	2076/77	2077/78	2078/79	2076/77	2077/78	2078/79	2076/77	2077/78	2078/79	2076/77	2077/78	2078/79	2076/77	2077/78	2078/79	2076/77	2077/78	2078/79	2076/77	2077/78	2078/79
IUCD	2873	1888	2866	2134	1434	3025	3088	3972	4286	1599	1300	1521	2848	3220	2969	625	476	446	1334	1634	1372
Implant	16212	17401	20778	9555	9239	11399	19311	23055	23059	6779	9696	9039	18135	21565	22271	7076	7976	7278	10617	13342	14825
Depo	43198	47626	44832	39327	42974	48847	49652	45775	46803	18124	18488	18838	50384	61869	47240	34814	38334	35937	36111	42305	43196
Pills	23648	23694	24247	24389	26028	28183	20424	20033	19761	11858	11753	11749	33855	40782	29166	16475	16076	14524	15643	18887	18037
Condom	20243	19875	19874	19326	18803	20626	20401	19795	21509	16071	15738	15598	39718	42966	42413	14042	13132	13601	32742	37718	41520
Total	106174	110484	112597	94731	98478	112080	112876	112630	115418	54431	56975	56745	144940	170402	144059	73032	75994	71786	96447	113886	118950

Post-Partum Family Planning uptake as proportion of Institutional deliveries by province

The postpartum uptake as a proportion of the total facility delivery is highest in Koshi (2.5%), followed by Bagamati province (2.25%). The lowest proportion of PPFP services is in Madesh province (0.39%). The national figure for the same is 1.48 %

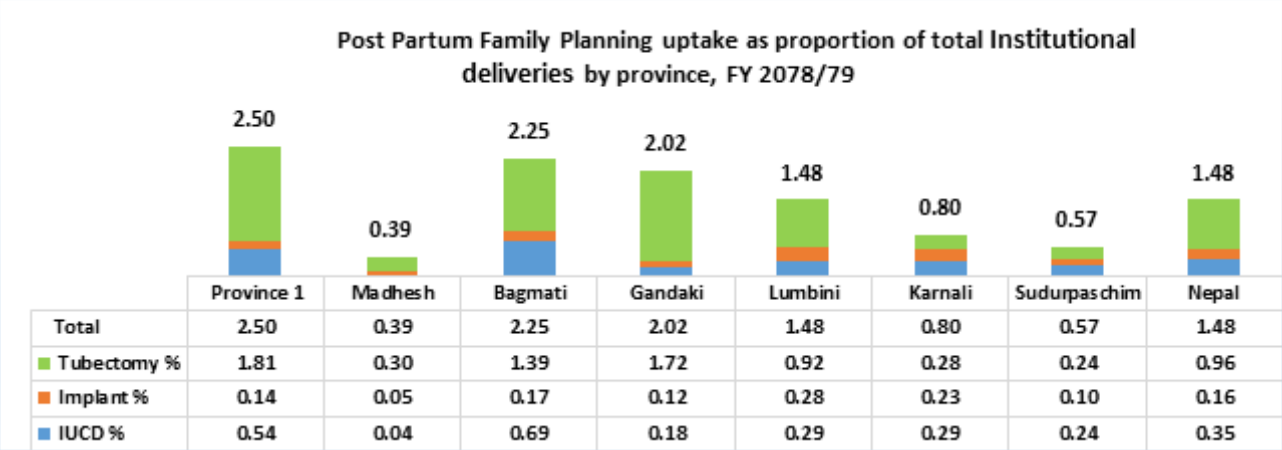


Figure 4.5.9 Postpartum family planning uptake as total of institutional deliveries

The figure below (Fig 4.5.10) shows the five-year trend of postpartum uptake of family planning services. Since FY 2074/75, the proportion of IUCD is in decreasing trend. The proportion of implant is almost stagnant in last five year. Although interval IUCD uptake is in increasing trend, the postpartum implant is substantially low. The proportion of postpartum tubectomy has increased in FY 2078/79 compared to FY 2077/78.

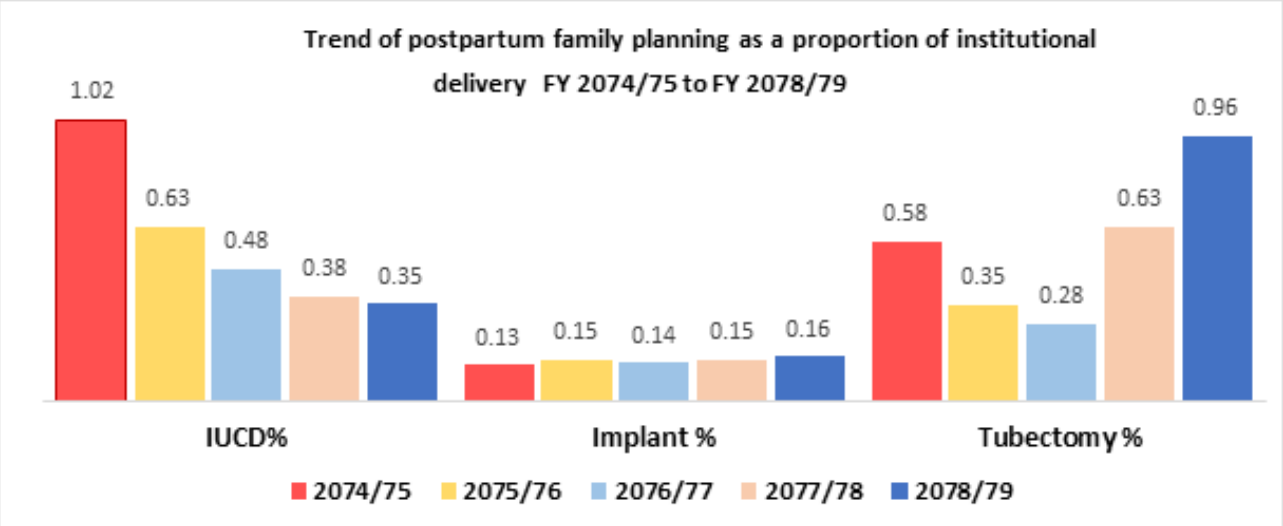


Figure 4.5.10 Trend of post abortion uptake by type of contraceptive methods

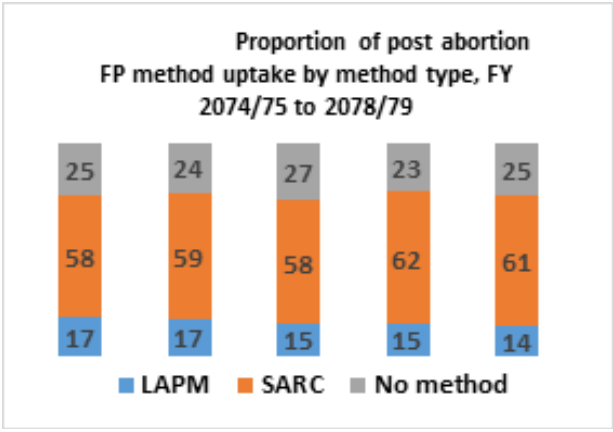
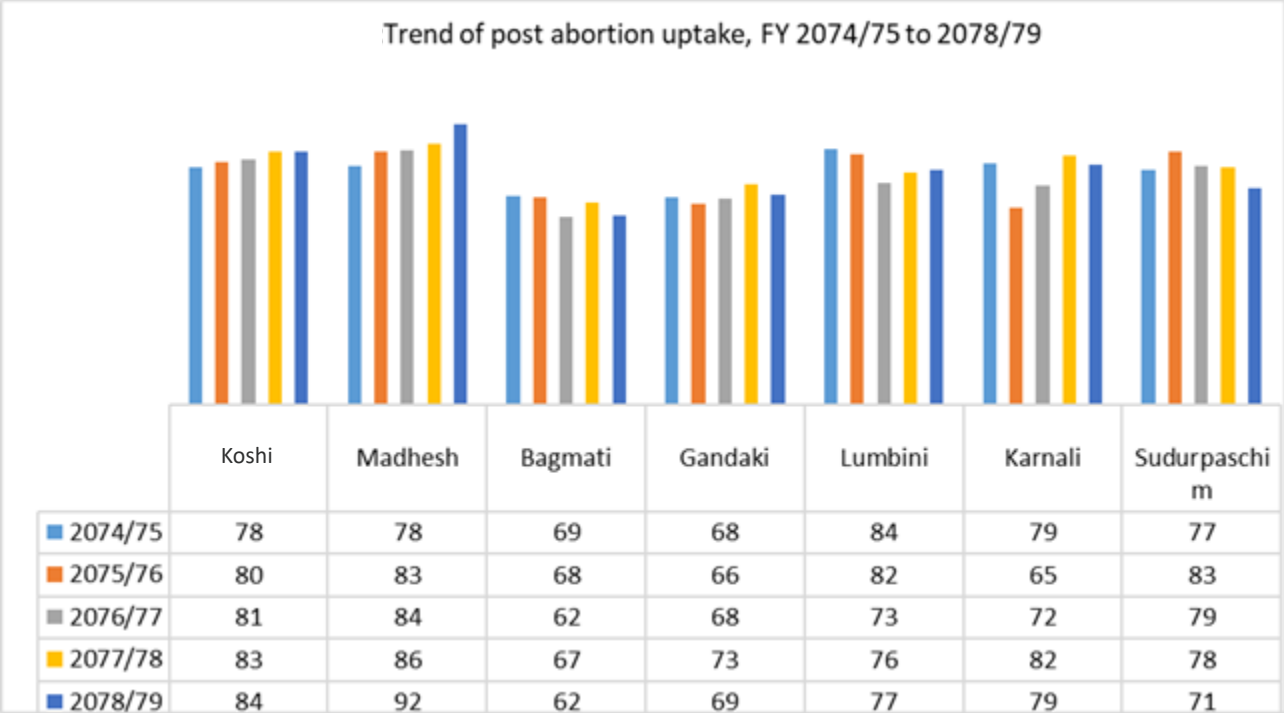


Figure 4.5.11 Proportion of post abortion FP method uptake by method type, FY 2074/75-2078/79

At the provincial level, post abortion contraceptives have been increasing in Koshi, Madhesh, Karnali in the last five years. Post abortion contraceptive uptake is lowest in the Bagmati Province since the last five years. The total percentage of trend of abortion uptake is 62% however Madhesh Province is highest with 92%.



	Koshi	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim
2074/75	78	78	69	68	84	79	77
2075/76	80	83	68	66	82	65	83
2076/77	81	84	62	68	73	72	79
2077/78	83	86	67	73	76	82	78
2078/79	84	92	62	69	77	79	71

Figure 4.5.12 Trend of post abortion update (FY 2074/75 to 2078/79)

Issues, constraints and recommendations

Table 4.5.5: Issues and constraints — family planning

Issues and constraints	Recommendations	Responsibility
Low uptake of family planning services by underserved and marginalized communities	Mapping service availability and conduct microplanning to explore the gap and develop action plan to improve service access and utilization. Expand FP services in private and NGO run facilities.	Local, Province and Federal Government
Low uptake of immediate postpartum contraceptive uptake	Integration of postpartum family services and counselling during antenatal care, delivery, postpartum, immunization, growth monitoring to increase FP service uptake during immediate and extended postpartum period.	FWD, PHD, Hospitals
Low uptake of effective family planning method following abortion services	Improve post abortion family services method mix. Focus on the counselling and services of LARC method to address the fertility intention of women	FWD, PHD, Hospitals
Low and substandard reporting from high volume facilities	Improve quality of recording and reporting of services. Conduct routine data quality assessment of family planning services	IHMIS, FWD, PHD, Hospitals, HO
All health facilities are not providing all temporary methods	Strengthen and expand the capacity of FP training sites, increase service providers training. Explore LARC s coach-mentorship initiative	Federal, Provincial, Local Government

4.6 Adolescent Sexual and Reproductive Health

4.6.1. Background

Adolescents aged 10 to 19 constitute 24% (6.4 million) of the population in Nepal. Seventeen percent of girls aged 15-19 years are already mothers or pregnant with their first child. Only 14.2% of currently married adolescents use a modern method of contraceptives. The Adolescent Fertility Rate (AFR) is 71 per 1,000 women of 15-19 years, according to NDHS 2022. The target of SDG is to reduce the adolescent fertility rate to 30 per 1000. National Adolescent Sexual and Reproductive Health (ASRH) is one of the priority programs of Family welfare Division (FWD). Nepal is one of the country in South Asia to develop and endorse the first National Adolescent Health and Development (NAHD) Strategy in 2000. To address the needs of emerging issues of adolescents in the changing context, the NAHD strategy is revised in 2018 to address the problem face by the adolescent in Nepal.

Vision, Mission, Goal, objectives, target, strategic principles and direction

Vision: To enable all adolescents to be healthy, happy, competent and responsible.

Mission: Maximum use of the available methods and establishing strong bond between the concerned parties and developing strategy with the view of securing the health and development of adolescents.

Goal: To promote the sexual and reproductive health of adolescents.

General Objective: By the year 2025, all adolescents will have positive life styles to enable them to lead healthy and productive lives.

Strategic Principles and Direction

1. Participation and leaderships of adolescent
2. Equality and equity
3. Right with responsibility
4. Strategies partnerships
5. Role of central, province, and local government

Major activities conducted in FY 2078/79

- Expansion of adolescent friendly health facilities
- Certification of adolescent friendly health facilities
- Initiation to revise Adolescent Friendly Sexual Reproductive Health Guideline.

4.6.2. Achievements in FY 2078/79

1.1. Scale-up of Adolescent Friendly Service:

The National ASRH program has been gradually scaled up in more than 1355 health facilities across the country against the target set in Nepal Health Sector Strategy Implementation to expand services in 2000 health facilities. Adolescent friendly health services operation guideline has envisioned gradual scale-up all health facilities as Adolescent Friendly Service sites.

1.2 Certification of Adolescents friendly sites

Till the end of the current fiscal year, 2078/79, 116 health facilities have been certified as adolescent friendly sites (Table 4.6.1). Quality improvement and certification tools for Adolescent Friendly SRH services, 2072 has been developed to guide the certification process.

Figure 4.6.1: Yearly trend of number of certified AFS sites, 2074/75- 2078/79

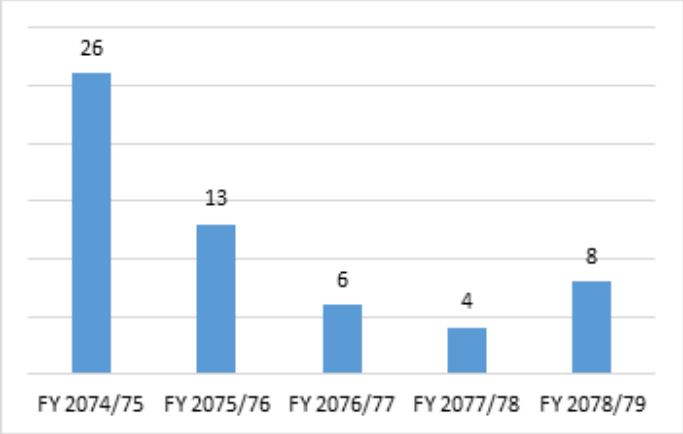


Table 4.6.1: Certified AFS sites according to provinces

Province	Number
Koshi	12
Madhesh	31
Bagmati	6
Gandaki	1
Lumbini	34
Karnali	2
Sudurpaschim	29
Total	116

4.6.3. Service Utilization

Family Planning services

Adolescents have the highest unmet need for family planning services in Nepal. Despite the government's various strategies to improve contraceptive access, contraceptive uptake remains significantly low. Table 4.6.2 shows the decreasing trend in new users of temporary contraceptive methods (excluding condoms) among adolescents at the national level over the last five years. In all provinces, new contraceptive acceptors decreased when compared to FY 2074/75.

Table 4.6.2: New acceptor of temporary contraceptive methods (excluding condom) among adolescents, 2074/75 to 2078/79

Province	FY 2074/75	FY 2075/76	FY 2076/77	FY 2077/78	FY 2078/79
Koshi	7277	7748	6869	6133	5715
Madhesh	3818	4119	4789	3882	3311
Bagmati	9651	7673	6840	6166	5367
Gandaki	3003	3151	2782	2672	2258
Lumbini	7150	6347	6693	6179	5505
Karnali	6748	6624	7354	6675	6036
Sudurpaschim	2188	2406	1924	2036	2047
Total	39835	38068	37251	33743	30239

The figure 4.6.2 shows the method mix of the new users of the contraceptives. Depo-Provera is the most preferred contraceptive method among adolescents and accounts for more than 50% of the temporary contraceptive method mix each year from FY 2074/75 to FY 2078/79. Pills is the second preferred method. It is to be noted that the number of new acceptors of LARC is decreasing among adolescents.

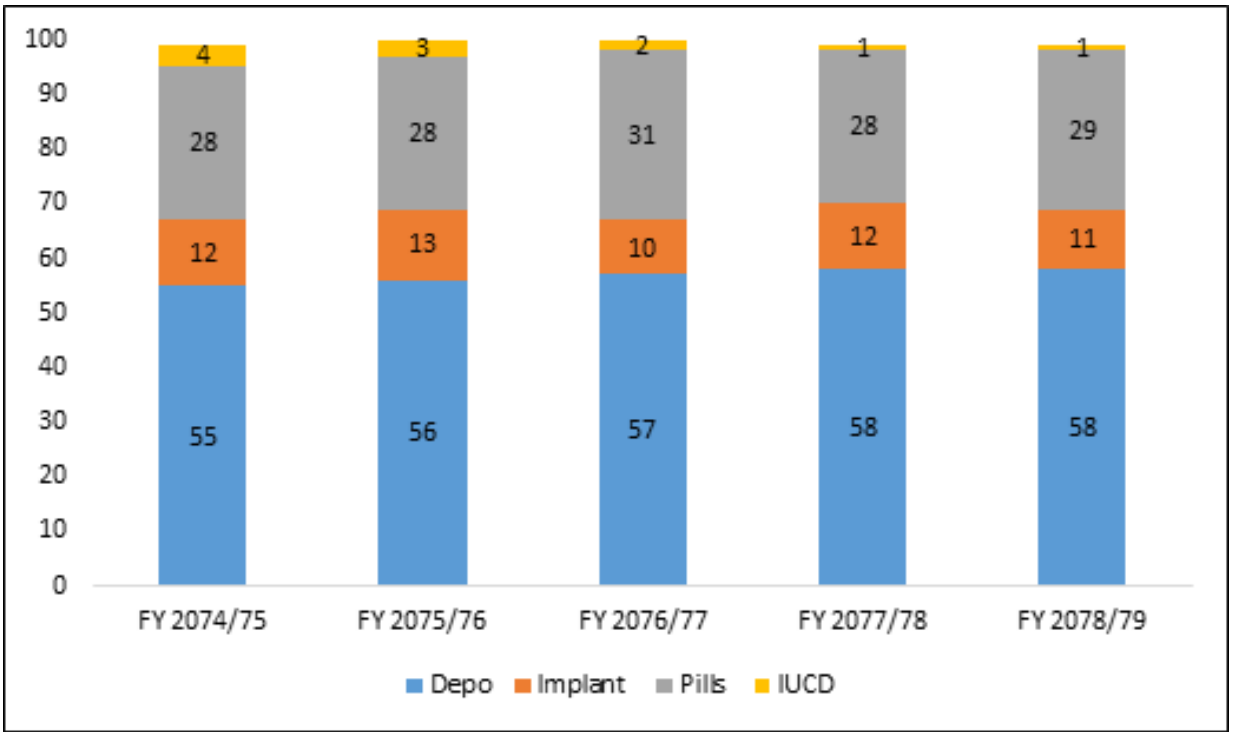


Figure 4.6.2: Temporary contraceptive method mix (excluding condom) among adolescents, FY 2074/75 to FY 2078/79

Safe abortion services

In Koshi, Madhesh, Bagmati, and Gandaki, the number of adolescents who received safe abortion services (SAS) has decreased overall over the past five years, according to the table below. However, this fiscal year has seen an increase in the number of service users in the provinces of Lumbini, Karnali, and Sudurpaschim. The greatest decrease can be observed in Bagmati province in FY 2075/76, 2076/77, FY 2077/78 and 2078/79. The decrease in the number of SAS users in FY 2076/77 in all provinces can be attributed largely to the pandemic of COVID-19 and nationwide travel restriction imposed thereafter in different phases.

Table: 4.6.3: Safe abortion services received by adolescents, FY 2074/75 to FY 2078/79

Province	FY 2074/75	FY 2075/76	FY 2076/77	FY 2077/78	FY 2078/79
Koshi	1361	1733	1165	1282	922
Madhesh	594	1299	1052	712	531
Bagmati	4433	2469	2462	1444	1407
Gandaki	1001	1592	905	1056	798
Lumbini	1142	1445	1718	1327	1770
Karnali	622	996	630	496	569
Sudurpaschim	974	659	540	607	648
Total	10127	10193	8472	6924	6645

Safe motherhood services

The table below (table 4.6.4) reports the number of pregnant adolescents who received antenatal care services. Madhesh province has the highest number of adolescents who received first ANC services (first ANC visit as per protocol) and four ANC as per protocol. Gandaki and Sudurpaschim provinces have fewer adolescents who have received ANC services.

Table 4.6.4: Number of adolescents who received safe motherhood services, FY 2078/79

Province	First ANC Visit (any time)	First ANC Visit as per Protocol	Four ANC Visits as per Protocol
Koshi	15249	11361	7091
Madhesh	25227	14451	8406
Bagmati	12445	8088	5654
Gandaki	5856	4254	3088
Lumbini	9984	8102	5956
Karnali	10182	7423	5353
Sudurpashchim	5830	4802	3370
Nepal	84773	58481	38918

At national level, the dropout rate between ANC 1st and ANC 4th visits is around 33% in FY 2078/79, which is slightly higher than the previous year. Compared to FY 2077/78, the dropout rate between ANC 1st visit and ANC 4th visit has decreased in all provinces except Bagmati province, where the dropout rate is nearly doubled.

4.6.4 Issues and recommendations — Adolescent Sexual and Reproductive Health

Issues and problems raised at recent provincial and national review meetings and during monitoring of the adolescent health programs are summarized in the table below:

Issues	Recommendations	Responsibility
Low uptake of family planning services resulting in low CPR and high unmet needs	Reduce the barriers at health facilities, communities and intensify the demand generation activities adopting user centred approaches	DoHS/ FWD., MoHP, Province,HOs, local level
Readiness and functionality of adolescent friendly services is not up to standard	Strengthening of the adolescent friendly health facilities using Certification and monitoring checklist. Orient Local level on Revised adolescent Friendly Service Guideline.	FWD, Health Directorate, local level
High prevalence of early marriage and teenage pregnancy	Intensify community awareness activities and effective implement the law	NHEICC, FWD, concerned ministries province, local level and partners
ASRH services not Properly integrated with other programmes (family planning, safe motherhood, HIV)	Advocate for the functional integration of ASRH issues and services in other thematic areas/programmes	FWD, Province, local level and ASRH partners
Insufficient IEC/BCC materials at health facilities	Ensure the supply of ASRH related IEC/BCC materials to health facilities	FWD, NHEICC, HOs province, local level and ASRH partners

4.7 Primary Health Care Outreach

4.7.1 Background

Primary health care outreach clinics (PHC-ORC) was initiated in 1994 (2051 BS) to bring health services closer to the communities. The aim of these clinics is to improve access to basic health services including family planning, child health and safe motherhood. These clinics are service extension sites of PHCs and health posts. The primary responsibility for conducting outreach clinics is ANMs and paramedics. FCHVs and local NGOs and community based organizations (CBOs) support health workers to conduct clinics including recording and reporting.
Based on local needs, these clinics are conducted every month at fixed locations, dates and times. They are conducted within half an hour's walking distance for their catchment populations. ANMs/AHWs provide the basic primary health care services listed in Box 4.7.1.

Safe motherhood and new-born care:

- Antenatal, postnatal, and new-born care
- Iron supplement distribution
- Referral if danger signs identified.

Family planning:

- DMPA (Depo-Provera) pills and condoms
- Monitoring of continuous use
- Education and counselling on family planning methods and emergency contraception
- Counselling and referral for IUCDs, implants and VSC services
- Tracing defaulters.

Child health:

- Growth monitoring of under 3 years children
- Treatment of pneumonia and diarrhoea.

Health education and counselling:

- Family planning
- Maternal and new-born care
- Child health
- STI, HIV/AIDS
- Adolescent sexual and reproductive health.

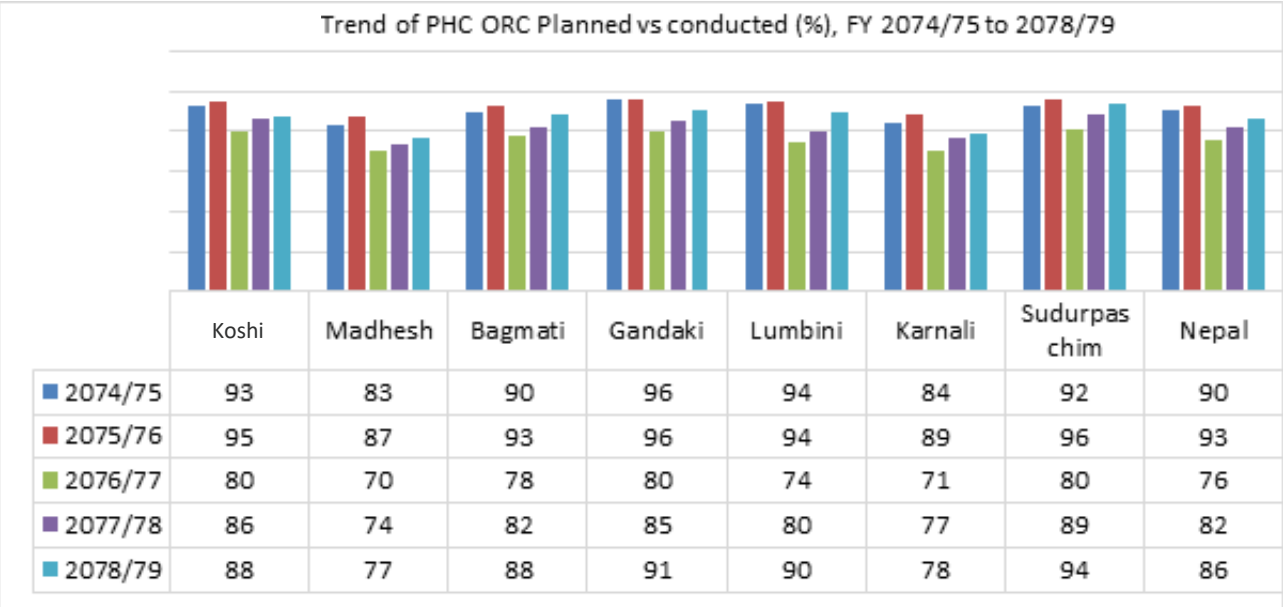
First aid:

- Minor treatment and referral of complicated cases.

4.7.2 Achievements

4.7.2.1 Conduction of PHCORC

Figure 4.7.1. Shows the outreach clinic conduction percentage by provinces for the last five fiscal years (2074/75 - 2078/79). Outreach clinics conducted out of planned is in increasing trend from FY 2077/78 to FY 2078/79 in all provinces. The highest percentage (94) can be seen in Supdurpacchim Province whereas the least (77) in Madesh Province out of total planned clinics in FY 2078/79. The greatest reduction in the conduction of outreach clinics was observed in FY 2076/77 which was reduced by 17% percentage.



	Koshi	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim	Nepal
2074/75	93	83	90	96	94	84	92	90
2075/76	95	87	93	96	94	89	96	93
2076/77	80	70	78	80	74	71	80	76
2077/78	86	74	82	85	80	77	89	82
2078/79	88	77	88	91	90	78	94	86

Figure 4.7.1 Trend of PHC ORC planned vs conducted (FY 2074/75-2078/79)

4.7.3 Service coverage

In FY 2078/79, 2,289,178 clients were served from outreach (PHC ORC) clinics (Table 4.7.1). The total number of clients served increased by 70,737 in FY 2078/79 as compared to the previous year. The greatest number of decrease in the client served was in FY 2076/77. This may be attributed to the effect of COVID-19 pandemic. The number of clients served increased in all provinces except Koshi and Karnali province in FY 2077/78 compared to FY 2076/77.

Table 4.7.1: Trend of clients served by PHC ORC

Province	FY 2074/75	FY 2075/76	FY 2076/77	FY 2077/78	FY 2078/79
Koshi	439,984	459,038	352,729	340,053	327822
Madhesh	455,360	499,384	355,421	390981	417532
Bagmati	356,260	380,100	298,818	291441	296196
Gandaki	274,550	301,013	236,936	236313	224688
Lumbini	477,063	529,097	402,992	410156	472822
Karnali	216,813	253,274	193,174	191085	155486
Sudurpaschim	386,814	399,273	318,749	358412	394632
Total	26,06,844	28,21,179	21,58,819	22,18,441	2289178

The figure below (fig 4.7.2) shows the national and province wise changes in the client flow compared to its preceding year. Until FY 2075/76, the number of clients served was in increasing trend in all provinces. However, in FY 2075/76, the change in client flow decreased significantly in all provinces. Only in Madhesh, Lumbini and Sudurpaschim, the number of clients served slightly increased in FY 2077/78 compared to FY 2076/77.

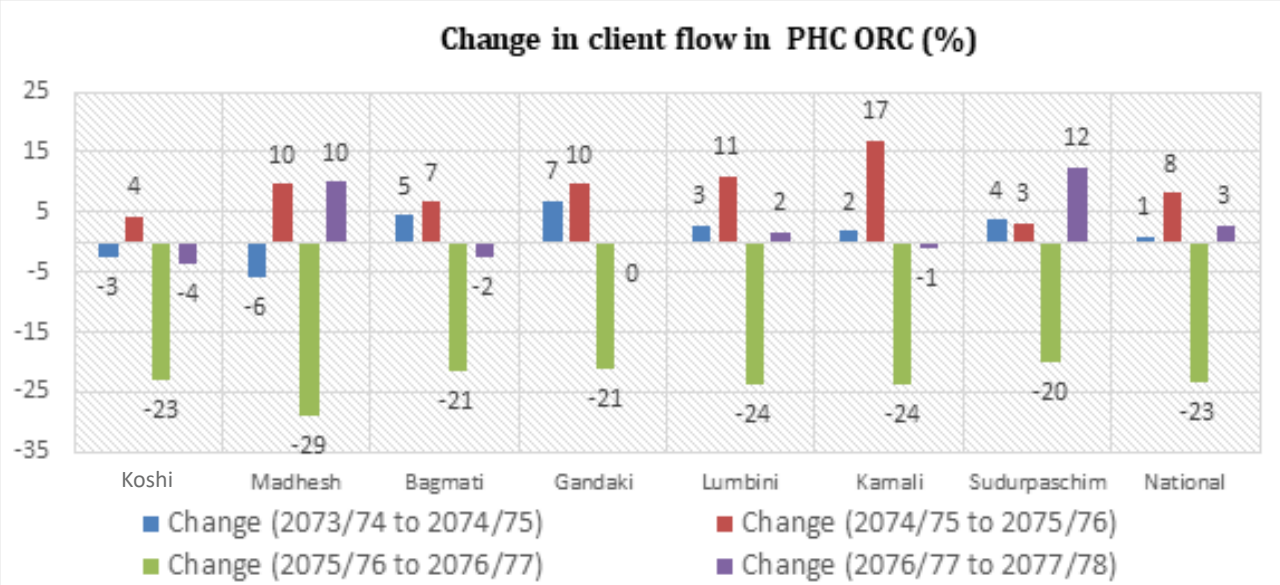


Figure 4.7.2 Change in clients flow in PHC-ORC

4.7.3 Services provision

The table below presents the trend of services provided by outreach clinics in the last five fiscal years. The table below shows that the number of clients who received family planning services such as depo provera, pills and condom is in decreasing trend, however the pills service is slightly increasing in FY 2078/79.

Table 4.7.2: Trend of services provided by PHC-ORCs

Service Types	2074/75	2075/76	2076/77	2077/78	2078/79
Primary treatment	894,377	1263467	838,388	896271	881800
ANC	236238	246,402	152,538	142012	129987
PNC	37,707	39,330	22,510	23928	23029

Postpartum Vitamin A	41350	39317	24398	34480	16799
Depo (number)	175,555	166,655	115,833	108868	100122
Condom (number)	2415152	2287831	1522958	1534142	1466209
Pills (number)	85094	90913	61299	58013	66981

4.7.4 Issues, constraints and recommendations

Issues and problems raised at recent provincial and national review meetings and during monitoring are summarized in the table below:

Table 4.7.5: Issues, constraints and recommendations— primary health care outreach

Issues / constraints	Recommendation	Responsibility
Decreasing number of clients served through outreach clinics	Conduct the micro planning to assess need and functionality status of outreach clinics.	Local level
All of planned outreach clinics are not conducted (86%)	sensitization to local elected member about important of PHC ORC Incentivise Health worker for PHC ORC conduct . Plan PHC ORC to reach unreached population	Local Level(health section)
Inadequate supportive supervision	Develop the PHC ORC guideline and redefine the role of each level	FWD,HD,HO,Local Level

EPIDEMIOLOGY AND DISEASE CONTROL

VECTOR BRONE AND NEGLECTED TROPICAL DISEASES

5.1.1 Malaria

5.1.1.1 Background

Nepal's malaria control programme began in 1954, mainly in the Terai belt of central Nepal with support from the United States. In 1958, the National Malaria Eradication Programme was initiated and in 1978 the concept reverted to a control programme. In 1998, the Roll Back Malaria (RBM) initiative was launched for control in hard-core forests, foothills, the inner Terai and hill river valleys, which accounted for more than 70 percent of malaria cases in Nepal. Malaria is a greater risk in areas with an abundance of vector mosquitoes, amongst mobile and vulnerable populations, in relatively inaccessible areas, and during times of certain temperatures.
Malaria risk stratification 2078/79 (2022) was conducted to develop program intervention to suit the changing epidemiology of malaria in the country. Appropriate weightage was allocated to key determinants of malaria transmission as recommended by external malaria program review. Malaria data from the last three years reveals that even within Rural Municipalities or Municipalities, malaria is concentrated within some wards while other wards remain relatively free of malaria. In order to refine the risk stratification at the community level and thereby define the total population at risk of malaria; malaria risk micro- stratification was conducted at the wards level of Rural Municipality or Municipalities.

The methodology used recent malaria burden data supplemented by information on the spatial distribution of key determinants of transmission risk including climate, ecology, and the presence or abundance of key vector species and vulnerability in terms of human population movement. The method was based on 2012 and 2016 micro-stratification study, and it was recommended by Epidemiology and Disease Control Division (EDCD) and Malaria Technical Working Group (TWG). EDCD provided the overall oversight of the study.

The methodology used for malaria risk stratification is based on the malaria burden, information on the spatial distribution of key determinants of transmission risk including climate, ecology, and the presence or abundance of key vector species and vulnerability in terms of human population movement. The method is explained in the 2018 micro-stratification study report and it was recommended by Epidemiology and Disease Control Division (EDCD) and Malaria Technical Working Group (TWG). Based on this method, micro stratification 2022 was updated and the wards were designated as high, moderate, and low risk wards as shown in the table below:

Table 5.1.1.1 Province wise distribution of malaria risk wards (administrative units)

Province	High Risk ward	Moderate Risk Ward	Low Risk Ward
Koshi	0	0	218
Madhesh	0	0	212
Bagmati	0	0	364
Gandaki	0	0	251
Lumbini	1	1	272
Karnali	4	9	412
Sudurpaschim	9	29	589
National	14	39	2318

High risk wards were identified in 14 wards scattered across 8 districts. Furthermore, moderate risk wards were identified in 39 wards in 10 districts.

Malaria transmission is concentrated in the Sudurpashchim and Karnali Province with these two provinces accounting for approx. 93% high risk burden and around 97% moderate risk burden. Malaria transmission has reached a low level of endemicity in most of the Terai regions (plain lands) but malaria infection is increasingly being detected in upper hilly river valleys, which was traditionally classified as "No Malaria" risk.

Program has decided to keep in the same categories those which were in high and moderate risk in the last 3 years micro stratification despite low risk in current risk stratification and activities would be run accordingly.

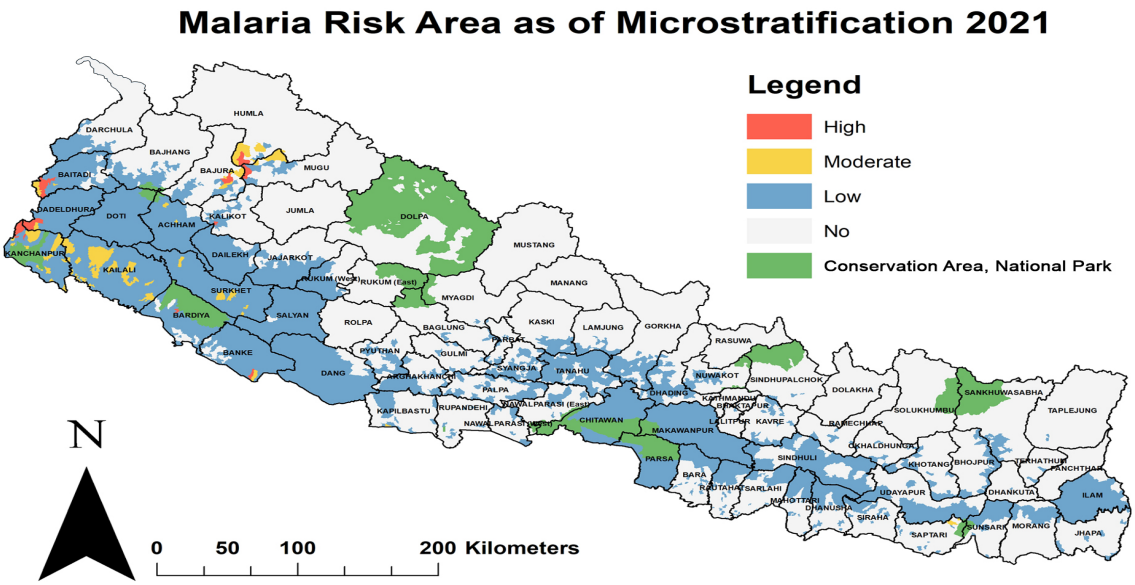


Figure 5.1.1.1: Ward Level Risk Classification Map (MS 2022)
Source: Malaria micro stratification report 2022

Nepal's National Malaria Strategic Plan (NMSP, 2014–2025) has shown in Box 5.1.1.1.

Box 5.1.1.1: Key Highlights of the National Malaria Strategic Plan (2014–2025 updated)

National Malaria Strategic Plan (NMSP 2014 – 2025) which was developed in 2013 with pre-elimination focus was updated in 2021 based on the WHO Global Technical Strategy for malaria elimination 2016 – 2030 and framework for malaria elimination, federalization of the health system, disease epidemiology and midterm malaria program review-2017.Nepal is also part of the global E-2025 countries with aim to attain "**Malaria Elimination in Nepal by 2025**".

Vision: Malaria Elimination in Nepal by 2025.

Mission: Ensure universal access to quality assured malaria services for prevention, diagnosis, treatment and prompt response in outbreak.

Goal: Reduce the indigenous malaria cases to zero by 2022 and sustain thereafter. Sustain zero malaria mortality.

Objectives:

To ensure proportional and equitable access to quality assured diagnosis and treatment in health facilities as per federal structure and implement effective preventive measures to achieve malaria elimination.

The updated NMSP (2014-2025) will attain the elimination goals through the implementation of following five strategies:

- Strengthen surveillance and information system on malaria for effective decision making.
- Ensure effective coverage of vector control interventions in malaria risk areas to reduce transmission.
- Ensure universal access to quality assured diagnosis and effective treatment for malaria.
- Ensure government committed leadership and engage community for malaria elimination.

- Strengthen technical and managerial capacities towards malaria elimination.

5.1.1.2 Major activities in 2078/79

- 88,897 long lasting insecticidal nets (LLIN) was distributed as mass distribution and 25,196 LLINs were distributed through continuous distribution to people leaving in active foci, malaria risk groups, army police, pregnant women at their first ANC visits.
- Conducted the ward-level micro-stratification of malaria cases in 77 districts.
- Continuation of case-based surveillance system as key intervention, including web-based recording and reporting system for districts. The Malaria Disease Information System (MDIS) is now fully operational.
- Orientated district and peripheral level health workers on case-based surveillance and response.
- Started private sector engagement activities; health worker orientation on malaria diagnosis and treatment, recording and reporting to DHIS2 on correctly and timely manner.
- Carried out detailed foci investigation at 38 sites.
- Orientated district health workers and FCHVs on the government's malaria elimination initiative and their role in detecting cases and facilitating early treatment.
- Conducted malaria reorientation in Sudupachim and Madesh provinces on malaria prevention and the need for early diagnosis and prompt treatment.
- Conducted quarterly and annual review meetings for district and central level staff. Participants reviewed data from peripheral facilities and revised it based on suggestions.
- Study on prevalence of Laboratory confirmed Malaria among clinical Malaria cases identified by physicians in Referral Hospitals of Nepal is ongoing.
- Conducted operational research on malaria vector behaviour and insecticide resistance.
- Conducted regular vector control (indoor residual spraying) biannually across high and moderate risk districts.
- Conducted detailed case-based investigation and fever surveys around positive index cases.
- Conducted integrated entomological surveillance around twelve different sites of thought-out the country.
- Regular supply of mRDT and anti malaria drugs to Service Delivery Points (SDPs)
- Conducted supportive supervision to SDPs.
- Celebrated World Malaria Day on 25 April.

Current Status of Program

In 2078/79, the National Malaria Program achieved more than 94% (38) reduction in indigenous malaria cases compared to 2071/72 (683) whereas more than 90% (66) in 2077/78. Case and Foci investigation are getting momentum; In this year the impact of COVID-19 is very less which has resulted positive in case base investigation and malaria testing. Around 99% (486/491) cases went through the case-based investigation which was around 93% in 2077/78. This year (2078/79) annual Blood Examination Rate (ABER) and annual parasite incidence are increased (2.89%) and 0.05 compared to previous fiscal years and positivity rate is decreasing (0.17%) trend respectively.
In 2078/79, altogether 38 suspected foci were investigated. Out of that only 24 foci were active where local transmission was ongoing. In this year, a total of 48 foci were residual non-active, and 87 foci were cleared.

The trends of the malaria epidemiological situations for last three years show a slightly decreasing trend, but from last fiscal year the trend is increasing (Table 5.1.1.1):

- Confirmed malaria cases Increased from 377 in 2077/78 to 491 in 2078/79. The proportion of P. falciparum infections is increased and accounted for more than 23% of all cases in current year.
- After decade, program has diagnosed 4 p. ovale malaria cases among returnees of peace keeping mission.
- One case was died due to malaria in Kanchanpur.
- In 2078/79, the API is increased (0.05) compared to 2077/78 (0.03) calculated based on denominator set after micro-stratification, 2022/HMIS).

- The trend of clinically suspected malaria cases is also decreasing, mainly due to the increased coverage of RDT, microscopic laboratory service at peripheral level and regular orientation and onsite coaching of service providers; however in 2078/79 the case is increased from 129 to 303. Out of these cases some were tested negative but treated by chloroquine.

The overall trend of the national malariometric indicators (Table 5.1.1.1) indicates that Nepal has entered in the elimination phase with API less than 1 in all the provinces.

Table 5.1.1.2 Malaria epidemiological information (FY 2076/77–2078/79)

Items /indicators	2076/77	2077/78	2078/79
Total population	12,175,815	11,902,650	10,140,450
Total slide examined	251138	156783	292893
Total positive cases	619	377	491
Total indigenous cases	102	66	38
Total imported cases	517	311	453
Total P. falciparum (Pf) cases *	56	51	114
% of Pf of total cases*	9.05	13.53	23.2
Total indigenous Pf cases *	5	8	0
% indigenous Pf cases *	9	16	-
Total imported Pf cases *	51	43	114
% imported Pf cases	91	84	1
Total P. vivax(Pv)cases+Ovale**	563	326	377
Total indigenous Pv cases+Ovale**	97	58	38
% indigenous Pv cases +Ovale**	17	18	10
Total imported Pvcases +Ovale**	466	268	339
% imported Pv cases+Ovale**	82.8	82	90
Annual blood examination rate	2.06	1.32	2.89
Annual parasite incidence	0.05	0.03	0.05
Annual Pf incidence	0.005	0.004	0.011
Slide positivity rate	0.25	0.24	0.17
Slide Pf positivity rate *	0.02	0.02	0.04
Death from Malaria	0	0	1
Probable/clinical suspected malaria cases	373	129	303
Active Foci	38	30	24
Residual Non Active Foci	241	117	48
Cleared Foci	150	152	87

*pf+pmix

** 4 p. ovale

Source: EDCD/DoHS

The highest number of total confirmed cases were reported from Banke district (107) followed by Kailali (97), Kanchanpur district (36), Sarlahi (29), Achham (24), Surkhet (22). When we disaggregate the case per their classification (imported and indigenous). The detailed cases are updated in the annex part -3.

Out of total confirmed cases the highest number of indigenous cases were reported from Humla district (8) followed by Mugu (7), Kanchanpur (6), Achham and Kailali (3). The Bajura, Banke and Surkhet districts diagnosed the same 2 cases and Dang, Kapilbastu, Baitadi, Dadeldhura, and Dailekh reported the same 1 case in each district. The number includes the private sector as well, which shows substantial progress towards reduction of indigenous cases (elimination targets), however, it requires continuous attention for further improvement.

Table 5.1.1.3: Province wise Malaria epidemiological information of 2076/77 to 2078/79

Province	Annual Blood Examination rate (ABER) of malaria at risk population			Malaria annual parasite incidence per 1000 population			% of Pf cases among the total malaria cases			% of imported cases among positive cases of malaria			Slide positivity rate of malaria		
	2076 /77	2077 /78	2078 /79	2076 /77	2077 /78	2078 /79	2076 /77	2077 /78	2078 /79	2076 /77	2077 /78	2078 /79	2076 /77	2077 /78	2078 /79
Koshi	2.23	1.64	2.48	0.01	0.00	0.01	26.7	0	20	93.3	100	100	0.06	0.02	0.02
Madesh	1.07	1.05	2.4	0.02	0.01	0.04	15.6	27.3	13.6	96.9	90.9	100	0.15	0.05	0.18
Bagmati	4.35	0.71	4.64	0.02	0.01	0.02	32.4	70	51.2	80	86.5	100	0.05	0.05	0.05
Gandaki	0.44	0.42	1.08	0.02	0.01	0.01	8.7	25	23.1	100	86.5	100	0.44	0.25	0.11
Lumbini	3.61	2.71	3.58	0.07	0.04	0.10	6.4	30.9	38.9	88.7	91.7	97.5	0.21	0.16	0.27
Karnali	0.86	0.52	1.57	0.04	0.02	0.04	5.9	5.9	2.1	72.5	72.5	62.5	0.46	0.48	0.25
Sudhurpachim	2.10	1.52	3.02	0.16	0.08	0.07	6.6	4.48	11.0	79.7	82.5	91.2	0.78	0.53	0.24

Source: EDCD/DoHS

5.1.1.4 Recommendations from Provincial and national reviews and actions taken

Problems and constraints	Action to be taken	Action taken
• Confirmation of suspected and probable malaria cases	• Malaria microscopy trainings of all untrained lab personnel • Availability of RDT at non microscopic sites • Orientation of service providers, clinicians, health workers and private practitioners • Validation of probable malaria case through cases investigation	• Increased number of malaria microscopy trainings run at VBDRTC and in other regions including lab personnel from across the country • Database created that lists untrained and trained personnel since 2004. It aims to reduce repetition before two years of basic malaria microscopy training to provide equal opportunities • Regular periodic validation of HMIS data by EDCD in coordination with DPHOs • Decentralized training centres established in mid and far west to train more lab personnel on malaria microscopy
• Low blood slide examination rates for malaria elimination programme	• Train health workers on RDT and microscopy in malaria reported districts	• Supplied RDT at community level • Trained health workers from malaria reported districts
• Orientation on malaria programme to health workers	• Run training programmes with GFATM support	• Ongoing basic and refresher trainings on malaria microscopy for lab technicians and assistants at peripheral facilities • Oriented PHD and DHO finance and store persons on malaria programme • Oriented FCHVs on malaria
• Malaria case reporting and case investigation	• Orient district and peripheral staff on case investigation and reporting	• District and peripheral level staff oriented on case investigation, surveillance, foci investigation and reporting
• Unnecessary variables in HMIS tool (for status of patients)	• EDCD to address to variables during HMIS tools revision	• Discussed with HMIS section and agreed to rectify at next revision
• Malaria cases increasing in non-endemic district	• Programme should address non-endemic districts	• Programme will be added next year to also target non-endemic districts.

5.1.2 Kala-azar

5.1.2.1 Background

Leishmaniasis is caused by an intracellular protozoan parasite, of which 20 Leishmania species can cause human disease. Leishmania parasites are transmitted through the bites of infected female phlebotomine sandflies, which feed on blood to produce eggs. The disease occurs in 3 main clinical forms: (i) life-threatening visceral leishmaniasis (VL) or kala-azar with its dermal sequel – post-kala-azar dermal leishmaniasis (PKDL); (ii) self-healing or chronic cutaneous leishmaniasis (CL); and (iii) mutilating mucosal or mucocutaneous leishmaniasis. Kala-azar is characterized by prolonged fever, weight loss, weakness, anemia and hepato-splenomegaly. If untreated, the patient usually dies in about 2 years due to inter- current infections

Kala-azar is slated for elimination in Nepal. Elimination of Kala-azar is defined as achieving annual incidence of less than 1 case of kala- azar in 10,000 population at the implementation unit i.e. district level in Nepal with case fatality due to Kala-azar less than 1%.

The government of Nepal is committed to the WHO regional strategy to eliminate Kala-azar and signatory to the memorandum of understanding (MoU) on strengthening collaboration in the regional elimination efforts along with Bangladesh and India.

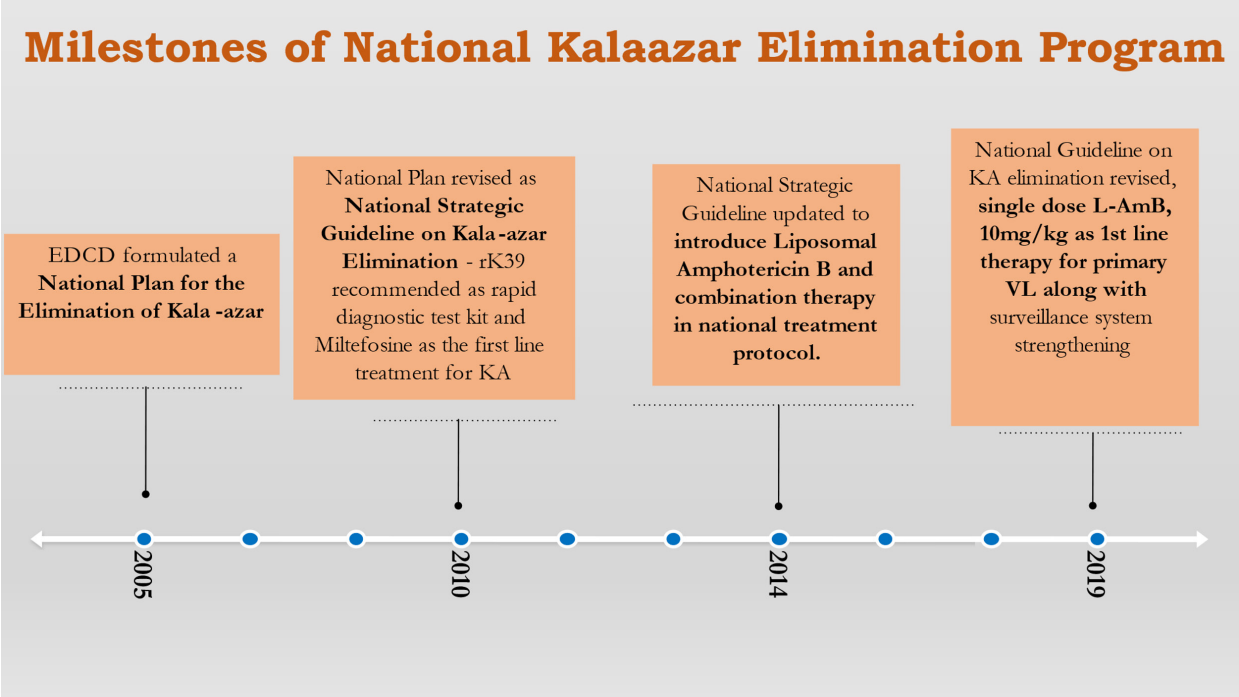


Figure 5.1.2.1: Milestones of National Kala-azar elimination program in Nepal

5.1.2.2 Goal, objectives and strategies

Goal

- The goal of kala-azar elimination program is to contribute to mitigation of poverty in kala-azar endemic districts of Nepal by reducing the morbidity and mortality of the disease and assisting in the development of equitable health systems.

Target

- Reduce the incidence of kala-azar to less than 1 case per 10,000 populations at district level.

Objectives

- Reduce the incidence of kala-azar in endemic communities with special emphasis on poor, vulnerable and unreached populations.
- Reduce case fatality rates from kala-azar to ZERO.
- Detect and treat Post-Kala-azar Dermal Leishmaniasis (PKDL) to reduce the parasite reservoir.
- Prevent and manage Kala-azar HIV–TB co-infections.

Strategies

Based on the regional strategy proposed by the South East Asia Kala-azar Technical Advisory group (RTAG) and the adjustments proposed by the Nepal expert group, Government of Nepal, MoHP has adopted the following strategies for the elimination of Kala-azar.

- Early diagnosis and complete treatment
- Integrated vector management
- Effective disease and vector surveillance
- Social mobilization and partnerships

Over the last decade, there has been significant advances in the diagnosis and treatment of kala-azar. Nepal's national programme made the rK39, dipstick test kit (a rapid and easily applicable serological test) available up to PHCC level in affected districts. Likewise, drugs for kala-azar such as liposomal amphotericin B, miltefosine and paromomycin are made available to all the kala-azar treatment centres. Kala-azar diagnostics and drugs are provided free of cost to the patients by EDCD.

5.1.2.3 Major activities in 2078/79

Case detection and treatment: Early case detection and complete and timely treatment is the mainstay of eliminating kala-azar. Kala-azar related diagnostics are provided up to PHCC level and diagnostics/treatment services are provided at district and above levels of health facilities while awareness, health education, identification and referral of suspected cases are also offered at health posts.

RDT scaling up: RDT is the simple test that can be used at all levels of health care services. It does not need highly skilled laboratory staff and test results expedite the initiation of treatment provided standard case definitions are followed. They are currently the best available diagnostic tool for kala-azar diagnosis and can be used in any field setting. rK39 (RDT) was made available at kala-azar affected districts from level II and above health institutions. There is provision of supply on demand to any health facility in high degree of clinical suspicion.

Endemicity assessment: In FY 2078/79, 26 endemic doubtful districts were assessed for the endemicity assessment using the previously developed endemicity assessment protocol. The details of the districts could be found in Fig 5.1.2.2.

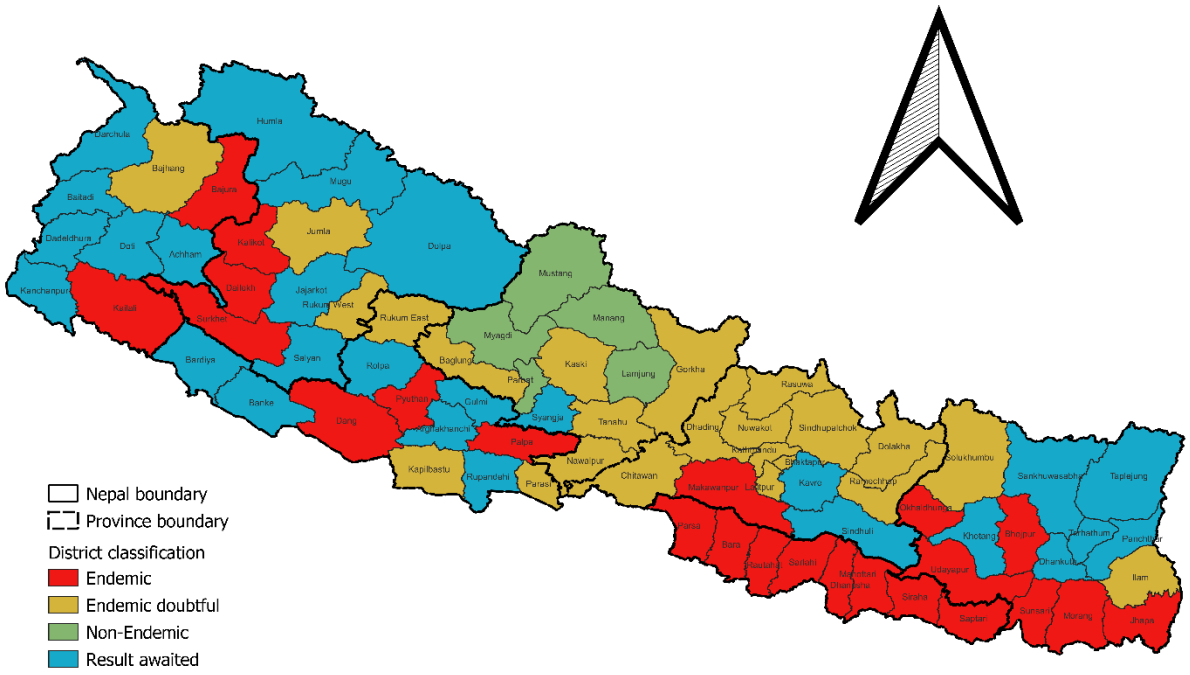


Figure 5.1.2.2: Endemicity status of districts in Nepal

Indoor residual spraying in priority affected areas: In 2078/79 two rounds of selective indoor residual spraying were carried out in prioritized kala-azar affected areas of endemic districts based on the national IRS guideline. A total of 750 drums of insecticide was provided to the District health office for spraying of insecticide. The operational cost of insecticide was at local level. IRS is carried out only in villages where kala-azar cases were recorded in the previous year or in areas with an outbreak in the recent past. The kala-azar programme also benefits from IRS for the prevention of malaria.

Supervision and Monitoring: District health office conducted the supervision and monitoring of vector borne and ne-glected tropical disease. The necessary technical support was provided to local levels as needed.

Annual review: The annual review of NTD/VBD was conducted at all provinces with an aim to review the progress update on NTD/VBS in Nepal.

Disease surveillance: Improved disease surveillance is one of the very important areas to accelerate the elimination efforts of the national kala-azar elimination program. Various activities were conducted this fiscal year to strengthen the disease surveillance which includes virtual training to EWARS sentinel sites as well as improved data monitoring and evaluation. During FY 2078/79, active case detection through index case-based approach was also carried out in en- demic and endemic doubtful districts. Index case-based house to house searches were carried out by provincial, district, local levels, local health facility staffs and FCHVs for suspected kala-azar and PKDL cases. Suspected cases were then screened clinically by physicians and rapid diagnostic kits (rK39) by laboratory persons and other health workers. rK39 positive cases were referred to district, provincial hospitals and federal hospitals for further confirmation and management.

5.1.2.4 Current status and trend of kala-azar cases (2074/75 to 2078/79)

The number of kala-azar cases has been decreasing significantly in recent years, however geographical expansion of the cases has been observed in recent years. The cases of Kala-azar have been gradually increasing in the last three years. The cases in both endemic doubtful and endemic districts have increased over the last five years (Fig 5.1.2.3). The programme initially identified 12 districts of central and Terai region of KA endemic. In 2016, 6 more districts were added to the list including hilly districts.

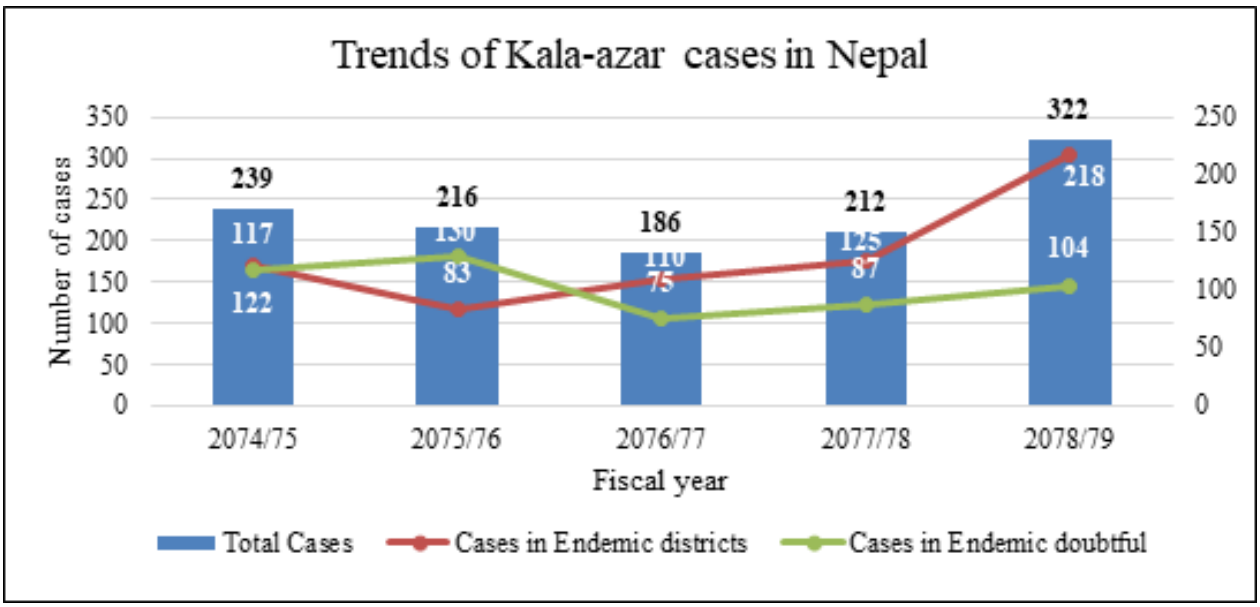


Figure 5.1.2.3: Trends of Kala-azar in Nepal

As of FY 2078/79, 23 districts are identified as endemic districts with 9 districts residing from hilly and mountainous regions. Moreover, the endemic doubtful districts have reached 49 districts in 2078/79 with one new non endemic district identified as endemic doubtful districts. Additionally, the burden of VL has shifted from eastern and central parts of Nepal towards the western parts of Nepal. The cases have increased in Karnali provinces in the last three years; with Kalikot districts crossing the elimination threshold in each year. In FY 2078/79, the cases have increased com- pared to previous years. This is due to strengthening of ACD of the Kala-azar cases as well as few cases were identified during the endemicity assessment of Kala-azar.

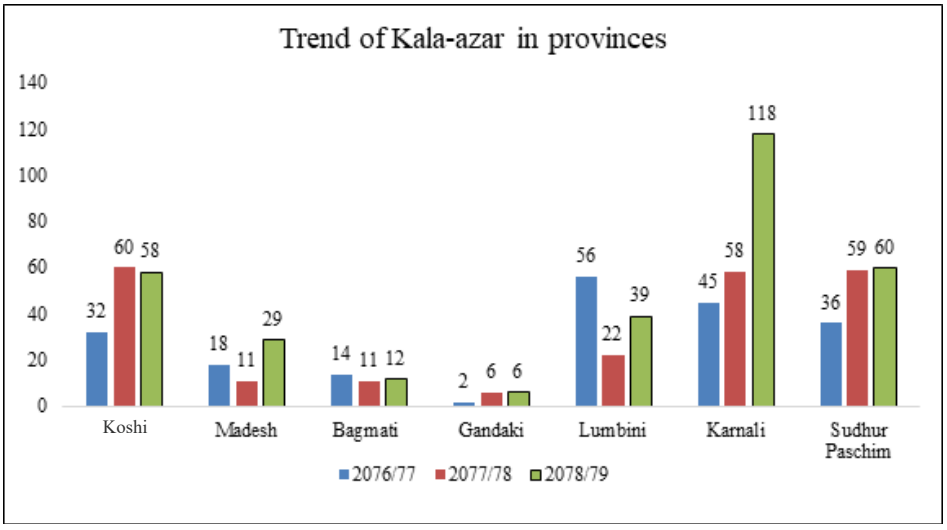


Figure 5.1.2.4: Province wise trend of Kala-azar

FY2078/79: In this fiscal year, as per the national guidelines 2019, 23 districts are identified as endemic districts, 49 as endemic doubtful and 5 districts as non -endemic in Nepal. There has been an increase in the number of cases in this fiscal year compared to last year (322 in 2078/79 vs 212 in 2077/78). Out of 322 native cases, 218 cases (67%) of cases are reported from endemic districts. Most cases in endemic districts are reported from Kalikot (60), Okhaldhunga (23), Kalikot, Surkhet (29) and Mahottari (12). Likewise in the previous year, both Okhaldhunga and Kalikot crossed the elimina- tion threshold of less than one case per 10,000 population in this fiscal year. The number of reported cases is higher in Karnali Province (118) followed by Sudhurpaschim Province (60) and Koshi (Koshi) (58).

5.1.2.5 Strengths, issues/challenges and recommendations of National Kala-azar Elimination Program Strengths

1. Availability of free of cost drugs and diagnostics for early case detection and timely treatment of kala-azar cases.
2. Availability of recently revised standard national guidelines for kala-azar elimination program in Nepal including regular trainings to health professionals on kala-azar prevention, diagnosis and management
3. Use of a multi-disciplinary approach to overcome the challenges for elimination of Kala-azar.
4. Implementation of Health Management Information System (HMIS) and Early Warning and Reporting System (EWARS) for surveillance of Kala-azar.
5. Implementation of active case detection of kala-azar through index case-based approach.
6. Effective partnerships and collaboration with academics, researchers and other stakeholders.
7. Issues/Challenges
8. Lack of effective implementation of indoor residual spraying specially in endemic doubtful districts.
9. Increasing number of other forms of leishmaniasis such as cutaneous leishmaniasis which needs further
10. evaluation.
11. Inadequate awareness about disease among the communities.
12. Recommendations
13. Verification of endemicity status of kala-azar in endemic doubtful districts consistently reporting new cases of kala-azar.
14. Improve the disease and vector surveillance.
15. Dissemination of educational messages to public, public health professionals and policy makers related to ka-la-azar.
16. Improving active case detection and investigation and management of outbreaks.

5.1.3 Lymphatic Filariasis (LF)

5.1.3.1 Background

Lymphatic filariasis (LF), commonly known as elephantiasis, is one of the mosquitoes borne parasitic diseases. It's a painful and highly disfiguring neglected tropical disease often associated with areas that have poor sanitation and housing quality. The infection may be acquired during childhood whereas its visible manifestations may occur later in life, causing temporary or permanent disability, pain and social stigma. The infection transmitted by different species of mosquitoes (Culex, Anopheles & Aedes) is caused by a thread like filarial worms (nematodes). In the majority of the cases (90%), the infection is caused by Wuchereria Bancrofti and the remainder by Brugia Species (Brugia Malayi & Brugia Timori).

Adult worms reside in the lymphatic vessels interrupting the normal function of the lymphatic system. The worms have a life span of about 6–8 years and produce millions of microfilariae (immature larvae) that circulate in the blood. Mosquitoes are infected with microfilariae by consuming blood when biting an infected person. Microfilariae mature into infective larvae within the mosquito. When infected mosquitoes bite people, mature parasite larvae are deposited on the skin from where they can enter the body. The larvae then migrate to the lymphatic vessels where they develop into adult worms, thus continuing the cycle of transmission.

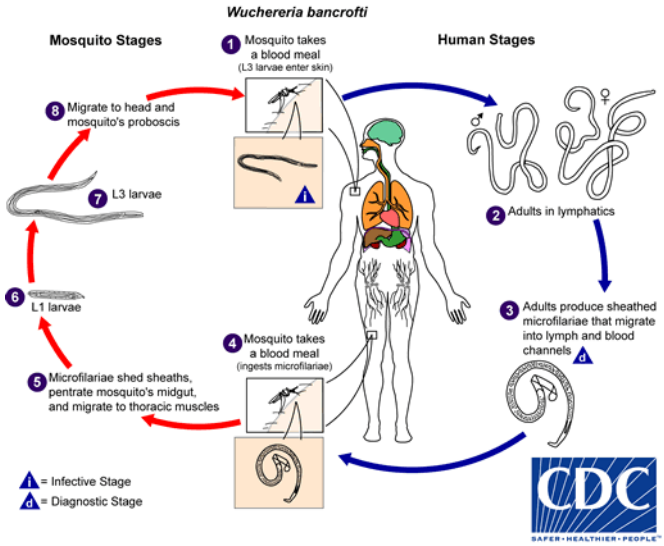


Figure 5.1.3.1: Lifecycle of Wucheria Bancrofti
(Source: CDC, 2010)

The number of infected persons, the micro filarial density in the blood of infected persons, vector mosquito's density, and characteristics of the vector and frequencies of human-vector contact are the major factors affecting transmission of LF in a community. Filarial infection can cause a variety of clinical manifestations, including lymphoedema of the limbs, genital disease (hydrocele, chylocele) and recurrent acute attacks, which are extremely painful and are accompanied by fever. The vast majority of infected people are asymptomatic, but virtually all of them have subclinical lymphatic damage. It takes years to manifest chronic and disfiguring conditions. These conditions lead to mental, social and financial losses contributing to social stigma and poverty.

5.1.3.2 LF burden in Nepal

Nepal was one of the 72 countries listed by WHO as being endemic for lymphatic filariasis. The disease has been detected in different topographical areas ranging from altitude of 300 feet (in the plain terrain) to 5,800 feet (high hill areas) above sea level. Comparatively, more LF cases are seen in the terai than in the hills, but valleys and river basin areas of hilly districts also have high disease burden. In Nepal, W. Bancrofti is the only recorded parasite causing LF and believed to be transmitted through Culex Quinquefasciatus mosquito.

The series of LF mapping conducted between 2001- 2012 by using ICT (Immunochromatography Test card) revealed that the average baseline prevalence of LF in Nepal was 13 percent ranging from less than 1 percent to as high as 39 percent in the districts. Based on the ICT survey, morbidity reporting, vector density, sanitation status and geo-ecological comparability, 61 out of then 75 districts of Nepal were considered as endemic for LF posing risk to 25 million population residing in those districts. In the new federal structure, two endemic districts namely, Rukum and Nawalparasi have

been divided into each two districts totalling the number of endemic districts to 63. Rasuwa district found endemic from confirmatory mapping in 2021 made the once endemic district to 64. Nawalparasi has already completed TAS III in early

2018 whereas Rukum has completed TAS II in 2020. As of Mangsir 2079 (December 2022), 5 districts are non-endemic, 8 mountainous districts are endemic doubtful, 48 districts had stopped LF Mass Drug Administration (MDA) after successful Transmission Assessment Survey (TAS), 1 district (Sindhuli) is awaiting verification (Re TAS 3) after failing TAS 3 in an evaluation unit of 3 districts and 15 districts along with Rasuwa is planned for LF Mass Drug Administration (MDA) in 2023 (2079/80).

The morbidity data collected from mapping (SMS and paper-based approach) of 45 districts showed that 31,029 cases of LF have been screened so far, among which majority (21169 cases) were hydrocele, 9614 lymphoedema and 246 cases were having both Hydrocele and Lymphoedema. MMDP mapping has been completed in 53 districts. However, 8 districts are yet to submit the final report.

5.1.3.3 Progress towards Elimination of LF in Nepal

Nepal is among the countries who have started LF MDA in all endemic districts and is on track to achieve elimination status. All 63 previously endemic districts (Rasuwa found to be endemic recently is yet to start MDA in 2023) have completed more than five rounds of MDA. 75 percent (48) of the endemic districts have started post MDA surveillance after stopping MDA. During MDA, health workers and Female community Health Workers (FCHVs) are oriented on identification of LF cases and self-care by people having lymphoedema. Community morbidity mapping using SMS or paper-based approach has been completed in 45 of 64 endemic districts. FCHVs and Health workers in the community can manage and provide self-care instructions and support to the cases in the community. These health workers are also able to manage the acute attacks and provide other symptomatic treatments if necessary. Along with this, they are oriented on referring hydrocele cases for surgical corrections which are available on all the federal/provincial/district/nearby hospitals free of cost. In this aspect, MMDP access is also available in all endemic districts. The LF endemicity status of differ- ent districts are shown in the map below:

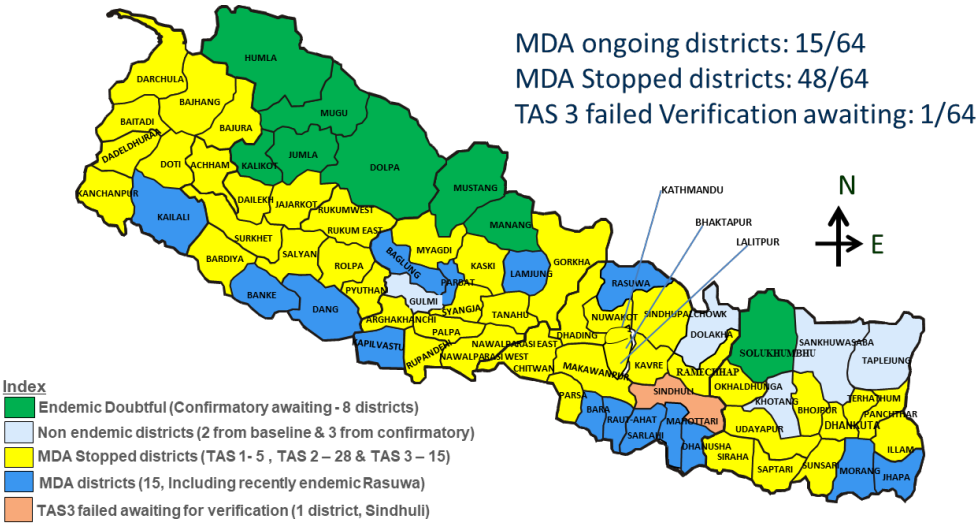


Figure 5.1.3.2: LF Endemicity Status of Nepal, as of March 2022

5.1.3.4 LYMPHATIC FILARIASIS ELIMINATION PROGRAMME OF NEPAL

The World Health Assembly (WHA) of 1997 passed a resolution (50.29) to eliminate LF as a public health problem and in response to this, WHO established a Global Programme to Eliminate LF (GPELF) in 2000 with a goal to eliminate LF as public health problem by 2020. However, this target of elimination was revised as many countries were behind the initial target of 2020 and now targeted for global elimination by 2030.

As per global commitment for GPELF, LF mapping was done in 2001, 2005/2006 and remapped in 2012 by using ICT which discovered that 61 out of then 75 districts of Nepal were endemic for LF. Almost 25 million people living in these districts are considered to be at risk of getting LF. This indicates that quite a significant number of people are estimated to be living with symptomatic and asymptomatic infections which cater as a source of infection to others. Treating all potential reservoirs of infection kills the parasites (both adult and microfilaria) present in the populations which in turn reduce the sources of infection and hence, the transmission can be lowered significantly and LF can be eliminated as a public health problem.

To address these challenges, the Government of Nepal has also set a goal and national targets through effective implementation of WHO recommended strategies to eliminate LF by 2020. However, repeated Pre TAS failures in some of the districts and recrudescence of transmission (TAS failures) in MDA stopped districts, Nepal has also shifted its goal of

elimination to 2030 in order to align with WHO NTD roadmap. Annual mass drug administration (MDA) of single doses of Albendazole plus Diethyalcarbamazine (DEC) is implemented in endemic districts, treating the entire at-risk population. Nepal has introduced the Triple Drug Regimen (Ivermectin, DEC & ALB-commonly known as IDA) in 5 districts (Morang, Kapilvastu, Dang, Banke and Kailali) from 2022 MDA and EDCD has planned to conduct IDA in all 15 MDA districts in 2023 round. However, 5 Re Pre TAS districts if successful in ongoing Re Pre TAS will undergo DA (DEC & ALB) MDA.

Goal
Elimination of Lymphatic Filariasis from Nepal by the year 2030 as a public health problem by reducing the level of the disease in population to a point where transmission no longer occurs.

Objectives:
- To interrupt the transmission of lymphatic Filariasis
- To reduce and prevent morbidity
- To provide de-worming benefit using Albendazole to endemic communities
- To reduce mosquito vectors through application of suitable and available vector control measures (Integrated Vector Management)

Targets:
- To complete Confirmatory Mapping survey in 8 endemic doubtful districts in 2023
- To cover with MDA in all potential endemic districts confirmed endemic after mapping by 2024 (however, MDA covered in all identified districts in 2014)
- To stop MDA in all endemic districts in 2026
- To complete Morbidity Mapping all remaining districts 2025
- To provide essential package of care in all endemic districts in 2028 through establishing at least one MMDP care and support centre in each endemic district.
- To complete TAS-3 (successful result in TAS-3) in all endemic districts by 2030

Indicators
- Number/Percentage of districts completed Confirmatory Mapping survey
- Number of potential endemic districts started MDA
- Number/Percentage of endemic districts stopped MDA
- Number/percentage of endemic districts Passed TAS-3
- Number of districts completed morbidity Mapping
- Number of districts implemented package of essential care through at least one MMDP care and support centre

Strategies
- **Interruption of transmission by Mass Drug Administration (MDA)** – Initially using two drug regimens, Diethyalcarbamazine (DEC) and Albendazole (ALB) - known as DA MDA, yearly campaign for six years. Now, using three drug regimens, Ivermectin, DEC and Albendazole known as IDA MDA; yearly for 2-3 years in newly endemic and Transmission Assessment Survey failure districts.
- **Morbidity management and Disability Prevention (MMDP)** – Morbidity management by self-care and with support using intensive but simple, effective, and local hygiene techniques.

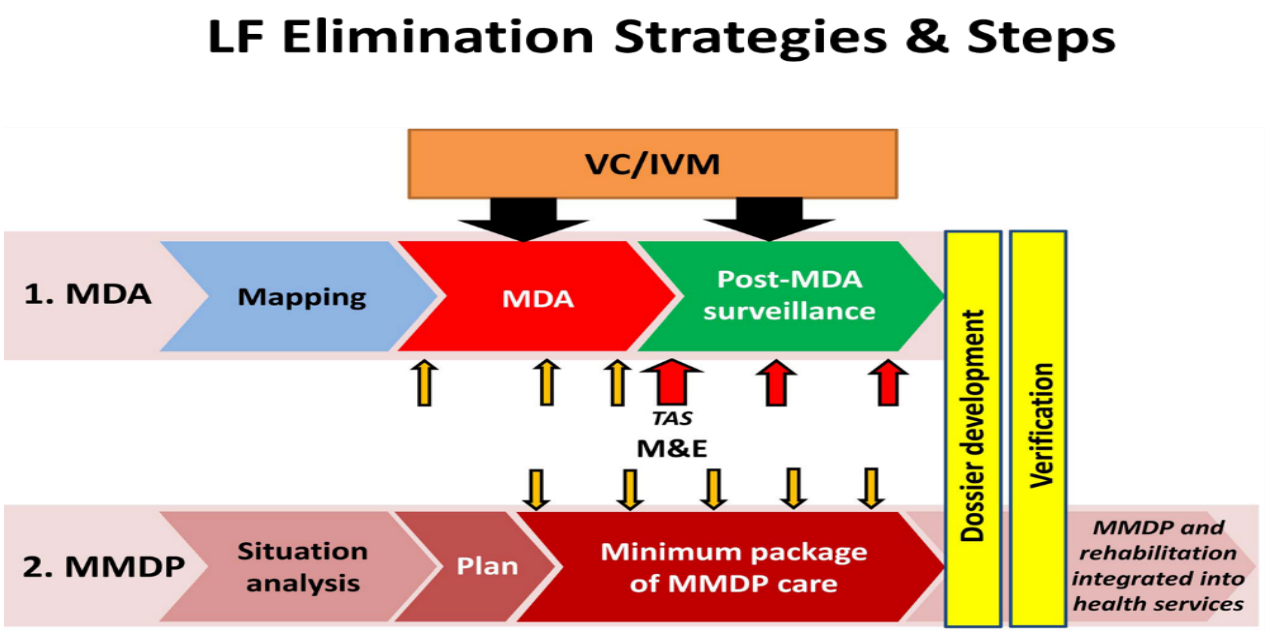


Figure 5.1.3.3: LF Elimination Strategies and Steps
(Source: WHO; 2017)

5.1.3.5 Baseline and Mapping Survey

Baseline surveys are conducted before implementing MDA in the districts to explore the geographical distribution of the disease. These surveys determine the prevalence of the disease through examining blood for microfilariae or antigenemia in two sentinel sites each in a district. Nepal conducted LF mapping in 2001, 2005/2006 and remapping in 2012 by using ICT. These surveys revealed that the average baseline prevalence of LF infection in the country was 13 percent ranging from less than 1% to as high as 39% in the districts. The clinical cases of LF were being reported during outpatient attendance in health institutions (Central, Regional, Zonal and District hospitals; and Primary Health Care Centers (PHCs), Health Posts (HPs) at periphery) through the Health Management Information system (HMIS), but it is widely estimated that the reporting of LF related morbidity in HMIS is under reported since the private sector does not report regularly to the government authorities. Based on the ICT surveys, morbidity reporting 0(number of clinical cases), and vector density, sanitation status of the districts and geo-ecological comparability (Endemicity of surrounding districts), 63 out of 77 districts of Nepal were considered as endemic for LF. Besides, these remaining 14 districts, which were mountainous and considered to be non-endemic at the time of baseline surveys, are now categorized as endemic doubtful districts following the recommendation of WHO Regional Program Review Group. Among 14 districts, four districts completed the Confirmatory survey in 2021. From this, one district (Rasuwa) has been considered endemic and other 3 districts (Taplejung, Sankhuwasabha and Dolakha) are non-endemic.

5.1.3.6 Mass Drug Administration (MDA)

Annual mass drug administration (MDA) of single doses of Albendazole plus Diethylcarbamazine (DEC) is being implemented, treating the entire at-risk population. MDA is being continued for 6 years or more to reduce the density of microfilariae circulating in the blood of infected individuals to levels that will prevent mosquito vectors from transmitting infection. The other objective of MDA is to reduce the prevalence of the infection in the entire community. The MDA should have greater than 65 percent epidemiological coverage (proportion of individuals treated in a district) at each round. The MDA can be stopped in an implementation unit (district) after passing TAS I (Stop MDA TAS). From this year, Triple drug regimen, widely known as IDA (Including Ivermectin in ongoing DA doses) MDA has been introduced in Nepal in 5 of the 10 MDA districts. This regimen is more effective in clearing microfilaria faster (lesser rounds or only two rounds) than DA MDA. The coverage of IDA MDA should have equal to or greater than 80 percent epidemiological coverage at each round.

5.1.3.7 LF MDA Program Scale up

The LF Elimination program has made significant progress since it first launched Mass Drug Administration (MDA) with Diethylcarbamazine and Albendazole from one endemic district in 2003, achieving cent percent (all 61 endemic districts) geographical coverage in 2013. In the initial stage, the program scale up was quite slow with little ups and downs till 2006. The massive LF MDA program scale up started in 2007 which progressively reached to all then 61 endemic districts in 2013. The districts are gradually stopping MDA after successful completion of Stop MDA TAS (TAS I). As of March 2022, MDA has been stopped in 48 districts. But unfortunately, Bara district failed TAS II in 2017 where re MDA was started in 2019 and Sindhuli, Dhanusha, Mahottari, Sarlahi and Rautahat failed TAS 3 in 2020 in which MDA is planned to

start in 2023 besides Sindhuli which will go for Re TAS 3 for further verifications. Thus, at this point only 48 districts are consid- ered to have stopped MDA. Re pre TAS is planned in 5 districts after MDA 2023, 5 districts are ongoing Re Pre TAS (TAS 1 is planned after MDA 2023 if they are successful in this survey), TAS 2 is planned in 3 districts, Re TAS 3 is planned in 1 district and Confirmatory mapping is planned in remaining 8 districts in 2022/23.

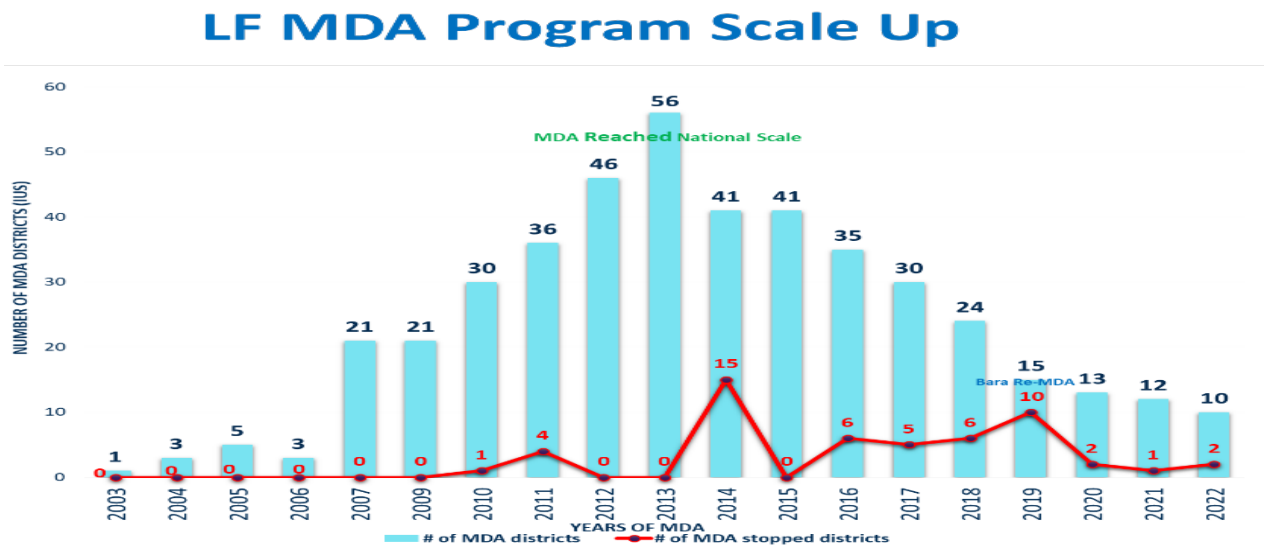


Figure 5.3.1.4: LF MDA Program Scale Up
(Source: EDCD/DoHS)

Monitoring and Evaluation during and after LF MDA

Mass drug administration (MDA) is needed to reduce infection in the community to levels below a threshold at which mosquitoes are unable to continue spreading the parasites from person to person and new infections are prevented. Coverage is monitored at each MDA round to determine whether the goal of at least 65 % coverage of the total population in DA MDA district and 80 percent coverage of total population in IDA MDA was met. Epidemiology and Disease Control Division conducts post MDA Coverage Survey, Pre-Transmission Assessment Survey and Transmission Assessment Survey (I, II & III) to monitor Lymphatic Filariasis Elimination (LFE) activities using WHO guidelines for monitoring of the program. All these surveillance activities are being supported by USAID funded ACT|EAST project implemented by RTI International. After at least five rounds of effective MDA or two effective rounds after failing impact survey (Pre TAS/ Re Pre TAS/follow up/Eligibility), the impact is evaluated at sentinel and spot-check sites. WHO recommends the transmission assessment survey (TAS) to determine whether the infections have been reduced below the targeted thresholds and MDA can be stopped. TAS I is conducted if all the eligibility criteria are met. Once MDA has stopped, Post-MDA Surveillance (TAS) in the same modality, is used as a surveillance tool to determine that infection levels are sustained below the thresholds. TAS is repeated twice at the interval of 2-3 years during the post-MDA surveillance phase. The pictorial illustration of Monitoring and Evaluation activities conducted in LF MDA program is given below:

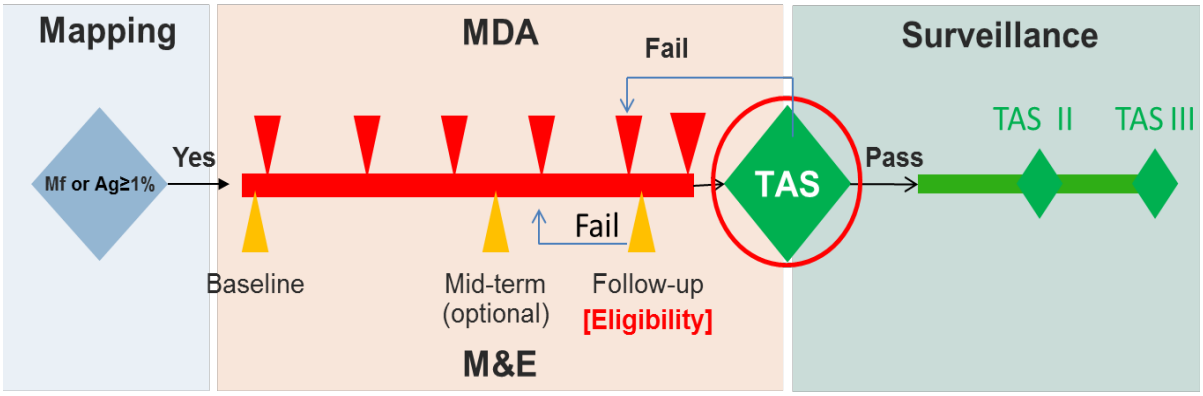


Figure 5.1.3.5: Monitoring and Evaluation framework of LFE program
(Source: WHO; 2017)

As all the surveys conducted by LFE program are part of program monitoring and evaluation, LFE program has set the Ethical review and consent requirements for the monitoring of program activities, which are as follows:

1. Ethical Review: Nepal follows WHO guidelines and recommendations in implementation of LFE program activities and monitoring of program results. Therefore, Ethical Review and approval from NHRC is not required.
2. Consent: In case of school based TAS, parents, or guardians are informed through students, teachers, representatives of parents and the school management committee about the survey prior to the survey. Survey will be conducted in the presence of parents, guardians, teachers, and members of the school management committee present on that day. Samples should not be taken from a child who is not willing to participate in the survey.

Post MDA coverage survey

Post MDA coverage surveys are population-based surveys conducted by LF elimination programs to validate reported coverage rates of MDA, identify reasons for non-compliance, detecting problems with the drug supply chain and distribution systems, measuring coverage in specific population effectiveness of education, information, and communication strategies, to improve program implementation performance for future MDAs. Altogether, 7 episodes (2007, 2009, 2011,2012,2013,2014 and 2017) of coverage surveys were done following established survey guidelines. All these surveys have validated the reported coverage rates. The major reason identified for non-compliance of MDA was fear of side effects in all the surveys. The other reasons for non- compliance were absent from home, unknown about the benefit of drugs, not feeling the need of drugs, no participation due to exclusion criteria (less than 2 years, severely ill and pregnancy). The LFE program has planned to conduct the Post MDA Coverage Survey of LF MDA 2022 representing IDA MDA districts with support from WHO Nepal.

Pre-Transmission Assessment Survey (Pre-TAS)

Pre-TAS is a follow up survey, which is undertaken after completing five rounds of MDA or two rounds after failing previous Pre TAS. This survey has to be conducted after 6 months of regular MDA in the district. The repeated Pre TAS after failure of regular Pre TAS is called Re Pre TAS. This is implemented a year before conducting TAS. The main objective of this survey is to measure the effectiveness of the MDAs and to identify if the districts will qualify for transmission assessment survey (TAS) which is done after six effective MDA rounds. At least one sentinel site and one spot-check site having a population of at least 500 is identified for each district. Three hundred individuals over 5 years of age are examined from each sentinel site and spot-check site. The sentinel sites are pre-designated by program and the spot-check site are selected based on proximity, demographic similarities with sentinel site and recommendation by Health Office. However, sentinel sites passing regularly in recent Pre TAS can be replaced by spot check sites as per current guideline from WHO. To pass the survey, each site should have a prevalence of antigenemia below 2 percent.
The districts (Parsa, Makwanpur, Chitwan, Nawalparasi and Rupandehi) which have completed 5 rounds of MDA for the first time conducted TAS I without conducting Pre TAS following then WHO guidelines. LF Elimination Program of Nepal conducted its first ever Pre-TAS survey in 16 districts by performing microscopy for microfilaria whereas all other Pre-TAS surveys are being conducted by using immunochromatography card test (ICT) or Filariasis Test Strip (FTS) for detection of antigenemia.

A. Stop MDA TAS (TAS I)

Transmission assessment surveys are conducted to detect whether the transmission of LF has been effectively stopped or not. This survey also points out the effectiveness of MDAs after recommending six rounds. The findings of this survey will help to decide whether to stop MDA or not in the given IUs/EUs. This survey was done by using ICT cards previously but now Filariasis Test Strips (FTS) are being used. In this survey, children of 6 -7 years old or children studying in grades 1 & 2 are tested using a rapid test kit and the survey evaluates the new transmission of LF in the new population. EDCD has been conducting these surveys following WHO TAS guidelines. This guideline suggests conducting school based TAS surveys if the school enrolment rate is greater than 75 percent, on this basis all these surveys in Nepal are being conducted in school.

B. Post MDA surveillance (TAS II & TAS III)

The success and sustainability of LFE program depends on careful monitoring after MDA has stopped to ensure that transmission is not re-emerging. Thus, Surveillance in post MDA phase is a key programmatic step in LF elimination. It is an essential monitoring and surveillance tool to detect recrudescence of LF in MDA stopped districts as well as in districts classified or mapped earlier as non-endemic. Surveillance functions as a basis for the verification of absence or low transmission of LF. This will monitor the effectiveness of the MDAs and the re-introduction of LF infection in eliminated areas or the areas identified earlier as non-endemic. This follows the particular methodology as that of Stop MDA TAS (TAS I). Post MDA surveillance (TAS II & III) is repeated twice, first (TAS II), 2-3 years after stopping MDA and second (TAS III), 2-3 years after first (TAS II).

ACTIVITIES CONDUCTED IN LFE PROGRAM - 2021/2022 (2078/79)

MDA planning and Review meetings

Provincial Strategic Planning meeting for IDA

The one event of Provincial Strategic planning meeting was held in central level participating provincial health directorate officials, district health officials in order to sensitize about the triple drug regimen for LF MDA in persistent failure districts. The meeting was focused more on learning about IDA importance, its implementation, learnings from other countries and best approaches for successful MDA in coming rounds. The WHO Nepal and partners supported the meeting.

MDA Planning meetings

MDA planning meetings were held in all 10 districts of five provinces namely: Koshi, Madhesh Province, Gandaki province, Lumbini province and Sudurpaschim province. Meetings were conducted by the Provincial Health Directorate with the support from EDCD. RTI ACT | EAST provided logistics and technical support in those meetings. All ten meetings went well with enormous discussions on experiences of the last MDA, challenges faced, and lessons learned. The participants included chief from health office, district LF focal persons, superintendents/representatives from Hospitals, health section chief from municipalities and officials from ministry of social development and health directorate. Five of 10 districts planned for IDA MDA so IDA's importance, extra health benefits, SAES associated, Height based dosing approach and preparation for this, recording and reporting were also an integral part of training in these districts. As this was the approach introduced for the first time, the elected Mayor or Chairman/Deputy Mayors or Deputy Chairman were also invited to the meeting of IDA districts.

The major presentations and discussions done in the meeting were:

- Lymphatic Filariasis: Clinical aspects in brief
- Effective communication including risk communication & coordination during MDA campaigns
- MDA Program implementation guidelines and budget review
- Microplanning focusing on unreached/resistant population
- Adverse Events following MDA and their management with special focus on SAEs identification
- Update on national progress towards LF elimination.
- Sharing: lesson learned during previous MDA campaign/Planning
- Morbidity management and disability prevention.
- Districts and local level presentation sharing experiences and challenges during MDA.
- Experience and challenges in conducting MMDP/Hydrocele surgery.

All the presentations were focused on making 2022 MDA effective. All the issues raised by the participants were resolved through discussion by health directorate and EDCD. The participants were asked to give special attention on reporting the adverse event's cases as adverse events were also mis-reported as SAEs in the past. The suggestions were seek and provided to improve MDA coverage and program improvement in coming round. Microplanning and innovative approaches to reach the never treated population was the important agenda of these meetings.

All the local levels later organized one day municipality level planning meetings inviting health workers of the municipality to plan LF MDA in 2022.

LF MDA Campaign

The LF MDA campaign of 2022 was conducted in 114 Municipalities/Rural Municipalities of 10 districts from 12th March 2022 (28 Falgun 2078) onwards. The campaign is being implemented at the municipality level after the restructuring of Nepal in 2018. This year five districts conducted DA MDA whereas other five underwent IDA MDA for the first time in Nepal.

The health office conducted coordination meetings, media orientations and advocacy likewise the municipality conducted MDA planning meetings, health workers training, FCHV orientation and community level interaction. The medicines were administered to eligible populations through health workers with support of FCHVs. The first day was

assigned for a booth- based campaign and other days for mop up with a house-to-house visit approach. However, Municipalities implementing MDA were free to decide on MDA approaches that are most feasible to them. MDA booths were positioned in an accessible place for every community. Eligible populations that do not come to booths for medication were covered during other days of the campaign by conducting a house-to-house visit. Before giving medicines, these eligible populations were screened by asking questions of contra-indications. The eligible populations were requested to swallow the medicines in front of the health worker. The local health facilities have continued to provide the medicines for those who missed for any reason or were ill during the campaign period. Altogether, 4700 health workers and 8,800 FCHVs were mobilized in the MDA campaign of 2022.

The FCHVs were well oriented before the campaign and the populations were made aware of the benefits of MDA and of some possible adverse events/side effects that may arise after taking the medicines. Every health facility have managed the emergency drugs for possible serious adverse events. The rapid response teams were prepared with necessary logistics for responding to any adverse events from national to the health facility level. The adverse events cases were managed locally, if possible, through counseling and treatment. The serious adverse events were referred and taken to the nearest hospitals or higher centers by the rapid response team. So far, no serious adverse events have been reported this year.

Logistics Management

The LF elimination programme of Nepal uses a combination of Diethyalcarbamazine (DEC) and Albendazole (ALB) in some districts and combination of Ivermectin + DEC +ALB in some districts for the LF MDA campaign. This year all drugs are provided as a donation through WHO Nepal. Before distribution to the districts, all of the medicines undergo quality assurance tests. These medicines were directed to the districts by the Logistics Management Division in coordination with EDCD which were further dispatched to the local levels through districts. The supply of logistics was timely and no stock out of the medicines was reported from the local level. However, issues of stock out of Ivermectin and DEC in particular local areas were managed from other places due to issues of distribution from being a combo pack of 1000 DEC tablets in one bottle and 500 Ivermectin tablets in one bottle. The campaign was not halted due to stock out issues but management of the box with proper labeling was very hard and the supply should be increased for the next campaign to tackle these issues. The logistics including guidelines, registers, measuring tape for IDA districts, recording and reporting forms, posters, disease recognition cards were also sent to the local level from the districts. There were issues of late supply of the logistics and drugs on some local level. The other logistics like bags and street banners were made by local level.

Coordination, Advocacy and Social Mobilization

The interaction meetings and awareness raising activities for the inter-sectoral coordination and advocacy of the LF MDA program were conducted in the districts, municipalities, and wards of the municipalities involving elected representatives and varied sectors of the community. The purpose of these interaction meetings was to inform them about the LF MDA program and to be aware about the benefits of taking medications and possible adverse events as well as provide response to their curiosities about the program and side effects of drugs. These activities were conducted prior to the LF MDA campaign.

5.1.3.8 Morbidity Management and Disability Prevention (MMDP)

EDCD has conducted LF MMDP mapping in 53 endemic districts (Cumulative number of districts) by this reporting period but only 45 districts have submitted the final report. Seven endemic districts; Ramechhap, Sindhupalchowk, Kaski, Rukum West, Banke, Chitwan and Salyan in 2021/2022 (2077/2078) submitted final reports during this period. (Details are attached in Annex 5.1.3.2) MMDP- MTOT was given to the chief of health office, LF Focal person, medical officer of the districts and focal persons from provincial MoHP/MoSD and health directorate. After receiving the MTOT, they conducted training for the respective municipalities and municipalities conducted the training for their health workers. EDCD provided technical support for those trainings. Then, these trained HWs conducted training in their community to the FCHVs. The mapping has been completed in all these 7 districts.

Supporting Partners

World Health Organization (WHO)

The World Health Organization is a specialized agency of the United Nations system and its main constitutional functions are to act as the directing and coordinating authority on international health work and to encourage technical cooperation on health with its member states. WHO's mandate which came into force through its constitution in 1948 is as relevant as ever, namely the attainment by all peoples of the highest possible level of health. To this effect WHO provides technical assistance and other support to member states for strengthening respective health systems of those countries. WHO has been supporting the Lymphatic Filariasis Elimination Program in Nepal from the very beginning of the program. MDA was launched in Parsa district in 2003 with full funding and technical support from WHO. Albendazole used

in the campaign is being donated by GlaxoSmithKline (GSK) through WHO. Besides this, WHO has been providing technical and financial support in disease mapping, implementing, and monitoring of LF activities.

Act to End Neglected Tropical Disease | East (Act to End NTDs| East)/RTI International

Act to End Neglected Tropical Diseases| East (Act| East) is a United States Agency for International Development (USAID) funded program implemented by Research Triangle Institute (RTI International) with a consortium of partners including The Carter Center (TCC), Fred Hollows Foundation (FHF), IMA World Health (IMA), Light for the World (L-INT), Results for Development (R4D), Save the Children, Sightsavers, and Women Influencing Health, Education, and Rule of Law (WIHER). USAID has been supporting the Lymphatic Filariasis Elimination Program in Nepal from the beginning through different projects (NTD Control Program, ENVISION and now Act | East). USAID has been providing technical and financial support in disease mapping, Mass Drug Administration, Monitoring and Evaluation activities of LF Elimination Program. Act to End NTDs| East supports Nepal government to reach NTD control and elimination goals through proven, cost-effective public health interventions and also provides critical support to the country in its journey to self-reliance, helping to create sustainable programming for NTD control within robust and resilient health systems.

Table 5.1.3.1: Year Wise MDA Coverage of the districts

Year	No. of Districts	Total Population	Eligible Population	Treated population	Treated %	Coverage %
2003	1	505,000	475,000	412,923	86.93	81.77
2004	3	1,541,200	1,451,899	1,258,113	86.65	81.63
2005	5	3,008,131	2,827,050	2,509,306	88.76	83.42
2006	3	2,075,812	1,960,977	1,729,259	88.18	83.31
2007	21	10,906,869	10,270,374	8,778,196	85.47	80.48
2009	21	10,907,690	10,023,011	8,690,789	86.71	79.68
2010	30	14,162,850	13,339,351	11,508,311	86.27	81.26
2011	36	15505463	14533412	12276826	84.47	79.18
2012	46	20017508	18616282	13546889	72.77	67.68
2013	56	21,852,201	20,322,547	16,116,207	79.3	73.8
2014	41	15,874,069	14,762,884	10,933,596	74.1	68.88
2015	41	15,981,384	14,862,687	11,117,624	74.8	69.57
2016	36	12172064	11320020	8980508	79.3	73.78
2017	30	10,836,033	10,077,511	7,866,700	78.1	72.60
2018	24	9,126,506	8,487,651	6,424,332	75.7	70.39
2019	15	7,849,070	7,299,635	5,228,247	71.62	66.61
2020	13	7,461,294	6,939,003	5,465,283	78.76	73.25
2021	12	7,044,990	6,551841	5357045	76.04	81.76
2022	10	6,263,657	5,825,201	4,992,937	79.71	85.71

Table 5.1.3.2: Districts wise LF chronic cases based on MMDP Mapping

S.N.	District	# Lymphedema cases	# Hydrocele cases	# Both cases	# Total cases
1	Arghakhanchi	37	70	3	110
2	Baglung	85	158	0	243
3	Baitadi	60	62	2	124
4	Bajhang	25	54	7	86
5	Banke	370	1850	13	2233
6	Bara	203	706	8	917
7	Bardiya	464	2524	30	3018
8	Bhaktapur	464	126	4	594
9	Chitwan	99	247	3	349
10	Dadeldhura	23	36	0	59
11	Dang	430	1614	16	2060
12	Darchula	9	43	0	52
13	Dhading	824	1342	28	2194
14	Dhankuta	38	96	1	135
15	Doti	124	145	0	269
16	Gorkha	37	171	1	209
17	Ilam	0	0	0	0
18	Kanchanpur	651	2580	14	3245
19	Kaski	273	249	0	522
20	Kathmandu	653	281	10	944
21	Kavre	249	345	0	594
22	Lalitpur	256	115	6	377
23	Lamjung	43	172	2	217
24	Mahottari	607	935	2	1544
25	Makwanpur	119	247	7	373
26	Nawalparasi	125	313	5	443
27	Nawalpur	24	25	0	49
28	Nuwakot	697	1562	0	2259
29	Okhaldhunga	40	85	1	126
30	Palpa	127	196	2	325
31	Panchthar	56	134	3	193
32	Pyuthan	5	167	0	172
33	Ramechhap	91	115	2	208
34	Rolpa	124	268	4	396
35	Rukum East	38	81	4	123
36	Rukum West	25	100	1	126

37	Rupandehi	309	830	17	1156
38	Salyan	16	46	0	62
39	Saptari	419	1183	15	1617
40	Sindhupalchowk	516	396	26	938
41	Siraha	264	572	6	842
42	Sunsari	351	649	1	1001
43	Syangja	40	64	0	104
44	Tehrathum	5	29	0	34
45	Udayapur	199	186	2	387
Total		**9614**	**21169**	**246**	**31029**

Source: EDCD/DoHS

5.1.4 Dengue

5.1.4.1 Background

Dengue is a vector-borne disease that is transmitted to humans through the bites of infected mosquitoes (Aedes aegypti and Aedes albopictus). WHO (2009) classified dengue as i) Dengue without warning signs, ii) Dengue with warning signs, and ii) Severe Dengue.

Dengue is endemic across most provinces in Nepal and has seen a rise in cases in recent years. The first reported case of a dengue in the country was in 2005, in a foreigner, in Chitwan district. Since then dengue cases have gradually increased in Nepal, primarily in the tropical lowlands and subtropical hilly region, including Kathmandu. The country has experienced multiple dengue outbreaks between 2006 and 2022. In 2006, there were a high number of probable cases and 32 confirmed cases reported from hospitals in the central and western Terai regions and Kathmandu during the post-monsoon season. From the years 2007 to 2009, sporadic clinical cases and outbreaks were recorded. From 2010 onwards, dengue epidemics have persisted in lowland districts as well as mid-hill areas and expanded to other districts. In 2010, there was an outbreak reported in six districts, with 917 cases and five deaths reported.

In 2011, there were 79 confirmed cases reported from 15 districts with the highest number of cases being in Chitwan (55). From 2012 to 2015, dengue cases continued to be reported from several districts, but the number of cases varied from year to year. This trend of increasing cases continued, with outbreaks reported annually in several districts- Chitwan, Jhapa, Parsa (2012-2013), Jhapa, Chitwan (2016-2016), Rupandehi, Jhapa, Mahottari(2017), Kaski (2018) and Sunsari, Kaski, Chitwan (2019). In 2019, the dengue outbreak had affected 68 out of 77 districts with 17992 reported cases. However, during the COVID-19 pandemic (2020-2021), only a few cases were reported. The most recent outbreak in 2022 was particularly severe, with 54,784 reported cases and 88 deaths attributed to the disease - more than three times the number of cases in the previous largest outbreak in 2019. Dengue virus has become a major disease of concern in Nepal due to widespread infection detected throughout the year, with cases being reported from all 77 districts in the country.

Aedes aegypti (the mosquito-vector) was identified in five peri-urban areas of the Terai (Kailali, Dang, Chitwan, Parsa and Jhapa) during entomological surveillance conducted by EDCD from 2006–2010, the Aedes aegypti mosquito (primary vector) was identified in five peri-urban areas of the Terai region (Kailali, Dang, Chitwan, Parsa, and Jhapa), suggesting the local transmission of dengue. However, more recent study by VBDRTC has shown that both Aedes aegypti and Aedes albopictus mosquitoes are transmitting the disease in Nepal. Entomological surveillance conducted in three cities (Kathmandu, Lalitpur and Ghorahi) in 2022 also showed the presence of Aedes aegypti in all three areas and Aedes albopictus in Lalitpur and Ghorahi. However, the density of the albopictus vector was negligible in Kathmandu.

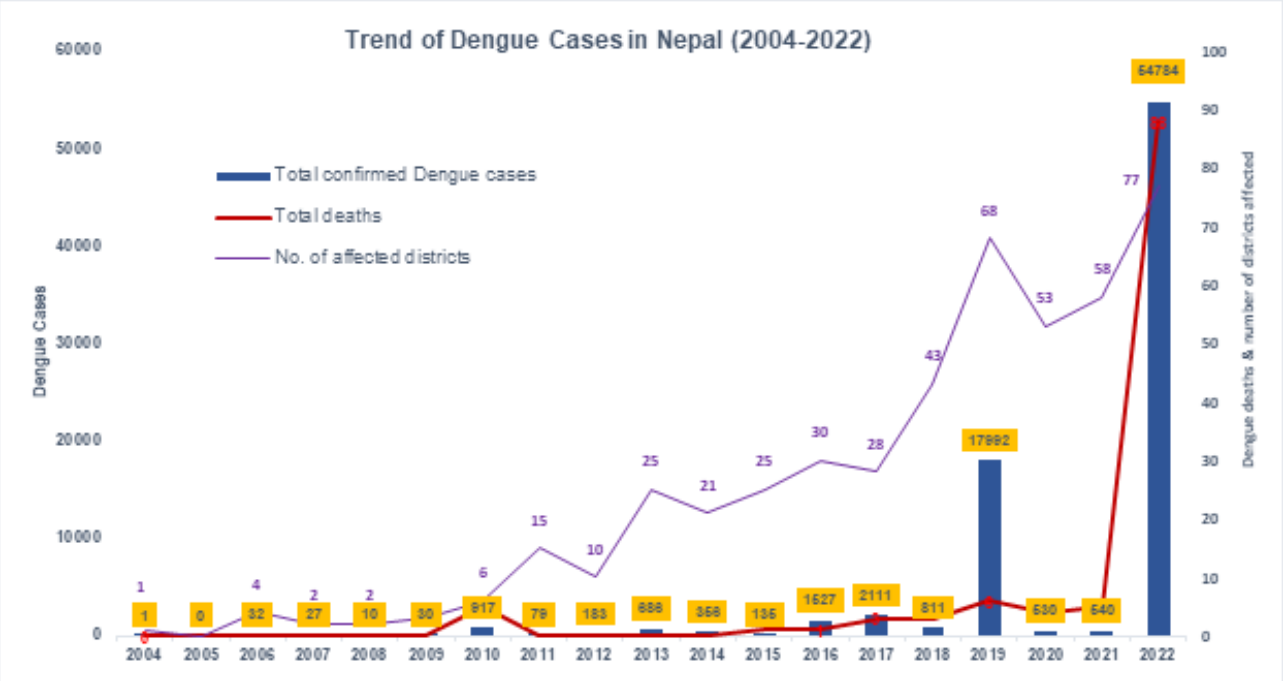


Figure: 5.1.4.1 Annual trend of dengue cases and deaths in Nepal (2004-2022)

Studies carried out in collaboration with the Walter Reed/AFRIMS Research Unit (WARUN) in 2006 by EDCD and the National Public Health Laboratory (NPHL) found that all four subtypes of the Dengue viruses (DEN-1, DEN-2, DEN-3

and DEN-4) were circulating in Nepal. However, in 2022, the dengue virus serotyping carried out by EDCD and NPHL with WHO support found that DENV1 was the most prevalent serotype, followed by DENV3 and DENV2. No samples tested positive for DENV4.

5.1.4.2: Goal, Objectives and Strategies of Dengue Control Program

Goal — To reduce the morbidity and mortality due to dengue fever, dengue haemorrhagic fever (DHF) and dengue shock syndrome (DSS).

Objectives:

- To develop an integrated vector management (IVM) approach for prevention and control.
- To develop capacity on diagnosis and case management of dengue fever, DHF and DSS.
- To intensify health education and IEC activities.
- To strengthen the surveillance system for prediction, early detection, preparedness and early response to dengue outbreaks.

Strategies:

- Early case detection, diagnosis, management and reporting of dengue fever
- Regular monitoring of dengue fever surveillance through the EWARS
- Mosquito vector surveillance in municipalities
- The integrated vector control approach where a combination of several approaches are directed towards containment and source reduction

5.1.4.3: Trends in dengue cases

The number of reported dengue cases have increased from 489 in FY 2077/78 to 733 in FY 2078/79. The gradual rise in cases throughout FY 2078/79 and the early months of FY 2079/80, up until the preparation of the annual report, indicates a potential for dengue outbreak in 2079/80. In 2078/79, the highest number of cases were recorded in Lumbini province with 174 cases, followed by Bagmati province with 169 cases. By district, the highest number of cases were reported from Sankhuwasabha 79 cases, followed by 65 cases, 55 cases in Dhading and 44 cases in Rupandehi.

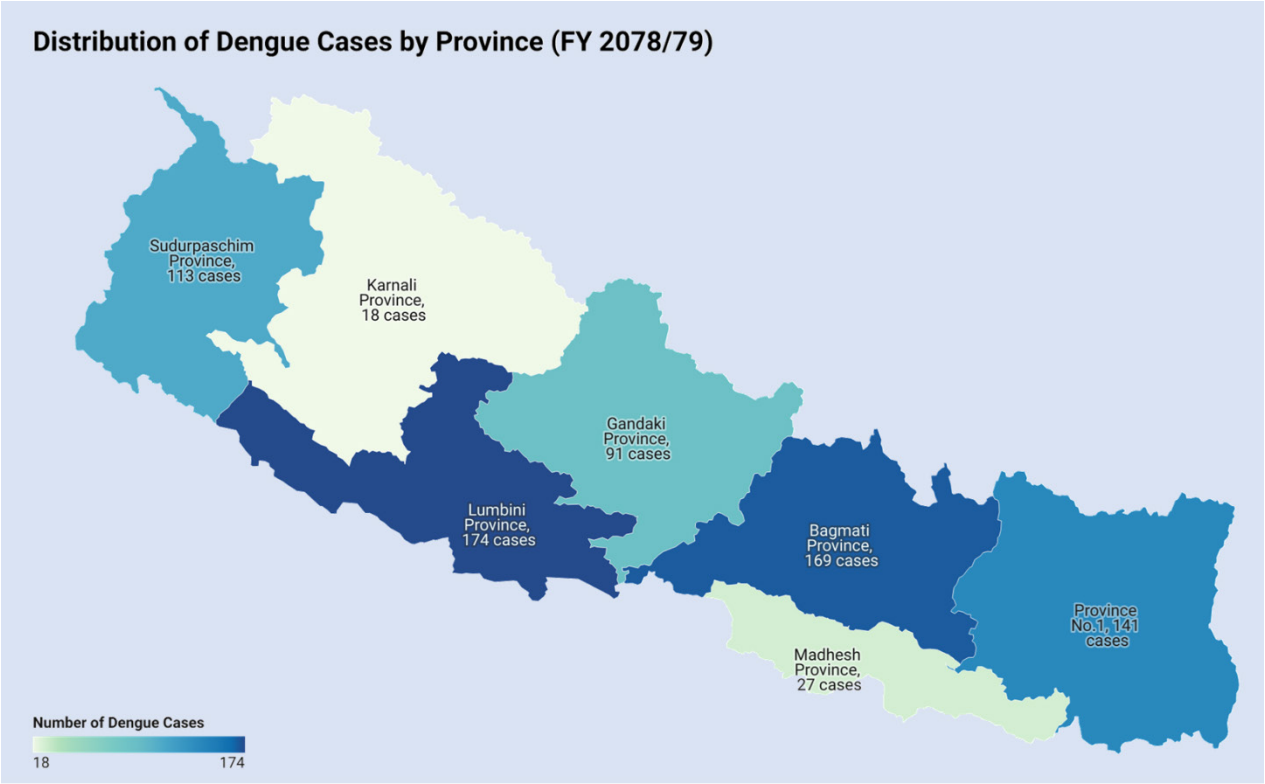


Figure : 5.1.4.2 Distribution of Dengue Cases by Province

It is important to note the number of Dengue cases reported from Hospitals, Health Offices, and PHCCs via. Early warning

and Reporting System (EWARS) may differ from what is reported through the HMIS/DHIS2, and direct case reports to the program. The HMIS typically receives aggregate data that is consolidated from various hospitals and health facilities, whereas the program actively gathers data directly from Hospitals through EWARS. EDCD verifies this information by using a line listing report of all cases.

5.1.4.4: Major activities in FY 2078/79

- Conducted orientation to multi-stakeholders at local levels for advocacy on dengue prevention and control including support for search and destroy activities.
- Conducted 'search and destroy' activities at local levels to search for the potential breeding sites of Aedes mosquitoes and destroy them.
- Routine surveillance of Dengue through EWARS (118 sentinel sites). EDCD also conducted data verification of dengue cases reported from the EWARS.
- Vector surveillance at provincial levels
- Procurement and supply of rapid diagnostic test kits (IgM).
- EDCD conducted a stakeholder meeting with Hotel Association of Nepal (HAN) as well as school associations such as PABSON and National PABSON as a preparedness for outbreak.

Table 5.1.4.1: Trend of dengue in last 5 years (From 2074/75 to 2078/79)

Districts	2074/75	2075/76	2076/77	2077/78	2078/79
Koshi Province	**19**	**3152**	**851**	**28**	**141**
Jhapa	5	29	321	1	5
Morang	2	81	73	3	7
Sunsari	8	3025	357	4	3
Bhojpur	0	4	10	4	9
Udayapur	0	1	34	1	5
Khotang	0	0	0	1	12
Dhankuta	2	5	16	1	0
Ilam	1	2	18	2	3
Taplejung	1	2	4	0	1
Sankhuwasabha	0	1	8	11	79
Solukhumbhu	0	0	0	0	0
Okhaldhunga	0	0	0	0	16
Terathum	0	0	0	0	0
Panchthar	0	2	10	0	1
Madhesh Province	**12**	**12**	**169**	**4**	**27**
Saptari	2	4	22	2	0
Siraha	1	1	12	0	1
Dhanusa	0	0	1	0	3
Mahottari	3	3	6	0	2
Sarlahi	2	0	42	1	3
Bara	1	0	32	0	4
Parsa	2	4	31	0	11
Rautahat	1	0	23	1	3
Bagmati Province	**64**	**125**	**5062**	**70**	**169**

Districts	2074/75	2075/76	2076/77	2077/78	2078/79
Lalitpur	1	2	498	2	7
Bhaktapur	0	3	273	0	9
Kathmandu	16	6	1220	5	65
Kavrepalanchok	0	0	0	0	4
Ramechhap	0	0	0	0	6
Dhading	7	5	131	8	55
Makwanpur	9	83	246	6	2
Chitawan	28	23	2612	4	11
Nuwakot	0	1	36	0	1
Sindhuli	0	1	25	43	6
Sindhupalchowk	0	0	0	0	0
Rasuwa	0	0	0	0	0
Dolakha	2	0	21	0	3
Gandaki Province	**568**	**26**	**2686**	**145**	**91**
Gorkha	2	0	63	1	4
Syangja	4	1	101	7	2
Kaski	553	21	2221	5	8
Baglung	4	1	36	3	8
Tanahu	1	1	184	1	1
Lamjung	0	0	0	27	9
Parbat	2	2	41	8	15
Manang	0	0	0	0	0
Mustang	1	0	2	0	0
Myagdi	1	0	38	89	34
Nawalparasi East	0	0	0	4	10
Lumbini Province	**120**	**96**	**1902**	**73**	**174**
Arghakhanchi	4	5	50	5	10
Palpa	7	7	63	0	22
Nawalparasi West	15	11	81	5	4
Rupandehi	61	55	1386	12	44
Kapilbastu	8	6	129	10	5
Pyuthan	3	2	17	4	12
Rolpa	0	0	6	0	0
Rukum East	0	0	1	0	0
Dang	2	2	86	10	10
Banke	6	5	40	19	14
Gulmi	10	0	43	2	15

Districts	2074/75	2075/76	2076/77	2077/78	2078/79
Bardiya	0	0	0	6	38
Karnali Province	**1**	**1**	**43**	**48**	**18**
Dolpa	0	0	0	0	0
Mugu	0	0	0	0	0
Humla	0	0	0	0	0
Jumla	0	0	0	0	6
Kalikot	0	0	0	0	2
Surkhet	0	0	30	40	8
Dailekh	0	0	6	2	0
Salyan	1	1	7	3	1
Jajarkot	0	0	0	1	1
Rukum West	0	0	0	2	0
Sudurpashim Province	**27**	**12**	**95**	**121**	**113**
Kailali	2	3	40	30	40
Kanchanpur	14	2	22	7	16
Dadeldhura	2	2	11	15	10
Achham	0	1	7	29	8
Bajhang	0	0	0	3	14
Darchula	9	4	15	5	7
Bajura	0	0	0	3	4
Baitadi	0	0	0	14	6
Doti	0	0	0	15	8
Grand Total	811	3424	10808	489	733

Source: EDCD/DOHS

Table 5.1.4.2: Strengths, Weaknesses, Opportunities and Challenges for the Dengue Control Program

Strengths	Weakness
◊ Availability of National Guidelines on Prevention, Management and Control of Dengue in Nepal. ◊ Surveillance system in place to track dengue cases. Establishment of online reporting system through EWARS on DHIS2. ◊ Availability of dengue register for better recording and reporting. ◊ Development of National Guidelines on Integrated Vector Management (IVM)	◊ Low priority for the dengue control program at sub-national level. ◊ Inadequate training and orientation for newly recruited health workers and refresher trainings for focal persons and managers. ◊ Under/over reporting of dengue in HMIS. ◊ Inconsistent, incomplete, and untimely reporting from the EWARS system ◊ The EWARS system is unable to capture a substantial number of dengue cases that are tested outside the designated sentinel sites, hindering the government's ability to accurately predict outbreaks ◊ Limited capacity for early detection and response to outbreaks ◊ Limited entomological capacity and vector surveillance due to the unavailability of resources (trained human resources and budget)
Opportunities	**Challenges**
◊ The need for Standard Operating Procedure (SOP) for Integrated Vector Surveillance and Vector Control recognized by the national and planned for development in FY 079/80. ◊ Collaboration with regional and international organizations for dengue control efforts. ◊ Prospects for integration of technology in surveillance and response systems, such as Epidemic Intelligence from Open Sources (EIOS)	◊ Climate change and its impact on mosquito populations and dengue transmission with shift of disease from low land regions to higher elevations. ◊ Difficulty in controlling the spread of dengue in densely populated urban areas. ◊ Limited engagement of other concerned ministries besides the Ministry of Health and Population in the prevention and control of mosquitoes. ◊ Insufficient community and multi-stakeholder engagement in dengue control efforts at local levels ◊ Implementation of the national guidelines on integrated vector management ◊ Challenges of resistance to insecticide use and weak monitoring of insecticide resistance

5.1.5 National Leprosy Elimination Program (NLEP)

5.1.5.1 Background

Leprosy also known as Hanssen's disease is an infectious disease caused by Mycobacterium leprae, an acid-fast, rod-shaped bacillus. Leprosy is an age-old disease, described in the literature of ancient civilizations. It is likely transmitted by droplets from the nose and mouth during prolonged and close contact with untreated leprosy patients. The disease mainly affects the skin, the peripheral nerves, mucosa of the upper respiratory tract, and the eyes. Leprosy is curable and early diagnosis and treatment in the early stages can prevent disability.

The establishment of the Khokana Leprosarium in the nineteenth century was the beginning of organized leprosy preventive services in Nepal. The Government of Nepal in collaboration with WHO conducted a leprosy survey in 1960. With an estimated number of 100,000 Leprosy cases, Dapsone monotherapy was started as a pilot project in 1966 in Nepal. This project gradually expanded as a vertical program and remained so till 1987 when it was integrated into general health services. Multi drug therapy (MDT) was introduced for the first time in Nepal in the year 1982/83 in selected few areas and hospitals. By that time the number of registered cases had come down to 31,537 (PR of 21 per 10,000). Number of districts then with a prevalence rate (PR) of over 5 was 62 and in only three districts the PR was less than 1 per 10,000. There was a gradual and steady expansion of MDT services and by 1996 MDT coverage was extended to all the 75 districts of the country. Being a member country, Nepal is committed to the elimination of leprosy in line with the global program and is an active member of the global alliance for elimination of leprosy as a public health problem. A six-year plan was developed in 1995 for strengthening the program. Accordingly, as per that plan, an estimation of leprosy prevalence was done, and all basic health staff (BHS) were provided training in Leprosy. Health Education was intensified to improve community awareness and to facilitate case detection. The first independent evaluation of the National Leprosy Control Program (NLMP) was undertaken during January (7th to 26th) 1996, by a group of experts representing His Majesty Government (HMG), World Health Organization (WHO) and National Government Organizations (NGOs). Two rounds of Leprosy Elimination Campaigns were organized in the years 1999 and 2000.

Following the continuous efforts from the Government of Nepal, Ministry of Health & Population, Leprosy Control Programme, WHO-Nepal, district health/public health office and concerned agencies, leprosy was eliminated as a public health problem at the national level in 2009 and declared in January 19, 2010 (2066 Magh 5) with a national registered prevalence rate of 0.77 cases per 10,000 population, which was below the cut-off point of below 1 per 10,000 population definition set by World Health Organization.

Table 5.1.5.1: Milestones of National Leprosy Elimination Program of Nepal

Year	Landmarks
1960	Leprosy survey by Government of Nepal in collaboration with WHO
1966	Pilot project to control leprosy launched with Dapsone monotherapy
1982	Introduction of multi-drug therapy (MDT) in leprosy control programme
1987	Integration of vertical leprosy control programme into general basic health services
1991	National leprosy elimination goal set
1995	Focal persons (TB and leprosy assistants [TLAs]) appointed for districts and regions
1996	All 75 districts were brought into MDT programme
1999/2000–2001/02	Two rounds of National Leprosy Elimination Campaign (NLEC) implemented
2008	Intensive efforts made for achieving elimination at the national level
2009 and 2010	Leprosy elimination achieved and declared at the national level

2011	Developed and endorsed National Leprosy Strategy (2011–2015)
2012-2013	Elimination sustained at national level and national guidelines, 2013 (2070) revised
2013-2014	Mid-term evaluation of implementation of National Leprosy Strategy (2011-2015)
2014-2015	Ministry of Health designated LCD as the Disability Focal Unit
2015-2018	Piloting of LPEP in Jhapa, Morang and Parsa
2017	Policy, Strategy and 10 Years Action Plan on Disability Management (Prevention, Treatment and Rehabilitation) 2073-2082 developed and disseminated
2018	National Leprosy Strategy 2016-2020 (2073-2077) developed and endorsed. Revised leprosy guideline in line with national leprosy strategy and global leprosy strategy.
2019	In-depth Review of National Leprosy Programme and Envisioning Roadmap to Zero Leprosy
2020	Development of Leprosy Post Exposure Prophylaxis Guideline
2021	Endorsement National Roadmap for Zero Leprosy-Nepal (2021-2030) Endorsement of National Leprosy Strategy and Action Plan of Nepal (2021-2025) Development of Leprosy Training Package for Medical Officers and Basic Level Health Care Workers

5.1.5.2 Goal, objectives, strategies, and targets of National Leprosy Elimination Programme

The National Leprosy Elimination Program of Nepal is guided by National Roadmap for Zero Leprosy (2021-30) and National Leprosy Strategy (2021-25). The vision, goals, objectives and targets of National Leprosy Elimination Program as stated in National Leprosy Strategy of Nepal (2021-2025):

Vision: Leprosy free Nepal

Goal: Elimination of leprosy (interruption of transmission of leprosy) at the subnational level (municipality) (interruption of transmission is defined as zero new autochthonous child leprosy cases for consecutive five years at the municipality level)

Objectives

1. To eliminate leprosy transmission at the subnational level (province, district, local level).
2. To strengthen clinical case management at district and municipal levels and improve referral system.
3. To enhance capacity building through training of health staff particularly at the peripheral health facilities.
4. To enhance prevention of leprosy.
5. Reduction of stigma and discrimination.
6. To strengthen leprosy surveillance system and regular monitoring, supervision, and periodic evaluation at all level.
7. To strengthen partnerships among different stakeholders.
8. To strengthen management of leprosy complications like reactions and disability prevention and rehabilitation.
9. To coordinate with neighboring states of India in management, reporting and referral of cases from border areas.
10. To promote research and innovations.

Table 5.1.5.2: Targets of National Leprosy Strategy

S.N.	Targets	2019* (baseline)	2025
Target 1	Mapping of districts/municipalities including human resources	√	updated
Target 2	Number of municipalities with zero new child autochthonous cases over consecutive 5 years period	605**/753	700/753
Target 3	Number of municipalities with zero leprosy cases	65	377

Target 4	Number of annual new leprosy cases reduced to	3282	2462 (25 % reduction from baseline)
Target 5	Rate of new leprosy cases with G2D (per million population)	5.3	< 1
Target 6	New child leprosy case detection rate (per million child population)	30	< 6
Target 7	Number of child cases among new leprosy cases reduced to	260 (7.9 % child case proportion among new leprosy cases)	50 (2% child case proportion among new leprosy cases)
Target 8	Number of child G2D among new child leprosy cases	2 of 260 new child cases	0
Target 9	Discriminatory laws	Discriminatory law exists	Zero discrimination as a result of no discriminatory laws and complaints reporting system in place
Target 10	Roll out of preventive chemoprophylaxis	-	50 % coverage among eligible contacts
Target 11	Household contact examination of an index case within 3 months of case detection	-	75 % of index case

* 2019 is taken as the baseline because of impact of COVID-19 pandemic on leprosy cases diagnosis & treatment.
** For baseline only one year data of 2019 is taken due to unavailability of municipality level data of the past 5 years.

Table 5.1.5.3: Strategic Pillars with Key components

STRATEGIC PILLAR	KEY COMPONENTS
Pillar 1 Implement the national leprosy roadmap for zero leprosy across all level-national, provincial, and local	1. Political commitment with adequate resources for leprosy elimination at all levels in an integrated approach 2. National partnerships for zero leprosy and zero leprosy roadmaps engaging all stakeholders 3. Capacity building in the healthcare system for quality services 4. Improved program management, surveillance and monitoring and evaluation system 5. Promote operational research
Pillar 2 Scale up leprosy prevention alongside integrated active case detection	1. Active contact tracing for all new cases (especially household contacts) 2. Preventive chemotherapy scaled up through chemoprophylaxis 3. Integrated active case-finding in targeted endemic hot spots populations
Pillar 3 Manage leprosy and its complications and prevent new disability	1. Early case detection, accurate diagnosis, and prompt treatment 2. Access to comprehensive, well-organized referral facilities 3. Early diagnosis and management of leprosy reactions, neuritis, and disabilities by improving capacity through training 4. Monitoring, support, and training in self-care 5. Mental wellbeing through psychological first aid and therapeutic counselling 6. Monitoring of antimicrobial resistance, adverse drug reactions and adverse drug events

Pillar 4 Combat stigma and ensure human rights are respected	1. Adoption of "Principles and Guidelines for elimination of discrimination against persons affected by leprosy and their family members" 2. Inclusion of organizations and networks of persons affected by leprosy at all levels 3. Abolishment of discriminatory laws 4. Develop system to monitor stigma reduction in communities and villages and cities 5. Access to social support and rehabilitation with coordination with government agencies and NGOs

5.1.5.3 Leprosy Program Monitoring Key Indicators

Monitoring is the constitutive part of NLEP. Routine monitoring is the principal and essential component in assessing the progress of NLEP and is vital for proper management. NLEP has identified the following indicators for routine monitoring:

Table 5.1.5.4: Status of Leprosy program monitoring indicators by province (FY 2078/79)

Province	Population	New Case Detection Rate/100,000 population	Prevalence Rate/ 10,000 population	MB proportion among new	Child proportion among new	Proportion G2D among new	Proportion G2D Child among new	Female Proportion among new
Koshi	4982248	6.92	0.72	77.39	1.16	8.70	0.29	44.1
Madhesh	6146280	14.81	1.43	64.18	4.51	7.80	0.11	45.0
Bagmati	6097299	1.36	0.17	89.16	2.41	8.43	-	36.1
Gandaki	2485220	3.74	0.47	95.70	5.38	8.60	-	44.1
Lumbini	5138030	11.31	1.12	73.32	2.93	5.82	-	41.4
Karnali	1699212	4.00	0.49	89.71	2.94	1.47	1.47	30.9
Sudurpaschim	2718183	7.54	0.93	78.05	0.98	9.27	0.49	45.9
National	**29266472**	**7.81**	**0.81**	**72.69**	**3.19**	**7.44**	**0.18**	**43.3**

Source: HMIS, 2078/79

The national New Case Detection Rate (NCDR) per 100,000 population was 7.81 and Prevalence Rate (PR) per 10,000 population was 0.81. Highest NCDR and PR both were observed in Madhesh Province followed by Lumbini Province. Almost three fourth (72.7%) of the new cases were MB cases. The child proportion among the new cases was 3.19 percent. 7.44 percent were found to have grade 2 disability (G2D) and the proportion of females among new cases was 43.3 percent in FY 2078/79.

Key Achievements in the management of leprosy

DHIS incorporates the leprosy data from health facilities. PHC/ORC report only two variables that includes number of follow up of irregular cases and number of referrals for suspected cases and there is no any recording and reporting forms for FCHVs.

New Leprosy Cases Detection

The detection of new cases signifies ongoing transmission with the rate measured per 100,000 populations. A total of 2285 new leprosy cases were detected in FY 2078/79 with highest new cases (910) in Madhesh Province (40% of total cases). Meanwhile, Karnali Province has the lowest new case detection with 68 cases (3%). The new case detection rate (NCDR) for FY 2078/79 was 7.8 per 100,000 populations nationally. Among the new cases, 72.7 percent were Multi

Bacillary (MB) cases.

Table 5.1.5.5 Province wise new leprosy cases and NCDR of FY 2078/79

Provinces	New Leprosy Cases	NCDR
Koshi	345	6.9
Madhesh	910	14.8
Bagmati	83	1.4
Gandaki	93	3.7
Lumbini	581	11.3
Karnali	68	4.0
Sudur Paschim	205	7.5
National	**2285**	**7.8**

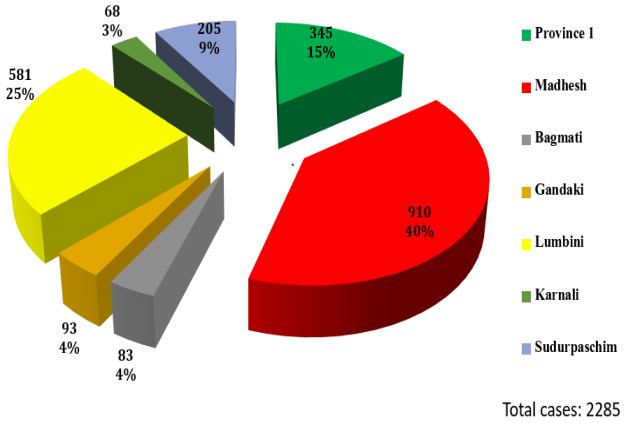


Figure 5.1.5.1 Distribution of new leprosy cases 2078/79 (2021/22)

Thirteen districts (Sankhuwasabha, Panchthar, Bhojpur, Okhaldhunga, Solukhumbu, Khotang, Illam, Rasuwa, Ramechhap, Kavre, Humla, Manang and Myagdi) reported zero new cases this fiscal year.

Prevalence

At the end of FY 2078/79 (2021/22), 2,373 leprosy cases were receiving MDT in Nepal, which makes a registered prevalence rate of 0.81 cases per 10,000 populations at the national level. This rate is below the cut-off point of 1 case per 10,000 population set by WHO to indicate the elimination of leprosy as a public health problem. This also shows that Nepal's elimination status as a public health problem from 2009 is being sustained. The prevalence rate has increased slightly than that of previous year because of increased field level activities and active case detection. Out of 77 districts, 7 districts reported zero prevalence, 54 districts had a prevalence rate <1 and 16 districts had a rate of more than 1.

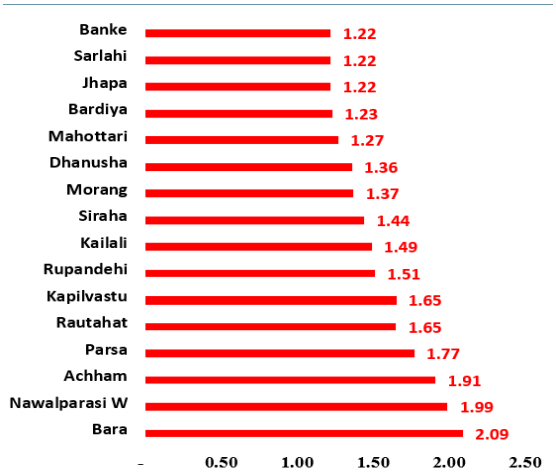
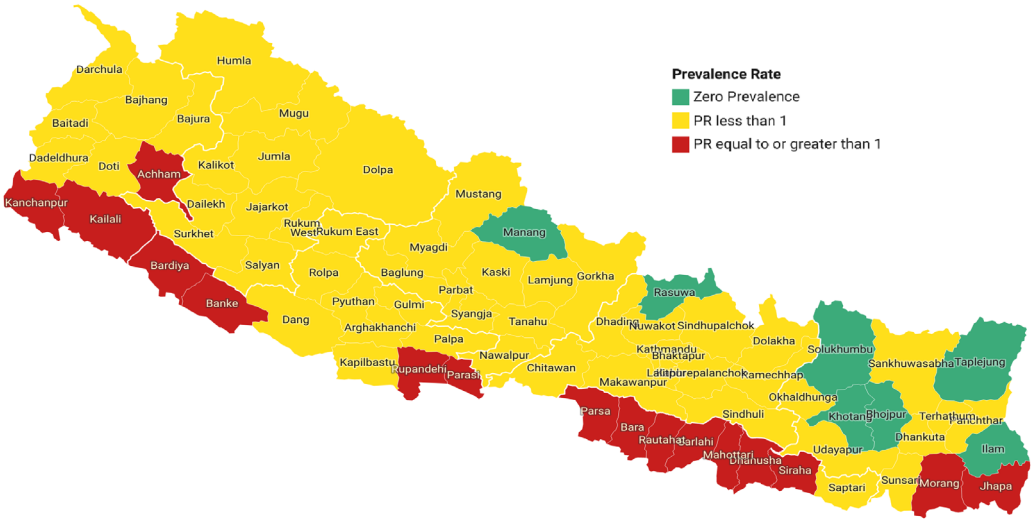


Figure 5.1.5.2 Name of districts having prevalence rate more than 1

Table 5.1.5.6: Distribution of registered cases and prevalence rate in 2078/79 (2021/22)

Provinces	No. of prevalence (under treatment) cases at the end of the year		
	Total cases	Percentage	PR/ 10,000 population
Koshi	360	15.2	0.72
Madhesh	878	37.0	1.43
Bagmati	106	10.20	0.17
Gandaki	117	4.5	0.47
Lumbini	576	24.3	1.12
Karnali	84	3.5	0.49
Su. Paschim Province	252	10.6	0.93
National	**2373**	**100%**	0.81



Districts with PR>1 (16 districts) : Jhapa, Morang, Siraha, Dhanusha, Mahottari, Sarlahi, Rautahat,Bara, Parsa, Rupandehi, Parasi, Banke, Bardiya, Kailali, Kanchanpur and Achham

Figure 5.1.5.3: District wise leprosy burden (prevalence) in FY 2078/79 (2021/22)

The highest number of leprosy cases under treatment was reported from Madhesh Province (878 cases, 37% of total) and lowest by Karnali Province (84 cases, 3.5% of total cases). The registered prevalence rate was the highest

in Madhesh Province (1.43 cases per 10,000 population) followed by Lumbini Province (1.12 per 10,000) and lowest prevalence was reported at Bagmati Province (0.18 cases per 10,000 population). 16 out of 77 districts reported PR>1/10,000 population in FY 2078/79.

TREND IN DISABILITY, CHILD AND FEMALE CASES

Leprosy cases that are not detected early on may result in disabilities. Early detection, timely and complete treatment of leprosy are crucial factors for preventing disabilities. The Proportion of Grade 2 Disability (G2D) among new cases and the rate per 100,000 population are major monitoring indicators of early case detection. During 2078/79 (2021/22), 170 cases of visible disability (G2D) were recorded with a proportion among new cases of 7.44 % nationally.

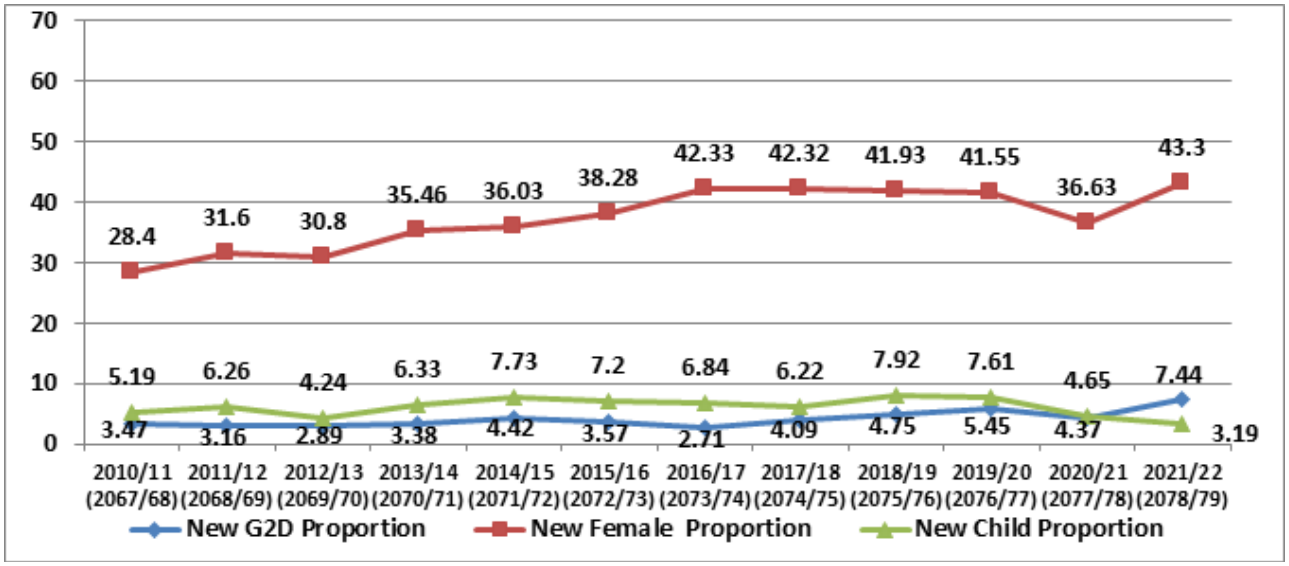


Figure 5.1.5.4 Trend in Proportion of New Grade 2 Disability, Child and Females cases from 2067/068 to 2077/078 (2010/11-2020/2021)
Source: LCDMS, EDCD/DoHS

A total of 73 new child cases were diagnosed in 2078/79 (2021/22) resulting in 3.19% of new cases. This was a sharp de- creased from the previous year although the trend is fluctuating. Similarly, 989 female cases were detected in this fiscal comprising 43.3 percent of new female cases. One of the targets of National Leprosy Strategy 2021-25 is achieving zero G2D among new pediatric leprosy cases, in order to achieve this target new G2D pediatric leprosy cases had been recorded for the last five years. In the FY 4 G2D new child leprosy cases were recorded.

RELEASE FROM TREATMENT, COMPLICATIONS AND FOREIGN CASES

Released from Treatment cases

Out of 4,629 cases taking MDT, 2086 (MB=1,551 and PB=535) cases completed MDT regime and were released from treatment. The remaining 2,373 cases are undergoing treatment. Total transferred out cases were 24, number of de-faulter cases was 79 and other deductions were 67 (excluding defaulters and transferred outs) which include death, double registration, recycle and wrong diagnosis.

Reaction and complication cases

During this year, a total of 727 leprae reaction cases (Type-1:472 cases of Type 2:225 cases) were treated at different referral centers as indicated in the table. The patients were provided with NRs. 1,000/- after the admission to hospital for the treatment and management.

Foreign Cases

Every year new foreign cases are treated in Nepal. These foreign cases are assumed to be from India who seek treatment in Nepal due to open cross border areas as well as stigma in their community. Some were migrants and daily wage work-ers. The cases are not counted in the new cases reported in our health information system. This year, 561 new foreign cases were diagnosed and treated from referral centers and leprosy hospitals as follows.

Table 5.1.5 7: Reaction and foreign cases reported by different leprosy referral centers

Referral Centres	Leprae Reaction		Total treated	Foreign Cases		
	Type-1	Type-2		MB	PB	Total
Anandaban Hospital, Lalitpur	24	93	117	4	0	4
Green Pasture Hospital, Pokhara	11	63	74	0	0	0
Shining Hospital, Nepalgunj	25	14	39	3	1	4
Shining Hospital, Surkhet	19	31	50	0	0	0
Lalgadh Hospital, Dhanusa	327	15	342	240	153	393
Seti Zonal Hospital	14	20	34	0	0	0
Koshi Zonal Hospital, Biratnagar	52	19	71	96	64	160
Total cases	**472**	**255**	**727**	**343**	**218**	**561**

Conclusions

The elimination status of leprosy as a public health problem was maintained at the national level as the prevalence rate remained below 1 case per 10,000 population this year although this rate was still above elimination threshold in 16 districts. The proportion of child cases has decreased. Due to loosening the lockdown imposed against COVID-19 pandemic in this FY, the NCRD and PR has increased that of previous year as a result of increased field level activities. The figures for the main indicators of leprosy control for the last 11 years are summarised in Table 5.1.5 7

Table 5.1.5.8: Comparison of leprosy indicators - 2066/67–2078/79 (2009/10 – 2021/22)

Indicators	2067/68 (2010/11)	2068/69 (2011/12)	2069/70 (2012/13)	2070/71 (2013/14)	2071/72 (2014/15)	2072/73 (2015/16)	2073/74 (2016/17)	2074/75 (2017/18)	2075/76 (2018/19)	2076/77 (2019/20)	2077/78 (2020/21)	2078/79 (2021/22)
New cases	3,142	3,481	3,253	3,223	3,053	3,054	3215	3249	3282	2044	2173	2285
New case detection rate	11.2	12.2	11.9	11.18	11.01	10.67	11.23	11.2	11.2	6.22	7.20	7.81
Under Treatment cases at the end	2,210	2,430	2,228	2,271	2,461	2,559	2626	2882	2921	1853	2197	2373
PR/10,000 population	0.79	0.85	0.82	0.83	0.89	0.89	0.92	0.99	0.99	0.69	0.73	0.81
No. new child cases	163	218	136	204	236	220	220	202	260	141	101	73
Proportion child cases	5.19	6.26	4.24	6.33	7.73	7.20	6.84	6.22	7.92	7.61	4.65	3.19
New G2D cases	109	110	94	109	135	109	87	133	156	101	95	170
Proportion G2D cases	3.47	3.16	2.89	3.38	4.42	3.57	2.71	4.09	4.75	5.45	4.37	7.44
G2D rate/100,0000	3.9	3.9	3.5	4.0	4.9	3.8	3.3	4.1	5.30	3.39	3.15	5.81
New G2D Child cases	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2	2	6	1	4

Indicators	2067/68 (2010/11)	2068/69 (2011/12)	2069/70 (2012/13)	2070/71 (2013/14)	2071/72 (2014/15)	2072/73 (2015/16)	2073/74 (2016/17)	2074/75 (2017/18)	2075/76 (2018/19)	2076/77 (2019/20)	2077/78 (2020/21)	2078/79 (2021/22)
Proportion G2D Child cases	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.06	0.06	0.32	0.05	0.18
New female cases	892	1,100	1,004	1,143	1,100	1,169	1361	1375	1376	770	796	989
Proportion female cases	28.4	31.6	30.8	35.5	36.0	38.3	42.3	42.3	41.9	41.6	36.6	43.3
Released from treatment	2,979	3,190	3,374	3187	2,800	2,902	3040	2852	3221	2817	1855	2086
No. Defaulters	31	24	43	24	38	44	57	93	142	153	62	79
No. relapse cases	20	25	14	11	8	12	15	21	36	19	16	28

Source : LCDMS/EDCD/DoHS/DHIS-2/PHD

5.1.5.5 Activities and achievements in 2078/79

Endorsement of National Leprosy Strategy and Action Plan: Considering the previous National Leprosy Strategy (2016 -2020), findings and recommendations from the In-depth Review of the National Leprosy Program 2019, National Road-map for Zero Leprosy- Nepal (2021-2030), Global Leprosy (Hansen's Disease) Strategy (2021- 2030), as well as different health policies and plans of Nepal, National Leprosy Strategy and Action Plan (2021-25) with the goal of interruption of transmission of leprosy has been developed with the support from WHO, GPZL and other partners and endorsed by the MoHP on 2079 Jestha 24. It focuses on sustaining the gains made so far and concentrate on the remaining challenge for reducing the disease bur- den to achieve interruption of transmission (zero child leprosy cases for consecutive five years) leprosy in the endemic local levels.

Development of Leprosy Training Package for Health Workers: Leprosy Control and Disability Management Section has developed Leprosy Training Module for Basic Health Workers with the support of WHO. The training has been piloted and translated into Nepali.

Leprosy service delivery — In FY 2078/079, a total of 2,285 new leprosy cases were detected and put under multi-drug therapy and 2,373 cases were under treatment at the end of the fiscal year. During the year 2,086 patients completed the MDT regime and were released from treatment. Secondary and tertiary care services were provided to leprosy-affected patients through the existing network of referral centres with partner support. MDT drugs (provided by Novartis Foundation through WHO) and anti-reaction drugs were freely available. The supply of drugs to all provinces and local levels were managed smoothly throughout the year.

Case Validation and data verification: Case validation and data verification were conducted in various high burden districts that included Chitwan, Bardiya, Beni, Jhapa, Rupandehi etc.

Conducted Review Meeting of Leprosy Control Programme for the FY 2077/78 and 1st Trimester of FY 2078/79: LCDMS has organized a review meeting on Poush 2078 to review the ongoing leprosy activities and identify the key action plan for the coming year.

Conducted Operational Research: Operational research was conducted on "Epidemiology of leprosy cases identified through Active Case Detection at Lamkichuwa Municipality, Kailali". Only 3 new cases of leprosy were identified.

Development of plan/ policies/ guidelines: National Leprosy Strategy and Action plan (2021-25) for five years (2021-2025) has been developed in this FY.

IEC and advocacy — In order to enhance community awareness, passive case detection, voluntary case reporting and to reduce stigma, IEC activities were regularly undertaken using electronic and print media. Posters highlighting the diagnosis, treatment and availability of free leprosy services were printed and distributed. Leprosy awareness raising messages were broadcasted through Nepal TV during the time of World Leprosy Day.

World Leprosy Day—World Leprosy Day is celebrated on the last Sunday in the month of January worldwide. In Nepal, the 69th World Leprosy Day was commemorated on 16th Magh 2078 (30th January 2022) by conducting various activities at national, province and district levels. A media interaction programme was arranged at MoHP in presence of the Director General, directors of various divisions, WHO, partner organizations, media person, leprosy affected peoples' organization to highlight the situation of leprosy cases in Nepal and issues and stigma related to the programme. The day received enormous media coverage. Similarly, lightning at Dharahara regarding leprosy and NTD message was displayed in the evening.

Transport support to released-from-treatment cases — The programme provided grants of NRs.1,000 to patients released from treatment to cover their transport costs after completing MDT treatment. The treatment regularity rate of patients is increasing partly due to the provision of this incentive. 2086 leprosy cases who had completed MDT were believed to be benefitted by the transportation cash support budget allocated under the regular budget of local level.

Recording, reporting, update, leprosy case validation, supervision, and monitoring— Recording, reporting, update and case validation was carried out in various districts to verify data and records of cases in health facilities, to validate cases diagnosed by health facilities and to strengthen recording and reporting and the release of cases from treatment. Data verification was conducted in 15 high endemic districts.

Coordination with partners — LCDMS organized coordination meetings among the partners that includes WHO- Nepal, Leprosy Mission Nepal (LMN), Nepal Leprosy Trust (NLT), International Nepal Fellowship (INF), NLR, Damien Foundation, FAIRMED Foundation, Partnership for New Life (PNL), Nepal Leprosy Fellowship (NLF), Nepal Leprosy Relief Association (NELRA), Sewa Kendra, READ Nepal, and IDEA Nepal to share regular updates on activities, to have common approach to celebrate World Leprosy Day and to develop programme guidelines. Similarly, coordination meetings with partners working on Disability Management and Rehabilitation sectors were also held simultaneously.

Grant to leprosy affected persons— A grant was provided to support leprosy affected residents in the Khokana and Pokhara Aarogya ashrams through the Nepal Leprosy Relief Association (NELRA). The grant has been provided for leprosy affected people to provide fuel, blanket, food and incentives. Similarly, in the current year, a grant was provided to READ-Nepal to support leprosy affected people taking shelter at its organization.

Annual Report and Bulletin -Annual report of Leprosy Control and Disability Management Programme 2077/78 (2020/21) was published highlighting the activities conducted in the same fiscal year including the activities conducted by partners to support leprosy control programme.

ACTIVITIES SUPPORTED BY PARTNERS

In FY 2078/79 (2021/22), WHO-Nepal supported technical support in developing the National Leprosy Strategy and Action Plan (2021-25). It also supports the supply of MDT drugs, provides technical support for program planning and strengthening through technical and financial support in active case detection, capacity building of health workers, routine surveillance, technical supervision and monitoring, and the community awareness programme.

The partners: The Leprosy Mission Nepal, Nepal Leprosy Trust, International Nepal Fellowship, Damien Foundation, Netherland Leprosy Relief, FAIRMED Foundation supported the following activities in high endemic districts:

- Community awareness and participation programme
- Orientation of community members
- Provision of primary, secondary and tertiary care at referral centres
- Capacity building activities for government health workers
- Technical support through joint supervision and monitoring
- Prevention of disability in leprosy and rehabilitation service
- Formation, implementation and support of self-care and self-help groups operated by people affected by leprosy and people living with disabilities due to leprosy
- Support for Post-Exposure Prophylaxis Programme

Similarly, regular coordination and cooperation were carried out with partners and stakeholders working on the disability management and rehabilitation sector.

Table 5.1.5.9: Strengths, weakness and challenges for the leprosy control programme

Strengths	Limitations	Challenges
• MDT free of cost , transport service for released from treatment cases and other services for treating complications • Accessibility of leprosy service to upto grass root level • Uninterrupted supply of MDT • Good communication and collaboration among supporting partners • Improving participation of leprosy affected people in national programme • Steering, coordination and technical committees formed and conducting meeting in regular basis • ACD, contact examination/ surveillance of patient, family members and neighbours • Plan to implement Leprosy Post-Exposure Prophylaxis in high endemic districts	• Poor institutional set-up and inadequate human resources • Low priority for leprosy programme at periphery • Very few rehabilitations activities • Inadequate training and orientation for newly recruited health workers and refresher trainings for focal persons and managers • Problem for reaction and complication management at periphery level • Poor result-based output, recording and reporting of contact examination activities • Under and over reporting of leprosy data in IHIMS.	• No early case detection and management, high proportion of G2D • Increasing new cases of leprosy • Ongoing high community transmission, high child case • Issues related to accuracy and under reporting of leprosy cases in DHIS system • Low coverage of contact examination and LPRP • Retaining trained human resources • Cross border information sharing • Stigma and discrimination related to leprosy • Maintain access and quality of services in low endemic mountain and hill districts Poor motivation of health workers

Future course of action and opportunities

- Evidence based planning based on activities identified in National Leprosy Strategy and Action Plan 2021-2025
- Revision/ update of national operational guideline for leprosy as per the new strategy.
- Develop SoP for active case detection and data verification
- Develop and piloting case-based surveillance system
- Intensify IEC activities to raise community awareness on early diagnosis and treatment, the prevention of disability, rehabilitation and social benefits.
- Strengthen early case detection by focusing on pocket areas of high endemic districts.
- Develop an intensified case search activity for the municipality level elimination.
- Promote community participation in the National Leprosy Elimination Programme.
- Improve the access of unreached, marginalized and vulnerable groups to leprosy services.
- Strengthen the involvement of people affected by leprosy in leprosy services and programmes.
- Build the capacity of health workers for early case detection, management and community-based rehabilitation.
- Carry out operational research in high endemic districts and pockets on for quality services.
- Intensify vocational education and income generation activities for people affected by leprosy.
- Ensure resource mobilization, partnership and participation of local government and collaboration with new partners, institutions and individuals for leprosy services and rehabilitation.
- Strengthen the capacity of LCDMS for effectively implementing national policies and strategies.
- Strengthen surveillance in low endemic districts and areas.
- Strengthen the evidence-based (laboratory confirmed) reporting of relapse cases.
- Address cross-border issues.
- Sustain the newly initiated programme and services e.g. satellite services, interactions with medical college hospitals, joint monitoring, training and observation in partnership approach.
- Strengthen referral services
- Proper recording and reporting of leprosy data in DHIS-II

5.1.6 DISABILITY INCLUSIVE HEALTH, REHABILITATION, ASSISTIVE TECHNOLOGY AND INJURY PREVENTION

5.1.6.1 Background

The demographic and health survey 2022 incorporated the Washington group short sets questionnaires' which provides information based on functional domains (mobility, vision, hearing, cognition, selfcare, communication) showed almost quarter of the population are living with some difficulty in at least one functional domain, 5% have a lot of difficulty and 1 % cannot do at least one functional domain in Nepal.

The living conditions among people with disabilities 2016 highlights more than a quarter of the service gap in health service and more than half the service gap on access to health-related information. A Rapid Assistive Technology Assessment survey pinpoints the unmet need of about 20% in assistive products and it also flagged the risk for high out of pocket expenditure because of large sourcing of assistive products from the non-public facilities. In 2009, Nepal ratified United Nations Conventions on the Rights of Persons with Disabilities (UNCRPD) of which article 20 (Personal Mobility), Article 25 (Health) and Article 26 (Habilitation and Rehabilitation) are directly related to our activities. Embracing the right based principle of UNCRPD, the National Disability Right Act 2017 was developed in which access to health, rehabilita- tion and assistive products are presented as the mandatory provisions for persons with disabilities to affirm their right and dignified living.

EDCD/LCDMS promotes disability as the equity priority in all 5 types of health services. This is being done by investing in and building the capacity of the health system to devise disability sensitive policies and annual working plans. The National Public Health Act 2018 has identified rehabilitation as the health services for all. We are programming its action to develop the foundations of rehabilitation and AT services considering its requirement to all the population group, aligned to the approach of WHO Rehabilitation 2030 Call for Action and Global Cooperation on Assistive Technology (GATE) Initiatives. In recent years the MoHP has initiated strong leadership in rehabilitation and supported the national planning for rehabilitation in government healthcare which has included the integration of rehabilitation in the Disability Management Strategy and Action Plan and the NHSS-IP. Situational assessment of rehabilitation report indicates there is significant unmet need for rehabilitation in Nepal and the needs are increasing due to rise in NCD, increased life expectancy and other health conditions. There are many health conditions associated with rehabilitation needs, these include cardio- vascular diseases, musculoskeletal conditions, neurological conditions, pulmonary diseases, sensory organ diseases and mental health conditions. The investment in rehabilitation must be increased. There is a need to increase the training, acquisition, recruitment distribution and retention of all rehabilitation professions including speech and language ther- apy, occupational therapy, rehabilitation medicine, rehabilitation nursing, clinical psychology, vision therapy, physiother- apy and prosthetics and orthotics.

5.1.6.2 Status

Total number of rehabilitation service users

Compared to previous fiscal year (29,814 service users) rehabilitation service users in this fiscal year has increased by two fold, this is explained by the fact that EDCD/LCDMS initiated recording and reporting to the private facilities in Kath- mandu Valley and also the previous delivered training and refreshers is inducing the adherence to reporting and record- ing. In upcoming days, the training for private rehabilitation service providers will be programmed in provinces. Therefore, the number of rehabilitation service users reported and recorded is further expected to rise.
A total of 54,670 new clients received the rehabilitation services from government, NGO operated rehabilitation facilities and private rehabilitation service providers- (only from Kathmandu valley). The actual total number of new clients could be higher than 29,814 as the reporting from private hospitals from other provinces, medical colleges and eye hospitals is yet to be operationalized. 54,670 new clients receiving the rehabilitation service (excluding the data from private service providers) in one fiscal year showcase the strong presence of rehabilitation at the population level. As shown by this data, the weightage of rehabilitation in terms of its service utilization volume has increased by two folds, and this should correspond to the resource allocation thereby promoting its affordable access. With the increasing trends of aging, non-communicable disease and injuries, it is expected that the need for rehabilitation services will go in astronomical trends.

Of the provinces, Bagmati province reports the highest delivery of the service where there is a constellation of rehabilitation service providers. After Bagmati, Lumbini and Karnali provinces respectively demonstrated the high volume of rehabilitation service consumption. Both of these province governments have established physiotherapy units in the district hospitals. Like in the previous year, Province one marked the lowest recording of new clients because there are only two government hospitals (Koshi and Rangeli), B.P. Koirala Institute of Health Sciences and Community-based Rehabilitation Centre that are offering facility level physical rehabilitation services. As shown by this data, in each province, there is some presence of rehabilitation services. Hence, it's vital to ensure that all the health system reform initiatives led by the provincial government should prioritize rehabilitation.

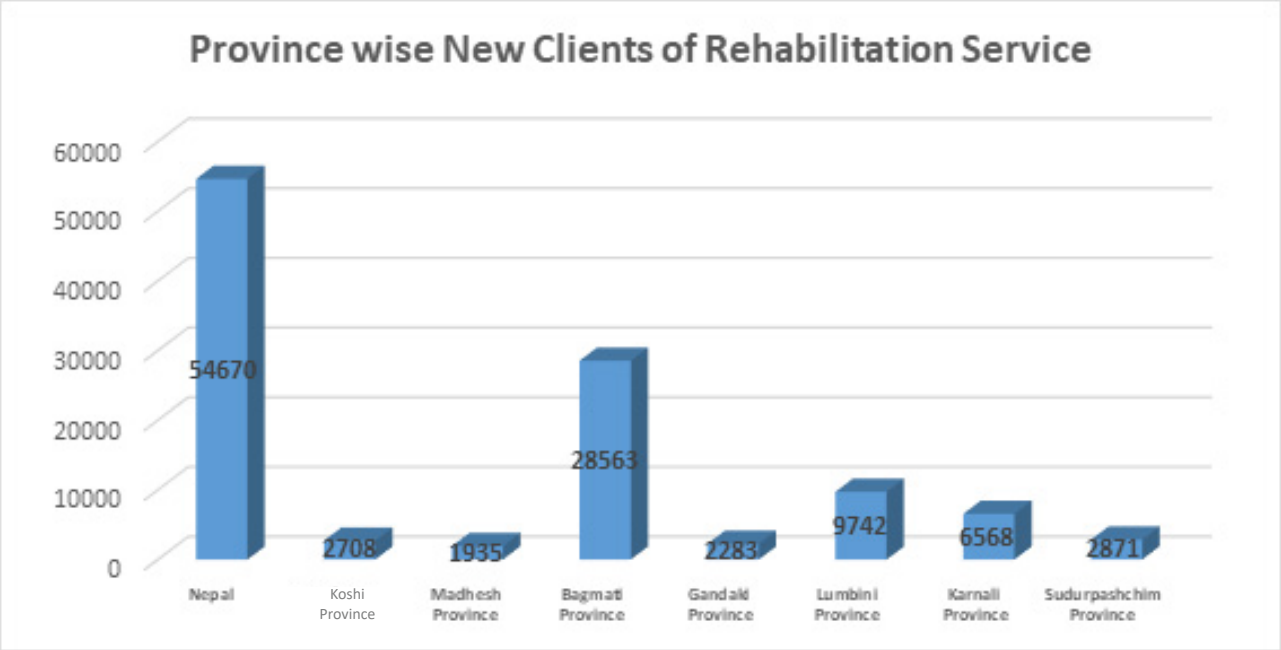


Figure : 5.1.6.1 Province wise New Clients of Rehabilitation Service

Number of assistive products delivered

Assistive products (AP) are external appliances or devices that promote the functioning and prevent disabling consequences of impairment in an interaction with an environment. AP is a health service and one of the important elements of rehabilitation. AP service provision requires the assessment, prescription, product preparation, user training and fol- low-up from qualified professionals. In this fiscal year, 6,746 assistive products were delivered. Nearly one-half of the delivered products were orthosis which includes the custom made and pre-fabricated orthosis. The second most commonly delivered is mobility aids that include crutches, canes and walkers. The vision related assistive products are delivered in limited quantity which in contrast to the findings of Rapid Assistive Technology Assessment(rATA) which estimated the highest use of vision related assistive products. rATA is the population based survey that has estimated the need, unmet need, demand, supply and satisfaction of users on assistive products. The limited reporting of the vision related product is explained by the fact that the eye hospitals are still yet to be integrated in the reporting and recording of the vision-related products.

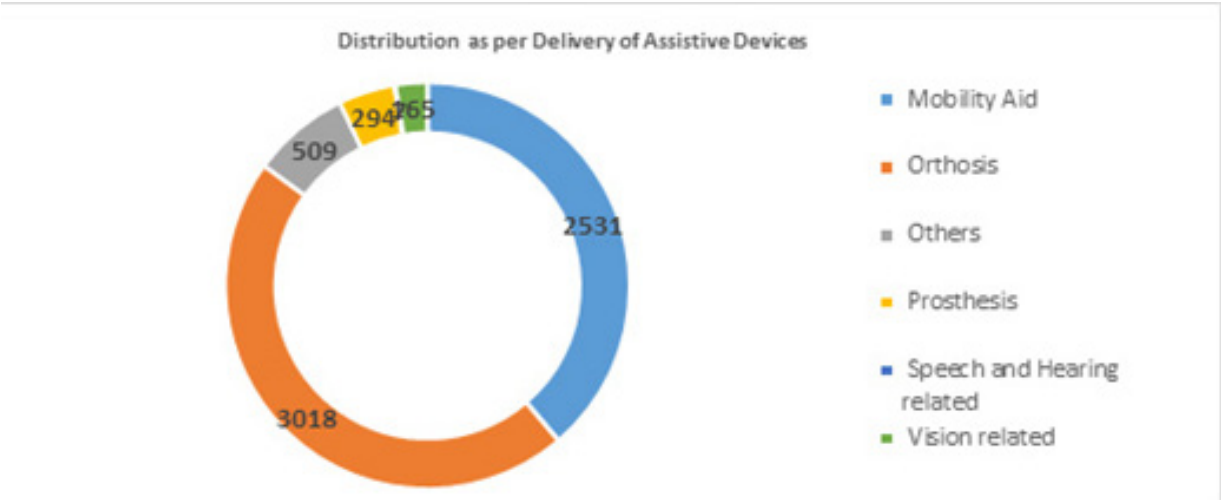


Figure : 5.1.6.2 Distribution as per Delivery of Assistive Devices

Distribution of new rehabilitation cases by the health conditions

It is found that the maximum number of people with musculoskeletal and connective tissue conditions consumed rehabilitation services and this corresponds to the high burden of these conditions in Nepal. Around one-fifth of the total cases receiving rehabilitation had conditions related to injury, poisoning and consequences of external causes. People with diseases of the nervous system are found to be the third largest cohort for receiving rehabilitation services. The number of rehabilitation users by diagnosis is slightly higher than the total number of new clients because in some stanc-

es a single case is presented with multiple conditions for which rehabilitation is required.

Table : 5.1.6.1 Distribution of new rehabilitation cases by the health conditions

Diagnosis	Percentage of Clients
I-Certain infectious and parasitic diseases	**1.09%**
II-Neoplasms	**0.21%**
IV-Endocrine, nutritional and metabolic diseases	**0.34%**
IX-Diseases of the circulatory system	**6.62%**
Sleep-wake disorders	**0.02%**
Supplementary chapter traditional medicine conditions	**0.00%**
V-Mental and behavioral disorders	**0.12%**
VI-Diseases of the nervous system	**8.42%**
VII-Diseases of the eye and adnexa	**0.03%**
VIII-Diseases of the ear and mastoid process	**2.19%**
X-Diseases of the respiratory system	**2.94%**
XIII-Diseases of the musculoskeletal system and connective tissue	**61.95%**
XIV-Diseases of the genitourinary system	**0.23%**
XIX-Injury, poisoning and certain other consequences of external causes	**13.35%**
XVI-Certain conditions originating in the perinatal period	**0.28%**
XVII-Congenital malformations, deformations and chromosomal abnormalities	**0.85%**
XVIII-Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	**1.18%**
XX-External causes of morbidity and mortality	**0.20%**
Total	**100%**

Number of persons with disability receiving rehabilitation service

Out of 29,814 service users, 2613 were persons with disabilities as defined by the government of Nepal. More than a quarter who received the services were having a severe form of disabilities, followed by moderate and mild forms. There is a strong need to promote physical and financial access for people with disabilities for rehabilitation services.

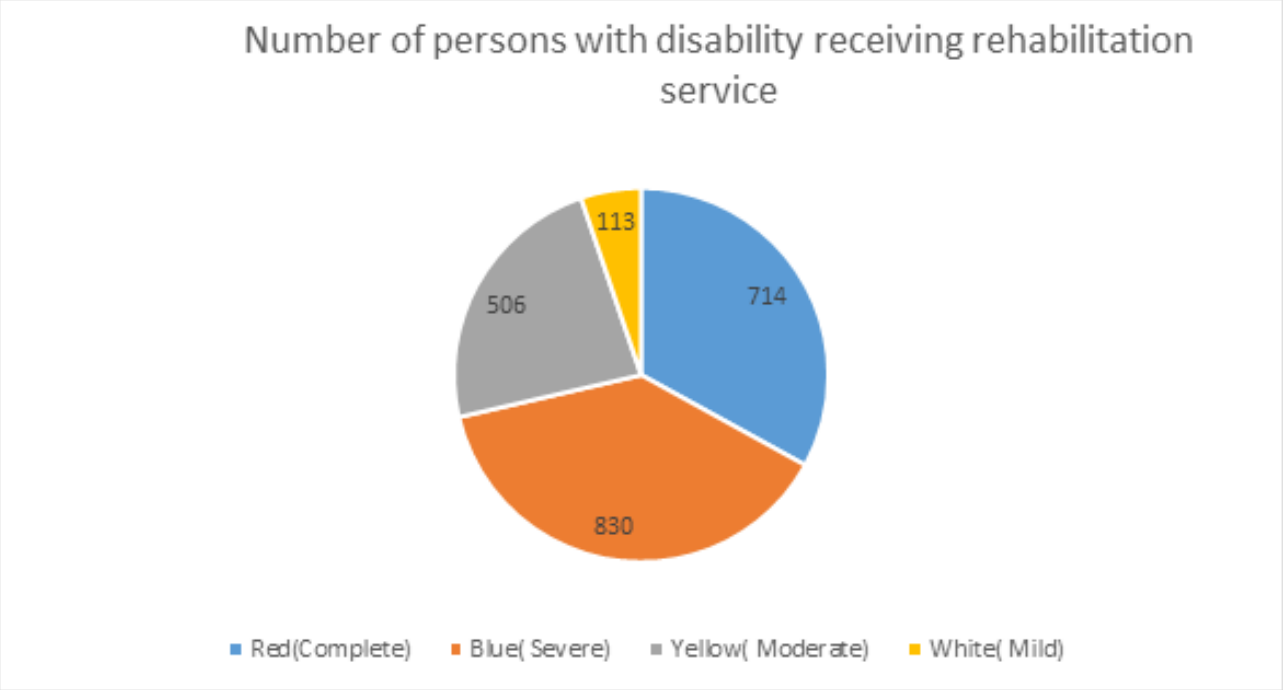


Figure : 5.1.6.3 Number of Persons with disability receiving rehabilitation service

5.1.6.3 Activities and achievements in 2078/79

Rehabilitation Training Package for Primary Health Care developed and delivered
A 5-days training of a trainer package on disability management and rehabilitation was developed and delivered. This first- of-its-kind national package was developed, and piloted in Banke and Kaski districts, with the support of WHO, Country Office for Nepal. The training package, drafted by an expert group on disability and rehabilitation, and commissioned by LCDMS, has three core modules: disability inclusive health, rehabilitation, and assistive technology. 44 medical officers, working at the provincial level and primary health care centers, who participated in the training will now further train more healthcare workers. Based on the pilot experience this training package will be adapted to the scalable model in near future.

Information education and communication material on assistive product
A leaflet on the assistive product service provision steps was developed with the contribution from NHEICC and assistive product experts. It is intended to the service providers funding the assistive product services. The steps of service provision include assessment, fitting, user training and follow up. These are the mandatory steps to ensure the quality and user centric assistive product service provision.

Systematic Assessment of Rehabilitation Situation (STARS) report
This is the first health system assessment of the rehabilitation context in Nepal that highlights the system level status gaps and it proposes the recommendations to strengthen the rehabilitation in Nepal. In this fiscal year the consensus, validation and peer review of this report was facilitated among the health system experts, rehabilitation professionals, SEARO and WHO HQ experts in rehabilitation. The report has been recently endorsed through the health secretary level. The findings of the STARS will inform the national rehabilitation strategic plan that MoHP is envisioning for 2023.

National Standard on Assistive Technology Developed
Nepal is the first country in the SEAR region to nationalize the WHO Priority Assistive Products List (PAPL). Aligned to this development, WHO supported the development of the first national standard on assistive technology. This guideline brings standards to ensure the quality and user centric delivery of assistive products in Nepal. In 2022, the draft revision and consensus meetings were organized. Recently, it is validated from the health secretary level and EDCD is planning its national level dissemination and application. This standard has a companion in the form of a pocket book that directs three tiers of government to operationalize the PAPL.

Rehabilitation Workforce Assessment based WHO Guide for Rehabilitation Workforce Evaluation (GROWE)
This assessment examines the progress of the workforce towards effective coverage by observing labour market dynam- ics to provide rich information on the status and trajectory of the rehabilitation workforce, as well as the factors under- lying them. It comprises a suite of resources for evaluating the rehabilitation workforce to support advocacy, coordination and planning at a national or subnational level. In December 2021, the inception meeting of the GROWE

among rehabilitation professional associations, entities of MoHP and external development partners. Following the inception, the rehabilitation workforce data was collected on the standardized GROWE format by mobilizing the rehabilitation professional association.

Rapid Assistive Technology Assessment (rATA)
It is the population based survey to estimate the needs, unmet needs, sources and satisfaction of assistive products. In WHO support, Nepal Health Research Council deployed this survey in December 2021 for EDCD. The detailed survey report is being finalized and EDCD/LCDMS will plan the national dissemination of this survey. The findings of this survey is paramount to inform the strategic purchasing of assistive product services.

Conditional grant to provinces and selected pallikas to deliver assistive products
To promote the population's access to assistive products, EDCD/LCDMS has allocated conditional grants to all the provinces and selected local levels. The program implementation guideline was made to guide the provinces and local levels to ensure the delivery of these services following the standardized process. The provinces and local levels will program these interventions through public-private partnerships with nearby physical rehabilitation centers and rehabilitation hospitals.

International Day of Persons with Disabilities 2021
The annual observance of the International Day of Persons with Disability was proclaimed in 1992 by United Nations General Assembly resolution 47/3. It is observed annually on the 3rd of December and aims to promote the rights and well-being of persons with disabilities in all spheres of society and development and to increase awareness of the situation of persons with disabilities in every aspect of political, social, health, economic and cultural life. International Day of Persons with Disabilities was commemorated this year with the theme "Leadership and Participa- tion of Persons with Disabilities Toward an Inclusive, Accessible and Sustainable Post-COVID 19 World" through interac- tion program with stakeholders/partners and information sharing through social media and national television.

Post-covid rehabilitation protocol and IEC materials
A clinical protocol focusing on the rehabilitation aspect of the post-COVID-19 was developed in coordination with the national rehabilitation expert, supported by USAID Physical Rehabilitation Activity. This protocol is intended for doctors, nurses, rehabilitation professionals and health workers to deliver evidence-informed assessment and rehabilitative management of post-COVID conditions. Likewise, a video and information leaflet was developed to support the home management of the post-covid condition.

Road Safety in Nepal: Situation assessment and prioritization of strategic inter-sectoral actions
In a leadership of EDCD and in coordination with the Ministry of Physical Infrastructure and Transport (MoPIT), Nepal Police, Survivor groups and road safety related Civil Society Organizations (CSOs), this situational assessment was conducted with the WHO support. The assessment brought the snapshot status of road crashes not only in number but also it apprised gaps in coordination and existing policies at the 3 levels of governments in Nepal. Within this assessment, the National Policy Dialogue on road safety was organized highlighting the components of the safer system approach. This program organized in the chairmanship of the health secretary showcased the health system readiness to work together with other government counterparts and stakeholders in the prevention and management of road crashes. The program also identified a need to prioritize the low-cost high-yield interventions for Nepal, helmet use by pillion riders, expansion of no-drink-and-drive countermeasures and setting up injury surveillance sites. The renewed solidarity yielded from this platform generated the momentum of inter-ministerial and interdepartmental sharing on the issues of road safety.

5.1.7 SCRUB TYPHUS

5.1.7.1 BACKGROUND

Scrub typhus is a vector borne infectious disease caused by a bacteria. Orientia tsutsugamushi and transmitted to humans through the bite of infected larval mites. The larval mite, also called chiggers, are very small, being only 0.15–0.3 mm in length and can only be seen through a microscope or magnifying glass. The bite of the mite may leave a characteristic black eschar that is useful to make clinical diagnosis of scrub typhus. There is no human-to-human transmission of scrub typhus. Scrub typhus can exhibit a pronounced seasonality, with high transmission peaks before and after the rainy season in regions of Southeast Asia, while a regular year-round transmission common in tropical and subtropical regions. In Nepal, various studies conducted in the past have demonstrated scrub typhus infections. Antibodies to scrub typhus were found in 19 people when 188 samples from eastern Nepal were analyzed in 1981. Analysis of blood samples from patients presenting with fever in Patan Hospital, Kathmandu valley, in 2004, found that 3.2% were positive for scrub typhus by serology. After the devastating earthquake in 2015, outbreak of scrub typhus has been reported from across the country causing several morbidities and mortalities. Although the surveillance system for scrub typhus is not very well established, the following number of scrub typhus were reported through the early warning and reporting system (EWARS) from 2016.

Table 5.2.1.1: Province wise scrub typhus cases reported to EWARS from 2077/78 -2078/79

S.N.	Province	2077.78	2078.79
1	Koshi	125	264
2	Madesh	6	89
3	Bagmati	159	240
4	Gandaki	102	163
5	Lumbini	382	687
6	Karnali	19	42
7	Sudurpaschhim	980	989
National Total		**1773**	**2474**

5.1.7.2 MAJOR ACTIVITIES CONDUCTED

Even though there is no national program to control scrub typhus yet, NTDS/VBDs section, Epidemiology and Disease Control Division is responsible for control of many vector borne diseases endemic in Nepal including scrub typhus. Through the annual work plan and budget, EDCD conducted the following major activities for scrub typhus control in Nepal.

Capacity strengthening

Capacity strengthening of medical doctors and other health workers across all the provinces were conducted through various integrated orientations on vector borne and neglected tropical diseases such as dengue, kala-azar, malaria, lymphatic filariasis and scrub typhus.

Diagnostics support

EDCD supported the availability of diagnostic test kits for scrub typhus diagnosis to the provinces, districts, and local level. These diagnostics test kits for scrub typhus provided by EDCD to the public hospitals across all the provinces are available free of cost to the patients.

IEC activities

EDCD has developed and disseminated many IEC materials and conducted IEC support activities to control scrub typhus in Nepal.

5.1.7.3 CHALLENGES AND WAY FORWARD

Although the national surveillance system for scrub typhus is not yet well established in Nepal, an increasing number of scrub typhus cases are reported each year from various districts in Nepal. The guidance on prevention of scrub typhus and proper diagnosis and case management is very critical towards preventing morbidity and mortality associated with this disease. The Epidemiology and Disease Control Division had published an interim guidance on prevention and control of scrub typhus in 2015, however, there is a need to provide an updated guidance on prevention, diagnosis, management, and control of scrub typhus in Nepal. Likewise, strengthening the surveillance system for proper recording and reporting of scrub typhus is crucial for better responding and control of scrub typhus in Nepal. Strengthening the capacity of health workers on timely diagnosis and management of scrub typhus is another major focus area for the national neglected tropical diseases and vector borne disease section. Sensitization and awareness in the communities regarding the trans- mission risk of scrub typhus and methods to prevent the disease is also a priority for the national NTDs/VBD program.

5.1.8 Zoonotic Diseases and International Health Regulation

5.1.8.1 Background

A zoonosis is an infectious disease that has jumped from a non-human primates to humans. Zoonotic pathogens may be bacterial, viral or parasitic or may involve unconventional agents and can spread to humans through direct contact or through food, water or the environment. Zoonotic diseases are a threat to Health Security. Around 60% of existing human infectious diseases are zoonotic in origin and at least a 70% of emerging infectious diseases of humans including Ebola, Zika and influenza have an animal origin. Every year, 5 new human diseases appear out of which three are of animal origin. Among agents with bioterrorism potential, 80% are found to have zoonotic pathogens. The Epidemiology and Disease Control Division (EDCD) has been working in coordination, collaboration and consultation with different sectors including livestock, wildlife, agriculture, environment, general public and other non-governmental sectors. Zoonotic and other communicable disease control section is mainly focused on public health interventions for zoonotic diseases. In order to prioritize the national resources, activities and achieve the greatest benefit to improve human and animal health, ten zoonotic diseases are prioritized based on one health approach. Among them most of the activities for FY 078/079 were focused on Rabies and Snakebites.

5.1.8.2 Prioritization of Zoonotic Disease in Nepal

The workshop on prioritization of zoonotic disease in Nepal was done on 1st and 2nd April, 2021 to bring together representatives from human, animal, and environmental health sectors, as well as other relevant partners, to prioritize zoonotic diseases of greatest concern for multi-sectorial, one health collaboration in the country. First of all the list of zoonoses were compiled from various sources such as WHO's list of zoonoses, WHO's South East Regional Office's list of zoonoses, CDC's list of zoonoses, OIE, list of Potential Diseases Recommended for Inclusion in South Asia Disease Surveil- lance Network, Public Health England list of zoonoses, and notifiable zoonoses in India, China, and Sri Lanka. The list of zoonoses were then shortlisted from the large compilation of 90 disease in context of Nepal to 42 diseases, methodically and objectively by six voting members through voting based on criteria used by different countries such as burden of disease, epidemic potential, severity of disease, intervention available, socio economic impact, bioterrorism and others. A total 15 participants comprising the members of NTWG-ZD and external experts identified six criteria for zoonotic disease prioritization in Nepal. A zoonotic disease prioritization tool was developed with criteria weight and associated criteria score that would be combined to produce a final score for ranking of the disease and prioritization.

Workshop Objectives

The objective of the workshop was to use a multi-sectorial, One Health approach.

1. To prioritize a list of zoonotic diseases of greatest concern for Nepal.
2. To develop next steps and action plans to address the prioritized zoonotic diseases in collaboration with One Health partners.

List of Prioritized Zoonotic Disease in Nepal

1. Influenza (Avian and Seasonal)
2. Rabies
3. Coronavirus (SARS-CoV and MERS-CoV, SARS-CoV2)
4. Leptospirosis
5. Brucellosis
6. Salmonellosis
7. Leishmaniasis
8. Zoonotic Tuberculosis
9. Cystode (Cysticercosis/Hydatidosis)
10. Toxoplasmosis

5.1.8.3 Activities and achievements in 2078/79 in Prioritization of Zoonotic Disease

Following the prioritization of zoonotic diseases the activities that were carried out in 2078/79 are as follows:

1. Laboratory and Surveillance Capacity assessment and building to identify prioritization of zoonotic diseases.
2. Orientation of medical officers, nurses and other health workers regarding identification of prioritized zoonotic disease in federal and provincial level.
3. Regular meeting on National Technical Working Group on Zoonotic disease

Rabies

Rabies is primarily a disease of warm-blooded animals like Dogs, Jackals, Mongoose, Wild cats etc. Rabies cases are almost all fatal but it is 100% preventable by vaccination, awareness about human and animal interaction. Out of total cases of Dog bite, children's proportion is 40%. It has been assumed that almost half of Nepal's population are at high risk and a quarter at moderate risk of rabies. It is estimated that around 75,000 cases in pets and more than 100 human rabies cases occur each year with the highest risk in the Terai region. Latent infections have been reported in dogs. In

Nepal, more than 96% of the bite cases are of Dog bites origin. Almost all human cases (99%) of rabies are the result of dog bites. Vaccinating 70% of dogs break the rabies transmission cycle in an area at risk. So, along with the EDCD, every dog owner and animal health authorities are more concerned to eliminate it as a public health problem.

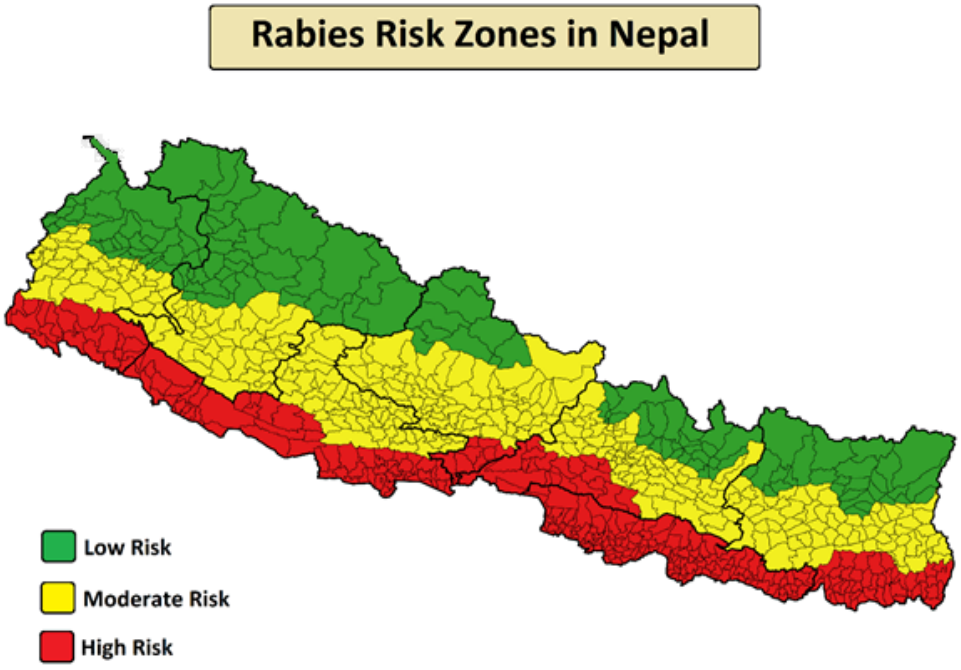


Figure : 5.1.8.1 Rabies Risk Zones in Nepal

Major activities and achievements in 2078/79 in Rabies control Programme
The following activities were carried out in 2078/79 for the control of rabies cases:

- Awareness programs about Rabies for school students and the general public.
- Celebration of World Rabies day on 28th September in coordination with federal health officials for its effective implementations.
- Epidemiological study on the active dog bites cases.
- Surveillance about Rabies in outbreak areas.
- Orientation program for health workers on Rabies prophylaxis through Intradermal (ID) administration of Anti Rabies Vaccine (ARV) and immunoglobulin administration.
- Scaling up of immunoglobulin application services in federal and provincial level hospitals.
- Procurement and supply of cell culture ARV vaccine and immunoglobulin.
- Diagnosis of rabies in suspected humans through PCR in Sukraraj Tropical and Infectious Disease Hospital.
- Outbreak investigation of Rabies in key affected areas.

In FY 2078/79, 75,562 cases of animal bites were reported (Table 5.3.1.1). The number of reported animal bite cases has fluctuated in recent years

Table 5.1.8.1 Status of reported animal bites and rabies in Nepal

Fiscal year	Number of cases of dog bites	Number of cases of other animal bites	No. of cases of animal bites (dog+ Other animal)	Number of ARV vials consumed	Reported Deaths
2070/71	31,976	2,540	34,516	195,868	10
2071/72	17,320	3,290	20,610	273,000	13
2072/73	20,133	2,494	22,627	320,139	6

Fiscal year	Number of cases of dog bites	Number of cases of other animal bites	No. of cases of animal bites (dog+ Other animal)	Number of ARV vials consumed	Reported Deaths
2073/74	37,226	2,518	39,744	227,639	8
2074/75	33,204	2,477	35,681	281,718	32
2075/76	32,882	2,368	35,250	236022	18
2076/77	52,610	4,009	56,619	-	15
2077/78	54,996	4,418	59,414		18
2078/79	75,562	9,921	85,483		13

Source: EDCD/DoHS

Snake bites

Poisonous snake bites — Twenty-one of the 89 species of snakes found in Nepal are poisonous. Around 10,000 snake bite cases are estimated annually of which about 10 percent are poisonous bites. The mortality rate is about 10 percent among poisonous bite cases. The 26 Terai districts are highly affected. In the last eight years, between 1 and 131 deaths have been reported from poisonous snake bites each year. The free distribution of anti-snake venom serum (ASVS) began in 1999/2000. Indian quadrivalent ASVS is being used now. There are 88 snake bite treatment centres in the country for snakebite management in collaboration with Nepal army, Nepal Red Cross Society, and community members. In addition to these, other hospitals in Kathmandu valley have been getting ASVS on the basis of cases they manage. The following activities were carried out in 2078/79 for the control and management of poisonous snake bites:

- Endorsement of Standards on Snakebite treatment centres in Nepal.
- Monitoring and on- site coaching for Snakebite treatment centres.
- Capacity building of health workers on the proper use of Anti snake venom and snake bite management in Nepal.
- Procurement and supply of ASVS for respective centres.

In 2078/79, altogether 9,346 snake bite cases were reported at national level. A total of 926 cases were poisonous. Table 5.3.1.2 summarises progress against previous year's data.

Table 5.1.8.2: Snake bite cases and deaths, Nepal (2070/71–2078/79)

Fiscal year	Total cases	Non-poisonous	Poisonous	Cure	Deaths	% deaths
2070/71	5,143	4,145	998	988	10	1.0
2071/72	4,128	3,461	667	666	1	0.1
2072/73	3,268	2,605	663	643	20	3.0
2073/74	6,121	5,209	912	879	33	3.6
2074/75	5,606	4,812	794	362	20	2.5
2075/76	4,567	3,871	696			
2076/77	5,081	4,203	878			
2077/78	7,902	6,935	967			
2078/79	9,346	8,420	926			

Source: EDCD/DoHS

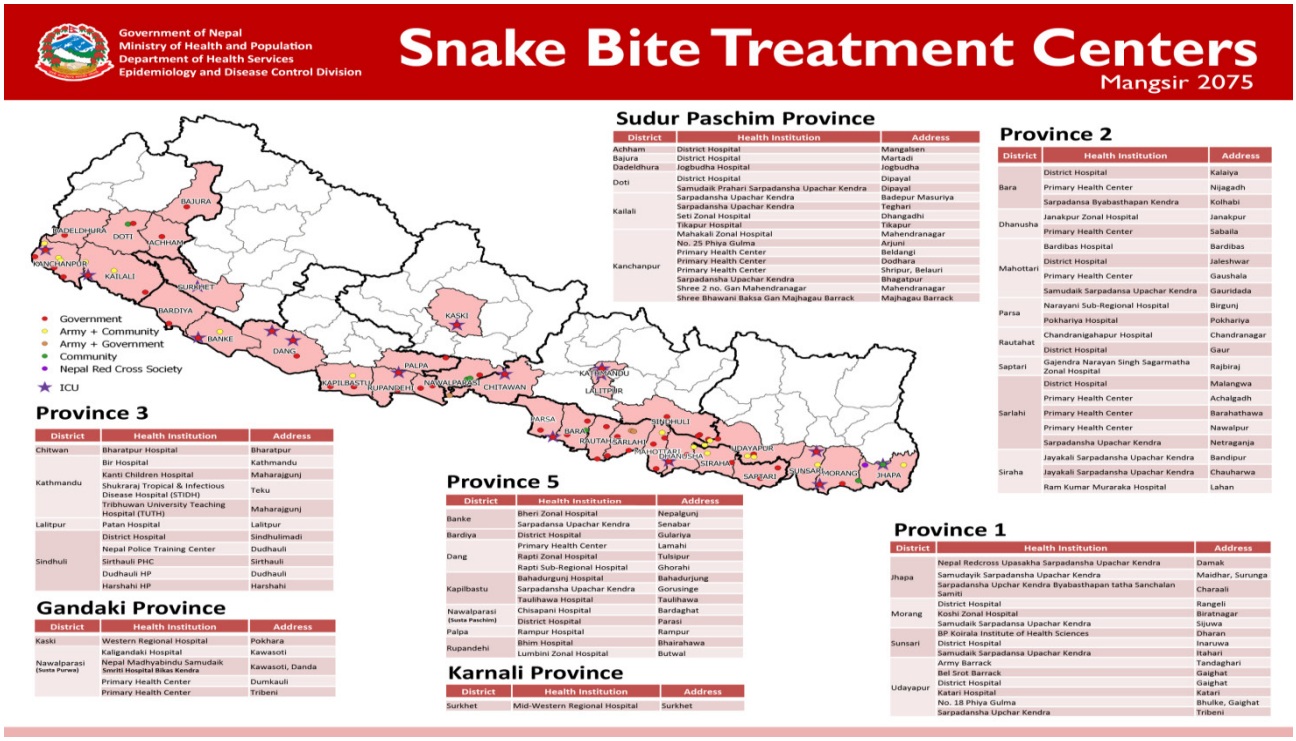


Figure : 5.1.8.2 Snake Bite Treatment Centres in Nepal

Table 5.1.8.3: Province wise Animal Bite cases in Nepal 2078/79

S/N	Animal Bite cases	Koshi Province	Madhesh Province	Bagmati Province	Gandaki Province	Lumbini Province	Karnali Province	Sudur-pashchim Province	Nepal
1	Dog Bite	6739	16448	13198	6298	22914	2249	7716	75562
2	Other rabies susceptible animal Bite	999	4826	954	859	1684	112	487	9921
3	Snake bite-Non Poison-ous	1592	1438	702	1335	3022	151	180	8420
4	Snake bite Poisonous	196	125	65	106	371	14	49	926
5	Insects/Wasp Bite	9504	16322	12901	3840	4683	1981	3169	49400

Source: EDCD/DoHS

International Health Regulations 2005

The International Health Regulations (IHR) 2005 represent a legally binding agreement between 196 countries to work together for global health security. Under the IHR, countries have agreed to build core capacities to prevent, detect, respond and report public health events. The IHR 2005 came into force from 17th July, 2007.

Core Capacity Requirements:

1. Policy, Legal and normative Instruments to implement IHR
2. IHR coordination, National IHR Focal Point functions and advocacy
3. Financing
4. Laboratory
5. Surveillance

6. Human Resources
7. Health Emergency Management
8. Health services Provision
9. Infection prevention and control(IPC)
10. Risk communication and community engagement
11. Points of Entry and Border health
12. Zoonotic Diseases
13. Food Safety
14. Chemical Events
15. Radiation Emergencies

Under IHR monitoring and evaluation framework there are four major components;

1. State Party Annual Reporting (SPAR)
2. Voluntary Joint External Evaluation(JEE)
3. After Action Review / IAR (COVID-19 Pandemic)
4. Simulation Exercises (SIMex)

Among these, State Party annual reporting (SPAR) is mandatory for countries. Epidemiology and Disease Control Division is the National Focal Point (NFP) and on behalf of EDCD, Director EDCD works as contact person to the focal point. The Chief of Zoonotic and other communicable disease control sections works as alternate IHR Contact points.

Every year, EDCD prepares SPAR reports through a multi-sectoral engagement of different ministries including Ministry of Agriculture and Livestock Services (MoALD), Ministry of Education, Science and Technology (MoEST), Ministry of Culture, Tourism and Civil Aviation (MoCTCA). For the first time in Nepal, IHR core capacities orientation and SPAR preparations was carried out at the provinces with multi sectoral involvement of Ministry of Economic Affairs and planning, Minis- try of Internal Affairs and law, Ministry of Land Management, Agriculture and cooperatives, Provincial Health Director- ate (PHD), Provincial Health Emergency Operations Centre (PHEOC), Provincial Public health laboratory (PPHL) within the provincial authorities in FY 2078/079. Following provincial preparations, a national workshop was organized to get inputs and consensus on the final report. The Final report is the SPAR report uploaded in the online portal and shared to the World Health Assembly through WHO.

Tribhuvan International Airport (TIA) is the only designated Point of Entry (PoE) of Nepal. Health Desks are established in air and ground crossings, there are altogether two air crossings and 16 formal ground crossings. EDCD regularly conducts capacity development activities for smooth implementation as per IHR recommendations. Nepal plans to conduct Voluntary Joint External Evaluations in FY 2079/080.

Major activities carried out in FY 2078/079 for the International health Regulations:

- Province level State Party self-assessment Annual Reporting (SPAR) Preparation and IHR core capacities orientation
- Drafting of National Aviation Public Health Emergency Preparedness Plan
- National workshop on SPAR reporting
- Preparation of voluntary Joint External Evaluation (JEE) conduction in Nepal
- Orientation on Multi-country outbreak of Monkey pox and other public health emergencies of international concern (PHEIC)
- Orientation on the IHR capacity at the Point of Entry (PoE)
- Updated Aeronautical Information Publication (AIP) on the entry requirements for international travellers (COVID19, POLIO, and YELLOW FEVER) and implemented in two International Airports as part of screening.

5.1.9 **Tuberculosis**

5.1.9**.1 Background**

Tuberculosis (TB) is a communicable disease which is a major public health problem in Nepal. It is one of the top 10 causes of death worldwide and in Nepal, and the leading cause of death from a single infectious agent (ranking above HIV/AIDS). TB is caused by the bacillus Mycobacterium tuberculosis, which is spread when people who are sick with TB expel bacteria into the air; for example, by coughing. The disease typically affects the lungs (pulmonary TB) but can also affect other sites (extrapulmonary TB). About a quarter of the world's population is infected with Mycobacterium tuberculosis, which is similar for Nepal.

TB can affect anyone anywhere, but most people who develop the disease are adults, there are nearly twice as many cases among men than women, and 30 high TB burden countries account for almost 90% of those who fall sick with TB each year. TB is a disease of poverty, and economic distress, vulnerability, marginalization, stigma and discrimination are often faced by people affected by TB. TB is curable with medicine (nearly 90% cure rates) and preventable. With access still falling short of universal health coverage (UHC) for all forms of TB, many still have also missed out (nearly 58% in Nepal) on diagnosis and care. Preventive treatment is scaling up among contacts.

This report is to provide a comprehensive and up-to-date assessment of the status of the TB epidemic, and of progress in the response to the epidemic at country levels in terms of global and national end TB commitments. The report is based primarily on data gathered by NTCC through HMIS, NTPMIS, WHO country profile, National TB prevalence survey 2018-19 report and other surveillance data. The report also analyzes the post COVID 19 situation of the TB epidemic in Nepal

Global and country commitments to end TB
In 2014 and 2015, all Member States of WHO and the UN committed to ending the TB epidemic, through the adoption of WHO's End TB Strategy and the UN Sustainable Development Goals (SDGs). The END TB strategy and SDGs include milestones and targets for large reductions in TB incidence, TB deaths and costs faced by TB patients and their households. This was followed by the Moscow Declaration to End TB in 2017 and then by the UN General Assembly held its first-ever high-level meeting on TB in 2018. The outcome was a political declaration in which commitments to the SDGs and End TB Strategy were reaffirmed and new ones added1(Multisectoral accountability framework and meaningful engagement of civil society). Nepal also committed to these declarations and developed strategies in line with these commitments.

Status of TB epidemic in Global and Nepal Context
Globally, an estimated 10.6 million people (6.6 million males and 4.0 million females) fell ill with TB in 2021. There were an estimated 1.6 million TB deaths, 1.4 million among HIV negative people and 187000 among HIV positive people. The global TB notifications is 6.4 million with a partial recovery from 5.8 million in 2020. Men (aged ≥15years) accounted for 57.0% and children (aged <15 years) for 11.0%

In Nepal, an estimated 69,000 fell ill with TB in FY 2078/79. The National Tuberculosis Programme (NTP) registered 37,861 all forms of TB cases (38% female and 62% male). Out of 37,861 all forms of TB cases, 37,287 (98.5%) cases were incident TB cases, 21,628 (57%) were pulmonary bacteriologically confirmed (PBC) cases, 5677 (15%) were pulmonary clinically diagnosed (PCD) cases and 10556 (28%) were extrapulmonary TB cases. Geographically, most people who reported TB were from terai region (60%). At provincial level, Madhesh Province (23.7%), Bagmati Province (23.3%), and Lumbini province (21.4%) contributed the highest proportion of notifications. Altogether, these 3 provinces comprised 68.4% of the total TB cases notified in NTP

Drug-resistant TB continues to be a public health threat. Globally, the burden of MDR-TB or RR-TB (MDR/RR-TB) is stable. For more than 10 years, the best estimate of the proportion of people diagnosed with TB for the first time who had MDR/RR-TB has remained at about 3–4% and the best estimate for those previously treated for TB has remained at about 18–21%, 78% had multidrug-resistant TB (MDR-TB)2. In 2021, an estimated 450,000 people fell ill with MDR/RR TB around the globe, while people who started on treatment were 162, 000. In Nepal, nearly 2,800 people were estimated to develop MDR/RR TB in FY 2078/79, but only 942 were detected (i.e. 57% were missed) and out of those diagnosed, NTCC was able to put 659 on DR TB treatment. Preventive therapy was also provided to 64% of childhood TB contacts through contact tracing.

Progress towards the End TB Strategy and SDGs
Globally, a 10.0% reduction in TB incidence rate and 5.9% reduction in TB deaths in between 2015 and 2021 was observed. Though, the incidence rate and deaths are declining, but are not as expected to meet the global END TB and SDG targets also, 48.0% of people with TB faced catastrophic costs. As per the Global TB Report, 2022, Nepal showed a 14.0% reduction in TB incidence rate and 3.6% reduction in TB deaths between 2015 and 2021, however Nepal is still

- https://www.who.int/news-room/events/un-general-assembly-high-level-meeting-on-ending-tb
- As published by WHO in annual global TB reports.

far behind to track in reaching the END TB targets. Furthermore, Nepal does not have the data on TB affected people facing catastrophic costs. Based on the National TB prevalence survey report, there has been a 3.0% decline in annual incidence rates in TB in Nepal.

TB diagnosis, treatment, and prevention service coverage
TB services were mostly provided through the integration of decentralized health service delivery systems through 5971 DOTS centers and 896 microscopic centers. Specialized services were provided from 22 DR TB treatment centers, 81 DR TB treatment sub-centers, 6 DR TB hostels and 1 DR TB home. Diagnosis services were further provided through 93 Genexpert sites, 2 Culture labs with DST and LPA services. As a part of Universal health coverage, social determinants and multisectoral action DS TB services are part of UHC and provided as essential health care services throughout the country. TB treatment service coverage for DS TB is 54.0% and DR TB is 30% in FY2078/79, a slight improvement from 41.0% and 19% respectively in last fiscal year FY 2077/78. Even though improvement has been observed in the treatment service coverage, still 46.0% DS TB and 70% DR TB patients are expected to be leaving behind the accessing of TB services. TB preventive therapy was scaled up to 42 districts and provided to 3158 eligible <5year child TB contacts of PBC cases. GeneXpert (Xpert MTB/RIF) services are expanded to 62 districts with 125 machines and 23 Xpert XDR machines are introduced for early diagnosis of Pre-XDR TB cases.

5.1.9.**2 History of TB in Nepal and progress towards global and national TB targets**
Within the organizational structure of the Ministry of Health and Population, National Tuberculosis Control Centre (NTCC) is the leading entity for National TB Control Program (NTP) and responsible for formulating policies, strategy, planning, monitoring, and quality assurance of the program. The efforts of controlling TB disease in Nepal started from 1937 establishing a sanitorium at Tokha to care for TB patients. In 1951, a chest clinic was established in Kathmandu and began the formal treatment of TB patients for the first time in Nepal. Likewise in 1965 GoN established the National TB program. Later in 1989 the clinic and the pro-gram were merged and NTCC was established as an apex body to manage the TB program in the country. Nepal systematically started a TB control program adopting DOTS TB strategy in 1996 and is renowned as a pioneer program in effective control of TB in Nepal setting the example at global level. With the adoption of the DOTS TB Strategy in 2006 and the End TB Strategy in 2015. NTP is in-line with other global and stra-tegic commitments to reach END TB targets. There were various commitments made by the government at different points of time regarding global declarations to ending TB.

Figure 5.1.9.1 Global declarations and commitments for TB program

Based on the global and national commitments to reach the set END TB targets, NTCC has developed its National Strategic plan 2021/22-2025/26 for TB3 which envisions for TB Free Nepal by 2050. The milestones, and targets set by Tuberculosis NSP 2021-2026 were to reach SDG and end TB targets as mentioned below.

- https://nepalntp.gov.np/wp-content/uploads/2022/07/TB-National-Strategic-Plan-English-report-UPDAT- ED-

oct-11-2022.pdf

INDICATORS	MILESTONES		TARGETS	
	2020	2025	SDG 2030	END TB 2035
Reduction in number of TB deaths compared with 2015 (%)	35%	75%	90%	95%
Reduction in TB incidence rate compared with 2015 (%)	20% (<85/100 000)	50% (<55/100 000)	80% (<20/100 000)	90% (<10/100 000)
TB Affected Families facing catastrophic costs due to TB (%)	ZERO	ZERO	ZERO	ZERO

Goal

Nepal has set a goal to decrease incidence rate from 238 in 2020/21 to 181 per 100,000 population by 2025/26; decrease mortality rate from 58 in 2020/21 to 23 per 100,000 by 2025/26; end TB epidemic by 2035; eliminate TB by 2050; and reduce the catastrophic cost to zero

Objectives

1. To build and strengthen political commitment, sustainability, and patient-friendly health system to end TB.

1.1. **Strategy:** Strengthen the health system in delivering TB services under universal health coverage, scaling community engagement in TB care and support and program monitored through integrated and digitalized case-based surveillance system.

2. To ensure the identification of TB, diagnosis, quality treatment and prevention.

2.1. Strategy: Strengthen quality TB lab network, increasing reach and access to rapid diagnostic methods and improve case notification by strengthening facility and active case finding activities in communities, including private sectors engagement and multi-sectorial approach.

Major outcomes expected from NSP 2021/22-2025/26 are as follows:

- TB-affected families facing catastrophic costs due to TB (%) = 0%
- Increase domestic funding up to 70% by 2026
- 50% of TB cases managed and supported by community by 2026
- 100% health facilities using digitalized case-based surveillance system by 2026
- 100% Drug-susceptibility testing (DST) coverage for TB patients by 2026
- ≥ 90% coverage of Latent TB infection (LTBI) treatment coverage among eligible children < 5 yrs, among PLHIV and vulnerable groups by 2026
- 85% and 90% decrease case notification gap for DS TB and DR TB respectively by 2026.
- 30% TB notification contributed by private sectors by 2026.
- 100% Documentation of HIV status among TB patients by 2026
- ≥ 90% Treatment Success Rate for DS TB and throughout 2021-26
- ≥ 85% Treatment Success Rate for DR TB by 2026
- TB in emergency / pandemic plan available and funded

5.1.9.3 Progress towards service coverage, epidemiology and disease burden of TB

Institutional coverage

Nepal adopted the DOTS strategy in 1996 and achieved nationwide coverage in 2001. All DOTS centers are integrated into public health services or run through NTP partner organizations in the public and private sectors. In FY 2078/79, 5971 institutions were offering TB diagnosis and treatment DOTS-based TB control services. Below Table summarizes the Tuberculosis service outlets throughout Nepal. To increase access to treatment services, NTP has developed partnerships with different organizations including private nursing homes, polyclinics, I/NGO health clinics, prisons, refugee camps, police hospitals, medical colleges, and municipalities.

Table 5.1.9.1: TB service delivery outlets

Program Indicators	National Level					FY 2078/79 by Province						
	2074/75	2075/76	2076/77	2077/78	2078/79	P-1	Madesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim
Number of Service Sites												
DOTS Center	4323	4382	4955	5503	5971	980	1073	1187	792	841	458	640
MDR Treatment Centers	21	21	22	22	22	4	3	2	3	3	2	5
MDR Treatment Sub-Centers	86	81	81	81	81	12	18	24	10	13	2	2
DR Homes	1	1	1	1	1	-	-	-	1	-	-	-
DR Hostel	6	6	6	6	6	1	1	1	-	2	-	1
Microscopy Centers	624	604	765	896	896	83	94	260	61	171	47	180
GeneXpert Facility	55	56	72	84	93	13	18	20	8	18	7	9
Culture Labs and DST	2	2	2	2	2	-	-	2	-	-	-	-
Line Probe Assay (LPA)	2	2	2	2	2	-	-	2	-	-	-	-

Source: NTP service data

Estimation of TB burden following 1st National TB prevalence survey 2018-19

The burden of TB can be measured in terms of incidence (defined as the number of new and relapse cases), prevalence, and mortality. Based on the National TB prevalence survey report 2018-19, TB prevalence in Nepal is 1.8 times, Incidence is 1.6 times and TB mortality is 3.1 times higher than the previous estimates as detailed in Table 5.1.9.2.

Table 5.1.9.2: Comparison between the previous and revised burden of TB

Year	Incidence (all forms)	Prevalence (all forms)	Mortality (HIV -ve& +ve)
2018 New estimates	69,000 (245 per 100k)	1,17,000 (416 per 100k)	17,003 (9,000-26,000)
2018 Prior estimates	42,000 (151 per 100k)	60,000 (215 per 100k)	5,500 (3,900 - 7,400)
Revised burden, higher by:	1.6	1.8	3.1

Though the incidence is higher than the previous estimates, the incidence rate is declining by 3% annually. An assumption of a 3% rate of decline in incidence over the period 2000-2018 was used, supported by a steep gradient in prevalence rates over groups of increasing age, suggesting a decline in transmission, and an average 8%/year growth in GNI/capita (National TB Prevalence Survey 2018/19).

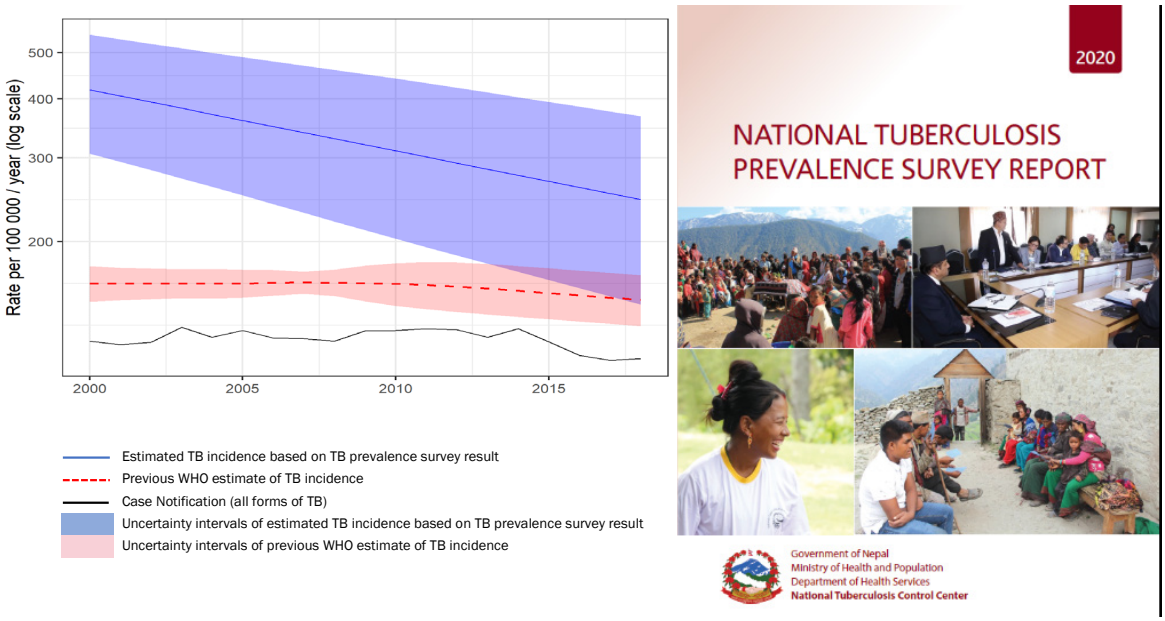


Figure 5.1.9.2: Results of prevalence survey and key summary

Summary of key results from the survey are:

- TB burden significantly higher, despite better program performance (3% annual incidence decline)
- The burden of TB higher in all-terrain and not limited to high notification areas unlike previously estimated
- Burden significantly higher among men and in elderly population
- Need to scale up the use of better screening (eg. X-ray) and diagnosis (eg. Gene Xpert and mWRDs)
- Need to improve health-seeking behavior of general community
- TB service services should be strengthened both in the private and public sectors including cross-border collaboration.

Case notification

The reported case notification rate (CNR) of all forms of TB is 129/100,000 whereas CNR for incident TB cases (new and relapse) is 127/100000 population. In Fiscal Year 2078/79, a total of 37,861 cases of TB were notified and registered at NTP. There were 98.5% incident TB cases registered (New and Relapse) among all TB cases. Among the notified TB cases, 72.1 % of all TB cases were pulmonary cases and out of notified pulmonary TB cases, 79.2% were bacteriologically confirmed. Among those bacteriologically confirmed and notified, 93.52 % (20192) were confirmed using Xpert MTB/RIF testing.

Table **5.1.9**.3: TB case notification FY 2078/79

TB Case Notifications (New and Relapse),2078/79	
Total New and Relapse	37287
- % pulmonary	72.1%
- % pulmonary bacteriologically confirmed	57.1%
- % children aged 0-14 years	8.7%
-% women	38.4%
- % men	61.6%
- Total TB cases notified	37861

Source: DHIS2/HMIS 2078/79

Majority of the TB notifications (25936, 68.4%) were from Madhesh, Bagmati and Lumbini Province. Around 23.7% of the TB cases were reported from Madhesh Province. Whereas in terms of eco-terrain distribution, the Terai belt reported more than half of the cases (22904, 60.5%). Most cases were reported in the middle age group with the highest

of 45.1% in 15-44 years of age. Childhood TB is around 8.7% while men were nearly 2 times more than women among the reported TB cases.

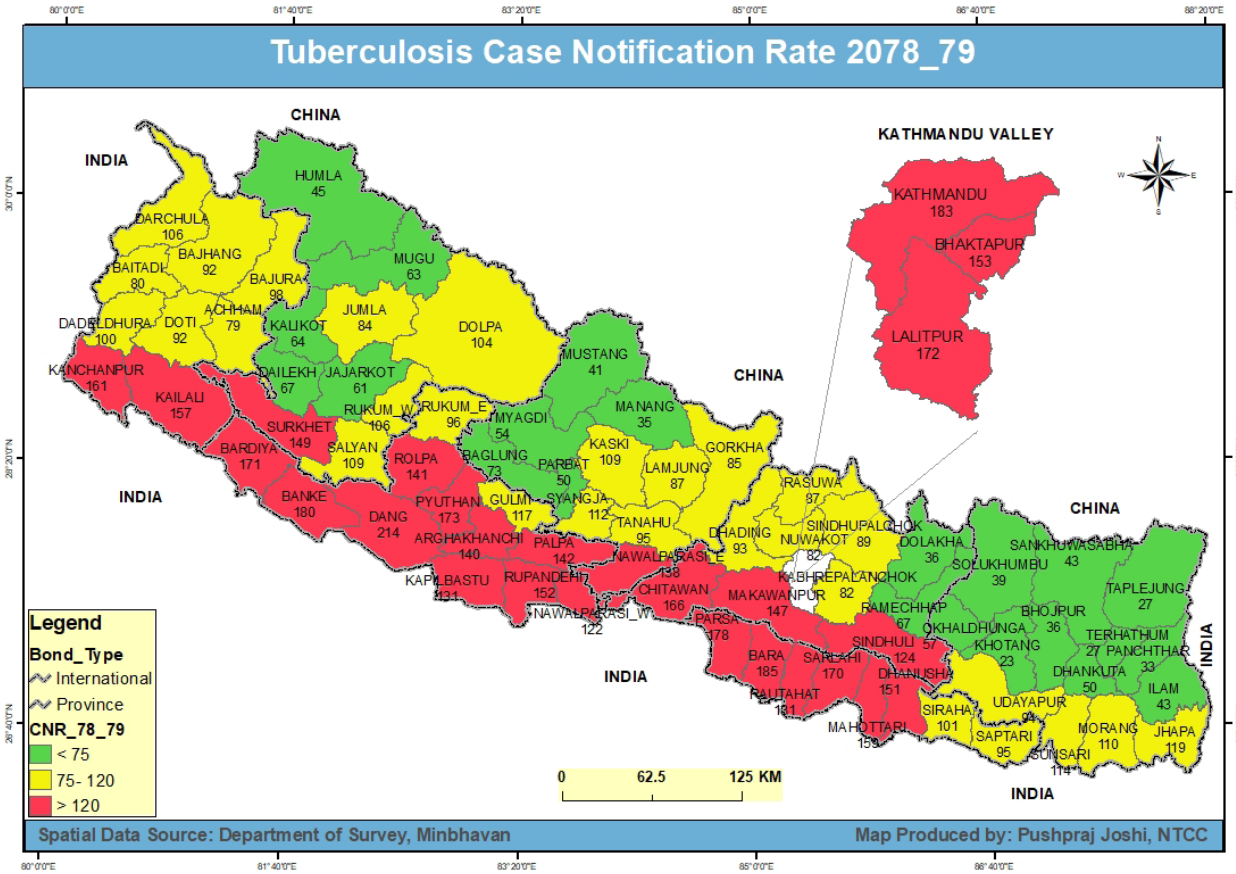


Figure 5.1.9.3: Tuberculosis case notification rate, 2078/79

The National Case Notification Rate (All forms) is 129/100,000 population. Based on the CNR, there are 26 districts with CNR of more than 120, while 29 districts had CNR between 75-120 and the remaining 22 districts had below 75 CNR. Among 26 districts with high TB case notifications, 16 districts are from the Terai belt and the remaining 10 are from the Hilly region (Figure 5.1.9.3).

Figure 5.1.9.4 shows the province-wise case notification rate. Lumbini province had the highest CNR (157 per 100,000 population), followed by Madhesh (146 per 100,000 population), Bagmati (144 per 100,000 population), Sudurpaschim (126 per 100,000 population), Gandaki (98 per 100,000 population and Karnali (97 per 100,000 population) province. CNR was lowest in Koshi (Koshi) (89 per 100,000 population).

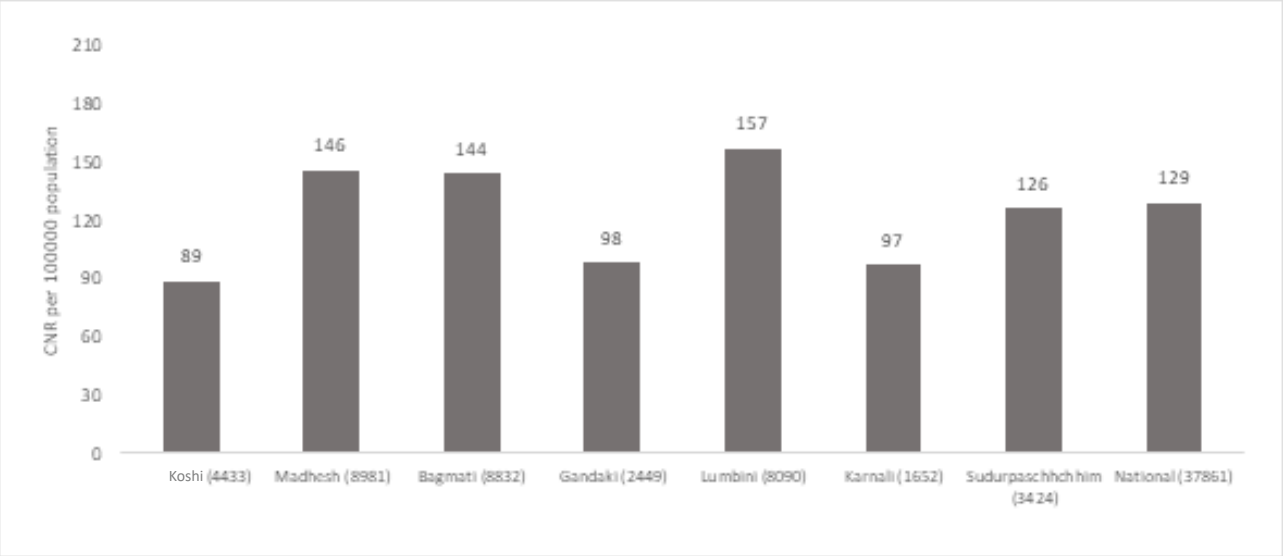


Figure 5.1.9.4: Notified TB cases (All forms) by provinces for FY 2078/79
Source: DHIS2/HMIS and NTPMIS2078/79

Distribution by age and sex

In FY 2078/79, around 8.7% of cases were registered as child TB cases while the remaining 91.3% were registered as adult TB. In Nepal, the gap in estimated vs notifications is higher, with missing cases projected to be around 45.1% and especially higher among the elderly population where access to health services is still a big challenge. There has been a slight improvement in the notifications of child TB cases with 8.7% in FY 2078/79 from 6.6% in FY 2077/78, however it is not satisfactory with regard to the estimate of around 10-15% of TB cases are children. NTP requires focusing on further improvement in the notification of child TB cases. As of earlier years, men were nearly twice as more reported to have TB than women in FY 2078/79 which is similar to the region and global context.

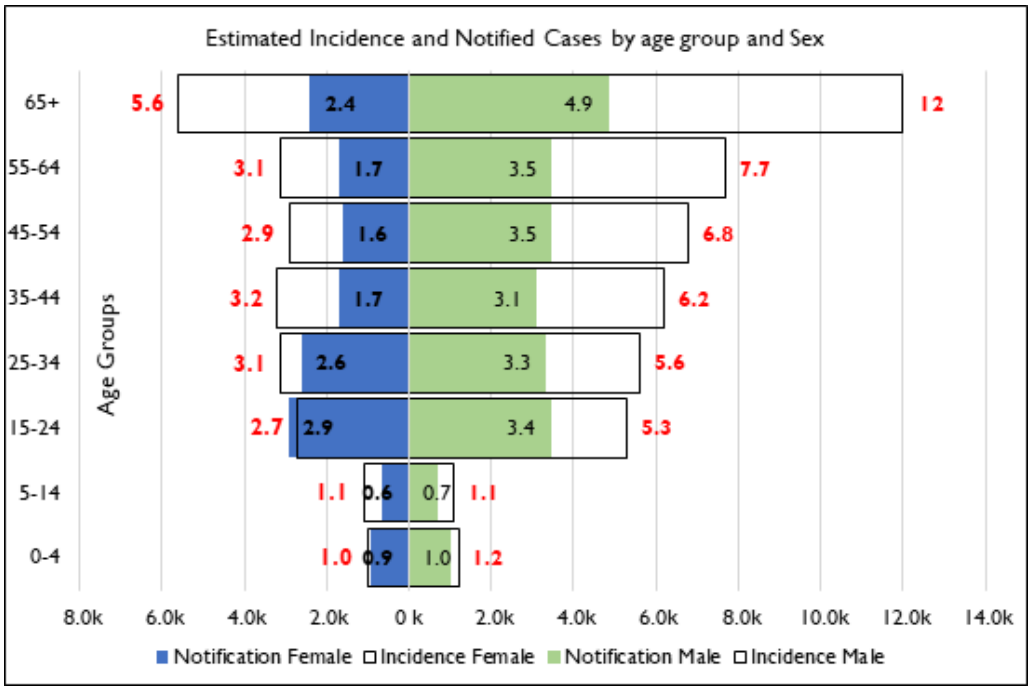


Figure 5.1.9.5: Notified TB cases by age-group compared to the estimated incidence
Source: DHIS2/HMIS and NTPMIS, FY 2078/79

Annual trends

Figure below shows the trend of TB cases notification from FY 2074/75 to FY 2078/79. The notification rate has been stagnant in FY 2074/75 and FY 2075/76 with a drop in FY 2076/77 and some increase is observed in FY 2078/79.

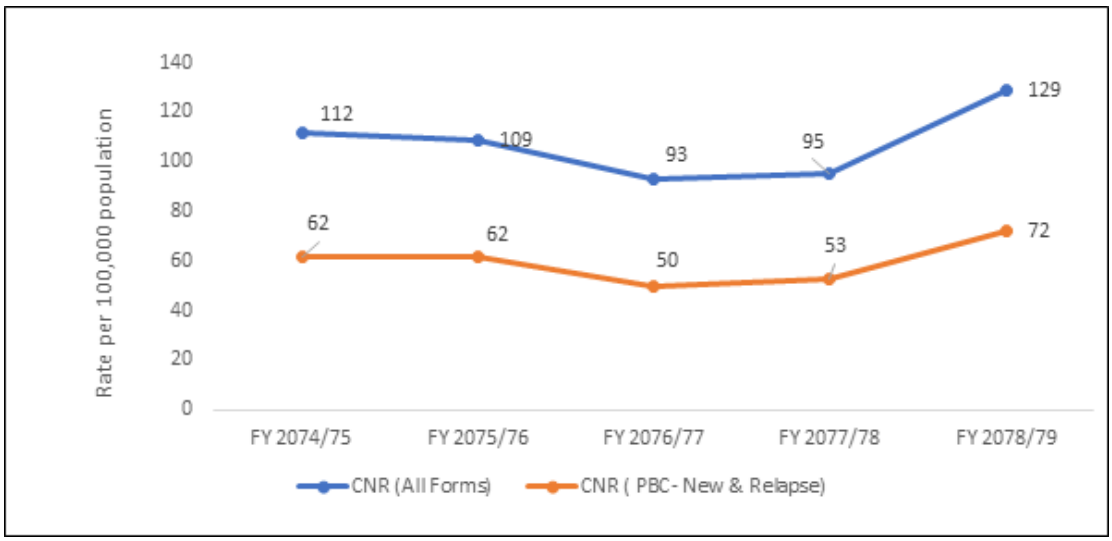


Figure 5.1.9.6: TB case notification rate (2074/75–2078/79)
Source: NTP Excel Data for the FY 2074/75 to FY 2075/76 and HMIS for FY 2076/77 onwards

Treatment outcomes

The TB treatment success rate has been consistently above 90.0% throughout the years except in FY 2076/77 in Nepal, which has been impacted with COVID 19 pandemic. In FY 2078/79, the treatment success rate (TSR) is 91.5% for all forms of TB. The TSR at the national level for newer cases (New and Relapse) is progressive (92.0%) in FY 2078/79 with respect to the previous years. However, the trend of success rates among the retreatment cases (Success, Failure, Loss to Follow-up and other previously treated) has been constantly lower (in comparison to treatment success among newer cases).

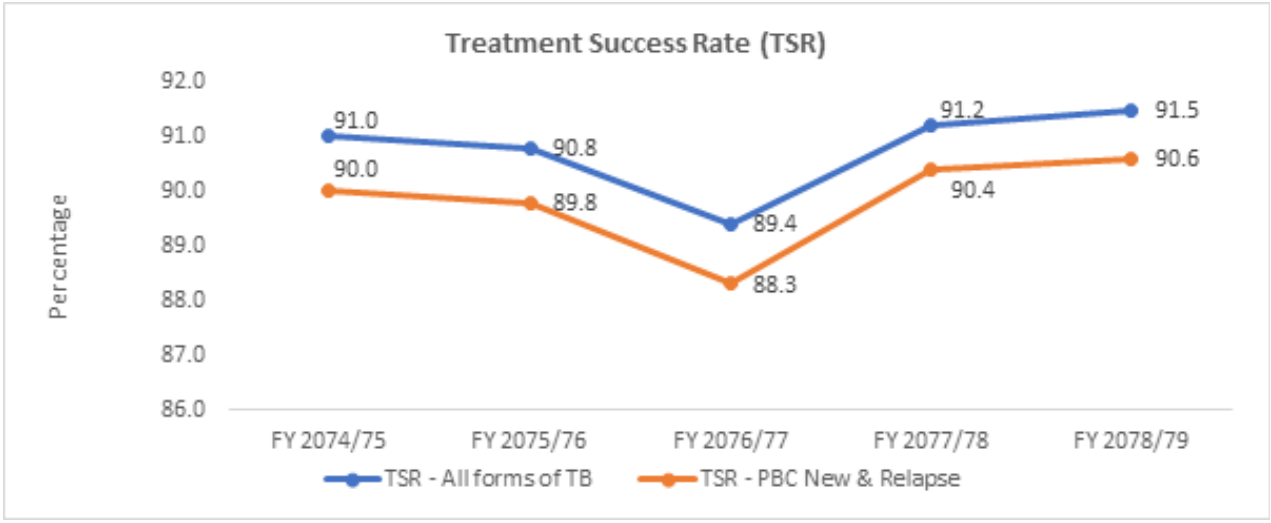


Figure 5.1.9.7: TB Treatment Success Rate (TSR) trend (FY 2074/75– FY 2078/79)
Source: NTP Excel Data for the FY 2074/75 to FY 2075/76 and HMIS for FY 2076/77 onwards

Table below shows the treatment outcomes of the TB patients across different provinces. All of the 7 provinces have achieved 90.0% and above treatment success rate. The average treatment failure rate was above 1% in Gandaki, Karnali and Sudurpaschhim Provinces. Meanwhile, around 4% of registered TB patients died during TB treatment. Similarly, Koshi (Province-1) and Madhesh Provinces experienced a high loss to follow-up (around 3%) in comparison to other provinces.

Table 5.1.9.4: Province wise TB treatment outcomes (2078/79)

Province	Treatment Success Rate	Failed Rate	Death Rate	Rate of LFU	% of Not Evaluated
Koshi Province	91.1%	0.6%	3.5%	2.9%	2.6%
Madesh Province	92.3%	0.7%	3.4%	2.9%	0.7%
Bagmati Province	92.6%	0.7%	2.6%	1.7%	2.5%
Gandaki Province	90.2%	1.2%	4.9%	2.1%	1.6%
Lumbini Province	91.0%	0.8%	4.8%	2.1%	1.0%
Karnali Province	90.9%	1.1%	3.6%	2.5%	2.0%
Sudurpashchim Province	90.1%	1.3%	3.2%	2.4%	1.0%
National	91.5%	0.8%	3.6%	2.3%	1.5%

Source: DHIS2/HMIS 2078/79

Drug resistant tuberculosis (DR TB)

Drug-resistant TB (DRTB) has become a great challenge for the NTP and a major public health concern in Nepal. Innovative approaches and more funding are urgently needed for the programmatic management of drug resistance TB nationally to detect and enroll more patients on multi-drug resistant (MDR) TB treatment, and to improve outcomes. The DR TB services are provided through different sites as shown in Figure below.

Figure 5.1.9.8: DR TB Treatment Sites

Notification of MDR-TB

A total of 659 RR/MDR-TB cases were registered for treatment in FY 2078/79. Among them, 102 cases (15%) were on treatment at DR centers of Koshi, 140 cases (21%) at Madhesh Province, 101 cases (15%) at Bagmati province, 53 cases (8%) at Gandaki province, 165 cases (25%) at Lumbini Province, 17 Cases (3%) at Karnali Province and remaining 81 cases (12%) were on DR treatment at Sudurpaschim province respectively.

The National DR TB Treatment Guideline defines three types of MDR-TB (RR TB, Pre-XDR TB, and XDR TB). Drug resistant forms of TB are detected through GeneXpert, Culture/DST, and LPA methods in Nepal. In this reporting period, 659 MDR TB cases were reported to have enrolled in the DR treatment. Where among the total MDR cases reported, 337 (51%) were registered under MDR (SSTR), 230 (35%) cases under MDR (LTR), 85 (13%) cases under Pre- XDR, and 7 (1%) cases were registered under XDR.

Figure below shows enrollment of MDR TB across the different provinces in FY 2078/79. In terms of the number of RR/MDR TB patients notified, Lumbini Province is found to have higher burden followed by Koshi (Province-1), Madesh Province, Bagmati Province, Gandaki Province, Sudurpaschim province, and Karnali Province respectively. Similarly, the burden of Pre-XDR and XDR TB patients was found more at Lumbini Province followed by Bagmati Province, Koshi (Koshi), Sudurpaschim province, Gandaki province and Madhesh respectively.

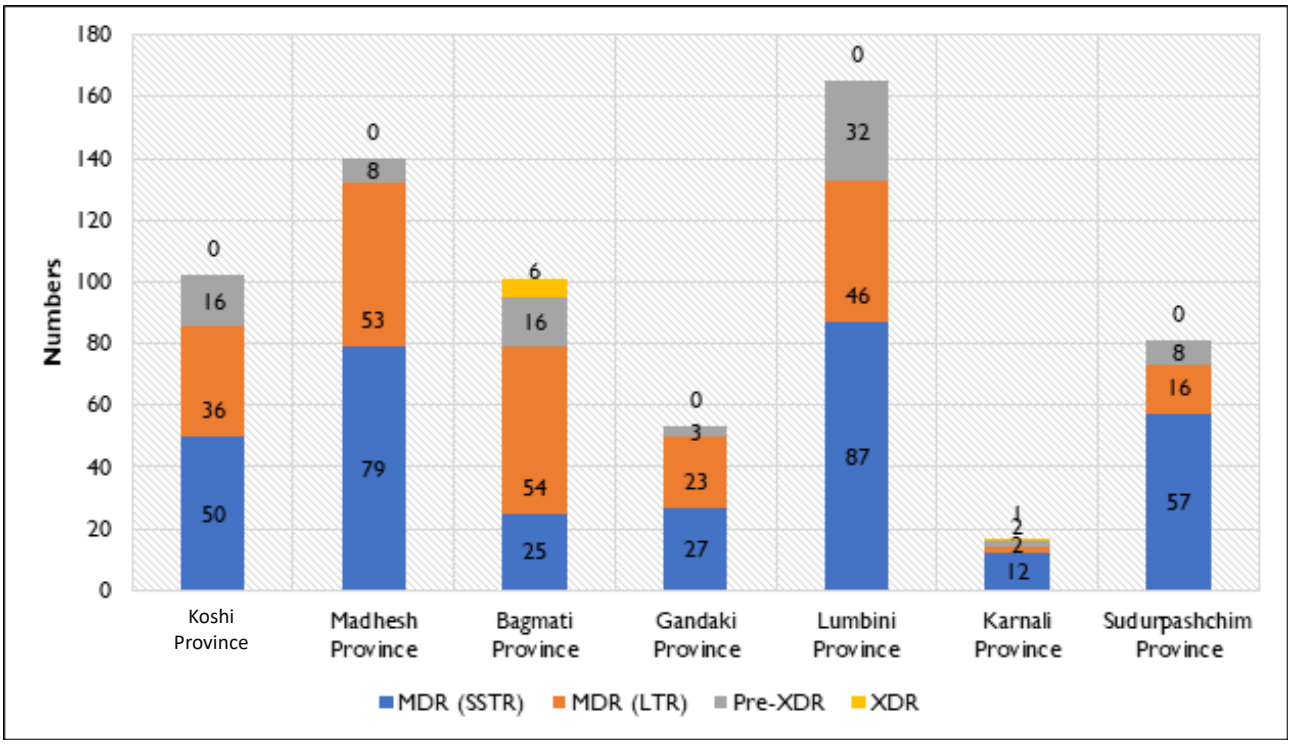


Figure 5.1.9.9: MDR-TB cases enrolled in treatment by provinces
Source: NTPMIS Treatment outcome

Figure below shows the treatment outcome of the DRTB case registered in NTP. The Treatment success rate of MDR TB is 74% in this reporting period. There was a fluctuation in the treatment success rate of MDR TB since few years. The fluctuation in treatment success rate is mainly affected by the proportion of death as well as the holding of the MDR patients at treatment.

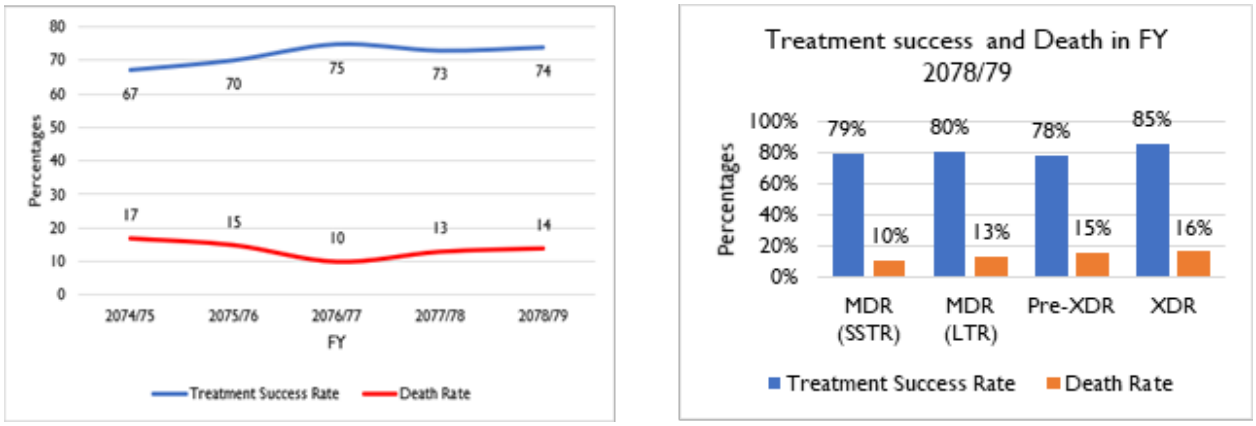


Figure 5.1.9.10. Treatment outcome of DR TB cases registered in NTP
Source: NTPMIS

Based on revised estimation of TB Burden following the National TB prevalence survey 2018-19 and other current epidemiological and other related information, the burden of RR/MDR TB was also revised by WHO and published in the Global TB report for 2020. After readjustment in the annual burden of DR TB, the annual estimated figure of DR TB increased from 1400 to 2200 DR TB cases annually. With this projection, the missing cases for RR/MDR TB are now

estimated to be around 57% in FY 2078/79. Similarly, NTP has been successful in maintaining the higher treatment success rates for RR/MDR TB above 81% .

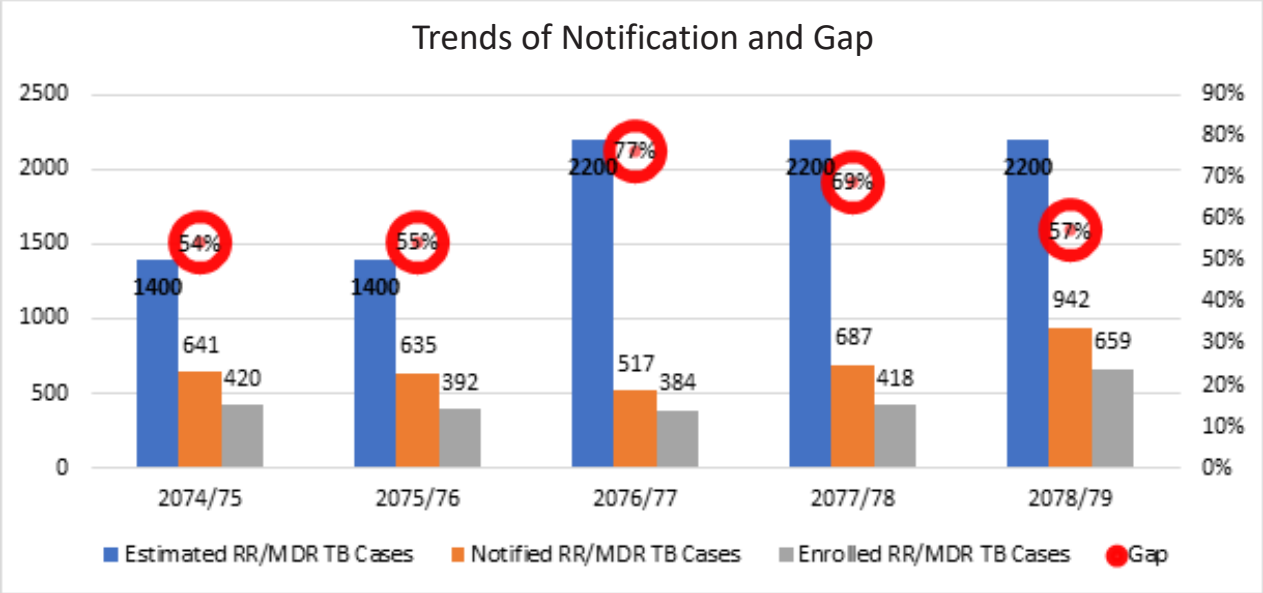


Figure 5.1.9.11: DR TB annual case finding and Gap
Source: NTPMIS

NTP's laboratory network

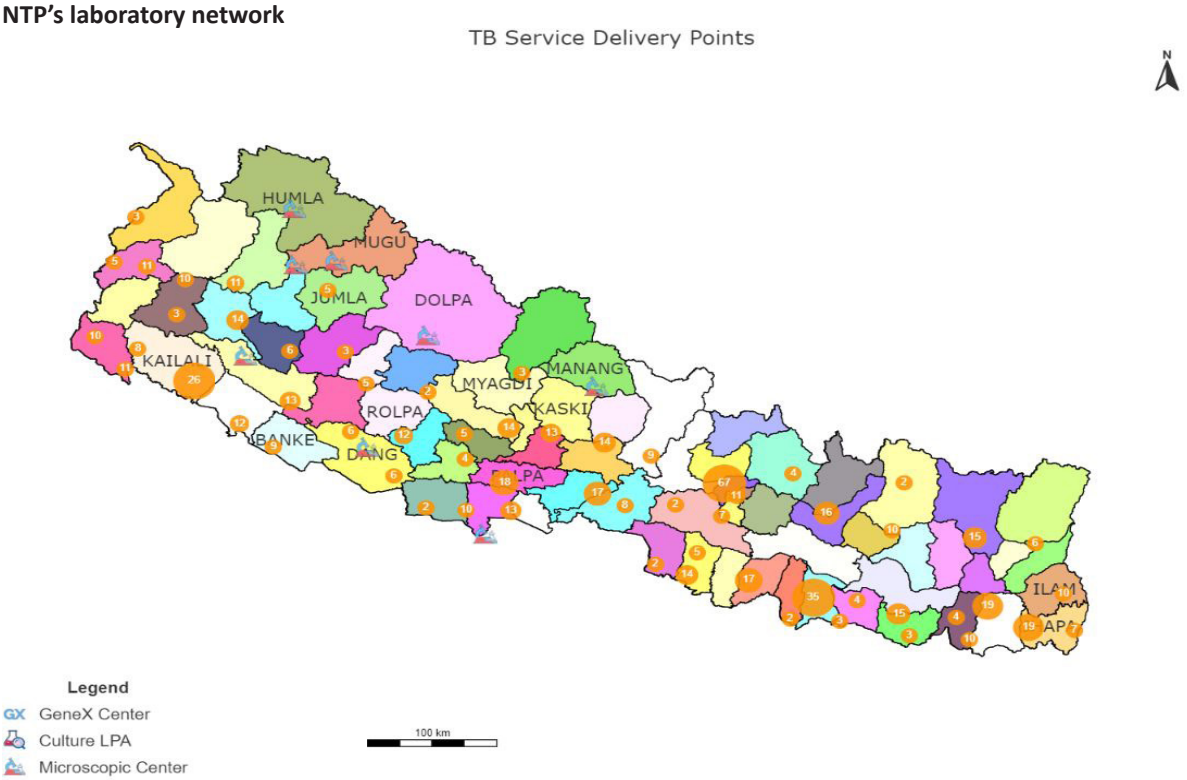


Figure 5.1.9.12: TB Service Delivery Points

The diagnosis and treatment monitoring of TB patients relies on sputum smear microscopy because of its low cost and ease of administration. It is also the worldwide diagnostic tool of choice. Nepal has 896 microscopy centers (MCs) that carry out sputum microscopy examinations. Most of the MCs are run by government health facilities while a few are operated by NGOs and private instructions. There are well-established networks be- tween the microscopy centres (MCs) at PHCCs, DHOs and DPHO, the five regional TB quality control centres (RTQCCs), and the National TB Centre

(NTC). The microscopy centres send examined slides to their RTQCCs via DHOs according to the Lot Quality Assurance Sampling/System (LQAS) method. At the federal structure, NTP has already initiated coordination and communication with respective provinces to provide technical and financial support to establish the provincial structure for the external quality assurance of smear microscopy slides. The external quality assurance (EQA) for sputum microscopy is carried out by provincial health directorates (previously regional health directorates) at seven provinces and the National TB center in Kathmandu.

Table 5.1.9.5: NTP laboratory network (no. of institutions) by province

Center	Koshi	Madhesh	Bagmati	Gandaki	Lumbini province	Karnali	Sudurpaschim	Total
MC	83	94	260	61	171	47	180	896
GX sites	13	18	20	8	18	7	9	93

Source: DHIS2/HMIS & NTPMIS, 2078/79

A lot of quality assurance sampling/system (LQAS) has been implemented throughout Nepal. At each microscopy center, examined slides for EQA are collected and selected according to the LQAS. Previously NTP used to collect all positive and 10 percent negative slides for EQA. In LQAS, slides are collected and selected using standard procedures to give a statistically significant sample size. LQAS is a systematic sampling technique that helps maintain good quality sputum results between microscopy centres and quality control centres.

TB Diagnosis

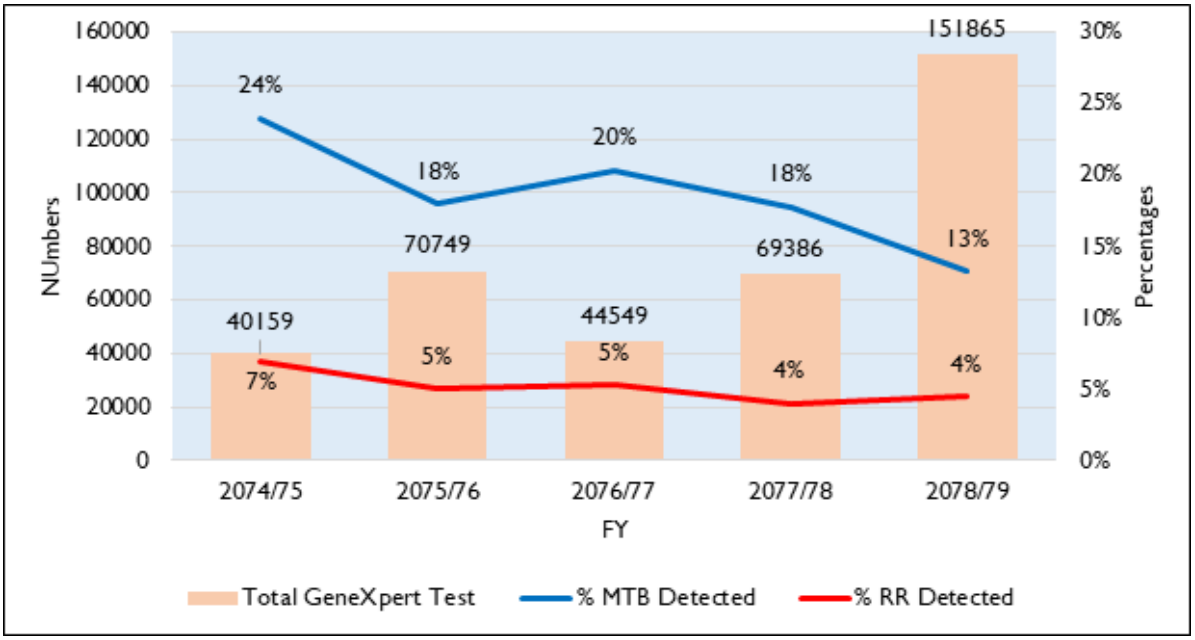


Figure 5.1.9.13 TB diagnosis performed using GeneXpert test
Source: NTPMIS

Figure above shows the GeneXpert test performed from 84 sites during FY 2078/79. The GeneXpert test has been increased by 119% in FY 2078/79 (151865) compared to the test performed during FY 2077/78 (69386). Likewise, TB detection from GX has increased by 71% (21134) in FY 2078/79 compared to the TB cases detected from GX in FY 2077/78 (12336) (Not shown). The proportion of MTB among total tests in GX was 13% in the fiscal year 2078/79. Similarly, the proportion of RR MTB among total MTB cases was almost 5% in the past couple of years which has decreased to 4% in FT 2077/78 and FY 2078/79.

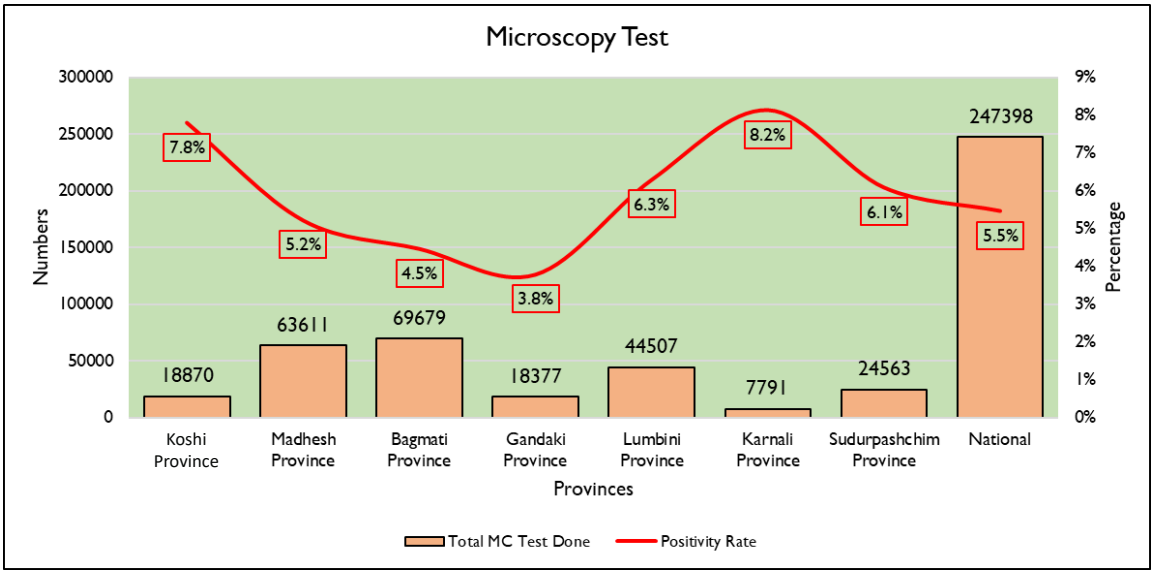


Figure 5.1.9.14 Sputum microscopy test performed in FY 2078/79
Source: DHIS2/HMIS

The Figure above shows the sputum microscopy test during the FY 2078/79. It was reported that 182830 presumptive TB were tested with 5.5% positivity rate and diagnosed 13,563 PBC TB in the FY 2078/79.

TB/HIV co-morbidity
The testing proportion for HIV among TB patients has been increasing for the last few years which showed a significant increase from 72% in FY 2077/78 to 74% in FY 2078/79. Similarly, in FY 2078/79 ART enrolled was increased to 97% from 89% of preceding year FY 2077/78.

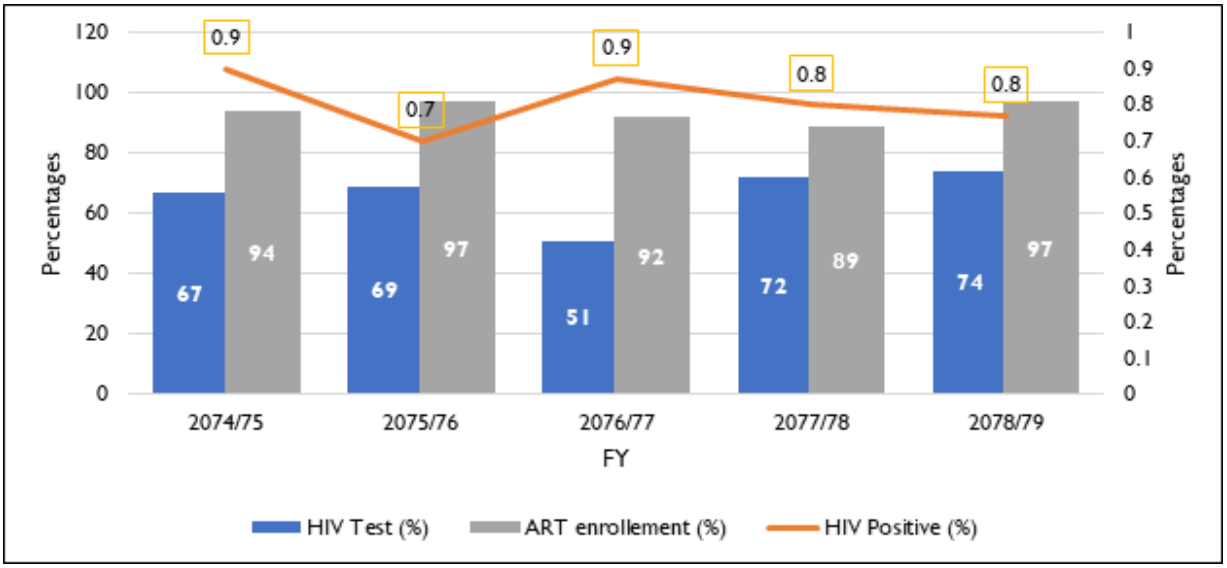


Figure 5.1.9.15 Trend of TB/HIV co-morbidity
Source: DHIS2/HMIS 2078/79

TB preventive therapy
Initiation of TBPT among children under 5 years old has been highlighted in the National Strategic Plan (NSP) of TB, 2021/22-2025/26, and NTP has planned to expand the TBPT service among children under 5 years in all 77 districts by the end of NSP period. However, currently the TBPT service has been implanted in 42 high burden districts of Nepal. A total of 3158 children aged under 5 years were reported to have been initiated in preventive treatment in this fiscal year FY 2078/79.

TB Free Nepal Initiative
TB Free Nepal Initiative is a renewed comprehensive government owned approach with an aim to strengthen the own-

ership and accountability of local level governance in TB management. It was implemented in 25 Municipalities out of 753 local levels (LLs) in FY 2078/79 as a pilot with an additional federal budget of NRs 150 million. Intensified TB case finding, expanding access to TB prevention therapy, enhancing quality treatment, increasing care and social protection schemes/support, and effective community engagement are the major interventions implemented in a comprehensive package. The initiative demands for the structural improvement including additional designated human resources at the LLs. Different levels of committees are formed to strengthen the TB support system. TB microplanning and social audit are the tools applied for the meaningful engagement of the community and for the sustainability of the initiative. The civil society organizations, youth groups, female community health volunteers and patient support groups are intensively mobilized in TB awareness, care, and support. The 25 local levels have allocated around NRs 10 million from their local level budget in 2022/23. The initiative will be continued in 25 LLs and will be expanded in 100 new LLs in FY 2079/80. The preliminary results show 60% increment in case notification following the implementation period (between FY 2077/78 and FY 2078/79) as per the Table below.

Table 5.1.9.6. Three-years case notification trend

Local Level	FY 2076/77	FY 2077/78	FY 2078/79	% change
Mechinagar Municipality	60	70	71	1
Kerabari Rural Municipality	15	9	23	156
Chaubise Rural Municipality	5	0	4	400
Itahari Sub-Metropolitan City	43	71	103	45
Hariwan Municipality	26	34	44	29
Nijagadh Municipality	21	23	36	57
Laxminiya Rural Municipality	6	8	22	175
Thaha Municipality	2	2	8	300
Changunarayan Municipality	22	11	23	109
Shankharapur Municipality	4	14	14	0
Dhulikhel Municipality	6	10	16	60
Walling Municipality	21	19	35	84
Rupa Rural Municipality	2	1	1	0
Bhanu Municipality	5	5	9	80
Butwal Sub-Metropolitan City	86	98	161	64
Banganga Municipality	35	32	67	109
Kohalpur Municipality	45	39	89	128
Gurbhakot Municipality	16	13	34	162
Kapurkot Rural Municipality	13	4	23	475
Dullu Municipality	13	15	11	-27
Ajayameru Rural Municipality	3	4	3	-25
Ganyapdhura Rural Municipality	2	4	4	0
Tikapur Municipality	28	43	68	58
Krishnapur Municipality	17	25	47	88
Jayaprithbi Municipality	6	14	12	-14
Total 25 Local Levels	**502**	**568**	**928**	**63**

Planning, Monitoring & Evaluation

National Tuberculosis Centre is responsible for formulating long and short terms strategies and plans to fight against Tuberculosis throughout the country Planning and implementation of the National Tuberculosis Programme (NTP) is guided by National Strategy Plan (NSP). Currently, NTP is implementing its activities as per the strategy, objectives, and

targets of NSP 2021/22-2025/26.

Data source for TB program management and review

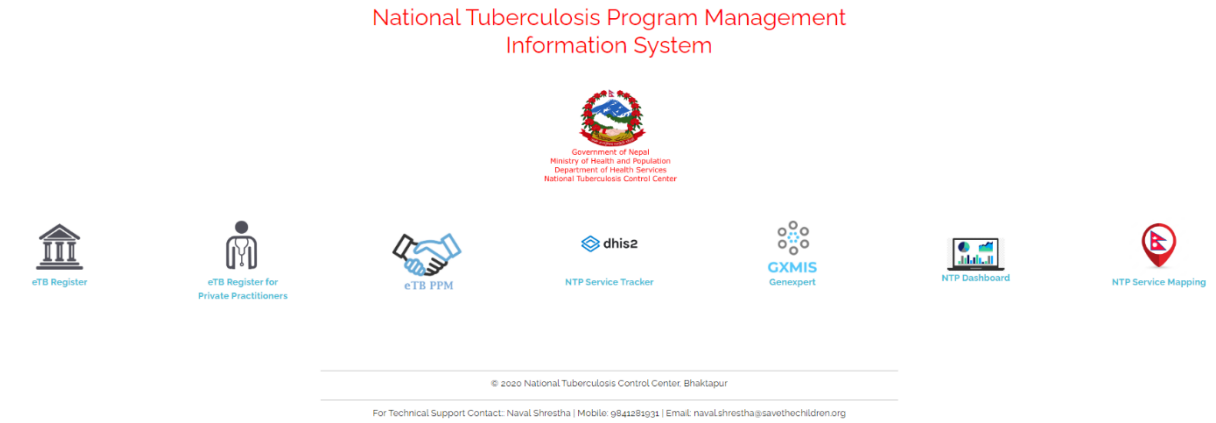


Figure 5.4.16. NTPMIS Home Page

The key data source for NTP is HMIS data. But, as a direction set in NSP to develop e-case based data, NTP has invested to develop a NTPMIS database, which records individual case based data for each patient. The page can be accessed at https://ntpmis.gov.np/

The NTPMIS system is an online platform, compatible with DHIS2 platform. The detailed components of NTPMIS and their current status are as shown in Table below.

Table 5.1.9.7: Different components of NTP MIS and updates

Component of NTPMIS	Description	Status in FY 2078/79
eTB register	Master eTB register is a web-based application being used for reporting TB patient registration, follow-up and outcome in central online database from existing paper-based tuberculosis register. This patient tracker software is developed to collect, manage and analyze transactional case-based data records. Master eTB register has advanced features for data analysis, feedback mechanism, reporting, SMS integration and dashboard, which lets user explore and bring meaningful result of raw data.	- Orientation/training packages developed, and training has been initiated at national, Provincial and Health Facility levels - Expected to use the eTB data form coming FY 2079/80 - Planned to make it interoperable with HMIS system in coming FY 2079/80
eTB Register for Private Practitioners	eTB Register Module for Private Practitioners is a separate module developed for reporting TB patients from private sector and can be used to collect, manage and analyses data from these private sectors.	Reporting initiated
eTB PPM	It is an online web-based R&R tool to record/report presumptive TB patients at pharmacies who are then referred to designated doctors and hospitals for screening for TB. This system is also able to capture the referral from communities to designated doctors/hospitals. This system not only tracks the referral and diagnosis of TB but also tracks the enrollment in TB treatment in DOTS Center. Hence, this R&R system tracks the presumptive TB referred from pharmacies and communities to diagnosis and enrollment in TB treatment.	The system is introduced in major six cities; Kathmandu, Lalitpur, Chitwan, Nepalgunj, Birantnagar, Kaski and Birgunj.

DRTB Patient Tracking and TB Laboratory System	DRTB Patient Tracking and TB Laboratory System is a Web-Based Management Information System developed using DHIS2 platform for effective management and monitoring of DR TB patients by taking their treatment stage and generate reports for MDR TB management program. This system also features the complete laboratory information system, including Microscopy, Culture/DST, GeneXpert, and LPA and provides SMS notifications to the patients/DR Focal person of their test results and notification. As both DRTB Patient Tracking and TB Laboratory System are incorporated within the same system, a patient can be tracked with a single system ID within both systems.	All DR TB sites and GeneXpert sites have been using and reporting details through this mechanism.
GX-MIS	Web-based real-time GeneXpert machine functionality monitoring system that provides information regarding the functionality of GeneXpert machine and modules, so maintenance procedures can be carried out on time.	Functional and nearly more than 60 sites out of 94 sites linked to the system by FY 2078/79

Supervision and monitoring

The supervision and monitoring of TB health care services are carried out by regular visits to all levels of the program. Also, the quarterly reporting of activities is carried out at trimester planning, monitoring, and evaluation (PME) workshops at all levels of the program.

The NTP regularly monitors case notification, smear conversion, treatment outcomes, and program man-agement reports from all levels of the program. Data is initially analyzed by TB focal persons of DOTS cen-ter and Health Coordinator of respective local level during reporting and planning workshops. Thereafter, TB focal persons from the respective health office report at province level planning, monitoring, and eval-uation workshops. Finally, TB focal persons from provincial health directorates report at national PME workshops. These workshops take place every four months at the Local level province and national level.

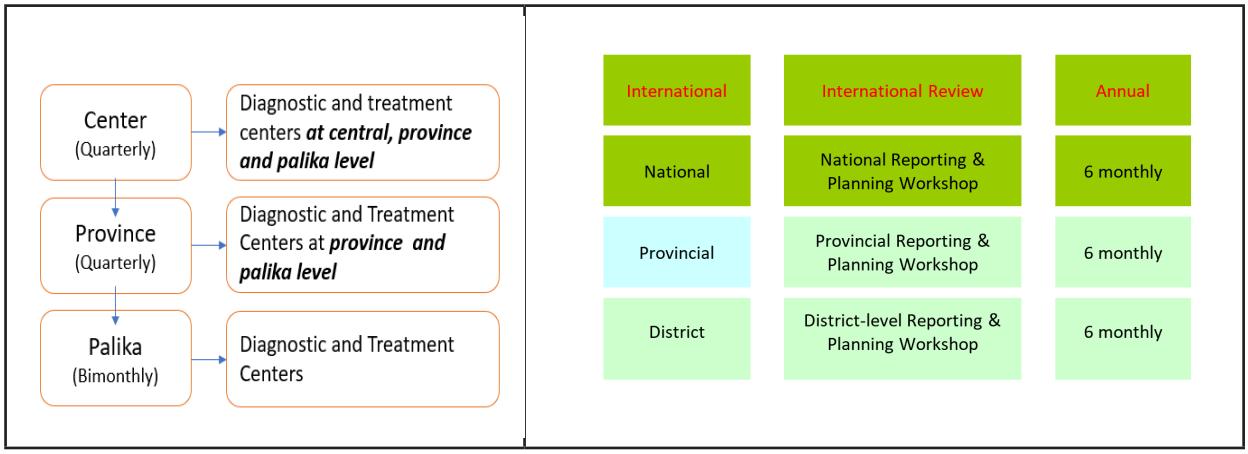


Figure 5.1.9.17 Tuberculosis Program Planning, Monitoring, and Evaluation Mechanism

Logistics supply management

The NTP's logistics management system supplies anti-TB drugs and other essentials every four months to service delivery sites based on the number of new cases notified in the previous quarter and the number of cases under treatment. Prior to the procurement of Anti TB Drugs, forecasting and quantification are done considering all available data. NTC follows rules and regulations of PPMO to procure drugs from the GoN Budget while Pooled Procurement Mechanism (PPM) is adopted to import medicines from the Global Drug Facility (GDF), Switzerland. All the drugs procurements are received in the central NTCC Store and stored by adopting proper storage methods. Drugs are supplied every 4 months to District Medical Store via Provincial Logistic Management Center (PLMC) after receiving the order as a result of workshops in each Region. In the case of First-Line Drugs a buffer of 4 months is added in the order while supplying but no such buffer quantity is given in the case of DR Drugs. Supply of DR drugs is done directly to DR Centers and to some DR Sub Centers.

Physical and Financial Progress status

National Tubrculosis Contro Centre (NTCC)

In the Fiscal year 2078/79, The budget allocated for NTCC was 841 million NPR, among which NTCC made 82% physical progress and 75.3% financial progress with a total of 633 million NPR used.

National Tuberculosis Programme (NTP)

The overall Progress of NTP including federal, provincial and Local level along with partner's support was as follows : In the Fiscal year 2078/79, The total budget allocated for NTP was Total NPR 2,218 million, comprising the budgeted figure from GoN & Global Fund. The allocation made by Gon represents the budgeted figure of Center, Province, Local Level & TB free initiatives. The major areas of investment and expenditures were on the procurement of drugs, laboratory consumables & equipment, GeneXpert cartridges, supervisions & monitoring, supply chain management and TB free Palika. Besides this financial support from Global fund is invested in the procurement of Cartridges, laboratory consumables & equipment, Drugs, Implementation of Case findings interventions, support to DR centers. NTP has had collaborations and support from many different organizations. WHO has been a key technical partner to NTP, whereas Save the Children as a principal recipient of Global Fund Grant has been the key financial partner. There are other partners like Damien Foundation, NATA who support DR TB program to NTP and there are sub-recipient partners who support Global Fund program implementation at the field level. The financial performance during the period FY 2078/79 for the National TB Program is shown in the below table.

Table 5.1.9.8: Financial performance of NTP in FY 2078/79

Source	Budget in NPR	Exp in NPR	%
GoN (Center /province /Palika/Tb Free)	972,799,000	879,093,000.00	90%
Global Fund (Redbook/PR/SR)	1,240,334,420	876,875,761	71%
WHO	4,700,000	892,680.00	19%
Total NPR	**2,217,833,420**	**1,756,861,441**	**79%**

Besides this the overall contribution for National TB Program on various financial year are shown on below table.

Table 5.1.9.9: Trend of financial contribution to NTP by different sources

Period		Fig in NPR, Million			
		GoN	Global Fund	WHO	Total
FY 2019/20	FY 2076/77	870	658		**1,527**
FY 2020/21	FY 2077/78	834	1,070	4	**1,909**
FY 2021/22	FY 2078/79	973	1,240	5	**2,218**

Source: NTCC/SCF-GF, GoN Redbook

Partner of TB program

NTP has had collaborations and support from many different organizations. WHO has been a key technical partner to NTP, whereas Save the Children as a principal recipient of Global Fund Grant has been the key financial partner. There are other partners like Damien Foundation, NATA who support the DR TB program to NTP and there are sub-recipient partners who support Global Fund program implementation at the field level. The detail is provided in below table.

Table 5.1.9.10. NTP Partners

Partners	Key Support Area
WHO	Main Technical Partner of NTP
Global Fund	Major Donor of NTP
Save the Children International (SCI)	Principal Recipient of Global Fund Grant and key Technical Partner

NATA, TB Nepal, JANTRA, BWSN, KIDS, Trisuli, IoM and Damien Foundation	NTP program implementation Partner

5.1.9**.4 challenges, and way-forwar**

The Nepal NTP has regularly been facing several challenges and constraints, which influence the inability to expand and sustain the vision of the program. Following are the key challenges and constraints faced by the NTP to reach the intended goals and targets of the program in the last fiscal year.

Challenges:

- Accountability, prioritization, engagement, and investment in TB at all levels has been a key challenge.
- Proper identification of community and private sectors and their meaningful engagement in the TB program is another challenge for the program.
- Expansion, maintenance, and utilization of rapid diagnostic have been a key diagnostic challenge.
- Nationwide scale-up of web and case-based surveillance system.
- Investment and incorporating effective infection control measures at all levels has been a challenge and so was the effective implementation of ACF.
- Effective and functional collaboration with other health and non-health program is another key challenge.
- Defaulter tracing and providing patient-friendly services including side effect management for DR TB is a key challenge.
- aDSM management and scale-up

Way Forward

Action to be taken for problems and challenges identified in FY 2078/79 are:

- Timely development/revision of key strategic guidelines (National Strategic Plan 2021/22-2025/26), securing increased domestic funding and partner's support (e.g. finalization of Global Fund grant 21-23), lab networking plan
- Data validation, report analysis, and further analysis of National TB prevalence survey
- Capacity building and engagement of new management and health focal points at different levels for TB
- For the long term, to achieve the end TB goals and targets envisioned by NTP
- Secure enough resources (Human resource and budget) for TB at all level
- Expansion of TB Free Initiatives
- All TB including Drug-resistance TB to be under UHC
- Make TB mandatorily notifiable event
- Scale-up TB preventive treatment
- Identify, strengthen and support community organizations engagement in TB care and support including advocacy for human rights
- Include all TB patients and family under the health insurance scheme
- Advocate to include TB in social protection and poverty alleviation support schemes.

5.1.10 National HIV and STI Control Program

5.1.10.1 Background

With the first case of HIV identification in 1988, Nepal started its policy response to the epidemic of HIV through its first National Policy on Acquired Immunodeficiency Syndrome (AIDS) and Sexually Transmitted Diseases (STDs) Control, 1995 (2052 BS). In 2050 B.S., National Centre for AIDS & STD Control was established to formalize response against HIV and STI Control in Nepal. Taking the dynamic nature of the epidemic of HIV into consideration, Nepal revisited its first national policy in 1995 and endorsed the updated version: National Policy on Human Immunodeficiency Virus (HIV) and Sexually Transmitted Infections (STIs) in 2011.

The national response mainly aims to accelerate and scale up comprehensive HIV prevention programs as well as increase access to and use of equitable, quality and gender-sensitive HIV diagnosis, treatment, care and support services through strengthened health and community systems. National HIV Strategic Plan 2021-2026 is launched to achieve ambitious global goals of 95-95-95. By July 2026, 95% of all people living with HIV (PLHIV) will know their HIV status, 95% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy (ART), and 95% of all people receiving ART will have viral suppression. Overall, the epidemic is primarily driven by a sexual transmission in Nepal and characterized as a concentrated HIV epidemic among key populations (men who have sex with men, male sex workers, transgender people, people who inject drugs, female sex workers and their clients, migrants and prisoners). The total estimated PLHIV in Nepal is 30300 in 2022.

The National HIV Strategic Plan (NHSP) 2021-2026, the sixth national strategy with the aim of meeting the global goal of 95-95-95 by July 2026. The commitment by Nepal of both the global "UNAIDS Strategy 2021-2026," and the "Sustainable Development Goals" adopted by the UN General Assembly, include commitments to Fast-Tracking for ending the AIDS epidemic as a public health threat by 2030. NHSP 2021-2026 vision is to end the AIDS epidemic as a public health threat in Nepal by 2030.

HIV and STI Program Implementation
The following programs are implemented at national level to ensure achievement of vision and targets set by the NHSP 2021-2026.

HIV Testing and Counselling Services (HTC)
Pursuant to its goal of achieving universal access to prevention, treatment care and support, HIV Testing Services (HTS) has been a strategic focus in the national response to HIV ever since Nepal started its response to HIV. Before HTS was called voluntary HIV counselling and testing (VCT) or HTC services. The first-ever HTS began in 1995 with the approach of voluntary Client-Initiated Testing and Counseling (CITC).

The Government of Nepal is promoting the uptake of HIV testing among key populations (KPs) through targeted communications and linkages between community outreach and HTS. Likewise, Provider-Initiated Testing and Counseling (PITC) have been taken to STI clinics, Antenatal Clinic (ANC), childbirth, malnourished clinic, postpartum, Family Planning, and TB services. Managing TB/HIV co-infection.

5.1.10.2 Progress and Achievement

HIV Testing Services
HTS are available in all 77 districts of Nepal. programmatic data of people who were tested and Positives over the last four years is shown in Table below

Table 5.1.10.1: Service Statistics HIV Testing and Counseling for the period of BS 2073/074-2078/79

Indicators	2073/074	2074/075	2075/076	2076/77	2077/78	2078/079*
Total tested for HIV	210,525	330,460	237,496	147,968	176895	376191
Total HIV Positive reported	1,854	2,152	2,298	2,416	2944	3270
HIV Positivity rate (%)	0.88	0.65	0.97	1.63	1.66	0.86

Source: iHMIS. *Out of total 376191 HIV tests reported in IHMIS only 174251 number of tests reported by HTC list of IHIMS which was approved by NCASC in close coordination with IHIMS and provincial authorities. HIV screening numbers were also reported by non-HTC sites (Private hospitals, Health Posts, UHCs, BHSCs, NGOs etc.). Similarly, some of the NGO sites were not integrated within national IHMIS during FY 2078/079.

The HIV testing is highest in Lumbini Province (133184), and lowest in Karnali province (12090) whereas the percent-

age of positivity yield is highest in Bagmati Province (3.15%). The province-wise detail is also shown in Table below.

Table 5.1.10.2: Province wise Service Statistics HIV Testing and Counseling in 2078/79

Provinces	Tested for HIV	Positive reported	% of positivity yield
Koshi	32395	343	1.06
Madhesh	36026	675	1.87
Bagmati	30155	951	3.15
Gandaki	41297	247	0.60
Lumbini	133184	659	0.49
Karnali	12090	70	0.58
Sudurpaschim	91044	325	0.36
Total	376191	3270	0.87

Source: IHMIS.

Table 5.1.10.3: Issues and challenges in HTC services

Issues	Recommendations
Data gap is found in the HIV program especially the report from few NGO and private health facilities are yet to be covered in the electronic IHMIS system.	Training programs focusing on major non-reporting private hospitals and NGOs should be done by responsible authorities in order to ensure complete reporting to IHMIS.
Health facilities who are only providing HIV screening services or conducting tests by not following three tiers of confirmatory HIV tests are also reporting data as confirmatory HIV test and positives numbers.	Assign such health facilities as HIV screening sites so that they can report HIV testing and reactive numbers only. Ensure proper linkages of HIV reactive cases to confirmatory HIV testing and counselling sites.
Timely, complete and accurate reporting is a chronic problem especially in Bagmati Province.	Federal, province level and site level efforts including implementation of different capacity development activities to strengthen recording and reporting of services provided is a must.
Systematic review and assessment of variation in HIV positivity rate by province and other indicators is lacking.	Systematic assessment of variation in HIV positivity rate by provinces and other inequalities need to be conducted for informed response.

Sexually Transmitted infections (STI) management program

In the context of management of STI, the standardization of quality STI diagnosis and treatment up to health post (HP) level as a part of primary health care services has been a key strategy in the national response to HIV. This strategy further foresees standardization of syndromic approach with the referral for etiological treatment when needed.
Strengthening documented linkages (referral of follow-up mechanisms) between behavioral change communication (BCC) services and HIV testing and counseling, including the strengthening of linkage between HTS and STI services has been one of the key actions in the context of the concentrated epidemic of Nepal. Key populations targeted STI management services are provided through ART centres.

Table 5.1.10.4: Total number of clients assessed for STIs in fiscal year 2078/79

Indicators	2073/074	2074/075	2075/076	2076/77	2077/78	2078/079
Total STI cases Assessed	34275	30465	15424	16405	12076	23271

Among KPs, total STI Cases assessed are highest in Bagmati Province (8715), and lowest in Karnali province (803). The province-wise detail is also shown in Table 5. Total number of clients assessed for STIs by province in FY2078/079

Table 5.1.10.5: Total number of clients assessed for STIs by province in fiscal year 2078/79

Shrawan 2078 to Asar 2079	Koshi Province	4730
	Madesh Province	1246
	Bagmati Province	8715
	Gandaki Province	803
	Lumbini Province	4111
	Karnali Province	772
	Sudurpashchim Province	2894
	Nepal	23271

TABLE 5.1.10.6: KEY CHALLENGES/ISSUES AND RECOMMENDATIONS

Issues	Recommendations
Ensuring STI drugs throughout the year in all HIV treatment centres of Nepal. This also halt the implementation of STI services in many ART centres.	Ensure adequate budget and timely procurement of required STI drugs.
Timely, complete and accurate reporting of data related to STI services from ART centres is a chronic problem.	Federal, province level and site level efforts including implementation of different capacity development activities to strengthen recording and reporting of STI services is a must.
Limited evidence available related to burden of STI at federal and province levels.	Systematic estimation of burden of STI at federal and province levels is must to prioritize STI services in Nepal.

Prevention of Mother to Child Transmission of HIV for elimination of vertical transmission (eVT)

Nepal started its Prevention of Mother to Child Transmission (PMTCT) program which is also called eVT in February 2005 with setting up three sites at 1) B. P. Koirala Institute of Health Science (BPKIHS), Dharan; 2) Maternity Hospital, Kathmandu and; 3) Bheri Hospital, Banke. Community-based PMTCT programs were initiated in several districts in Nepal beginning in 2009, based on recommendations from the 2007 PMTCT National Review and the knowledge that current facility-only based PMTCT models were not reaching the majority of pregnant HIV infected women in the county.

Moving further in this direction, apart from the free provision of maternal ART and prophylaxis for infants, the National Guidelines on PMTCT have been developed and integrated into National HIV Testing and Treatment Guidelines in Nepal, 2020. Apart from it, HIV testing has been incorporated into maternal and child health care in the form of PITC. Tailoring to the needs of HIV-infected infants as well as HIV exposed babies; counselling and information on infant feeding have been adjusted accordingly.

The PMTCT service in Nepal has been integrated into maternal and neonatal health services since 2009 in the districts with CB-PMTCT services and the program has been expanded in all 77 districts of Nepal where HIV screening and counseling is done among women during ANC visit at the health facilities. Apart from CB-PMTCT program, adhering to the key actions envisaged by the National Strategy, the country is scaling up PMTCT service synchronizing with planned ART, HTC /STI, OI services for ensuring access to a continuum of care and ART to pregnant women with HIV. Furthermore, linkages have been established between PMTCT sites and key populations targeted intervention, Family Planning, sexual and reproductive health and counseling services.

PROGRESS AND ACHIEVEMENT

Pursuant to its commitment to eliminate vertical transmission of HIV among children by 2026, Nepal has scaled up its PMTCT services in recent years. As a result of this scale-up of PMTCT sites, the number of women attending ANC and labour who were tested and received results has increased over the years

Table 5.1.10.7: Service Statistics on PMTCT in Nepal for the period of BS 2073/74-2078/79

Indicators	2073/74	2074/75	2075/76	2076/77	2077/78*	2078/079*
Tested for HIV (ANC, Labor and PNC)	382,887	439,225	440,709	386,215	431784	544301
HIV Positive ANC, NC and PNC women (New)	128	70	79	57	72**	94

Source: IHMIS. *The positive numbers reported by non-confirmatory HIV testing sites were also included in the table.**This number does not include data error of HIV positive reported by non-confirmatory sites from Alka Hospital (216), Chitwan Medical College (201), Holeri PHC (24), Belghari PHC (16), Shivanagar PHC (11), Kakani PHC (9) and other non-confirmatory sites (79).

The HIV testing among pregnant women is higher in Madhesh Province (121929) and Bagmati Province (120849) whereas the percentage of positivity yield among pregnant women is higher in Province Bagmati(0.04%), than the national average(0.02). The province-wise detail is also shown in table 8.

Table 5.1.10.8: Province wise Service Statistics on PMTCT in Nepal 2078/79

Provinces	women tested for HIV (ANC, delivery and PNC)	Positive women (ANC delivery PNC) identified	Positivity Yield (%)
Koshi	63087	07	0.01
Madhesh	121929	10	0.01
Bagmati	120849	44	0.04
Gandaki	52048	13	0.02
Lumbini	103966	16	0.02
Karnali	33040	01	0.00
Sudurpaschim	49382	03	0.01
Total	544301	94	0.02

Source: IHMIS

Aiming at the elimination of mother to child transmission, Nepal adheres to Option B+ and embarks for providing lifelong ART for all identified pregnant women and breastfeeding mothers with HIV, regardless of CD4 along with prophylaxis treatment for their infants as well. The rollout of the lifelong treatment adds the benefits of the triple reinforcing effectiveness of the HIV response: (a) help improve maternal health (b) prevent vertical transmission, and (c) reduce sexual transmission of HIV to sexual partners.

TABLE 5.1.10.9: KEY CHALLENGES/ISSUES AND RECOMMENDATIONS

Issues	Recommendations
Mainstreaming the private hospital in the national reporting system for PMTCT testing.	The federal and province should strengthen coordination with private hospitals to regularize the reporting to national IHIMS.
Supportive monitoring visit at service delivery points from the local, province and related federal level agencies.	Frequent monitoring visits should be performed to intensify the services at and beyond birthing centre.
Double reporting of testing and positive data of mothers from both HIV screening and HIV confirmatory diagnosis sites.	Reporting of HIV positive data from only confirmatory three-tier HIV testing sites i.e., HIV Counselling and Testing Sites.
Missed ANC mothers from HIV screening	Captured all mothers visited ANC clinic for HIV screening.

HIV Treatment Services

With a primary aim to improve survival among people living with HIV (PLHIV), the government, in 2004, started giving free antiretrovirals (ARVs) from antiretroviral therapy (ART) centres. The National Centre for AIDS and STD Control (NCASC) has adopted the WHO "Treat All" policy since the revision of the national HIV testing and treatment guidelines in 2017. Necessary diagnostic and treatment-related infrastructures such as CD4 machines and viral load machines have been set up in different parts of the country for supplementing ART management programs. Human resources have been trained for Treatment, Care and Support in parallel with the preparation and updating of training guidelines. People Living with HIV have been empowered aiming at enhancing their supplementary roles in Treatment, Care and Support.

The total cumulative number of PLHIV receiving ART by the end of the fiscal year 2078/79 has reached the figure of 22125. Out of those who are currently on ART, 20985 are adults (≥15 years) and remaining 1140 are children (0-14 years), while male population makes 10800 (48.8%), female population 9794 (42.26%), and remaining 391 (1.76%) are of the third gender.

Table 5.1.10.10: ART Profile of the period of FY 2073/74-FY 2078/79

Indicators	2073/74	2074/75	2075/76	2076/77	2077/78	2078/79*
People living with HIV on ART ARVs (cumulative)	14,544	16,428	17,987	19,211	20883	22125
People lost to follow up (cumulative)	2,049	2,388	2,679	3,337	3435	3612
People stopped treatment	25	22	25	17	12	06
Total deaths (cumulative)	2,770	3,201	3,617	3,998	4487	4823

Source: IHMIS. *One health facility (BPKIHS) did not submit monthly ART report of Asar 2079 to IHMIS/DHIS2.

The number of people on ART is higher in Bagmati Province (5,851) and Lumbini Province (4,325). The province wise details are also shown in Table below

Table 5.1.10.11: Province wise people on ART FY 2078/79

Province	PLHIV on ART
Koshi	1463
Madhesh	3517
Bagmati	5851
Gandaki	2716
Lumbini	4325
Karnali	690
Sudurpaschim	3563
Total	**22125**

Source: IHMIS.

With the purpose of early diagnosis of HIV infection among children born to HIV infected mothers, an early Deoxyribonucleic Acid (DNA) Polymerase Chain Reaction (PCR) test is done at the National Public Health Laboratory in Kathmandu. The DNA PCR test is done at birth and 6 weeks. This test is recommended for diagnosing HIV status of children under 18 months and for those whose test result is inconclusive by rapid test.

Table 5.1.10.12: Key challenges/Issues and recommendations

Issues	Recommendation
Low access to Viral Load testing services	Use of existing PCR machines by replacing cartridge would improve access and coverage of viral load testing services in Nepal. Strengthen Provincial Public Health Laboratories to initiate viral load testing services in all provinces of Nepal.
Limited ART centres and ART dispensing sites (ADS) in remote and rural areas	Expansion of ART centres and ADS in rural and remote areas to improve access to HIV treatment services rather than concentrating coverage in only urban areas.
Not all sites are integrated to IHMIS for reporting of HIV prevention, testing, care and support (CCC, CHBC data) to national IHMIS/DHIS2.	NCASC and its partners in close cooridnation with IHIMS of Management Diviison developed recording registers and reporting forms of HIV prevention, tesitng, care and support services and partners will start rpeorting data to naitional IHMIS/ DHIS2 from coming fiscal year (FY 2080/081).
Lost to follow up of PLHIV is increased.	Treatment literacy & Effective counselling need to be managed effectively.

Opioid Substitution Therapy (OST) Services

Harm Reduction comprises methods, programs and practices for people in stages of continued use of drugs before motivation for enrolment in treatment is established (or during slips/relapses). Harm Reduction is a goal-oriented approach to reduce the specific health risks and damages caused by substance use. OST is one of the harm reduction initiatives with an aim to facilitate eventually cure from substance use disorder especially dependent on opioids. OST is one of the effectives treatments which also plays a critical role in prevention of HIV and hepatitis C virus. Currently, 12 OST sites (8 government sites and 4 NGO managed sites) are implementing services from 10 districts of Nepal.

Table 5.1.10.13: Number of clients enrolled in OST by fiscal year.

Indicators	2073/074	2074/075	2075/076	2076/77	2077/78	2078/79*
New Clients Enrolled in Current Month Buprenorphine	322	192	165	134	139	318
New Clients Enrolled in Current Month Methadone	435	444	451	468	466	750

*Two NGO sites (Avash Samuha and Saarathi Nepal) providing OST Sites not reported data to national IHMIS/DHIS2.
The new clients enrolled in Buprenorphine and methadone are the highest in Bagmati Province. The province-wise detail is also shown in Table below.

Table 5.1.10.14: Number of clients enrolled in OST by province, FY 2078/079.

Period	Provinces	HIV/AIDS-OST-New Clients Enrolled in Buprenorphine	HIV/AIDS-OST-New Clients Enrolled in Methadone
Shrawan 2078 to Asar 2079	Koshi Province	9	147
	Madesh Province	13	17
	Bagmati Province	233	474
	Gandaki Province	43	50
	Lumbini Province	20	62
	Karnali Province	No Service	No Service
	Sudurpashchim Province	No Service	No Service
	Nepal	318	750

Table 5.1.10.15: Key challenges/Issues and recommendations.

Issues	Recommendation
Clients enrolled in OST over time is low. Similarly, retention on OST among client is also low over time (<5%).	Address barriers for enrolment and retention on OST.
Limited coverage of OST services. OST not available in Karnali and Sudurpaschim provinces.	Expansion of OST services based on the burden of opioid depedent clients.

Strengthening Strategic Information of National HIV Programs

To overcome the challenges of the aggregated data reported to the national system, National Center for AIDS & STD Control (NCASC) has developed and rolled out HIV Care and ART Tracking System (also known as DHIS2 Tracker) to generate real-time data for an informed HIV response in the country. The existing recording and reporting (R&R) system was exclusively based on a paper-based system, which did not provide the individual-level data at National level. HIV Care and ART Tracking System has three interlinked systems: namely DHIS2 Tracker, mHealth and Biometrics. Since 2017, DHIS2 Tracker has undergone a series of development; from piloting to full-phase implementation at all ART sites throughout the country to record the HIV testing and treatment details of the clients. There have been many learnings and findings from the implementation of DHIS2 Tracker categorized as follows:

DHIS2 Tracker:
DHIS2 Tracker keeps records of all personal information of clients for HIV testing and counselling services, medical History of client, Anti-Retroviral Therapy (ART) and Follow-ups, Prevention of Mother to Child Transmission (PMTCT), Early Infant Diagnosis (EID), and Discontinuation of Follow-up to services from 81 ART sites operational in 61 districts of Nepal. Once the client is registered in the system, all the related information is entered during their treatment process, and it can be retrieved from the system at any time. The primary purpose of this system is to record all the information of clients in real time so that the information can be accessed whenever required for their treatment and effective implementation of the HIV related programs. Additionally, this system also ensures easy transfer of client information and facilitates referral of clients to other sites. This system is inter-linked with Biometric System for scanning the fingerprint of clients, which makes it easier to trigger the duplication and makes transferring of clients easier. However, few sites are experiencing problems related to internet speed to ensure full functionality of the DHIS2 Tracker system. NCASC has developed a YouTube channel to make sure that users can (https://www.youtube.com/channel) understand and use the information system (HIV Care and ART Tracking system) more effectively in a situation where organizing in-person training was not possible due to COVID-19.

As a priority of the NCASC and IHIMS section of the Management Division, sites can generate monthly ART reports from HIV Care and ART Tracking System and upload them into the aggregated DHIS2 system of national IHMIS. As the platform of DHIS2 Tracker System and National Reporting System are the same; the individual-level data of clients can be generated as a monthly ART report in National IHMIS reporting formats. The report generated from this system can be imported directly into IHMIS; which will help in the reduction of typos in data entry and will also help in timely reporting from ART sites.

mHealth (Mobile Health):
mHealth aims to support HIV treatment and improve retention in treatment. mHealth system consists of automated and manual push SMS methods to send frequent and timely messages to the clients for appointment reminder and general awareness messages. In essence, various routine and scheduled service and awareness related messages, as well as messages targeted to mothers and their babies have contributed to the increased adherence of clients to the services and sites, hence conclusively increasing their retention on the HIV Care and Treatment services. However, health workers frequently need to update the mobile number of PLHIV into the system as certain groups of PLHIV frequently change their mobile number.

Biometrics:
Currently, biometric systems are used if the clients are confirmed to be HIV positive or enrolled in HIV care. This system registers new clients in HIV Care and ART Tracking System with a unique identification code (alphanumeric code). It identifies whether the client is registered in another ART center of Nepal. In other words, it ultimately helped to solve

the issue of client duplication. With the use of a unique identification code, it facilitated the user to search and view old records of clients and helped to facilitate treatment plans. The system also made it easier to assess the clients who are transferred out between sites and districts.

The lesson learnt from this system is also used by different partners to integrate the recording and reporting of individual level data of HIV prevention, care and support components into the national HIV program. NCASC and IHIMS recently developed recording registers and reporting forms of HIV prevention, testing, care and support services managed by different implementing agencies or partners (INGOs, NGOs) into existing information system of NCASC with an aim to ensure real time generation of data throughout the HIV Care Cascade and monthly reporting to national IHMIS/DHIS2.

Table 5.1.10.16: Total clients on ART by district 2078/79

Province and District	On ART
Koshi Province	**1463**
SANKHUWASABHA	37
OKHALDHUNGA	13
DHANKUTA	22
ILAM	70
JHAPA	603
MORANG	453
SUNSARI	200
UDAYAPUR	65
Madhesh Province	**3517**
SAPTARI	156
SIRAHA	304
DHANUSA	712
MAHOTTARI	317
SARLAHI	413
RAUTAHAT	311
BARA	153
PARSA	1151
Bagmati Province	**5851**
DOLAKHA	19
SINDHUPALCHOK	81
DHADING	120
NUWAKOT	171
KATHMANDU	3423
BHAKTAPUR	115
LALITPUR	435
KAVREPALANCHOK	83
SINDHULI	67
MAKWANPUR	264
CHITWAN	1073
Gandaki Province	**2716**
GORKHA	222
MYAGDI	91
KASKI	1346
LAMJUNG	119

TANAHU	269
NAWALPARASI EAST	83
SYANGJA	337
PARBAT	74
BAGLUNG	175
Lumbini Province	**4325**
ROLPA	49
PYUTHAN	114
GULMI	192
ARGHAKHANCHI	119
PALPA	324
NAWALPARASI WEST	304
RUPANDEHI	1633
KAPILBASTU	532
DANG	361
BANKE	537
BARDIYA	160
Karnali Province	**690**
KALIKOT	40
DAILEKH	203
RUKUM WEST	59
SALYAN	26
SURKHET	362
Sudurpashchim Province	**3563**
BAJURA	59
BAJHANG	87
DARCHULA	42
BAITADI	109
DADELDHURA	112
DOTI	493
ACHHAM	635
KAILALI	1634
KANCHANPUR	392

5.1.11 Non-communicable diseases (NCDs) and Mental Health

5.1.11.1 Non-communicable diseases (NCDs)

Non-communicable diseases (NCDs) are emerging as the leading cause of death globally and also nationally due to changes in many social determinants like unhealthy lifestyles, globalization, trade and marketing, demographic and economic transitions.

Non-communicable diseases (NCDs) are a global health and developmental emergency, causing premature deaths, exacerbate poverty and threatening national economies. Gradually NCDs are becoming an added challenge to the health-care system of the country. The mortality due to NCDs has risen from 51% in 2010 to 71% in 2019. The proportional mortality of NCDs is ever increasing. CVD is responsible for over 30% of deaths, cancer 9%, diabetes 4%, chronic respiratory dis- ease 10% and other NCDs 13%. The increasing disease burden is associated with decreasing quality of life, increase in DALYs and catastrophic health expenditures. A four-year analysis of National Health Accounts reported the highest health- care spending was on NCDs at NPR 37.73 billion. Out of Pocket expenditure by disease and health conditions was highest for NCDs with 31% OOP (National Health Accounts 2012/13 – 2015/16).

NCDs are largely attributable to a few preventable risk factors, all of which are highly prevalent in the region-tobacco use, unhealthy diet, lack of physical activity and harmful use of alcohol.

Table 5.1.11.1: NCDs and shared modifiable risk factors

	Tobacco use	Unhealthy diet	Physical inactivity	Harmful use of alcohol	Air pollution
Cardiovascular disease					
Diabetes					
Cancer					
Chronic respiratory disease					
Mental disorders					

Key strategies for the prevention and control of NCDs include:

- Reducing exposure to risk factors through health promotion and primary prevention,
- Early diagnosis and management of people with NCDs, and
- Surveillance to monitor trends in risk factors and diseases.

In this context, MoHP (Ministry of Health and Population) has previously developed NCD- Multi-Sectoral Action Plan (2014-2020) and recently Multisectoral Action Plan for NCDs (2021-2025) endorsed by the cabinet of ministry.

Multisectoral Action Plan for NCDs (2021-2025)

The MSAP II focuses on creating actions which are potentially implementable, have high health impact, politically and culturally acceptable and financially feasible in coordination across multiple sectors and multi stakeholder. Sustainable Development Goals have provided a renewed impetus to accelerate progress in addressing NCDs, their risk factors and determinants. If Nepal is to meet the SDG targets, investing in interventions to reduce the burden of NCDs and its risk factors will improve health and accelerate progress on many other SDGs.

Strategic Approach for MSAP II

- **Vision:** All people of Nepal enjoy the highest attainable status of health, well-being and quality of life at all age, free of preventable NCDs and associated risk factors, avoidable disability and premature death.
- **Goal:** Reduce the burden of NCDs in Nepal through “whole of government” and “whole of society” approach
- **Specific objectives**
    - ◊ To raise priority accorded to the prevention and control of non-communicable diseases in the national agenda, policies and programs.
    - ◊ To strengthen national capacity and governance to lead multisectoral action and partnership across sectors for the prevention and control of noncommunicable diseases.
    - ◊ To reduce risk factors for noncommunicable diseases and address underlying social determinants across sectors.
    - ◊ To strengthen health systems through provision of people-centric, comprehensive, integrated, and equitable care for improved prevention and control of NCDs.
    - ◊ To establish NCD surveillance, monitoring and evaluation system for evidence-based policies and

programmes.

- **Targets:** The overarching target is to reduce premature death from major NCDs by 25% by 2025 and by one third by 2030.

Nepal PEN program

The PEN and HEARTS toolkit is a conceptual framework for strengthening equity and efficiency of primary health care in low-resource settings; it identifies core technologies, medicines and risk prediction tools; discusses protocols required for implementation of a set of essential NCD interventions; develops technical and operational outline for integration of essential NCD interventions into primary care and for evaluation of impact.

The WHO Package of Essential Non-communicable Disease Interventions (WHO PEN) for primary care in low-resource settings is an innovative and action-oriented response to the above challenges. It is a prioritized set of cost-effective interventions that can be delivered to an acceptable quality of care, even in resource-poor settings. It will reinforce the health system by contributing to the building blocks of the health system. Cost effectiveness of the select- ed interventions will help to make limited resources go further and the user-friendly nature of the tools that have been developed, will empower primary care.

The objectives of PEN program are:

- To strengthen health systems to address the prevention and control of NCDs and underlying social determinants through people centered primary health care.
- To strengthen national and local capacity and partnership to accelerate country response for the prevention and control of NCDs.
- To reduce modifiable risk factors for non-communicable diseases and underlying social determinants through creation of health-promoting environments

The PEN program has been scaled over 77 districts of Nepal while proper documentation and recording and reporting remain a challenge.

WHO Norad Nepal Integrated NCD Care Model (NINCM)

Realizing that NCDs remain the largest, most internationally-underfunded public health issue globally, where most lives could be saved or improved, and that addressing NCDs must be an integral part of the immediate response to COVID-19 and of the recovery at national levels, as well as part of the strategies to build back better, Norway announced in November 2020 that it will contribute US$ 133 million to reduce the burden of NCDs in low-income countries from 2020 to 2024. Through this support, the establishment of the WHO/NORAD joint-initiative on NCDs, which is the first of its kind, specifically aims at providing scaled up support and solutions to economic, social, and development aspects of NCDs in Ethiopia, Ghana, Myanmar and Nepal.

Objectives:

- Strengthen operational efficiency and program administration at all levels for implementing and scale up of integrated people centered NCD services through the project sites.
- Adopt, adapt and update evidence-based technical packages for common NCDs including common cancers, stroke and palliative care.
- Build capacity of the health workforce and set up NINCM and referral points through partnership with academic institutions.
- Set up effective information system with digital solutions for NCD service performance monitoring and patient tracking for continuity of care.
- Strengthen essential diagnostics, supplies and medicines to improve patient care.
- Strengthen support for community and homebound care through networking with professional bodies, community groups and people with lived experience of NCDs.

Table : 5.1.11.2 NORAD Project Pilot Districts:

Province	District
Koshi Province	Ilam
Madesh Province	Parsa
Bagmati Province	Kavrepalanchowk
Gandaki Province	Manang
Lumbini Province	Palpa
Karnali Province	Jajarkot
Sudurpaschim Province	Kailai and Kanchanpur

5.1.11.2 Mental Health

Background

The government of Nepal has gradually increased its political commitment to mental health services in recent years culminating with the establishment of a NCDs and MH Section under Epidemiology and Disease Control Division. Mental health care has been included in the list of basic health services in Sub-Section 4 (e) of Section 3 of the Public Health Services Act, 2075. Furthermore, the Public Health Service Regulations have expanded the type of mental health services to be included in the Basic Health Service and Emergency Health Service Packages. In addition, the National Health Policy, 2019, section 6.17.5, has a strategy to expand mental health services integrated into overall health systems.

Mental Health Policy and Mental Health Plan 2020

Nepal has a single, overarching health policy, with sub-sections related to particular thematic areas. Mental health is mentioned in section 6.17.5. There is no standalone mental health policy in Nepal. The National Mental Health Strategy and Action Plan (2020) provides a more comprehensive description of Nepal's plans for mental health care. This strategic Action Plan describes the provision of free primary care mental health services for all parts of the country. Described below are key components incorporated within the National Mental Health Strategy and Action Plan 2020.

- Integration of mental health at Primary Health Care level: The Action Plan calls for integration of mental health services across all tiers of the public health care system. The Community Mental Health Care Package 2074 (2017) intends to support meeting this objective.
- Strengthening mental health at Secondary Health care level: The Action Plan supports the provision of specialized mental health services in secondary level hospitals and above. Use of health insurance and telemedicine are seen as accessory modalities to support these services. Currently, telemedicine is only used to support primary care through remote monitoring and supervision.
- Service user engagement in policy development and planning: The signing of the UN Convention on the Rights of People with Disabilities and the launch of service user organizations in Nepal have increased service user involvement in advocacy activities, but their involvement in policymaking processes remains limited. Service users identify lack of education and technical knowledge, concerns about stigma and discrimination with disclosure, the need to prioritize income generation, and rurality as barriers to participation in policymaking activities. Formation of grassroots level service user groups, receiving training and capacity-building on mental health, and redoubling efforts to reduce stigma and discrimination associated with mental disorders were among the strategies identified to increase involvement.

WHO Special Initiative for Mental Health (SIMH): Universal Health Coverage for Mental Health

The WHO Special Initiative seeks to ensure universal health coverage involving access to quality and affordable care for mental health conditions in 12 countries, aiming to reach 100 million more people. The initiative has targeted two strategic actions:

I. advance policies, advocacy and human rights; and

II. scale-up quality interventions and services for people with mental health conditions.

Nepal is one of 9 countries implementing WHO Special Initiative for Mental Health. This has enabled a timely and long-term opportunity for Nepal's mental health system to go beyond small-scale project work; but rather offer the Nepal Ministry of Health and Population (MoHP) a chance to build significant reform. The Special Initiative in Nepal has been working closely with the Nepal MoHP and other mental health stakeholders across the nation.

To guide the implementation of the Special Initiative, MoHP with support from WHO Nepal and in consultation with wider stakeholders has developed a multiyear logical frame in alignment with Nepal's National Mental Health Strategy and Action Plan 2020. The prioritization and actions in the logic frame is informed by a baseline country situation analysis on the current context of the organization of services, human and financial resources for mental health, prevalence and treatment gap of priority mental health conditions as well as opportunities for extending care through integration and strengthening of existing health system capacities.

The special initiative actions intend to support the systems reform in all seven Provinces of Nepal with focused support to 14 (of 77 districts) with a revised district care model for mental disorders.

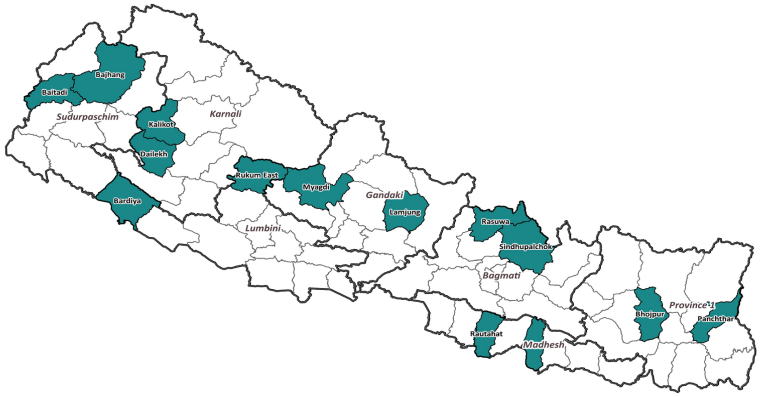


Figure : 5.1.11.1 WHO Special Initiative for Mental Health Implementing Districts

Table: 5.1.11.3 Special Initiative for MH Implementation Districts

Province	District
Koshi Province	Bhojpur, Paanchthar
Madesh Province	Mahottari, Rautahat
Bagmati Province	Sindhupalchowk, Rasuwa
Gandaki Province	Myagdi, lamjung
Lumbini Province	Rukum East, Bardiya
Karnali Province	Dailekh, Kalikot
Sudurpaschim Province	Baitadi, Bajhang

Situation Assessment of mental health systems and service in Nepal in collaboration with WHO HQ and University of Washington has been done using PRIME Situation Assessment tool following extensive desk review of published and grey literature, key informant interviews and focused group discussion. In addition, the grey literature was reviewed and the summary was updated by the University of Washington team.

Training on public mental health to program managers from Provinces and Municipal government in FY 2078/79:
With a new federal set up, the responsibility to plan and implement to strengthen (mental) health services have been decentralized and lies with the provincials and local governments. This has brought up unique challenges and opportunities. The public health officials at provincial and local levels are the key players in planning and organizing public health and clinical care programs in the districts and municipalities. They play an important role in prioritizing, planning, monitoring and evaluation of the ongoing public health activities. The experience on implementation of the government's annual work plan of last fiscal year (FY 2077/78) produced mixed results: there has been significant interest at local level and provincial level but in many instances the public health managers do have enough knowledge about mental health interventions. Adequate knowledge and conceptual understanding about mental illness, cost-effective interventions, national policy framework and available technical resources could help in reducing misconceptions and enable the public health officials to prioritize mental health activities and provide effective leadership to the ongoing projects. This will also result in creating demand for the mental health activities from the bottom up. To address this need, the EDCD and NHTC with WHO support have developed a 3-day training package on public mental health.

Therefore, training workshops to public health officers from all 7 Provinces, 14 SIMH Special Initiative focus districts and the Municipalities of 14 Districts are organized. In total 126 program managers have been trained.

The aim of the program is to improve the technical and management skills of the public health officers in planning and implementation of mental health interventions in people-centered manner with priority focus to primary health care system delivery.

A new National Mental Health Service Strengthening Programme 2022 has been drafted.

The Ministry of Health and Population has been implementing Community Health Care Package since 2017 with a plan to scale up nationwide. This was a milestone for the national mental health service strengthening in Nepal. There have been a lot of lessons learned from its implementation. Additionally, substantial changes have happened since 2017 in Nepal: the country has gone into a federal state, Public Health Service Act 2018 and Public Health Service Regulations 2019 has defined Basic Health Services which includes mental, neurological and substance use disorders. The Government has also adopted a new National Mental Health Strategy and Action Plan 2020 with several new actions to strengthen district mental health services.

In order to facilitate the implementation of National MH Strategy and Action Plan 2020 and also guide the implementation of WHO Special Initiative for Mental Health in Nepal a service package has been drafted. The draft is based on the implementation experience of the Community MH Care Package 2017 and the comprehensive feedback from service providers, program managers and administrators and NGO representatives. The draft document has also been reviewed by several national and international stakeholders.

The National Mental Health Care Programme 2022 provides a framework for the delivery of primary health care (PHC)-oriented mental health services. It is intended to guide programme managers from all levels of the government on the implementation of the provisions of the Public Health Service Act 2018, Public Health Service Regulation 2020 and National Mental Health Strategy and Action Plan 2020. The programme aims to promote mental health care that is practical, equitable and need-based. It takes into consideration the current capacity of the health system, the existing

infrastructure and the community's mental health-care needs. Emphasis is laid on people-centred care and community participation, as well as on improving access to care.

The overall objective of the National Mental Health Care Programme 2022 is to deliver the basic package of mental health services at the PHC level and focused mental health care at secondary health facilities. This would be achieved in collaboration with academic institutions, NGOs and communities through a PHC-oriented model of service delivery.

Human Resource for Mental Health:

Strengthening Mental Health Curriculum of MBBS Programme in Nepal 2022: Bachelor of Medicine and Bachelor of Surgery (MBBS) is five and half to six years medical undergraduate training in Nepal. MBBS graduates can practice medicine independently in Nepal. And after the government rule of compulsory rural posting after MBBS training, they have become the major health workforce in primary care setting in Nepal. Hence there is immense responsibility on these medical undergraduates to provide basic curative services to most of the people living in the rural areas.

Mental health was given little emphasis during MBBS training despite the huge responsibility on the graduates to provide basic mental health services. Hence there exists a gap in the need and the availability skills of primary care providers. While there are ongoing on-the-job training programmes to build the competency of the MBBS doctors implemented by National Health Training Centers and Epidemiology and Disease Control Division. However, in the absence of optimum pre service education, the training needs are extensive. Therefore, stakeholders' consultations were organized to identify ways to strengthen the preservice medical education curriculum.

Under the overall leadership of the Ministry of Health and Population and with support from WHO Nepal, a workshop was organized on 10 – 11 March 2022 among the participants were the deans of the universities, the heads of the psychiatry departments, the medical education experts representing all the medical colleges and the universities in Nepal. The meeting resulted in defining the basic competencies for MBBS training program across universities and building consen- sus on the minimum duration of teaching hours, identifying teaching-learning methods & examination process. Institution wise road maps to implement the actions for universities are being developed

Strengthening Mental Health Services:

Setting up acute inpatient care units in multi-disciplinary general hospitals in each province: MoHP's minimum service standard requires general hospitals with more than 200 beds to establish a functional mental health unit with outpatient and inpatient services. In the first phase, MoHP has provided funds to 13 bigger Federal and Provincial level general hospitals across the country to integrate mental health services. This is a historical initiative to decentralize comprehensive mental health care integrated into general health care.

As many of these hospitals are also the 'hub hospitals' including COVID designated hospitals to manage health needs of the disaster context, this initiative is expected to support MoHP's effort to provide comprehensive care during response and recovery of disaster context including for COVID 19.

Medical Superintendents, Nursing Officers and mental health experts from these hospitals developed facility wise workplan to meet the minimum standard of care for the coming year. Amid several constraints on both human and financial resources, the work plan is developed in an incremental fashion to strengthen both hospital-based care and community-based care.

Child and Adolescent Mental Health Service: Training for 100 Medical Officers, Pediatricians and General Practitioner from Lumbini, Karnali and Sudurpaschim Province has been trained to identify and manage common mental health problems of children and adolescents.

Psychotropic Medications: A set of psychotropic medications, including antipsychotics, antidepressants, anxiolytics, mood stabilizers, and antiepileptics are available at health facilities of all levels across Nepal; although patients frequently pay out of pocket due to frequent stock out and inconsistent supply. Mental health medications can be prescribed by registered medical doctors; however, Health Assistants employed in primary health care can also prescribe after receiving a training and following certain government protocols

Integrating NCDs and Mental Disorders in the current recording and reporting system of HMIS

Nepal's Health Information System has migrated into DHIS 2 platform. All the hospitals and the PHCs report health information on this platform. And the information from the health posts is collected in papers and then will be fed in the DHIS platform at district level. Mental Health related health information has not been a priority for HMIS and hence there were no indicators and monitoring systems to understand the provision of mental health services.

Furthermore, as a chronic care condition, it is desirable for mental health programs to get information on patient tracking, follow up and control status/outcome of treatment/support which the existing health information systems do not capture. A separate patient register for NCDs and Mental Disorders with specified data elements for recording keeping at health facilities has been developed. While information on age, gender, ethnicity, diagnosis, follow up status and treatment outcome has been included as an essential data element in the registers, unique patient identifiers and tracking of individual cases could not be included as it is not supported by the national HMIS system.

Furthermore, a tool to submit monthly reports to HMIS has also been formed as a summarized information from the patient register. And a robust set of indicators has been agreed for periodic monitoring of the program. Now that the tools have been revised, the bigger challenge remains: the data quality with respect to completeness of the records and facility enrolment.

Suicide Prevention:

Nepal is reporting increasing deaths due to suicide. Although, Nepal lacks a reliable suicide reporting system, police reports that approximately 20 people dies every day in Nepal by suicide. The average annual increase in the last 5 years is 7.4%. Nepal is likely to miss the SDG target which aims to bring down the death by suicide to 4.7/100,000 population by 2030.

Despite this worrying trend, the Ministry of Health & Population is yet to set up a specific program on suicide prevention. There is increasing concern expressed and initiatives taken from various levels on suicide prevention in Nepal. Most of the fatal pesticides have been banned in the country as per the Pesticide Management Act 2019. Suicide Prevention has been identified as a priority action in Nepal's National Mental Health Strategy and Action Plan under implementation since 2021. The National Planning Commission is working to develop a National Suicide Prevention Action Plan. The MoHP with support from WHO has operationalized 24 X 7 national suicide prevention helpline in Mental Hospital (with a call sign of 1166) with a vision to establish a National Suicide Prevention Resource Center in the hospital. And a WHO media guideline has been translated with the intention to develop and implement a short training package to media persons. Similarly, suicide risk assessment and subsequent management has been the part of the ongoing trainings of the primary care providers as per mhGAP (Mental Health- GAP) recommendations.

Similarly, school based social emotional support to children and adolescents is under development to be piloted in 120 schools of Bagmati Province.

Addressing the mental health needs during COVID-19 pandemic in Nepal

The lockdown, curfews, self-isolation, social distancing, and quarantine that COVID-19 pandemic brought about have affected the overall physical, mental and social wellbeing of the Nepalese. However, the people already suffering from mental health conditions are at a higher risk. The Government's current attempt to integrate mental health services at primary care level is facing obstacles because of the lack of infrastructure, intermittent availability of medicines, and frequent change of trained health-care providers.

The Health Emergency Operations Centre (HEOC) of the MoHP coordinated the pandemic response and activated the Inter-Agency Standing Committee (IASC) cluster and sub-clusters including the Mental Health Sub-Cluster. The Epidemiology and Disease Control Division, Department of Health Services, led the Mental Health Sub-Cluster. The WHO experts supported the national response intervention in coordination of MHPSS partners' aligning to WHO and IASC guidelines. Working closely with the sub-cluster partners, EDCD with WHO Support drafted a short-term plan for COVID-19 MH- PSS Intervention Framework, which gave strategic direction to the partners' work in mental health interventions during the pandemic response. The document also played a key role in setting a benchmark on optimum MHPSS response at the subnational level especially in provinces. In addition, IASC guidelines have been translated and adapted to the national context in collaboration with the Psychosocial Working Group.

Regular mental health sub-cluster meetings were organized to coordinate work among partners; at the provincial level similar coordination was facilitated by WHO Provincial Health Officers (PHOs) deployed in all seven provinces, to support provincial health authorities. As a result, more than 40,000 people received some form of psychosocial support. More than 20,000 children and adolescents were provided essential mental health support and 3,000 health-care providers saw their mental health needs addressed through stress management workshops and webinars. Also, 160 community psychosocial counsellors were trained and multiple FM radio stations across the country were engaged to disseminate messages. The main partners providing various mental health and psychosocial services are government hospitals, medical colleges, professional associations, and various NGOs with support from Government bodies or UN Agencies. Similarly, adaptation and translation of the International Committee of the Red Cross Guideline of Remote Psychological First Aid was done in collaboration with the Nepalese Association of Clinical Psychologists. This document served as a guide to adjust to the unique challenges posed by the pandemic in delivering psychosocial support . At least 120 counselors were oriented on this guideline to deliver PFA remotely.

Furthermore, the EDCD with WCO's support, has developed a Program Implementation Guideline on Tele-mental Health. WCO installed videoconference (VC) equipment at the National Health Training Center, the EDCD, Mental Hospital Patan and two district hospitals at Illam and Doti. With this support, 50 doctors and health workers in these two districts are trained on delivering essential mental health care and are supervised distantly through VC.

5.1.12 Epidemiology and Outbreak Management Section

5.1.12.1 Introduction

Epidemiology and Outbreak Management is the responsibility of the Epidemilogy and Outbreak Management Section in EDCD, which works in the area of preparedness and response to out-breaks, epidemics and other health emergencies occurring in different parts of the country. The section aligns with the organizational objective to reduce the burden of communicable diseases and unwanted health events through preparedness and responses during outbreak and epidemic situations by using the existing health care system.

Major responsibilities of Epidemiology and Outbreak Management Section:

- Provide support to the Ministry of Health and Population (MoHP) for drafting national laws, policies and strategies related to preparedness and management of outbreaks/epidemics and other health emergencies.
- Prepare standards, protocols and guidelines regarding epidemiology and outbreaks/epidemics management.
- Coordinate with the provincial and local level for epidemics and outbreak management.
- Provide support for preparation and implementation of annual work plan at federal level related to epidemics and outbreak management.
- Coordinate and collaborate with concerned authorities at federal level for epidemics and outbreak management.
- Coordinate and provide support in conduction of information management training and other federal level programs related to epidemiology, epidemics and other emergency management.
- Coordinate with multi-sector authorities in minimizing the impact of natural disasters in the health sector, conduct response activities and control of epidemics.
- Facilitate and coordinate in providing preventive and curative services through provincial and local level to prevent the spread of diseases after natural disasters in displaced communities.
- Monitoring and supervision of disaster preparedness and management activities in coordination with province and provide feedback to the concerned authorities accordingly.
- Carryout outbreak control and management by mobilization of Rapid Response Team (RRT) in order to control epidemic prone diseases.
- Coordinate and facilitate for management of buffer stocks of essential medicines and other logistics required for the control of outbreaks/epidemics.
- Monitoring and supervision of disease epidemics, outbreak preparedness, prevention and control activities and provide feedback accordingly.
- Monitoring of diseases through health desks present at point of entries at international ground crossing points and airports.

5.1.12.2 Major Activities of FY 2078/79:

- Continuation of response to COVID 19 pandemic
- Outbreak response to Cholera outbreak of Kapilvastu district and Kathmandu Valley.
- Simulation Exercise held in health desks in Ground Crossing at Trinagar and Jamunaha that included simulations for all core capacities for Point of Entry, role play and table talk exercises to identify issues and challenges.
- Point of Entry – Ground Crossing health desk review meeting was conducted at two sites in Biratnagar and Nepalgunj covering all 14 health desks at Nepal – India GCP.
- Risk Communication and Community Engagement training conducted in 6 provinces to capacitate health authorities in RCCE which is vital to epidemic preparedness and outbreak response.
- SORMAS training conducted to capacitate surveillance among RRT in districts and province.
- Preparedness activities for potential Monkeypox outbreak: Selection of 14 dermatologist as focal points in 14 different hospitals covering all 7 provinces, orientation to health care workers in hospitals like Sukraraj Tropical and Infectious Disease Hospital, Koshi Hospital.

5.1.12.3 COVID-19 Response:

One of the major focuses of Epidemiology and Outbreak Management Section in the year FY 2078/79 was the response to COVID-19 pandemic. COVID-19 data and response by the section in the year 2078/79 is presented here.

Table : 5.1.12.1 COVID - 19: Tests done, Positive Test and Death within the Fiscal Year

FY 2078/79				
Total Tests		Total Positive		Total Deaths
PCR	Antigen	PCR	Antigen	
2336957	998563	318724	94040	2489

5.1.12.4 Health Desks:

There are 16 Health Desks at 16 Ground Crossing Points (GCP) of Nepal out of which 14 are in Nepal – India GCP and 2 in Nepal – China GCP. As part of EDCD, they have a key role in preventing the entry of communicable disease into the country by screening various diseases like COVID – 19, Malaria and TB.

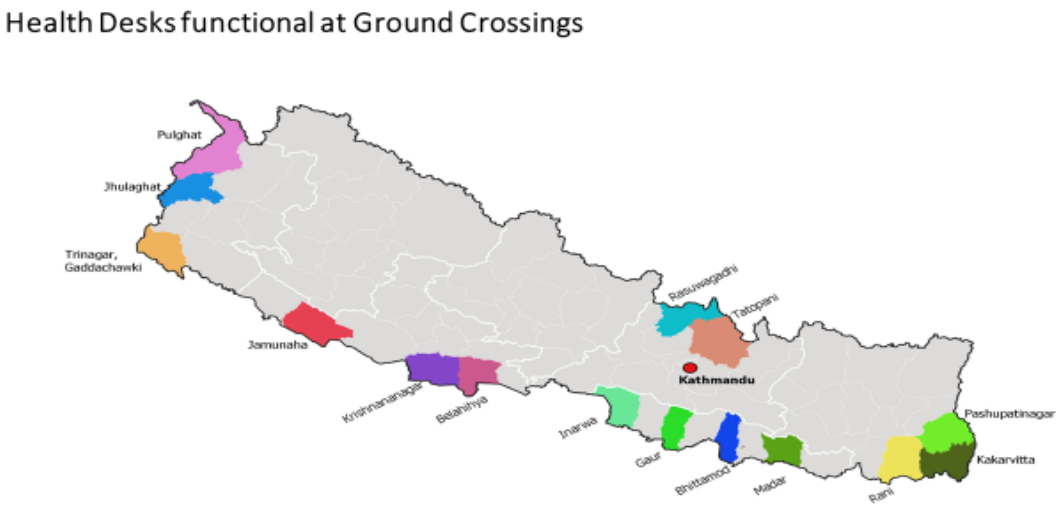


Figure : 5.1.12.1 Health Desks functional at Ground Crossing

Table 5.1.12.2 COVID - 19 Test done at Health Desks at Point of Entry

Name of POE		Screening	Antigen Tests	Antigen Positive	Percentage
1.	Gaddachauki	154,723	141,288	1,867	21.5%
2.	Belahaiya	118,252	77,948	1,431	16.4%
3.	Jamunaha	223,803	77,619	1,097	12.6%
4.	Trinagar	143,727	68,101	1,933	22.2%
5.	Inarwa	90,234	37,965	619	7.1%
6.	Kakarbhitta	138,432	16,722	590	6.8%
7.	Krishnanagar	30,354	16,430	410	4.7%
8.	Rani	20,090	15,593	245	2.8%
9.	Jhulahaghat	12,575	12,566	285	3.3%
10.	Bhittamod	32,172	10,084	91	1.0%
11.	Gaur	9,322	2,817	32	0.4%
12.	Pulghat	2,810	2,780	76	0.9%
13.	Pashupatinagar	9,272	1,705	24	0.3%
Grand Total		**985,766**	**481,618**	**8,700**	**100.0%**

(Source : EOMS, EDCD, 1 Shrawan 2078 - 32 Ashad 2079)

5.1.12.5 Cholera Outbreak in Kapilvastu and Response Activities:

A total of 1914 Acute Diarrheal Disease (ADD) cases occurred in the outbreak in Kapilvastu district. The first cases were reported from Shivaraj Municipal Hospital on October 4, 2021, which was later confirmed to be Cholera from lab stool culture. These cases were investigated with the operational case definition of ADD "loose and watery stool for more than 3 episodes in one day". Total 708 cases were seen in the 1st week followed by 208 cases in the 2nd week and a maximum of 220 cases in the third week. The cases gradually decreased however, sporadic cases of the spread of the disease occurred in surrounding municipalities. The public health investigation teams from both central, district and local levels were deployed for surveillance and outbreak investigation. Drinking water samples from the outbreak site and stool samples from clinically confirmed cases were collected and dispatched for culture to the national reference laboratory (NPHL). In addition, Eight RDT samples that were tested in cases with ADD were found positive for cholera in the area of the initial outbreak. A total of twenty-one stool samples were tested for stool culture, out of which 4 stool samples tested positive for Vibrio Cholerae O1 Ogawa. Eighty-eight per cent of the cases reported till October 18, 2021 were reported from Ward 7, 8 and 9 of Krishnanagar Municipality of Kapilvastu district. New cases of ADD also occurred in neighboring municipalities which suggested the spreading of the outbreak. Seven samples from these areas were sent for culture. The overall attack rate for the three most affected wards was 3%, 6%, and 4% respectively. Mortality with ADD was reported in 7 cases showing symptoms of acute watery diarrhea with severe dehydration as reported by family members and the remaining cases recovered after cholera protocol treatment in Shivaraj Municipal hospital. Technical support and Cholera kit were sent from the Epidemiology and Disease Control Division.

The outbreak occurred in the Kapilvastu district which shares an international porous border with India. The Kapilvastu district is also a major tourist attraction (Lumbini: the birthplace of Gautam Buddha lies in this district) with frequent movement of people from inside and outside the country (such as Sri Lanka, South Korea, Thailand, Burma, India) which posed a potential threat of the national and international spread of disease. The limited capacity of the health system of the affected district and neighboring districts can also be verified by multiple Vaccine Preventable Disease outbreaks in the previous year especially measles which needed outbreak response immunization for control. Other infectious disease burdens are also high in this part of Nepal. The affected community has a low literacy rate with poor health-seeking behavior and usually seeks medical care at the late stage of the disease which was also reflected in four investigated deaths, among which one expired at home and the other three expired before reaching/seeking medical attention. There are a total number of 12 wards within the Krishnanagar municipality and as per the popu- lation census of 2011 the total population is 62,370. The geographical area of the municipality is 96.66 Sq.km. The municipality is bordered by Shivaraj Municipality and Bijaynagar municipality in the North, Maharajgunj Municipality in the East, and the Indian border in the South and West. The municipality has 9 Health posts in different wards while the only hospital is located in ward 9, Bahadurgunj. It is a 15 bedded hospital run by a medical officer and other paramedi- cal health workers with no specialist doctors/ICU available in this hospital.

5.1.12.5.1 Reactive Oral Cholera Vaccination (OCV) in Kapilvastu District:

The National Immunization Advisory Committee and Steering Committee for Enteric Disease Control recommended continuing WASH intervention and providing cholera vaccines to control the outbreak and reduce mortality. The Epidemiology and Diseases Control Division requested the International Coordinating Group (ICG) for the vaccine. Nepal received 1,186,512 vials of OCV vaccine.

At the local level, the district immunization coordination committee and ward immunization coordination committee was called and oriented on vaccination campaigns and notified its effectiveness in controlling the surge of diarrheal cases in the municipality.

As per the Guideline of Oral Cholera vaccination (OCV) released from the Department of Health Services, the district health office conducted training of the trainer for health workers of five municipalities for administering vaccines. The trainers then trained their respective ward health workers and female community health volunteers for the vaccine campaign.

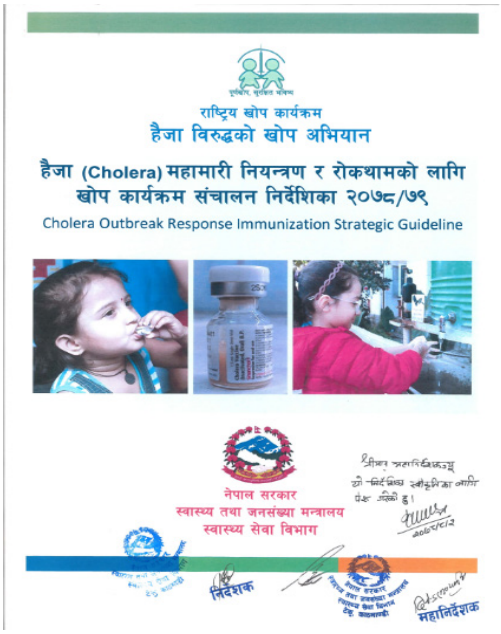


Figure 5.1.12.2: Guideline developed for OCV

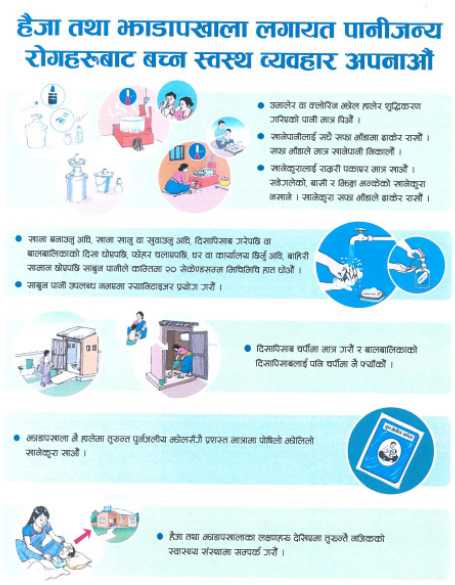


Figure 5.1.12.3 : IEC material developed and circulated during outbreak

Mass vaccination was conducted from November 21, 2021 to 22 June 2022, by Kapilvastu district in 10 municipalities with the aim to achieve over 90% target population for vaccination.

A total of 944,580 vials of OCV vaccine were used and campaign was conducted in two rounds with the overall coverage of 82.22% for the first dose and 74.24% for the second dose. There was wastage of 31,932 vials (3.38%). No cases of AEFI reported during the campaign.

The vaccination campaign was rolled out in two rounds. The municipalities covered, target population, and coverage rate was as follows:

Table : 5.1.12.3 OCV campaign: Municipalities covered, Target population and Coverage rate

Round	First round		Second round	
Municipalities	Shivaraj, Krishnanagar, Maharajganj, Yasodhara and Bijayanagar		Banganga, Buddhabhumi, Kapilvastu, Mayadevi and Suddhodhan	
Dose	First dose	Second dose	First dose	Second dose
Target population	252,363		351,310	
Achievement	231,001	199,620	265,362	248,597
Percentage	91.5%	79.1%	75.5%	70.8%

Rapid convenience monitoring (RCM) was conducted starting from four days after each campaign to search those who might have missed vaccination. Team visited households, verified missed population and provided vaccine if they identify zero doses.

5.1.12.5.2 Cholera Outbreak In Kathmandu Valley and Response Activities:

Two laboratory confirmed cases of Cholera were notified to Epidemiology and Disease Control Division (EDCD) on 19th of June 2022 (Asar 5, 2079). Outbreak investigation was carried out and EDCD supported the Health Office Kathmandu team in field investigation of the outbreak. Drinking water samples tested from residence of infected individuals showed faecal contamination as there was presence of faecal E. coli.

Until Asar 32, 2079 (16 July), a total of 30 cases of cholera were reported of which 24, 4 and 2 cases were reported from Kathmandu, Lalitpur and Bhaktapur districts respectively.

Lessons learnt from Cholera Outbreak Management:

- Early Risk Communication and Community Engagement is key for outbreak management.
- Prompt deployment of RRT at local level was effective in Kapilvastu district. However, the need for district level RRT was felt.
- Effective management of outbreak requires coordination among all three tiers of government and among different line ministries.
- Surveillance, prompt WASH interventions, treatment and reactive vaccination were the key components of national response.
- Provision of safe drinking water, maintenance of food hygiene and environmental sanitation are crucial to prevent food and water borne diseases.

Issues and Recommendations

SN	Issues	Recommendations
1	Multi sectoral coordinated response could not be sustained during outbreak management.	Multi sectoral coordinated response should be carried out. One health Approach should be followed for management of outbreak.
2	Lack of District level RRT	New RRT guideline with provision of district level RRT.
3	Deployment of Human Resource at health desks at point of entry	Organization and Management (O&M) Survey should be carried out.
4	Lack of prepositioning testing kits	Proper stock of testing kits of outbreak prone diseases needs to maintained at all times.
5	Limited skilled RRT at all level	Proper RRT training incorporating practical skills as well as theoretical knowledge to be given to existing and potential RRT members.
6	Lack of proper reporting of cases during outbreaks	Integrated reporting channel should be strengthened.

5.1.13 Disease Surveillance and Research Section

5.1.13.1 Background

This section was established in August 2013 and reformed in 2018 according to the federal structure of the Department of Health Services with the purpose to carry out surveillance and research related activities for communicable diseases control as well as emergency management of disease outbreaks at national level. Besides this, it also performs the regular surveillance and monitoring of drinking water quality. Furthermore, there has been piloting of climate sensitive diseases surveillance in four sentinel sites of Nepal with a gradual plan to expand to other sites in upcoming years.

5.1.13.2 Disease Surveillance Activities

Early Warning and Reporting System (EWARS)

Early Warning and Reporting System (EWARS) is a hospital-based sentinel surveillance system, -established in 1997 - for early detection of six priority outbreak potential vector-borne, water and food borne diseases/syndromes, namely acute gastroenteritis (AGE), cholera, severe acute respiratory illness (SARI), dengue, kala azar, and malaria. Currently, 118 hospitals from all provinces and districts in the country have been selected as sentinel sites to report cases of these diseases/syndromes and other additional diseases/syndromes on an immediate (for outbreak) or a weekly basis. Other outbreak prone communicable diseases such as Influenza like Illness (ILI), Scrub Typhus, Enteric fever etc. are also reported in EWARS.

Types of sentinel sites that report on EWARS

Among 118, there are 82 government, 12 Private, Six missionary, Four community hospitals and 14 medical colleges as sentinel sites.

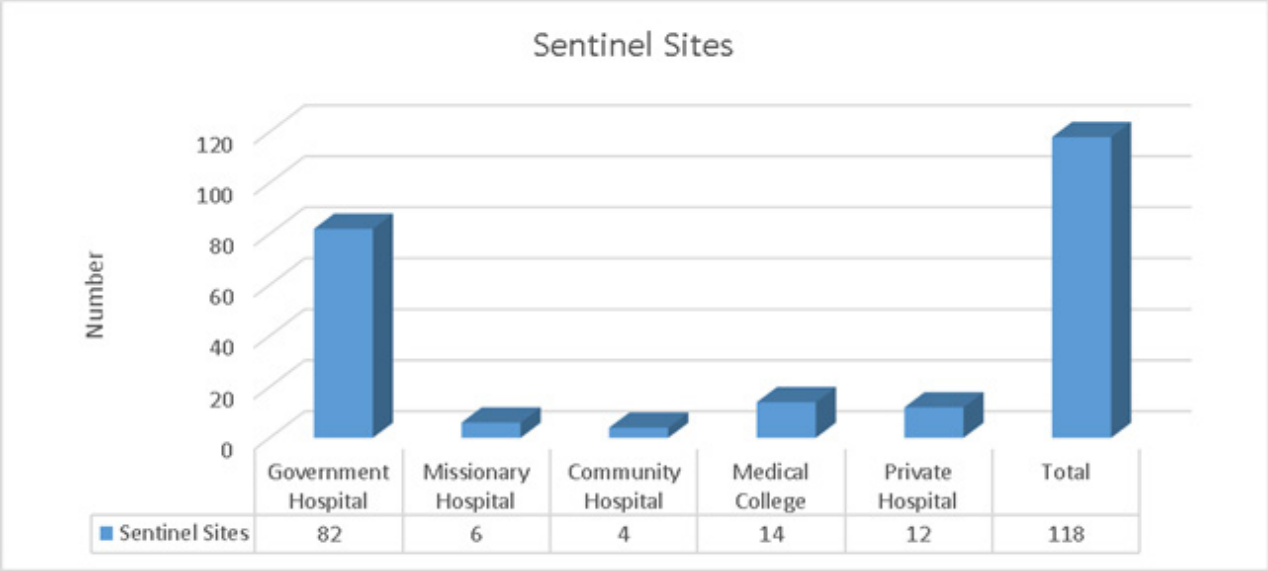


Figure 5.1.13.1 Types of sentinel sites that report on EWARS
Source: EDCD, DoHS

Reported cases of the prioritized infectious diseases on EWARS

Total of 19 diseases in EWARS have been reported in the period 2019- 2021. COVID-19 disease was also reported from the sentinel sites partially during the year 2021. Apart from 6 priority diseases, scrub typhus (n=2001) and enteric fever (n=1578) were the most reported diseases while cases of leptospirosis and meningitis were also reported through the EWARS platform.

Table 5.1.13.1 Reported cases of the prioritized infectious diseases on EWARS for the period from 2019 - 2021

Disease / Period	2019	2020	2021	Total
COVID-19	2	18870	17633	36505
Influenza Like Illness	135	3636	2899	6670
SARI	5543	7586	9354	22483
AGE	6963	8229	7829	23021
Dengue	10921	533	521	11975
Kala azar	91	220	269	580
Malaria Falciparum	32	19	17	68
Malaria Vivax	93	61	25	179
Cholera	1		19	20
Diphtheria	1		1	2
Encephalitis	39	39	12	90
Enteric Fever	2213	2525	1578	6316
Scrub Typhus	1610	1754	2001	5365
Hepatitis-Acute Jaundice	122	258	136	516
Leptospirosis	17	10	17	44
Meningococcal Meningitis	34	47	32	113
Suspected Measles Like Illness	2	10	4	16
Viral Haemorrhagic Fever	49	5	1	55
Whooping Cough	5	2		7
Other	332	1707	650	2689
N/A	45	77	45	167
Total	28250	45588	43043	116881

Source: EDCD, DoHS

Distribution of diseases reported in EWARS in 2021

Regarding sub-national distribution of reported diseases/syndromes in 2021,Influenza like illness was reported mostly from the Karnali Province (n=2586), while highest SARI cases were reported from Koshi (n=2890), followed by Lumbini Province (n=2178). Similarly Lumbini Province reported 17 cholera cases while Madhesh Province reported two cases.

Table 5.1.13.2 Infectious diseases/syndromes reported in provinces at 2021

Organisation unit	Koshi Province	Madhesh Province	Bagmati Province	Gandaki Province	Lumbini Province	Karnali Province	Sudurpaschim Province	Total
Disease / Period	2021	2021	2021	2021	2021	2021	2021	
COVID-19	2060	36	10449	710	3477	442	459	17633
Influenza Like Illness	80	1	45		40	2586	147	2899
SARI	2890	195	2174	86	2178	1013	818	9354

Organisation unit	Koshi Province	Madhesh Province	Bagmati Province	Gandaki Province	Lumbini Province	Karnali Province	Sudurpaschim Province	Total
Disease / Period	2021	2021	2021	2021	2021	2021	2021	
AGE	1530	1428	1292	427	1672	575	905	7829
Dengue	107	8	126	94	98	2	86	521
Kala azar	38	15	36		50	75	55	269
Malaria Falciparum			4		2	1	10	17
Malaria Vivax			1	2	4	2	16	25
Cholera		2			17			19
Diphtheria				1				1
Encephalitis	6	2	2		2			12
Enteric Fever	188	556	260	45	307	22	200	1578
Scrub Typhus	194	47	298	60	641	23	738	2001
Hepatitis-Acute Jaundice	16		22		97		1	136
Leptospirosis			2		15			17
Meningococcal Meningitis	5	5			21		1	32
Suspected Measles Like Illness	1			2		1		4
Viral Haemorrhagic Fever							1	1
Other	17		35	7		435	156	650
N/A	7	5	13	2	9		9	45
Total	7139	2300	14759	1436	8630	5177	3602	43043

Source: EWARS, EDCD

Reporting Status of the Sentinel Site

In regards to the performance of the sentinel sites based on the reporting status for all the epidemiological week, Sudurpaschim Province (68.5%) performed better compared to the other provinces as shown in 13 sentinel sites reported consistently throughout the epidemiological week in 2021. Most of these were from the Bagmati Province which also has the highest sentinel sites for EWARS reporting.

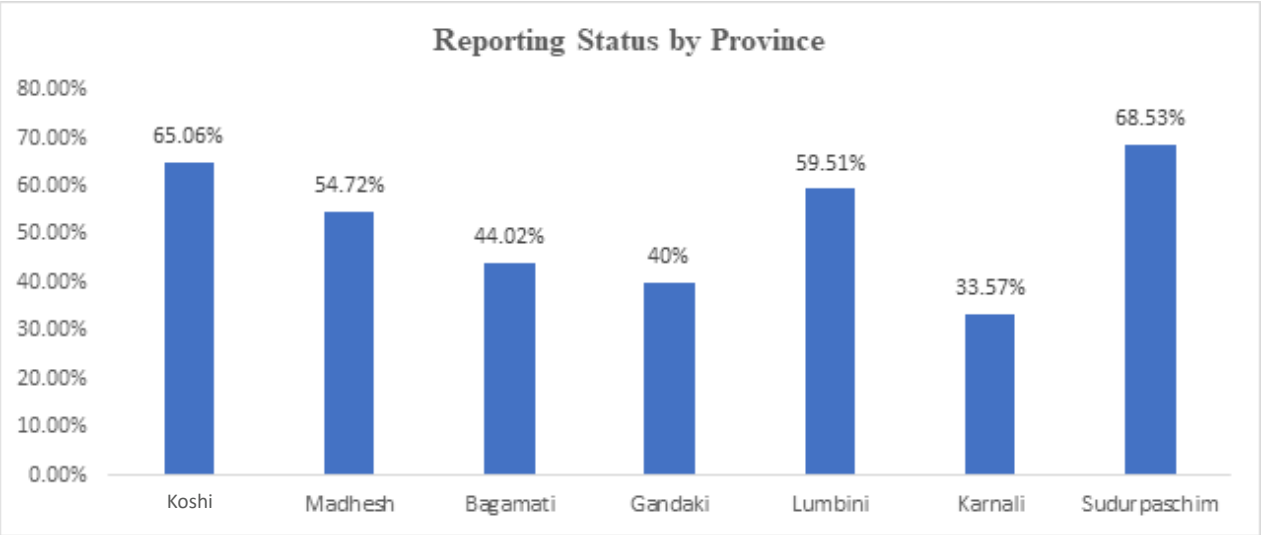


Figure 5.1.13.2 Reporting Status of the Sentinel Site

List of Sentinel Sites with 100% reporting rate on 2021 (EPIDEMIOLOGICAL WEEKS-52)

- District Hospital Illam, Illam, Koshi Province
- Koshi Hospital, Morang, Koshi Province
- Janakpur Provincial Hospital, Dhanusha, Madhesh Province
- Kanti Children Hospital, Kathmandu, Bagamati Province
- Sukraraj Tropical and Infectious Hospital, Kathmandu, Bagamati Province
- Nepal Mediciti Hospital, Kathmandu, Bagamati Province
- Om Hospital and Research Centre Pvt. Ltd., Kathmandu, Bagamati Province
- Patan Academy of Health Sciences, Lalitpur, Bagamati Province
- Lamjung Community Hospital, Lamjung, Gandaki Province
- Rapti Academy of Health Sciences, Dang, Lumbini Province
- United Mission Hospital, Palpa, Lumbini Province
- District Hospital Bajhang, Bajhang, Sudurpaschim Province
- Seti Provincial Hospital, Kailali, Sudurpaschim Province

Drinking Water Quality Surveillance

The revised National Drinking Water Quality Surveillance Guideline 2076, envisages surveillance of drinking water quality at central, provincial and local level through the Ministry of Health and Population and underlying institutions. EDCD, being secretariat of the National Drinking Water Quality Surveillance Committee, drinking water quality surveillance related activities are conducted through this section at central level. It is solely responsible for Drinking Water Quality Monitoring and Surveillance from various sources and distribution sites of central level drinking water projects.

Key Activities

For dissemination of the information about the roles and responsibilities at central, provincial and local level as guided by revised National Drinking Water Quality Surveillance Guideline, 2076, national and provincial level guideline dissemination on drinking water quality surveillance was conducted at central and provincial level. During dissemination of guidelines, the water quality surveillance committee was formed at Lumbini and Bagmati Province along with field level monitoring/inspection, collection of water samples for water quality surveillance from Water Safety Program implemented sites.

As a part of regular water quality surveillance and monitoring of water quality during outbreak of diarrhea diseases, 83

drinking water samples were collected from different water sources inside Kathmandu valley for monitoring. Out of total samples collected, where 42% of samples were found to be contaminated with Escherichia Coli. In addition, drinking water quality surveillance and water sample testing for microbiological parameters at sub-national level is done with coordination through provincial health ministers/ directorates and associated ministries.

Similarly, to enhance and strengthen drinking water quality surveillance at sub-national level, Masters Training of Trainers was conducted for 21 laboratory staffs and focal persons from seven provinces on water safety plan, drinking water quality surveillance and N-WASH (digital tool for water supply and quality management) with support of line ministries and partners.

EDCD Call Center

EDCD call center was established on 18th of February 2020, as per the agreement made between the Ministry of Health, Department of Health Services, EDCD and WHO. The call center was established with the purpose of collecting inquiries concerned with Government of Nepal, Ministry of Health and Population, Department of Health Services, Division of Epidemiology and Disease Control, related to COVID-19 pandemic, communicable and non-communicable diseases, complaints related to health services, suggestions related to health services and for improvements to be made related to spreading of rumors in order to address these issues immediately through related agencies to provide quality and effective service delivery.

This call center is considered as a national call center and its hotline toll free number is 1115. People from all over Nepal can call the 1115 hotline number from 8 am to 8 pm. Operation hours of the call center can also be changed, according to needs and circumstances. Anyone who has a query about an epidemic or health-related incident in the community, those who want to receive health-related information or those who want to verify any information related to the epidemic can call the call center for free.

Thousands of phones call every day with various queries and questions confirming the importance of the call center. Call center staff address these queries immediately. However, in case of any new question or misconception, they seek help from doctors and experts from WHO and EDCD to address the issue. From 16 July 2021 to 16 July 2022, more than 132,687 calls have been received, 119,182 calls have been answered and more than 17,939 times the IVR recording has been listened to.

Scope of work

However, due to the situation of COVID-19 pandemic, the call center is more focused on activities related to COVID-19, but there are three main working area of call center:

Alert and Response System:

An Alert and Response System (ARS) is a system that provides timely and systematic information and management of any event that may directly or indirectly affect human health in the community. It monitors and notifies both known and unknown events affecting human health. Some events may have occurred in the past and may now be a sign of recurrence, while others may be new. The Alert and Response System monitors, informs, and manages all such issues. Such events may have been witnessed, experienced by others in the community or may have been reported on social media. Anyone who has information about such a type of event, can immediately call the toll-free call center 1115 to report about the event or can email or send an SMS to the call center.

As soon as such events are recorded in the call center, the call center immediately informs the concerned team of ARS for the event verification and gets back essential information about the event from the ARS team and the call center provides that essential information to the community people through call and SMS.

General response

Even in normal situations, people can call the call center if they have any health-related queries or want to get any health-related information. Such inquiries or information may be directly or indirectly related to human health. In such a case, if the call center staff already have information regarding the issues, they will provide information otherwise they will send the query to the concerned department and get the information about it and will make the information available to the community people. Those types of calls may be about communicable disease, non-communicable disease, nutrition, immunization, climate, disaster, zoonosis, or other health related issues.

All departments will also provide the updated and essential information to the call center on a regular basis. There will be regular orientation sessions to the call center staff on different contemporary issues. Every department will produce different knowledge materials and infographics based on the FAQ recorded by the call center.

Pandemic response

During the pandemic, call center activities will be mainly focused to respond to the queries related to the pandemic. There is a lot of confusion during pandemics, on the one hand the pandemic needs to be managed immediately and on the other hand all the queries of the community people need to be addressed by providing factual information. During the pandemic, various rumors, misconceptions, and myths can spread rapidly and such rumors, misconceptions and myths need to be identified and addressed in time otherwise wrong practice and behaviors can adversely affect the health of the people.

Call center is one of the best platforms to collect information from the community and to provide relevant information to the community during a pandemic. During this COVID-19 pandemic, the EDCD call center is more focused to address the queries related to the COVID-19 which is explained in detail here. This is how the call center works during every pandemic.

Function of call center

Currently focusing about the COVID-19 pandemic, EDCD call center have 3 major functions:

Attending incoming call

Callers from all over the country can dial 1115 to put their queries and agents are responding to the queries of the caller. The incoming call is free of the cost for the caller.

Thousands of phones call every day with various queries, questions and as well as rumors confirm the importance of the call center. Call center staff address these queries immediately. However, in case of any new question or misconception, they seek help from doctors and experts from WHO and EDCD to address the issue. For this purpose, a team of doctors and experts from the WHO, EDCD, National Health Education, Information and Communication Center (NHEICC) and other related bodies have been formed and are in function. They also help to increase the capacity of call center staff on a regular basis.

Objectives

- To provide the proper and relevant information about the COVID – 19 to the community people
- To minimize the risk about the COVID – 19 through rumor tracking
- For the contact tracing and reporting of suspected cases
- To help the community people to adopt the positive and proper practice to combat the risk of COVID - 19
- To identify about what types of myth and facts are spreading within the community
- To collect the other concerns related questions and complaints that community people have and provide relevant solutions

- To identify the trend of queries and situation of COVID – 19 and to take the appropriate method to minimize the risk
- To bridge the gaps between community people and MoHP, WHO or other service providing agencies.

Making outgoing call as a first call (case management)

Case investigation and contract tracing (CICT) are important for identifying, preventing, and minimizing the risk of infection during pandemics such as the COVID-19. It provides information on where, in what areas, in what conditions the infection is spreading and helps in identifying the current status of the infected. Similarly, CICT is equally important in identifying people who may have been in contact with infected people and to break the chain of infection by advancing their quarantine, testing and isolation process.

Prior to CICT, it is important to collect the essential information and provide the necessary suggestions to the infected people as soon as their test report is positive. Therefore, it was decided that the EDCD call center will do the Case Management process (first call) and get all the necessary information of positive cases across Nepal. Following the decision, from May 2021, the call center is also working to make outgoing calls for the case management.

Outgoing call activities provide case management information along with the demographic information of the person living either in isolation at home, at a hospital or in an isolation center. The information also includes what symptoms have appeared, whether they have been vaccinated or not, whether anyone else in the family has symptoms or infection and travel history of the infected to know where the infection may have come from. After getting this information through the first call, a case management report with detailed information is sent to the concerned District Public Health Office for further CICT process. This report can be also useful for further necessary research and assessment.

Similarly, the call center also does follow-up calls to the home isolation cases through outgoing calls to understand the situation of the infected people living in home isolation in the Kathmandu Valley. Another objective of a follow up call center is to address their queries, to provide them with necessary advice, to understand the risk of infection to anyone else living with them and to give necessary suggestions and provide information of symptoms. The follow-up call center also provides information about when and where to go for treatment and who to contact.

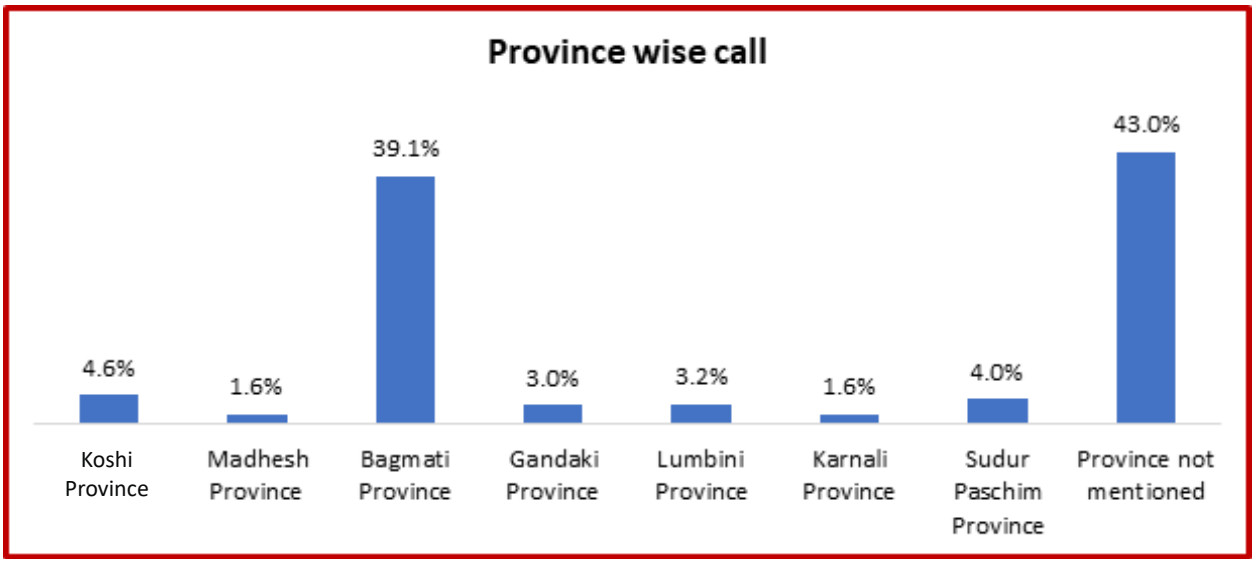
So far, through the extension call center, more than 4,05,000 people have been called for case management.

Objectives:

- To gather demographic, clinical, epidemiological, travel, exposure, vaccination and isolation details of a confirmed COVID-19 case
- To conduct follow-up calls to ensure:
- Cases are following isolation requirements
- Monitor changes in symptom status
- They are provided timely support should they develop any symptoms
- To identify any new infection among household contacts
- To provide psychosocial counselling during home isolation
- To identify and address the rumors, misinformation, concerns and complaints
- To provide emergency support during isolation period by referring HEOC, hospital and EDCD

SMS service

People also can send SMS (text message) to the call center with their queries, or they can report their positive details through SMS. As per need, a group SMS can be sent to the people to disseminate messages or to inform about any event.



5.1.13.3 Percentage of province wise incoming call received (from 16 July 2021 to 16 July 2022)
Source: Call Center, EDCD

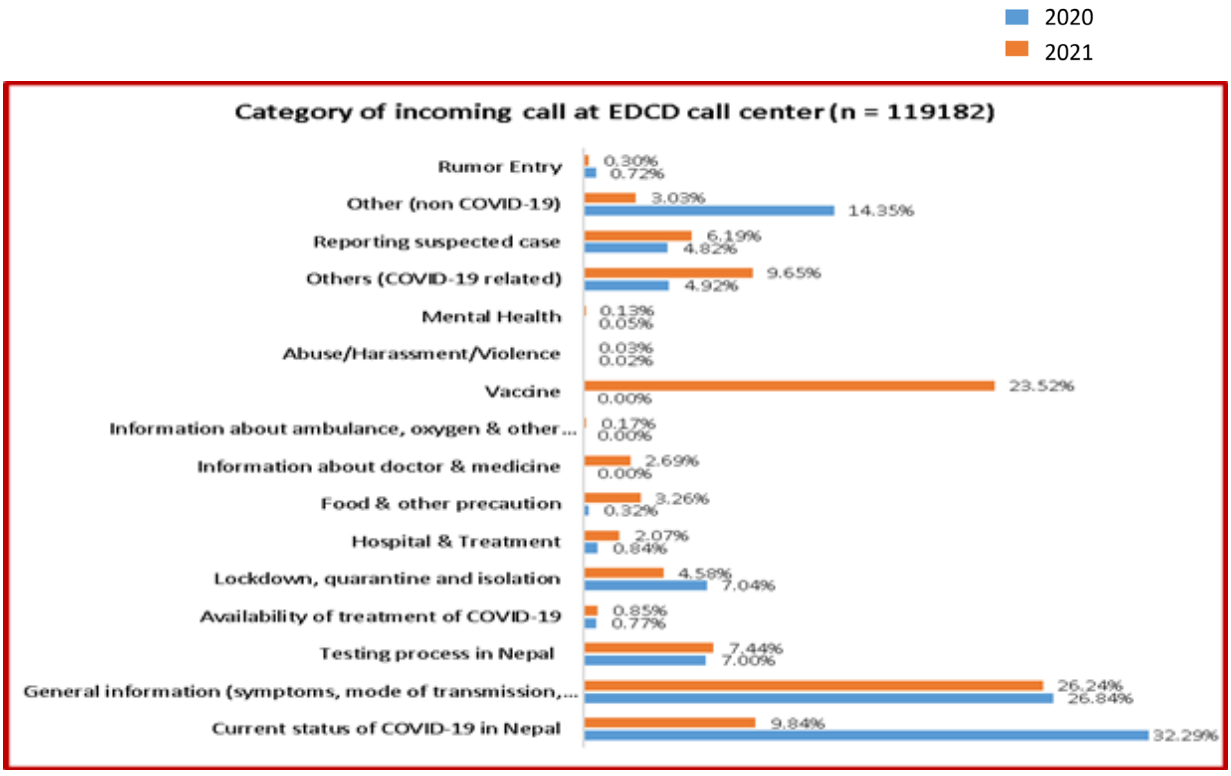


Figure 5.1.13.4 Percentage of incoming call received in different category (from 16 July 2021 to 16 July 2022)
Source: Call Center, EDCD

Climate Sensitive Disease Surveillance

The links between climate change and health are often complex and indirect – making the attribution of climate impacts on health outcomes challenging. The need for improved capacities for climate change adaptation through a climate-resilient health system has been realized in Nepal through several national policies and strategies like Health National Adaptation Plan (H-NAP) 2018, National health policy 2019 and Climate change policy 2019 among others.
Epidemiology and Disease Control Division (EDCD) with support from WHO has been strengthening its existing diseases

surveillance system from a climate change perspective. The Disease Surveillance and Research section at EDCD has initiated the Climate-sensitive disease surveillance (CSDS) program as its regular program. The CSDS program adopts measures to integrate meteorological data (temperature, precipitation, and relative humidity) and climate-sensitive diseases data (malaria, dengue, kala-azar, acute gastroenteritis, cholera, and severe acute respiratory infection) to monitor and forecast the probability of disease expansion. While strengthening climate-informed health surveillance, the program also promotes inter-sectoral collaboration among multi-sectoral data custodians and epidemiologists.

The key objective of the CSDS program is to strengthen a climate-informed disease surveillance system for developing early warning alerts and response mechanisms. Specific objectives to attain same are:

- Promote an evidence-based guided mechanism of “alert” and “response” system in EWARS
- Integrate climate and epidemiological dynamics to monitor and forecast the probability of disease expansion
- Develop a sustainable data sharing mechanism of climate & health data
- Establish a historic and prospective database of climate & health data

At the initial stage, EDCD is piloting the CSDS program in four sentinel sites across different ecoregions of Nepal i.e., Bharatpur hospital, Chitwan; B.P.Koirala Institute of Health Science, Dharan; Karnali Academy of Health Sciences, Jumla and Pokhara Academy of Health Sciences, Pokhara.

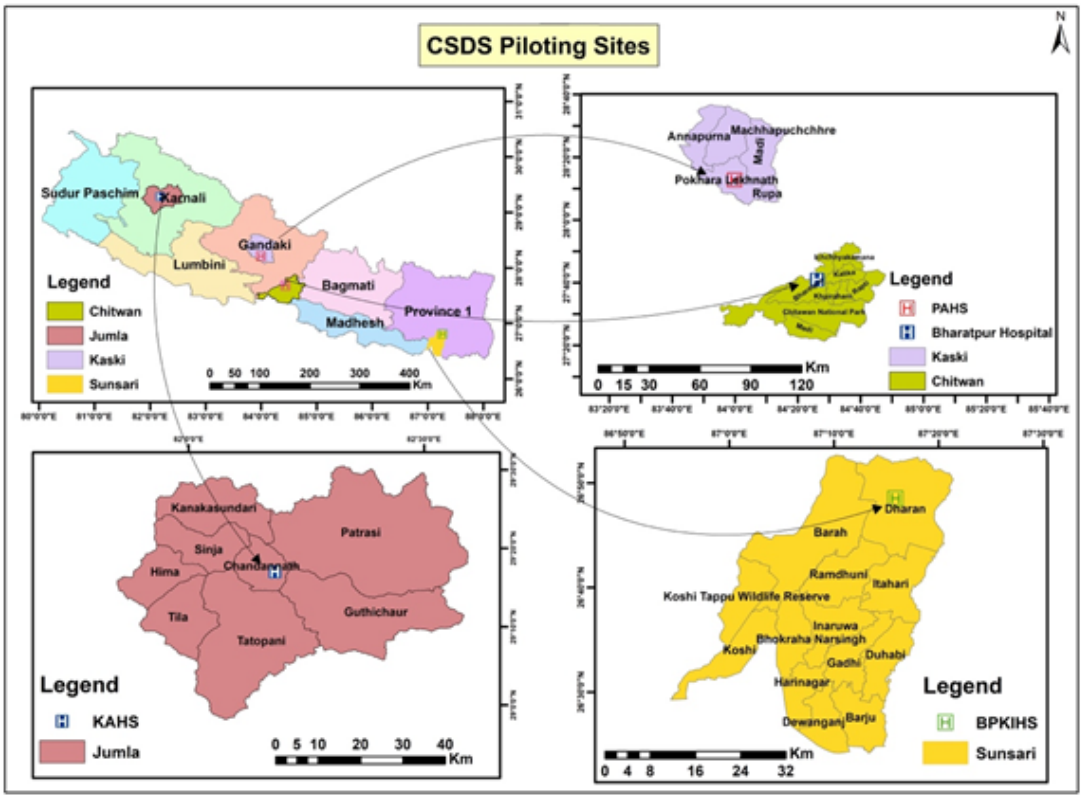


Figure 5.1.13.5 CSDS Piloting Sites

EDCD control room:

A control room is functioning regularly under the disease surveillance and research section of EDCD. Main activities of control room are:

- Maintenance of quality, accuracy, timeliness and completeness of data received from EWARS sentinel sites.
- Verification and triangulation of data sent via online reporting via DHIS-2 platform.
- Analysis of data from EWARS sites, monitoring of disease trends and notifying concerned authorities when outbreaks are suspected or predicted.
- Publication of electronic EWARS weekly bulletin and dissemination on Sunday to all key personnel of MoHP, DoHS, provincial health authorities, all sentinel sites and other relevant stakeholders. The bulletin is also uploaded to the EDCD's website.

A guide to Early Warning and Reporting System" was updated and disseminated in 2019 which can be accessed at EDCD website.

5.1.13.3 Key Issues and Recommendations

S. N.	Issues	Recommendation
1	Lack of prioritized notifiable infectious disease	Prioritization of notifiable infectious disease according to the Public Health Act, 2075 and International Health Regulation, 2005
2	Ambiguity on roles and responsibility on EWARS in federal system	Revision of Guidelines of Early Warning and Reporting System (EWARS), 2019
3	No proper drinking water quality surveillance information system	Development of user friendly information system for monitoring and surveillance of drinking water quality
4	Continuity of the call center	Incorporate call center for event based surveillance of epidemic/ outbreak prone disease regardless of COVID 19
5	Limited human resources	Provision of epidemiologist and information technologist.

5.1.14 COVID 19 Pandemic

5.1.14.1 Background

A wholesale seafood shop in Wuhan, China, was tied to a cluster of patients with pneumonia of unclear cause in December 2019. 1. On January 23, 2020, Nepal also reported its first case of coronavirus infection, three weeks after the cases in China were announced. Following a two-month hiatus, infection cases in Nepal were rising. The epidemic was deemed a Public Health Emergency of International Concern by WHO. 2 Many nations, including Nepal, started taking various preventive and control steps after the World Health Organization declared COVID-19 a pandemic on March 11, 2020. On March 24, 2020, a nationwide lockdown with school closures, border closures, a suspension of all international flights, quarantines placed on travelers returning to Nepal from abroad, and school closures went into force as a precaution. The nationwide lockdown ended on July 21, 2020. However, provincial, district, and municipal administrations continued to enforce lockdowns at the provincial/district/local level in response to an increase in infections and escalating deaths from COVID-19. There are nations where COVID-19 instances are rising globally, and the likelihood of a COVID-19 revival is considerably higher. As a result, the MoHP keeps spreading messages of public awareness and encouraging the adoption of public health initiatives.

5.1.14.2 COVID 19 Vaccination

In order to decrease COVID-19-related morbidity and mortality, the government of Nepal plans to immunize its citizens as vaccines become available, in stages, beginning with the groups at the greatest risk. As of the end of FY 2077/78, Government of Nepal has vaccinated 86% with the first dose and 87% with full dose/second dose to ≥12 year's population. Nepal reached the milestone of vaccinating 40% of the total population with full dose/second dose on 16 January 2022. Till date, Nepal has received 57,883,970 doses of COVID 19 vaccine from various sources. A total of 47,535,378 doses of COVID 19 vaccines of different types have been safely administered which includes 6,754,926 booster doses. From 03 April 2022 (20 Chaitra 2078) , the Government of Nepal has started vaccination for all the citizens ≥18 years who have completed primary series (full dose vaccination) with booster dose after three months of full dose vaccination. From 09 June 2022 (26 Jestha, 2079), booster dose was also started for 12-17 years after three months of full dose vaccination. The Government of Nepal has started COVID 19 vaccination (Pfizer) for the 5 to 11 years population in second phases from 23 June 2022. The status of COVID 19 vaccination status as of the end of FY 2078/79 is shown in the table below in all seven provinces.

- Brief Report: A Novel Coronavirus from Patients with Pneumonia in China, 2019. https://www.ncbi.nlm.nih.gov/pmc/articles/ PMC7092803/
- World Health Organization. Novel Coronavirus (2019-nCoV) Situation Report – 11 https://www.who.int/docs/default-source/ coronaviruse/situation-reports/20200131-sitrep-11-ncov.pdf?sfvrsn=de7c0f7_4

Table 5.1.14.1 COVID-19 Vaccines Vaccination Status

	COVISHIELD			Verocell			J&J		Pfizer			Moderna		
Province	1st Dose	2nd dose	Additonal Dose	1st Dose	2nd dose	Additonal Dose	Fully vaccinated	Adittional dose	1st Dose	2nd dose	Additonal Dose	1st Dose	2nd dose	Additonal Dose
Koshi	868,664	851,710	710,491	1,744,838	1,359,794	49,169	574,956	74,274	146,248	7,228	91,269	541,676	472,401	501,076
Madesh	1,242,584	1,055,144	472,843	1,656,093	1,443,210	56,385	818,500	58,314	238,152	17,417	56,288	758,070	648,655	197,829
Bagmati	1,223,470	903,912	867,460	2,819,216	2,603,747	133,201	730,676	27,136	559,293	215,818	152,242	381,272	322,738	121,100
Gandaki	429,344	404,115	488,620	985,298	982,546	74,374	338,262	17,617	77,795	3,539	30,020	271,674	245,511	96,230
Lumbini	1,029,017	930,748	1,083,039	1,628,247	1,533,692	66,492	547,009	41,233	357,331	16,345	22,917	611,235	571,569	248,540
Karnali	211,309	196,689	290,918	567,651	479,880	29,752	164,451	9,908	51,137	3,845	22,454	246,403	198,902	51,980
Sudurpaschim	401,981	339,320	346,663	937,597	806,645	48,170	291,348	26,095	131,207	11,633	109,406	391,954	352,613	179,510

5.1.14.3 Laboratory testing

A total of 108 RT-PCR laboratories have been established covering all provinces. Of which 54.6% are public and 45.4% are private. As of 32nd Asar 2079, a total of 5,783,543 RT-PCR (298,829 in FY 2076/77, 3,147,757 in FY 2077/78 and 2, 336, 4957 in FY 78/79). Also, 252,054 antigen testing has been performed in FY 77/78 and 9,98,563 in FY 78/79. Half of the laboratories are functional in Bagmati province. Sudurpaschim and Karnali province do not have any private laboratories

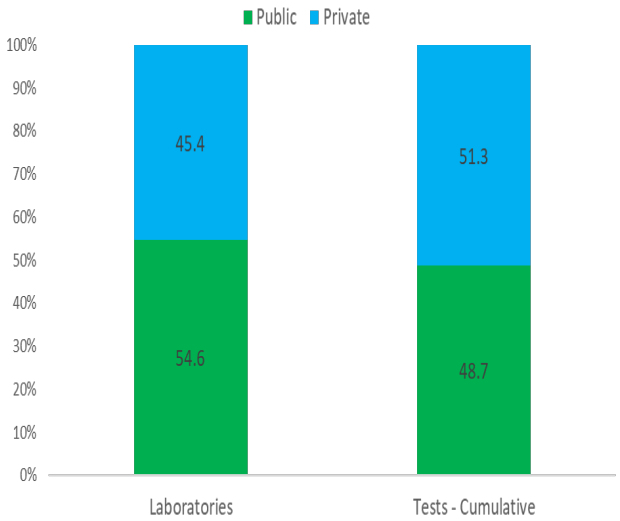


Figure 5.1.14.1: COVID 19 Lab and test

Table 5.1.14.2 Province wise distribution of RT-PCR testing laboratories distribution

Province	RT-PCR Testing Laboratories					
	Public		Private		Total	
	N	%	N	%	N	%
Koshi	4	44.4	5	55.6	9	8.3
Madesh	7	70	3	30	10	9.3
Bagmati	25	41.7	35	58.3	60	55.6
Gandaki	4	66.7	2	33.3	6	5.6
Lumbini	8	66.7	4	33.3	12	11.1
Karnali	4	100	0	0	4	3.7
Sudurpaschim	7	100	0	0	7	6.5
Total	59	54.6	49	45.4	108	100

5.1.14.4 COVID 19 Infections

At the end of fiscal year 2078/79, Nepal had total 9, 81,294 (17,177 in FY 2076/77 6, 45,393 in FY 2077/78 and 3, 18, 924 in FY 78/89) COVID-19 RT PCR positive cases. As of Asar 32, 2079, Nepal had a total of 1,385 active COVID-19 cases. The total number of single-day infections from both the RT-PCR and antigen tests was 205 cases. The case fatality rate was 1.2 percent, with a 98.6 percent recovery rate.

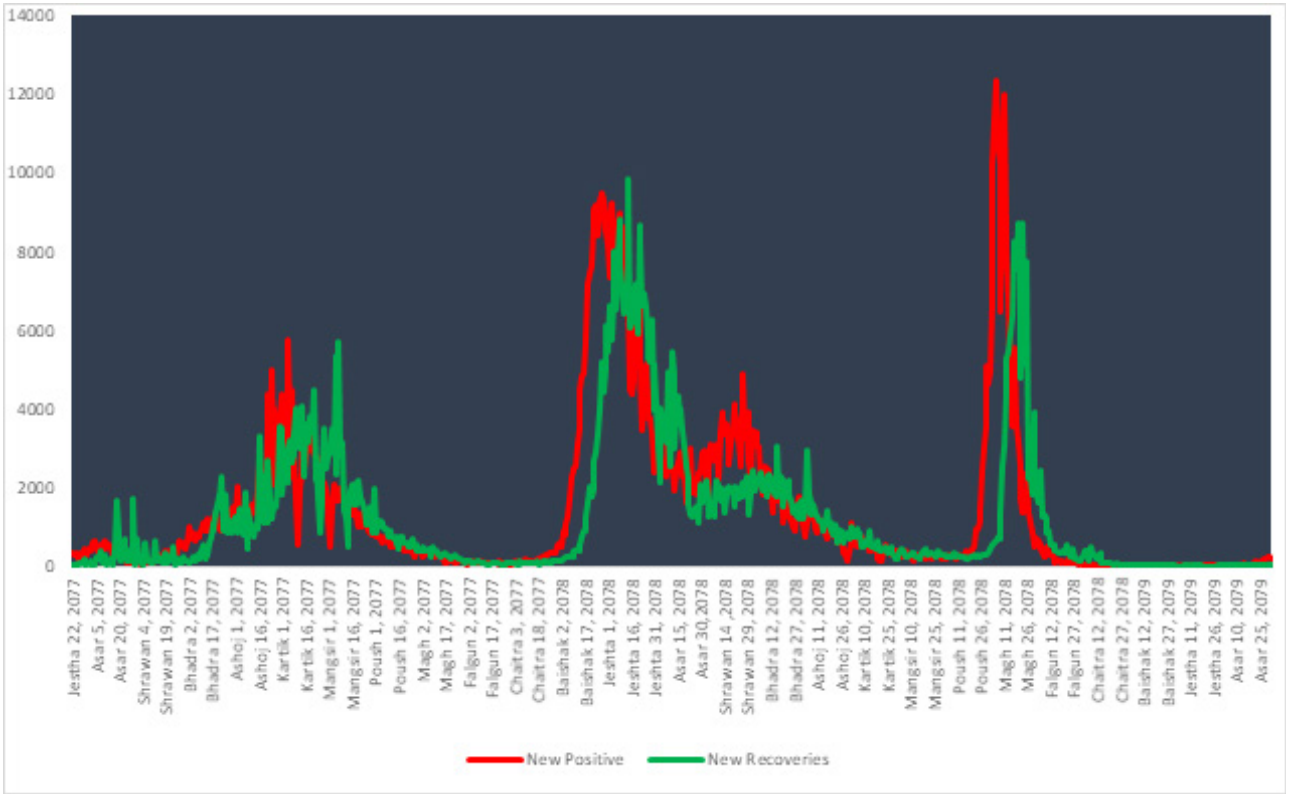


Figure 5.1.14.2: New Positive cases and new recoveries over the period of time (Jestha 2077- Asar 2079)

5.1.14.5 COVID-19 Mortality

As of Asar 32, 2079, a total of 11,952 COVID-19 related deaths had been registered in the system. Total 39 deaths were in FY 2076/77; 9,424 deaths in FY 2077/78; and 2,489 deaths in FY 2078/79. Higher number of deaths was observed in Bagmati. The prevalence of COVID 19 death was higher in males aged 60 and above.

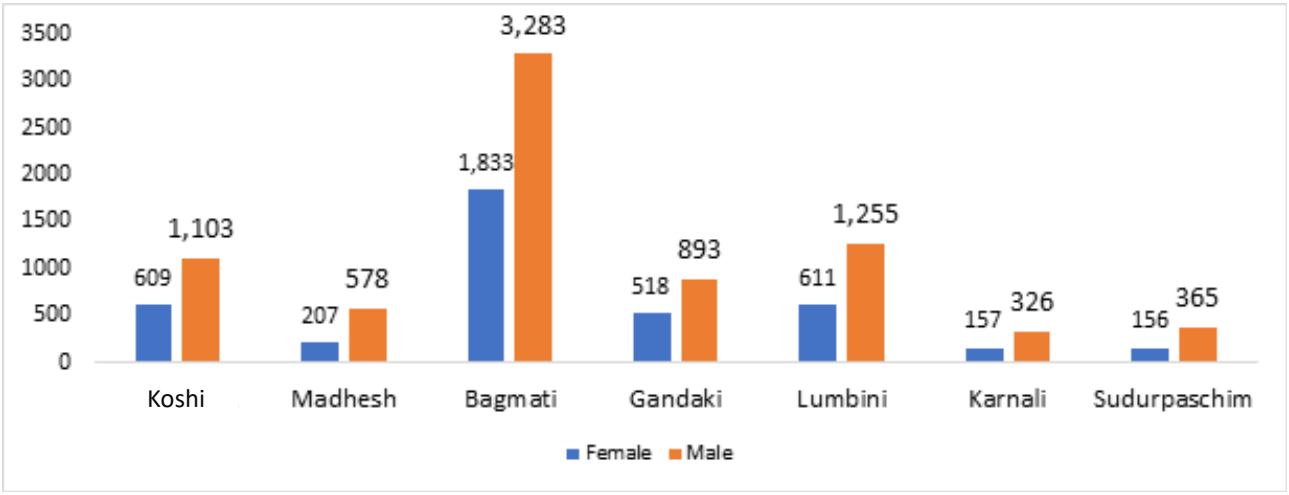


Figure 5.1.14.3:COVID-19 Deaths by Sex and Provinces [N=11,952]

Above figure shows the provincial distribution of COVID-19 deaths by gender. Male mortality is higher than female mortality in all provinces. The province of Bagmati has the highest number of deaths (n=5,116), followed by Lumbini (n=1,866). The province with the fewest deaths (n=483) was Karnali.

5.1.14.6 QR Code verification

The COVID vaccine certificate with a QR code serves as verification that the recipient has received the recommended dosage of the COVID vaccine. The Department of Health Services under the MOHP and the relevant local government's health departments have verified this certificate. The MoHP website, which can be accessed via the QR code, provides details on the beneficiary, the vaccine, and the immunization date.

Beneficiaries must first obtain a complete dose of the COVID vaccination in order to be qualified to apply for a COVID vaccine certificate with a QR code. Once they have a physical card, they can use https://vaccine.mohp.gov.np/ to submit an online application for a QR code. Beneficiaries are asked to provide the name and batch number of the vaccine on the form. Additionally, it requests information regarding the vaccination's time and place. Beneficiaries are required to supply the following papers after providing these details.

- Citizenship certificate/passport
- Passport-size photo
- COVID vaccine card

The beneficiaries receive a registration number after applying. If the names of the local government, vaccination center or stamp are illegible on the card, beneficiaries need to approach the vaccination center. Illegible documents lead to the rejection of the application for COVID vaccine certificates with QR codes. Although it is the intention of the government to offer the code to applicants promptly, the workload is so great that it can take up to seven days to validate and release the code. The Nepali government offers it as a complimentary service. Beneficiaries are not obliged to pay any money at any point during the application procedure, according to this. A step by step guide to the application process is as follows:

1. Log on to https://vaccine.mohp.gov.np
2. Complete the form by entering all the necessary information.
3. Upload your passport or citizenship certificate, one passport-sized photo, and the COVID vaccination card that was issued by the vaccination clinic.
4. Apply and submit it.
5. Take note of the registration number.
6. Log on to https://vaccine.mohp.gov.np/ check the status of the verification to download the certificate.
7. Download the certificate by entering the registration number

As of the end of FY 2078/79 a total of 695,144 people have taken QR certification. Map below shows the number of certifications by province. Bagmati province verified the highest number of QR certificates with 275,854, followed by Madesh Koshi41,114. Sudurpaschim verified the lowest number of QR codes i.e, 13,542.

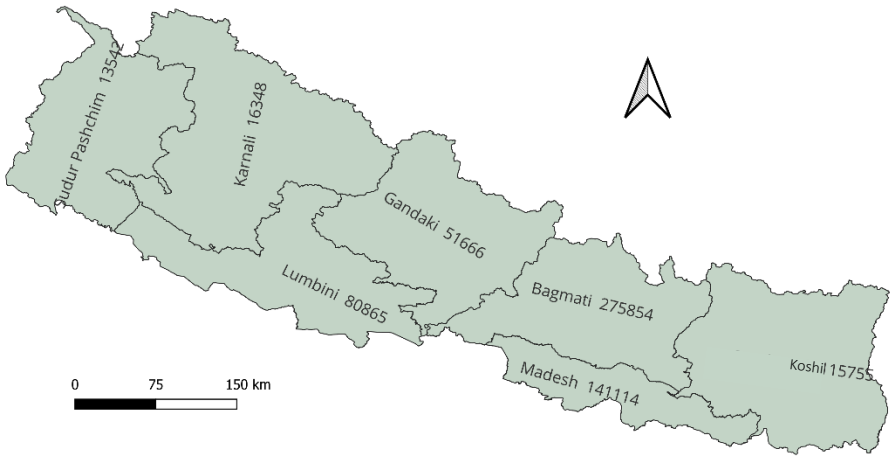


Figure 5.1.14.4: Number of QR codes certified by province
Data Source for map : IMU/IHIMS

NURSING AND SOCIAL SECURITY

Nursing and Social Security Division

Background

The Nursing and Social Security Division (NSSD) was established in 2075 B.S and is responsible for delivery of quality health services through capacity development of nurses and midwives, including planning, coordination, supervision, monitoring and facilitation for various aspect of nursing (school health and nursing services and community health nursing services) and midwifery; the evaluation of geriatric and gender based violence programme; along with treatment and management facilities for selected diseases to impoverished Nepalese citizens at listed hospitals. This division is also responsible for development and revision of Female Community Health Volunteer (FCHV) and other program related policy, strategy, standard, protocol and guideline.

Organizational Structure

The NSSD had three sections (Box 6.1). The specific functions of three section are given subsequently in three sub-heading:

Box: 6.1: Sections under Nursing and Social Security Division
• Nursing capacity development section • Geriatric and gender based violence management section • Social health security section

6. 1 Nursing Capacity Development

6.1.1 Background

The main responsibility of this section is to facilitate in the process of development of policies, strategies, plans, and programmes for strengthening various specialities of nursing and midwifery services. This section is also a focal point for national nursing and midwifery service and school health program, community health nursing programme. The specific functions of this section:

- Coordinate, collaborate and facilitate the concerned agencies for the development and implementation ofpolicy, strategy, standard, protocol and guideline to maintain quality in nursing service.
- Coordinate and facilitate the concerned agencies for the development of law, standard, protocol and guidelineto produce, deploy and mobilize qualified and competent human resources in the nursing profession.
- Capacity development of nurses working in the field of alternative medicine by developing standards of practice for quality nursing service.
- Coordinate and collaborate to develop policy, regulation, and guidelines regarding specialization in nursing care.
- Assist and help the concerned agencies in developing national health related policies, strategies, standards, protocols and guidelines etc.
- Conduct research related activities to develop quality in nursing education and nursing services including specialized nursing educations and care services.
- Coordinate and facilitate in the various study, research aimed for the enhancement of quality of community and midwifery educations and care services.
- Co-ordinate, communicate, collaborate and facilitate the concerned agencies for the development andpromotion of a new field/scope of nursing services like school health nurse.
- Coordinate and facilitate the concerned agencies for the development and promotion of community nursing care services.
- Coordinate and facilitate the concerned agencies for the development and promotion of midwifery education and its care services.
- Collaborate and coordinate with the concerned agencies in developing nursing and midwifery human resource

planning, capacity building, development, management.
- Develop the protocol of public health nursing and midwifery nursing care services.

6.1.2 Major Activities and Achievements in the Fiscal Year 2078/79

A. School health and nursing service programme

In the year 2076/77, as per the essence of National Health Policy, 2076, 15th five-year plan, Public Health Act, 2075 and National Education Policy, 2076, guidelines of school health and nursing service have been developed. Based on the guide- line, the programme was implemented in twenty-four (24) local levels where two hundred two (222) school nurses are deployed in one hundred twenty (120) schools in five provinces (Madhesh, Gandaki, Lumbini, Karnali and Sudurpaschim province). Details are given in the table 6.1.1 below.

Table 6.1.1 Number of schools covered in this programme

S.N.	Province	Number of school covered
1	Madhesh	38
2	Gandaki	30
3	Lumbini	36
4	Karnali	98
5	Sudurpaschim	20
Total		**222**

Induction training package for school health nurses has been implemented. Software for school health programmes was developed to keep record of provided services by the school health nurses. National review of school health nursing program was conducted to discuss the progress, issues and challenges of the program. This program has been successfully implemented in all of the schools and has achieved the set objectives like promoting healthy lifestyle by reducing the intake of junk food, awareness program regarding menstrual health, adolescent reproductive health and mental health. In the annual screening, the identified cases of different illnesses of Eye and ENT, dental and mental illness were referred to the health facilities. The major issues of the program are drop out of the school health nurses, ownership of the program by the local level and the use of the School health information system.

B. Implementation of three months Infection Prevention and Control (IPC) training based on blended modality

In fiscal year 2078/79, three months of IPC training was implemented. IPC is a practical and evidence-based approach to prevent the patients and health workers from harms caused by increasing Health Care Associated Infections (HCAIs) and the results of antimicrobial resistance. In order to expedite and monitor the IPC activities in hospitals and health facility centres, this training was conducted in coordination with National Health Training Centre (NHTC). Two batch IPC training has been conducted for 3 months duration (6 weeks of self-paced online modules and 6 weeks of clinical posting based on face to face training). In each batch 15 nurses were trained (total 30) from public and private hospitals. Each of the trainees are certified as IPC nurses after the completion of the three months course and the IPC nurse works as the focal point of IPC in their respective hospitals.

C. Implementation of leadership and management training on blended modality

In fiscal year 2078/79, e-based leadership and management training was implemented. The major objectives of this program are to develop leadership and managerial skills among nurses. The training package is in blended modality (3 weeks self-paced online module- 17 modules and 6 days' workshop). After the workshop, each of the participants has to do a change process in their respective organization. The participants are certified after the submission of the project work. Total 45 nurses were trained from public and private hospitals as well as academic institutions in three batches.

D. Implementation of orientation program for nursing educators regarding revised health related national documents

In this fiscal year 2078/79, orientation program for nursing educators about health related national documents were conducted. This orientation package included the review of existing health acts, policies, strategies and guidelines. It also included information related to the priority programs of the government. The objective of this program is to update the existing curriculum to bridge the gap between pre-service education and service delivery. Total 283 nursing educators from public and private nursing colleges were orientated. This program conducted 4 batches inside the valley and 6 batches outside the valley.

E. Community health nursing program

In this fiscal year 2078/79, community health nursing programs were implemented in two of the municipalities guided by the Community Health Program guideline, 2078. The objectives of the program are to promote healthy lifestyle from community level and provide promotional, rehabilitative and palliative care in a life cycle approach. Community health nurses (CHN) are allocated their working area and in the first phase they collected the baseline data from every household member of her area. The baseline data includes socio- demographic information, and health related information. The second phase will be an intervention phase focusing on screening, referral and follow up of mental health, non-communicable diseases, child health, RMNCH, breast and cervical cancer cases. This program is started in two municipalities (Bhaktapur and Bardibas) with recruitment of 10 nurses in Bhaktapur and 14 nurses in Bardibas with community health nursing officers in respective municipalities. Community health officer supervises the activities of the CHN and prepares a monthly report. Community health information system software has been developed for this program. This system has been supported by Medic Nepal. This system includes the baseline assessment of each of the individuals of the household and the data of the interventional activities conducted by CHN. This program has been planned to scale up in a few other municipalities in the coming fiscal year.

F. On-site clinical coaching and mentoring program

In this fiscal year 2078/79, On-site clinical coaching and mentoring program for routine nursing skill was conducted. The objective of this program is to upgrade the skills of nursing professionals working in hospitals to provide quality health care. NSSD developed an onsite mentoring package and implementation of a mentorship program with the support of NHSSP, UK aid. The mentoring package includes three documents:

- 1. Reference manual and facilitator guide for mentor
- 2. Reference manual and handbook for mentee and
- 3. Implementation guideline for on-site clinical coaching and mentoring program

It has been developed based on the need assessment conducted in Bir hospital and Dadeldhura hospital. The result of the assessment gave the eight important nursing skills that need to be mentored. They are:

- Hand hygiene
- Pain management
- Post - operative nursing care
- Dressing
- Peripheral IV access
- Medication
- Patient admission
- Oxygen Therapy

This program was implemented in six government federal level hospitals (Bir hospital, Bharatpur hospital, Bheri hospital, Koshi hospital, Narayani hospital and Dadeldhura hospital). First 14 participants from the selected hospitals were developed as a mentor according to the mentoring package. After the mentors were developed, they conducted mentorship programs at their hospitals. Each of the mentors coaches and mentors their ward staff as mentees in the eight nursing skills and records the mentoring process and also reports to the NSSD. This program is planned to scale up in other hospitals of Kathmandu valley in the coming fiscal year.

Issues and Challenges

Issues and Challenges	Recommendations
Limited human resource	Need to full fill vacant post
Co-ordination, co-operation between intra and inter section	Proper co-ordination and co-operation
Ineffective supervision and monitoring	Need to prepare M&E plan

6.2 Geriatric and Gender Based Violence Management

Background

Geriatric and Gender Based Violence Management Section is working to develop policies, strategies, guidelines and programmes for the easy access of quality health services to senior citizens, women, men and children of the targeted groups ultra-poor, poor, helpless, people with disabilities and victims of gender-based violence.

The specific functions of this section are as follows:

- Coordinate, collaborate and facilitate with the concerned agencies for the development of policy, strategy, standard, protocol and guideline of home-based nursing and other care.
- Coordinate and facilitate with the concerned agencies for the development and promotion of health care services in the field of geriatrics.
- Coordinate and facilitate the delivery of quality health services to people affected from gender-based violence.
- Develop the standard, protocol and guidelines for the treatment and management of gender-based violence.
- Monitor and facilitate while needed to establish One Stop Crisis Management Centres (OCMCs), geriatric and social security unit (SSU).
- Coordinate with all concerned agencies, stakeholder's organizations that work in the field of geriatrics and gender-based violence management.
- Develop protocol, IEC materials for the delivery of quality health services with emphasis on geriatric friendly services from all types of health institutions; like public, private, community and others.
- Provide technical support and guidance for promoting capacity of health care workers in geriatric health care, social security units, and management of gender-based violence.

A. **Geriatric Services**

The Constitution of Nepal has ensured the right of the public to access free basic health care service and emergency services. It has also ensured that the elderly people will be entitled to special protection from the nation and are entitled to social security. So, to ensure the accessibility and utilisation of health services by older people, the Ministry of Health and Population (MoHP) is extending the geriatric health care services to hospitals with more than 50 beds in this fiscal year. MoHP has started the concept of separate geriatric ward from FY 2070/71 to provide easy health services and free medical treatment to elderly persons extend the services in the hospitals having more than 50 bed capacity and now the ward and OPD services has been extended to 49 hospitals across the country in this fiscal year.

Major Activities and Achievements in the Fiscal Year 2078/79

- The geriatric services along with establishment of separate geriatric ward and OPD have been expanded to 24 new hospitals in this fiscal year.
- Geriatric care centre implementation guideline and standard, 2077 has been developed and revised in 2078 in which older people with the many chronic health problems who need nursing care are the major service consumers. This guideline regulates the care homes and centres which provide long term care for the older persons.
- Geriatric review has been conducted in geriatric service available hospitals.
- Policy dialogue program related to geriatric health was conducted at the national level.
- This section provided 4 batch Primary Health Care Professionals training (nurses and paramedics) and one batch training to medical officers based on ICOPE.

Issues and challenges:

Issues and Challenges	Recommendations
• Limited Resources in government hospitals (limited bed capacity, limited space availability to adjust supportive geriatric equipment's).	• Expansion of geriatric services to other wards/department in hospitals and separate bed for geriatric services. Prioritize geriatric service as other services, like paediatric.
• Lack of human resources for geriatric services (Doctors, paramedics and nurses).	• Universities needs to produce geriatrician, and geriatric nurses. And create post in government sector. Provide induction and in-service training in geriatric health for medical officers, nurses, and paramedics.

B. **Gender Based Violence Management**

Gender-based Violence (GBV) is a grave human rights issue and public health concern which impacts the physical and mental health of the individual survivor and his/her children, and carries a social and economic cost to society. It is inextricably linked to the gender norms and unequal power relations between genders in society. Violence against Women and Girls (VAWG) is one of the manifestations of this gender inequality.

GBV cuts across caste-ethnicity, religion and socioeconomic status and is prevalent in all geographical settings, though in different forms and magnitude, making prevention and response crucial nationwide. The Nepal Demographic and Health Survey (NDHS, 2016) found that 22 percent of women aged 15–49 years had experienced physical violence at some point since age 15, while 7 percent had experienced sexual violence. The main perpetrator of physical or sexual violence was their husband or intimate partner. Reporting violence or seeking help is not common as survivors are reluctant to re-

port incidents to the authorities for fear of stigmatisation and further incidences of violence and lack of support services. Two-thirds of women who have experienced any physical or sexual violence have not informed anyone or sought help. The Government of Nepal (GoN) has taken significant steps in reforming laws and policies to combat GBV in the country. However, a deeply established social norm that excuses Violence against Women and Girls (VAWG) persists. The MoHP was tasked with Clause 3 of the National Action Plan against GBV (2010) to provide integrated services to survivors of GBV by establishing hospital based One-stop Crisis Management Centres (OCMCs).

- MoHP initiated the establishment of OCMCs in 2011. By the end of 2078/79, 88 OCMCs are established in 77 districts.
- Orientation of GBV program was conducted in Dhangadhi submetropolitian, Banepa municipality, Jaleshwor municipality.
- Orientation program was conducted on GBV related clinical protocol.

OCMCs are mandated to provide seven services to GBV survivors (see Box below). Information regarding the available services in the centre is also explained to the individual survivors of GBV.

Box 6.2.1 Services Provided through OCMCs

According to the Operational Guideline of OCMC, 2067 following seven kind of services are provided from OCMC through multi-faceted coordination with other agencies:

- Health services: Immediate and free treatment of physical and mental health needs of GBV survivors with OCMCs having to stock the equipment and the free health service medicines to provide these services.
- Medico-legal Service: Examination and reporting.
- Psycho-social service: Counselling to survivors and perpetrators.
- Legal service: Counselling and support to survivors through district attorneys and legal counsellors.
- Safe homes: By directing survivors to safe shelter homes.
- Security: By working with the police and district administration offices to provide security to survivors in hospitals, safe houses, and in their communities.
- Rehabilitation: By providing further counselling, education, vocational skills training and another livelihoods support.

Enabling Factors

The performance of different OCMCs has been varied. Experiences show that the following good practices enable the successful operation of OCMCs:

- Hospital leadership commitment to OCMCs is a key enabling factor for their success. Supportive leaders provide resources to OCMCs, generate commitment to GBV across the hospital, motivate staff and improve the quality of care.
- Good coordination between Police administration, and hospital centers leading to the effective referral of GBV cases to OCMCs, and between concerned personnel and agencies (hospital departments, counsellors, safe homes, police offices, legal aid committees, public lawyers, NGOs and rehabilitation centers).
- Quality of care: The orientation and training of stakeholders and staffs, the provision of 24 hours' service, the maintenance of client confidentiality and security.
- Widespread dissemination of information about OCMC services and GBV issues through FM radio, brochures and other media.
- Awareness raising: running of sensitization campaigns against GBV in local communities and schools.

Issues and Challenges

Issues and Challenges	Recommendations
• Limited awareness on gender based violence management among community people.	• Spread awareness on GBV among community people through multi sectorial collaboration.
• Limited awareness on availability of OCMC service in hospital among local level health workers and FCHVs.	• Provide orientation on GBV and OCMC service to all local level health workers and FCHVs.
• Limited funding for safe homes and rehabilitation service.	• Increase the funding and support by using central, provincial and local levels and also the relevant stakeholders.
• Limited availability of trained human resource in OCMC.	• Increase training on medico legal, clinical and psychosocial counselling for medical officers and nursing staffs working in OCMCs.
• Limited dedicated space for OCMC.	• Health centres must mandatorily arrange separate room as per the OCMC establishment and operation guideline.

C. Social Service Unit (SSU)

The Social Service Unit was established in fiscal year 2065/66 in central, regional, sub-regional and zonal hospitals. The objective of the SSU is to effectively facilitate and coordinate with hospital staff to provide free and partially free health care services to the target group (poor and ultra, helpless, people with disabilities, geriatric population, GBV survivors, emergency patient, people affected by disasters and natural calamities, marginalized and endangered tribal and tribes, female community health volunteers, malnourished children, sick prisoners brought by police, martyr's family, target people reorganized by local government) on a daily basis, and to manage their places of access to such services. Till FY 2078/79, 58 SSU have been established in public hospitals.

Issues and challenges

Issues and Challenges	Recommendations
• Limited resources	• Provision of availability of resources
• Poor recording and reporting	• Recording and reporting mechanism (electronic Database) should be established and timely reporting
• Poor supervision and monitoring	• Integrated supervision and monitoring of SSU with proper use of checklist in regular basis

6.3 Social Health Security

Background

The social health security Section was established in 2075 B.S. and is responsible for free treatment and management facilities for eight selected diseases to impoverished Nepalese citizens at listed hospitals under the scheme. The section also answerable for development and revision of FCHVs and other health related volunteer's policy, standard, protocol and guideline. The specific functions of this section (Box 6.3.1) are given below.

Box: 6.3.1 Social Health Security Section

- Develop the policy, strategy, standard, protocol and guideline etc. regarding easy access and provision of hospital-based services to the target population.
- Overall management of "Bipanna Nagarik Aausadhi Upachar Program"
- Develop, revise and update the policy, standard for FCHVs and other health related volunteers.
- Overall management of reimbursement program to hospitals for providing free service to Jana-yuddha, Jana-andolan ghaite, Madhesh/terai andolan ghaite, and bhukampa pidit.
- Overall management of reimbursement program to hospitals for providing free service to victims of acid attacks.
- Conduct trainings related to professional skill enhancement of health workers related to haemodialysis in cooperation with National Health Training centre.

A. Bipanna Nagarik Aushadhi Upchar Programme

Background

The goal and objective of this section are given below:

Box 6.3.2: Goal and objectives of the program

Goal: Managed the provision of free treatment to impoverished citizens.
Objectives:

I. List the hospitals for free medication and treatment services of impoverished Nepalese citizen under "Bipanna Nagarik Aushadhi Program".
II. Develop, revise and update the policy, standard, guideline and protocol for "Bipanna Nagarik Aushadhi Program".
III. Conduct professional development trainings for skill enhancement of health workers.

Major ongoing activities

The Impoverished Citizens Service Scheme of Social Health Security Section provides the following funding for impoverished Nepalese citizens to treat serious health conditions:

- Free treatment up to NPR 100,000 per patient via listed hospitals for severe diseases including cancer, heart disease, traumatic head injuries, traumatic spinal injuries, Alzheimer disease, Parkinson's and sickle cell anaemia diseases once in lifetime;
- Pre-transplant (HLA & cross match) test support up to NPR 50,000;
- Renal transplantation costs up to NPR 400,000 per patient;
- Medication costs up to NPR 100,000 for post-renal transplant cases;
- Free haemodialysis and peritoneal dialysis services;
- Free medical treatment for acute kidney infections up to NPR 100,000;
- Conducting training for empowering the health workers (nurses and paramedics) in regards to clinical as well as technical (machine -related) skills.

The following activities were conducted on a regular or ad-hoc basis in FY 2078/079 alongside the above-mentioned regular functions.

One lakh twenty-five thousand eight hundred and twenty-five (1,25,825) patients were managed in the provision of free treatment to impoverished citizens' services. Top most number of patients from Cancer (68,792), followed by Heart disease (26,231), Kidney (20,022), Traumatic Spinal Injury (4721), Traumatic Head Injury (3261), Sickle Cell Anaemia (2544), Parkinson's diseases (240) and these diseases rank 2nd, 3rd, 4th, 5th and 6th in number of patients whereas number of patients from Alzheimer diseases were 85 which was lowest in number under the provision of free treatment to impoverished citizen's services scheme. Details are in Table 6.3.1.

Table 6.3.1: Total number of impoverished patients (both new and old) provided with treatment support for serious diseases. 2078/079

	Listed diseases																							
	Hemodialysis		Sero-positive dialysis		CAPD		Medicine		Kidney transplant		cancer		heart		head injury		spinal injury		parkinson's		alzeimer's		Sickel cell anemia		total	
	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old
No of Cases	2221	3598	21	87	40	169	437	173	137	525	8903	6276	4342	307	294	110	606	273	12	37	2	3	140	1032	17155	12590

Source: NSSD, DoHS

Issues, and challenges

Issues and challenges	Recommendations
Insufficient budget/fund for impoverished Nepalese citizens to treat serious health conditions.	Identification of poor patients through a scientific basis Revision of policy to deliver specialized services for more than one time through the scheme Integration of Bipanna program to Health Insurance Board
The monitoring of public and private health facilities.	Establish a task force that supervise regularly to the public and private health facilities. Promotion of self-evaluation system by service delivery sites Frequent monitoring of service delivery sites in coordination with the experts
Over the time period increase in the number of non-communicable major diseases.	Government should plan more fund and programme on prevention of non-communicable diseases. Increase awareness on prevention and early detection of non-communicable diseases to the community
Limited human resources, technical and trained manpower. High turnover of trained manpower	Allocation of equitable resources, extension and expansion of specialized services to district level to cover all geographical level as per feasibility of program
Lack of indicators to determine impoverished citizen	Government should identify impoverished citizen and provide identity card.
Minimal intervention on preventive and promotive services	More focused programme on health promotion and prevention of non-communicable diseases
Inadequate coverage on treatment support by government in major diseases like cancer heart diseases, head injury and spinal injury	Integration of Bipanna program to Health Insurance Board Policies are revised to increase fund (risk-pooling) through insurance system
According to new government policy the program is to be conducted in cooperation with Social Health Security Section of NSSD and National Health Insurance Board, thus there are some difficulty in reimbursement as well as administrative work of government.	There should be a probable workshop between the two government offices for work divisions, roles and responsibilities.

B. Female Community Health Volunteer (FCHV) Program

Background

The Government of Nepal initiated the FCHV program in 2045/46 (1988/1989) in 27 districts and expanded it to all 77 districts thereafter. Initially one FCHV was appointed per ward and followed by a population-based approach that was introduced in 28 districts in 2050 (1993/94). Out of the total of 51,423 FCHVs recruited a total of 49,481 (as reported in HMIS) FCHVs are actively working in Nepal. The goal and objectives of the programme are listed in Box 6.3.3.

Box 6.3.3: Goal and objectives of the FCHV Programme

Goal

Improve the health of local community peoples by promoting public health. This includes imparting knowledge and skills for empowering women, increasing awareness on health related issues and involving local institutions in promoting health care.

Objectives

I. i) Mobilise a pool of motivated volunteers to connect health programmes with communities and to provide community-based health services,
II. ii) Activate women to tackle common health problems by imparting relevant knowledge and skills;
III. iii) Increase community participation in improving health,
IV. iv) Develop FCHVs as health motivators and
V. v) Increase the demand of health care services among community people.

FCHVs are selected by health mothers' groups. FCHVs were provided with 18 days (9 +9 days) and in fiscal year 2077/78 10 days basic training package has been developed and rolled out and 4 days' refresher training in every 4 years. After the training, they receive medicine kit boxes, manuals, flipcharts, ward registers, IEC materials, an FCHV bag, signboard and identity card. Family planning devices (pills and condoms only), iron tablets, vitamin A capsules, and ORS are supplied to them through health facilities.

The major role of FCHVs is to advocate healthy behaviour among mothers and community people to promote safe motherhood, child health, family planning and other community based health issues and service delivery. FCHV distributes condoms and pills, ORS packets and vitamin A capsules, treat pneumonia cases, refer serious cases to health institutions and motivate and educate local people on healthy behaviour related activities. They also distribute iron tablets to pregnant women.

FCHVs' role had been highly acknowledged by Nepal Government in achieving milestones of Millennium Development Goal 4 and 5 and expected the same in the era of Sustainable Development Goal by 2030 through contextual modification. Nepal government is committed to increase the morale and participation of FCHV for community health. Policies, strategies and guidelines have been developed and updated accordingly to strengthen the programme. The first FCHV programme strategy was developed in 2047 (1990) and was continually revised. In 2067 (2010), FCHV Programme strategy was rewritten to promote strengthened national programmes which underwent the first or the latest amendment in 2076. This amended strategy highlights the context specific revision like change in FCHV selection criteria, institutional arrangement to support FCHV program.

The government is committed to increase the morale and participation of FCHV for community health. Policies, strategies and guidelines have been developed and updated accordingly to strengthen the programme. The FCHV programme strategy was revised in 2067 (2010) to promote a strengthened national programme. In fiscal year 2064/65 the Ministry of Health and Population established FCHV funds of NPR 50,000 in each VDC mainly to promote income generation activities. FCHV are recognised for having played a major role in reducing maternal and child mortality and general fertility through community-based health programmes.

Facilities for FCHV

- A total of NPR. 10,000/- is provided to each FCHV as dress allowance every year.
- A travel allowance of NPR. 6,000/- increased to NPR. 12,000/- is provided to each FCHV as transportation cost every year.
- Since 2071/72 the government has allocated budget of NPR 20,000/- to each FCHV as an appreciation for their contribution during the farewell to FCHV over 60 years of age as recommended by health mothers' groups.
- International World Volunteer Day (5th December) is celebrated as Female Volunteer day every year.
- Government of Nepal bears the 50% of premium of health insurance for individual FCHV and also they are one of the target groups to receive service through Social Service Unit of Health Facilities.

Major activities in 2078/79

- New FCHVs basic training package pictures is replaced with colourful and revised.
- A travel allowance for FCHV increased from NPR 6,000 to NPR 12,000.
- Basic and refresher training for old and new FCHVs was done.
- Orientation and mobilization of FCHVs for national health programmes was conducted as per the programmes.
- Biannual FCHV review meeting was held at the local level and FCHV day celebrated on 5th December by every local levels.
- Dress allowance, appreciation amount during farewell and travel allowance was distributed as in previous years.

Major achievements in 2078/79

A. Trend of services provided by FCHVs

In fiscal year 2078/79, the number of mothers participating in health mother's group meetings increased whereas FCHVs distributed fewer pills, iron and Condoms, in comparison to fiscal year 2077/78.

Table 6.3.2 Trend of services provided by FCHVs

Services	2074/075	2075/2076	2076/77	2077/78	2078/79
Pills distribution (no. cycles)	697852	692,010	600,509	579834	549592
Condom distribution (pieces)	9006248	8,759,624	7,890,131	7828175	7513674
Iron tablet distribution	684191	718,285	593,080	555777	550699
Health mother's group meetings	517285	520,101	483,192	493197	541091

Source: IHMIS/DoHS

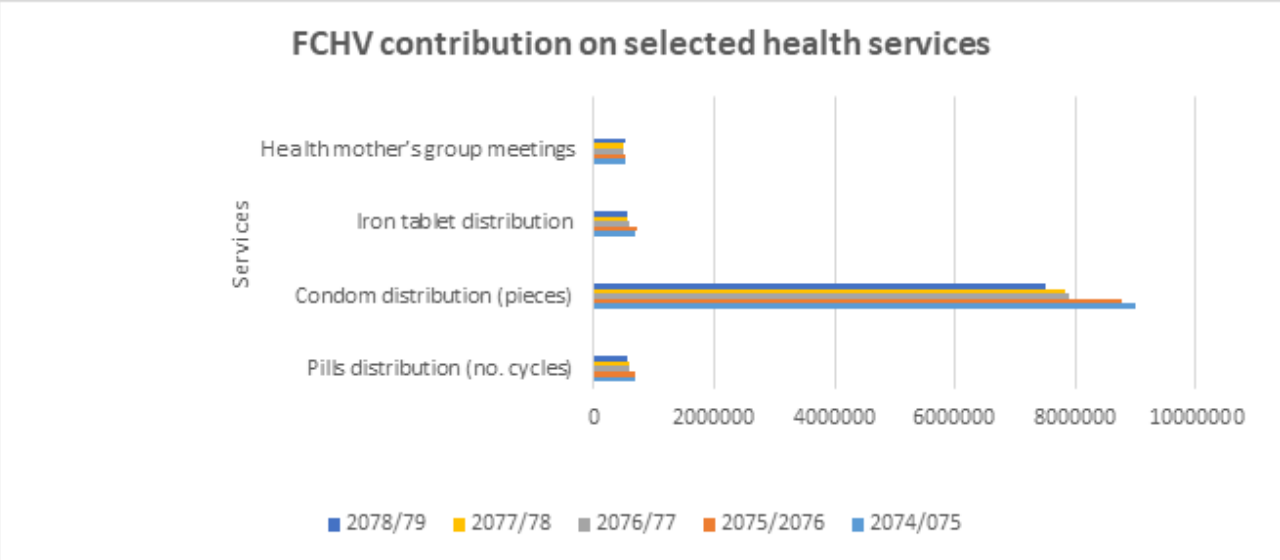


Figure 6.3.1: FCHV contribution on selected health services in FY 2074/75 to 2078/79
Source: IHMIS/DoHS

B. Support provided by FCHV for home deliveries

Even though the government of Nepal has the policy of mandatory institutional deliveries because of various reasons wom- en cannot reach up to health centres for delivery, so in case of any home deliveries in their locality FCHV provide support and care to the postpartum women and newborn. In 2078/79 they initiated baby to mother skin-to-skin contact after delivery in 46,601 cases, applied chlorhexidine to the umbilicus after delivery for 36,017 cases and ensured the taking of misoprostol for prevent post-partum haemorrhage in 7,496 cases.

Table 6.3.3 Support provided by FCHV for home deliveries, 2078/079

Province	Initiating skin-to-skin contact after birth	Chlorhexidine applied on umbilicus	Ensured misoprostol tablets taken
Koshi Province	7778	7252	2642
Madhesh Province	27025	18699	1862
Bagmati Province	3673	2971	1002
GandakiProvince	879	893	178
Lumbini Province	3176	2627	1000
Karnali Province	2709	2363	477
Sudurpashchim Province	1361	1212	335
National	46601	36017	7496

Source: IHMIS/DoHS

C. Post Natal visits and support to postpartum mothers

Apart from providing care and support during home deliveries, FCHV provides care and health counselling to postpartum mothers and encourages them for postpartum visits to institutions as per the national protocol. In 2078/79, FCHVs visit to support 43,146 new-born & postpartum mothers within 24 hours of birth 45,724 new-born and postpartum mothers on 3rd day of birth; and 44,633 newborn and postpartum mothers on 7th day of birth. During their visit they provide counselling on breastfeeding, danger signs of mother and new-born, care of new-born and mother.

Table 6.3.4 FCHVs support for home deliveries

Province	Home delivery-visit new-born & PP mothers- ≤24 hours of birth	Home delivery-visit new-born & PP mothers- 3rd day of birth	Home delivery-visit new-born & PP mothers-7th day of birth
Koshi Province	6475	7509	7657
Madhesh Province	24779	23895	22850
Bagmati Province	2927	3600	3806
GandakiProvince	886	1277	1299
Lumbini Province	3901	5188	5043
Karnali Province	2468	2468	2418
Sudurpashchim Province	1710	1787	1560
National	43146	45724	44633

Source: IHMIS/DoHS

D. Nutrition services provided by FCHVs at the household level

FCHVs also play a major role in reducing malnutrition among children and women of reproductive age groups. They help in initiating breastfeeding within 1 hour of birth and immediately provide Vitamin A capsule to postpartum mothers as well. Nutrition services provided by FCHVs in FY 2078/79 are as mentioned in Table below.

Table 6.3.5 Nutrition service provided by FCHVs at the household level

Province	Breast feeding<1 hour of birth	Distribution of postpartum Vitamin A
Koshi Province	9858	21287
Madhesh Province	27720	44759
Bagmati Province	3969	14862
Gandaki Province	970	6159
Lumbini Province	3473	13789
Karnali Province	3615	3080
Sudurpashchim Province	1520	6124
Nepal	51125	110060

Source: IHMIS/DoHS

E. IMAM services provided by FCHVs at the household level

Along with these services, FCHVs also assess the children under 5 years of age for acute malnutrition and then refer for further management as per their severity by measuring the Mid-Upper Arm Circumference (MUAC) of the children. FCHVs provided the screening service of acute malnutrition and IMAM services provided by FCHVs in 2078/79 are as seen in table no. 6.3.6. Screening of children through MUAC and categorized their nutritional status as follows are 6,472 SAM; 65,537are MAM while 580 are screened as oedema whereas 3,034,569 are screened for MUAC.

Table 6.3.6 IMAM service provided by FCHVs at the household level

Province	MUAC-Screening-Red-SAM	MUAC-Screening-Yellow-MAM	MUAC-Screening-Oedema	MUAC-Screening-Green-Normal
Koshi Province	290	4188	13	288709
Madhesh Province	2068	17173	125	593821
Bagmati Province	366	4734	271	660429
Gandaki Province	93	1057	23	152391
Lumbini Province	1184	11710	46	469792
Karnali Province	914	7683	86	175591
Sudurpashchim Province	1557	18992	16	693836
Nepal	6472	65537	580	3034569

Source: IHMIS/DoHS

Issues and Challenges

Issues and Challenges	Recommendations	Responsibilities
Low utilization of FCHV Fund	Strictly implement guidelines and local level should audit FCHV fund every year	NSSD, DHOs, HFs, Health Section of local level, rural municipalities, municipalities, sub-metro and metro municipalities
FCHV are not interested in farewell programmes	Rethink the farewell package Implement revised FCHV strategy (1st amendment 2076)	NSSD, DHOs, Health Section of local level, rural, municipalities, sub-metro and metro municipalities
Decreasing work performance of FCHV	Motivate FCHV through FCHV review meeting and orientation for FCHV on related program	NSSD, DHOs, HFs, Health Section of local level, rural, municipalities, sub-metro and metro municipalities

CURATIVE SERVICE

Curative Service Division

7.1 Curative services

7.1.1 Introduction

The curative Service Division (CSD) is one of five departments under the Department of Health Services (DoHS). After the Ministry of Health and Population restructuring and institutional reform supporting institutionalizing the federal system within the ministry, it has developed Terms of Reference (ToR) of different institutions to facilitate the process. In this context, since the beginning of the fiscal year 2075/76 Curative Service Division was established within the Department of Health Services. Previously, Curative Service Division was under Ministry, but now in the changing context, it dissolved and was established as CSD under DoHS.

According to the institutional framework of the DoHS and MoHP, the Basic Health Service Center (from an institutional perspective) is the first contact point for curative services. Each level above the HP is a referral point in a network from the Basic Health service center (Health Post) to Basic Hospitals, on to District and provincial hospitals, and finally to specialized tertiary hospitals. This referral hierarchy has been designed to ensure that the majority of the population will receive minor to specialized treatment in places accessible to them and at a price they can afford. Inversely, the system works as a support mechanism for lower levels by providing logistical, financial, supervisory, and technical support from the center to the periphery.

The overall purpose of this Division is to look after Curative Health Service activities through its three different sections, namely

1. Hospital Services Monitoring and Strengthening Section
2. Basic Health and Emergency Management Section and
3. Eye, ENT, and oral Health Section.

The primary responsibility of CSD is to provide essential health services free of cost, guaranteed by the Constitution of Nepal (article 35). CSD regulates and coordinates the establishment, operation, and upgrading of specialized tertiary hospitals. CSD also co-ordinates and provides eye, ENT, and oral health services.

7.2 Section under Curative Service Division and their key functions

7.2.1. Hospital Service Monitoring and Strengthening Section

- To assist MoHP by law, policy, guidance, quality standard, protocol formulation regarding hospital strengthening,
- To assist MoHP in the development of cooperation between private and public health institutions for effective health care service by formulating laws, policy, strategies and criteria,
- To facilitate the registration, renewal, and regulation of the specialized and tertiary level hospitals,
- To assist MoHP in the development of national policy, strategies, and guidelines regarding registration upgrades and monitoring of private and non-governmental hospitals, nursing homes, clinics, polyclinics,
- Continuous supervision and monitoring of the hospitals for optimum quality service,
- Management of radiation used in the health care sector as per national and international standard,
- To facilitate the development and institutionalization of the telemedicine service system,
- To assist MoHP in the development of health tourism by formulating laws, policy, strategies, criteria, protocols,
- To co-ordinate for development and management of national-level study, research, and training center,
- Formulate standard treatment protocol (STP),
- Develop a drug list and revise it according to need,
- Studying and monitoring drugs used in different hospital pharmacies and health facilities,

- Formulation of the standard on anti-microbial resistance and
- Preparation of training materials for the rational use of drugs and conduct training for health workers of various levels.

7.2.2. Basic Health and Emergency Management Section

- Define and effective management of Basic Health Services according to the constitutional system and provide them at free of cost,
- Determining the scope and criteria of basic health services,
- Supervision, monitoring, and evaluation of the quality of basic health services,
- Evaluation of the effectiveness of basic health services and co-ordinate to all levels of federal structure for continuous improvement by providing feedback,
- Modification and extension of basic health care services based on the emergence of diseases, availability of financial resources, and local needs,
- Conduct studies and research about basic health services,
- To facilitate for the formation of laws, policies, rules, criteria, protocols, and guidelines to make emergency health care service effective,
- To facilitate for the formation of laws, policies, rules, criteria, protocols, and guidelines regarding the referral system and
- To assist MoHP with the implementation, monitoring, and regulation of emergency service and referral services.

7.2.3. Eye, ENT and Oral Health Section

- To facilitate for the formulation of national policy, rules, standards, protocols, and guidelines related to Eye health,
- To facilitate the formulation of national policy, rules, standard, protocols, and guidelines related to ENT services,
- To facilitate for formulation of national policy, rules, standards, protocols, and guidelines related to oral health services,
- Evaluation of the effectiveness of Eye, ENT, and oral health and co-ordinate to all levels of a federal structure for continuous improvement by providing feedback,
- Facilitation and Co-ordination for integration with eye health, ENT, and oral health services to the national health service system and
- The study, research related to eye, ENT, and oral health services.

7.2.4 Minimum Service Standards for Hospitals and Health Facilities

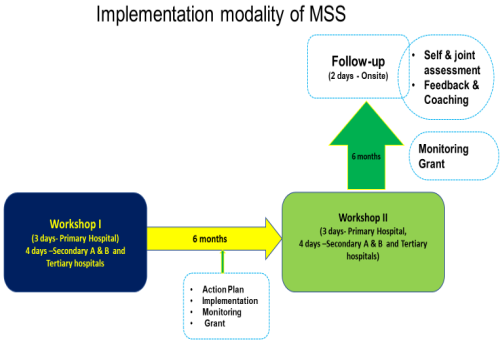
A Program that facilitates hospitals' attainment of quality-of-care standards

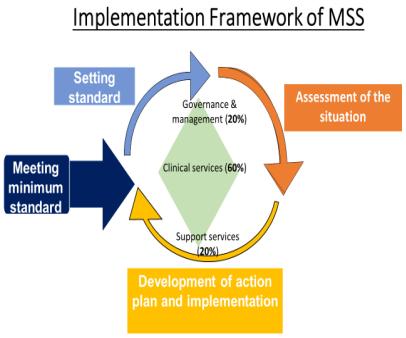
Ministry of Health and Population (MoHP), in collaboration with Nick Simons Institute, started Hospital Management Strengthening Program (HMSP) in district and district-level hospitals (DH) in FY 2071/72 (2014). It began as the piloting of Hospital Management Training (HMT) in 4-hospitals in 2013, a partnership between National Health Training Center (NHTC) and Nick Simons Institute (NSI) to support district hospitals. Considering its modality and coverage, the HMT training has converted into HMSP program in 2014.

This program is designed to identify existing gaps in readiness towards the quality improvement of hospital services through self and joint assessment using the Minimum Service Standards (MSS) tool and to develop an action plan scientifically. With the aim of the optimal preparation of the minimum set of standards for hospitals to provide services that they intend and claim to provide. This program was designed in phase-wise expansion in all levels of hospitals and health facilities.

After the implementation of DH MSS for four years, the district hospital MSS tool revised in 2018 with named as MSS for Primary hospitals, and new MSS tools for all levels of hospitals and health facility has been developed. Which include four categories of MSS for hospitals (Primary, Secondary A, Secondary B, and Tertiary level Hospitals) and Health Post as well. The eight sections of District hospital -MSS has framed into the three broad areas as follows:

- **Management and Governance,**
- **Clinical Services and**
- **Hospital Support Services**.





- There are altogether five sets of MSS Tools, including Health Post MSS (Basic Health Care Centre), Primary Hospital MSS (5,10,15 Beds Hospital, Secondary A Level (25-50 Bed General Hospital), Secondary B Level (100-300 Bed General Hospital) and Tertiary Level (Specialized Hospital). Each MSS tool has three major sections: Governance and Management, Clinical Service Management, and Hospital Support Service Management. The total standards and Score that are used to measure the Service Standard varies according to the respective tools.

- This MSS Score for hospitals measures the existing situation and enables to identification of the gap areas that are to be addressed through the development of the action plan that demands both technical and financial inputs and managerial commitments. The overall process is guided by its implementation guideline that describes sequences of self-assessment and follow-up workshops and gap identification for action plan development and striving for optimal MSS Score.

- Ministry of Health and Population strives to implement MSS in Health Facilities to establish enabling environment at service delivery points through preparedness and availability for quality service provision to the users. Not being an exhaustive list of facilities and services, hospitals are encouraged to strive for betterment and go beyond the defined set of minimum standards whenever their resources support them.

- Minimum Service Standards (MSS) for hospitals and health facilities were previously led by the Curative Service Division, Ministry of Health and Population. Now in changing context, as per ToR, this Program is led by Quality Standard and Regulation Division, Ministry of Health and Population, and the implementation is done by Curative Service Division, DoHS.

Phase-wise MSS implementation in all district-level hospitals

1. **FY 2071/72 (2014/15)**: MSS implementation workshop phase begins in 18 district hospitals.
2. **FY 2072/73 (2015/16)**: The workshop phase begins in 27 district hospitals.
3. **FY 2073/74 (2016/17)**: MSS implementation workshop in 30 district hospitals.
4. **FY 2074/75 (2017/18)**: MSS implementation workshop cycle completed in 75 district Hospitals and the Workshop phase begins in 8 upgraded hospitals. The process started for the revision of district-level MSS.
5. **FY 2075/76 (2018/19)**: MSS implementation workshop cycle completed in 83 district-level Hospitals. Revision of district-level MSS and develop 4 MSS for hospital and health post. Proceed for MSS approval and MSS data entry sheet development
6. **FY 2076/77 (2019/20)**: Approval and implementation of MSS in 101various levels of hospitals and health posts.
7. **FY 2077/78 (2020/21):** Implementation of MSS in 111 various levels of hospitals. Approval of MSS implementation guideline. Development of MSS software.
8. **FY 2077/78 (2020/21):** Implementation of MSS in 118 various levels of hospitals. Approval and use of MSS software.
9. **FY 2077/78 (2020/21): Initiated to establish 9 MSS implementation unit in Federal-2 and 7 in provincial health system.**

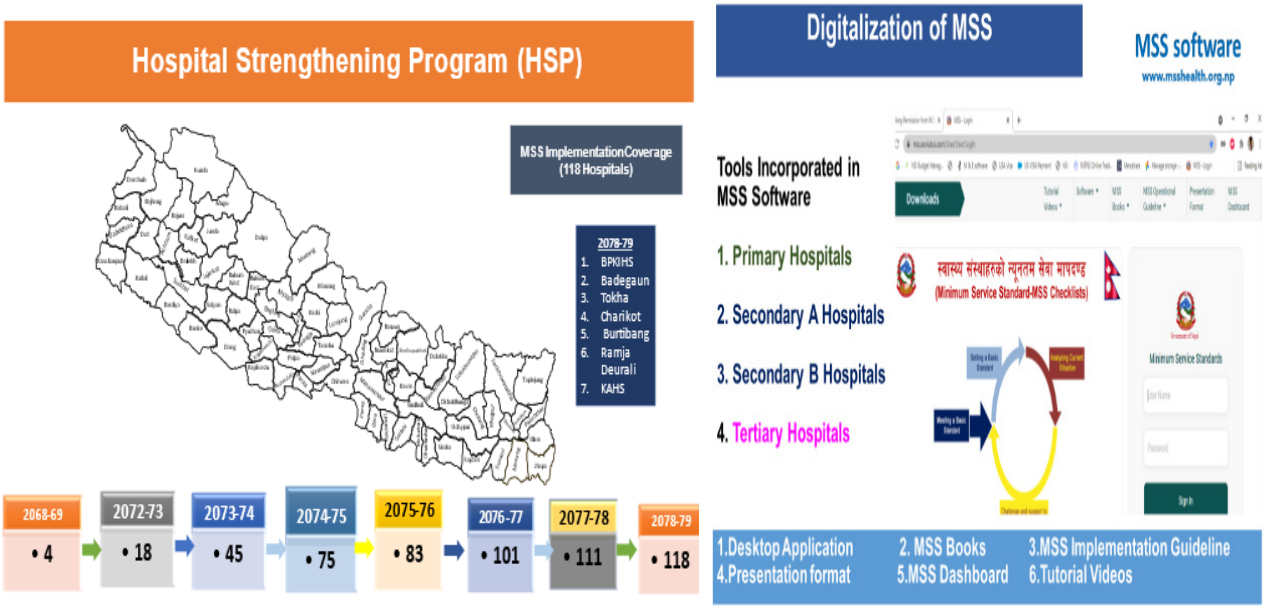


Figure 7.1 Hospital Strengthening Program Implementation Timeline

Nationwide coverage of HSP/ MSS implementation program in Primary, Secondary A, Secondary B and Tertiary Level Hospitals.

MSS has been implemented in 118 hospitals all over the country, including Seven new hospitals enrolled in MSS this fiscal year (). All MSS implementation workshops and follow up were conducted jointly with MoHP- DoHS /MoSD-PHD. The MSS orientation program was organized for recently upgraded Secondary A hospitals).

Impact of the Program at Hospital level:

Governance and management- Hospital service quality is in high priority of Federal, Provincial and Local government, allocating budget linked with MSS gaps. HMC is taking ownership of overall service improvement and expansion of hospital services. Most of the HMC chairperson and Me Su considered MSS a guiding document for quality health services.

Clinical Service Management: Considerable improvements in Diagnostic services- like Digital X-ray service, laboratory services with auto and semi-auto analysers, and expansion of its range of tests up to culture, T3, T4, TSH, HbA1c, and others. Some hospitals have started surgeries with a new setup of operation theatre, and few have upgraded their range of major surgeries.

Hospital Support Service Management: The establishment and upgrade of separate laundry, CSSD, housekeeping services, and autoclaving of contaminated waste are the novel achievements of primary and secondary A-level hospitals. Besides the routine services advocated by MSS, hospitals are motivated to establish additional services, as reported by the managers of hospitals during assessments. Remarkable milestones have been reached with regard to additional

services like intensive care unit (ICU) with ventilator, special new-born care unit (SNCU), crisis management centers, extended hospital services (EHS) with specialized.
Doctors, EHR (Electronic Health Record) services at some hospitals.

Grading of Hospitals with MSS Scores:

Trend of average MSS Score of hospitals as per level in the FY 2076/77 and 2078/79

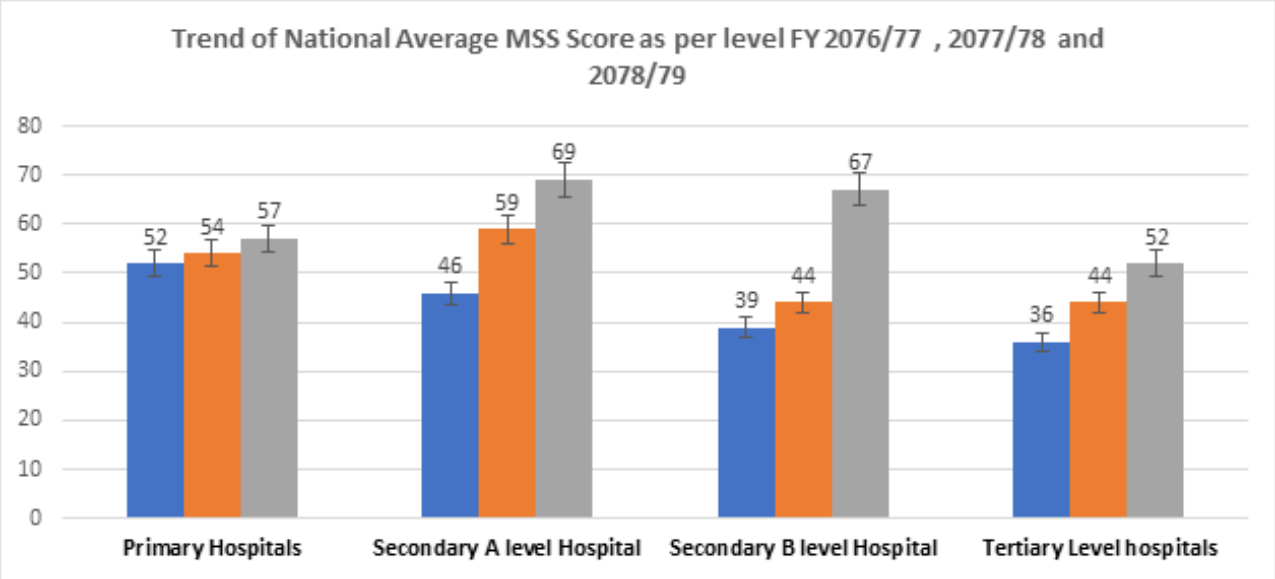


Figure 7.2 Grading of Hospitals with MSS Scores

As of now (FY 2077/78), a national average score of MSS in different levels of hospitals are as follows:

- Primary Hospital - 57%,
- Secondary A Hospital – 69%,
- Secondary B Hospital – 67 %and
- Tertiary hospital – 52%.

The above figure shows that the average MSS score trend is increased in all levels of hospitals highest being 28 % in secondary B, followed by 23% in Secondary A , 16% in Tertiary level hospitals, and a minimum of 5% in Primary level in the FY 2078/79 than baseline on FY 2076/77**.**

Province wise Average MSS
Province-wise Average MSS Score Secondary A Hospitals (National Average- 57)
core - Primary, Secondary level Hospitals with the latest assessment.

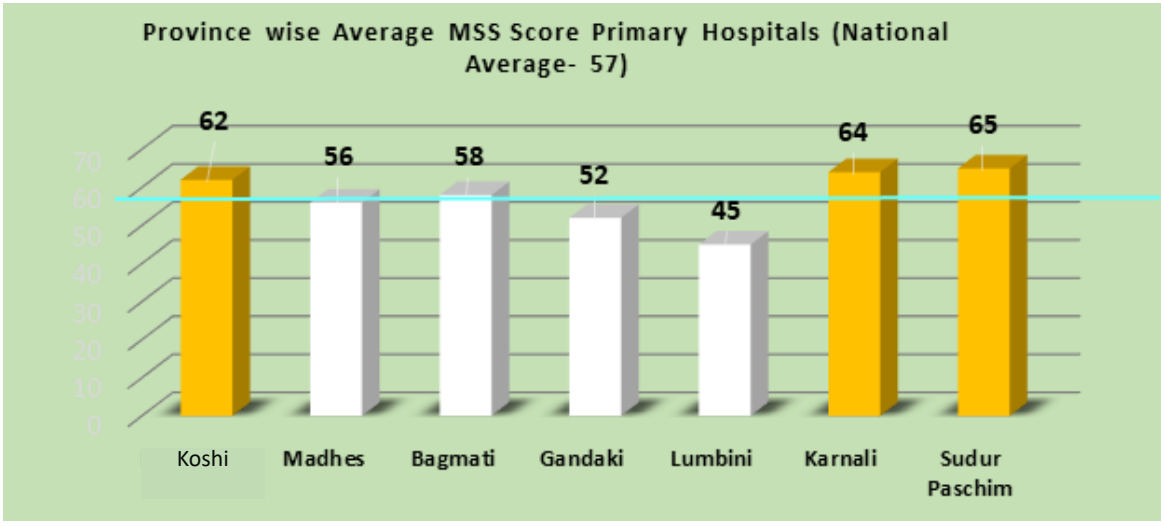


Figure 7.3 Province wise average MSS Score of Primary Hospitals

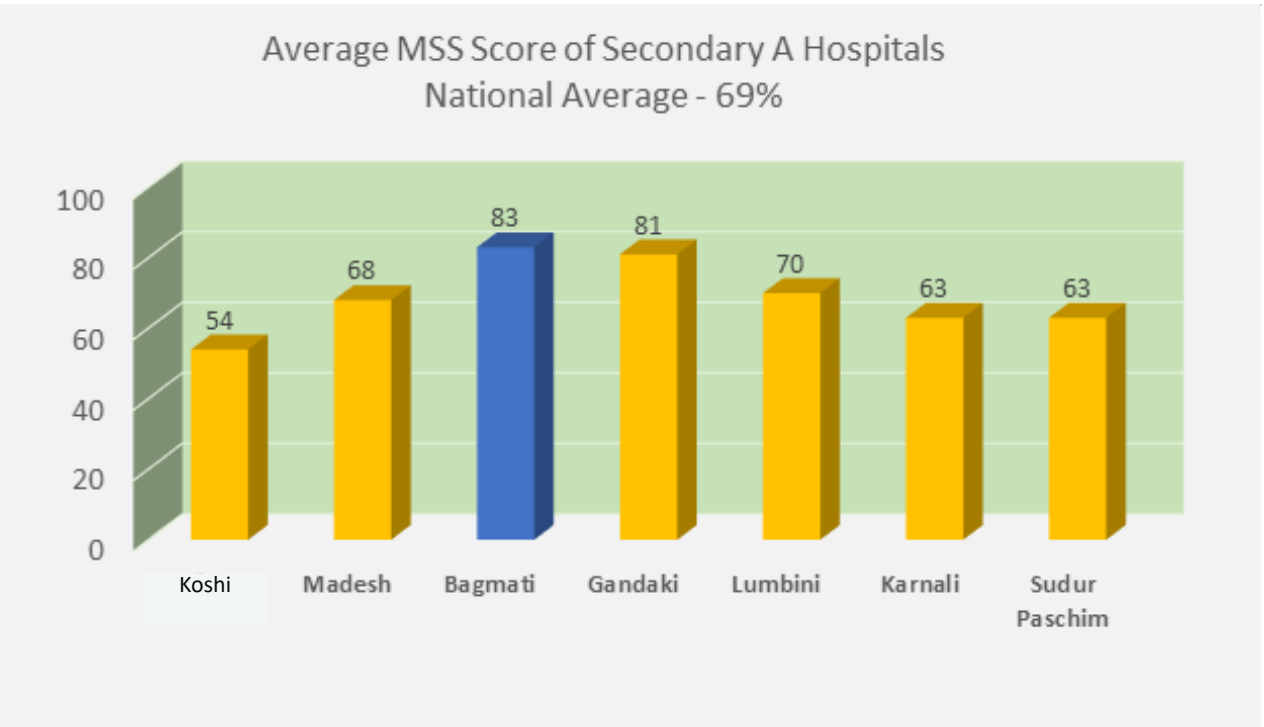


Figure 7.4 Province wise average MSS Score of Secondary A Hospitals

There are five provinces that obtained above the **national average of 57%,** with which the highest score of SudurPaschim Province (53%), followed by Karnali Province (64%), and Koshi Province (62%). The lowest average was secured by Lumbini Province (45%) in primary level hospitals.
Whereas in Secondary A hospitals, three provinces scored above the national average of 69%, Bagmati Province scored highest (83%), followed by 81 %/ 70 % by Gandaki and Lumbini Province. The lowest average score is secured by Koshi Province (54%).

Table 7.1 Top Ten Primary Hospitals (Based on Latest MSS Score FY 2078 / 79

SN	Hospital Name	Province	Section I	Section II	Section III	Total Score	Level	Governance
				Primary Hospitals				
1	Damauli Hospital	Gandaki	91%	92%	78%	89%	Primary	Province
2	Syangja Hospital	Gandaki	91%	89%	77%	87%	Primary	Province
3	District Hospital Bajhang	Sudurpashchim	83%	87%	77%	84%	Primary	Province
4	District Hospital Achham	Sudurpashchim	91%	84%	73%	83%	Primary	Province
5	District Hospital Taplejung	Koshi	82%	81%	82%	81%	Primary	Province
6	Parbat Hospital	Gandaki	72%	83%	73%	79%	Primary	Province
7	Dailekh District Hospital	Karnali	84%	80%	67%	79%	Primary	Province
8	Matri Shishu Miteri Hospital	Gandaki	78%	78%	77%	78%	Primary	Province
9	District Hospital Doti	Sudurpashchim	79%	77%	65%	75%	Primary	Province

10	District Hospital Bhojpur	Koshi Province	69%	85%	42%	73%	Primary	Province

Primary level MSS implemented in 63 hospitals in FY 2077/78. Damauli obtained the highest score of 89 % followed by Syangja 87%. Above table shows the top ten highest scored primary level hospitals

Table 7.2 Top Ten Secondary A Hospitals (Based on Latest MSS Score FY 2078 / 79)

SN	Hospital Name	Province	Section I	Section II	Section III	Total Score	Level	Governance
1	Trishuli Hospital	Bagmati	94%	93%	97%	94%	Secondary A	Province
2	Dhading Hospital	Bagmati	97%	92%	89%	93%	Secondary A	Province
3	District Hospital Lamjung	Gandaki	91%	92%	90%	91%	Secondary A	Province
4	Siraha Hospital	Madhesh	97%	89%	90%	91%	Secondary A	Province
5	Kapilvastu Hospital	Lumbini	87%	89%	81%	87%	Secondary A	Province
6	Bardiya Hospital	Lumbini	92%	86%	81%	86%	Secondary A	Province
7	Dhaulagiri Hospital	Gandaki	92%	86%	81%	86%	Secondary A	Province
8	Gulmi Hospital	Lumbini	88%	88%	77%	86%	Secondary A	Province
9	Bhaktapur Hospital	Bagmati	85%	86%	79%	84%	Secondary A	Province
10	Beni Hospital	Gandaki	93%	81%	78%	83%	Secondary A	Province

Secondary A level MSS implemented in 40 hospitals in FY 2078/79. Trisuli hospital scored the highest score of 94 % followed by Dhading 93%. Total 8 Secondary A level hospital succussed to obtained higher score range of 86%- 100%. Above table shows the top ten highest scorer Secondary A level hospitals.

Table 7.3 Ranking of Secondary B Hospitals (Based on Latest MSS Score FY 2078 / 79)

SN	Hospital Name	Province	Section I	Section II	Section III	Total Score	Level	Governance
1	Province Hospital Surkhet	Karnali	78%	77%	83%	79%	Secondary B	Province
2	Lumbini Provincial Hospital	Lumbini	70%	74%	81%	74%	Secondary B	Province
3	Janakpur Provincial Hospital	Madhesh	76%	56%	42%	57%	Secondary B	Province
4	Seti Province Hospital	Sudurpashchim	65%	54%	56%	57%	Secondary B	Province

Secondary B level MSS implemented in 4 hospitals in FY 2078/79, among them Province hospital Karnali scored the highest of 79 % followed by Province hospital Lumbini 74%. Above table shows the section wise latest MSS score of Secondary B level hospitals.

Table 7.4 Ranking of Tertiary hospitals (Based on Latest MSS Score FY 2078 / 79

SN	Hospital Name	Province	Section I	Section II	Section III	Total Score	Level	Governance
1	Bheri Hospital	Lumbini	85%	61%	64%	67%	Tertiary	Federal
2	Bharatpur Hospital	Bagmati	69%	59%	63%	62%	Tertiary	Federal
3	Pokhara Academy of Health Science	Gandaki	57%	64%	62%	62%	Tertiary	Federal
4	Bir Hospital	Bagmati	68%	45%	70%	55%	Tertiary	Federal
5	BP Koirala Institute of Health Science	Koshi	52%	55%	47%	53%	Tertiary	Federal
6	Dadeldhura Hospital	Sudurpashchim	63%	45%	60%	52%	Tertiary	Federal
7	Rapti Academy of Health Science	Lumbini	67%	46%	45%	50%	Tertiary	Federal
8	Karnali Academy of Health Science	Karnali	78%	40%	48%	49%	Tertiary	Federal
9	Koshi Hospital	Koshi	47%	45%	41%	44%	Tertiary	Federal
10	Narayani Hospital	Madhesh	46%	45%	36%	44%	Tertiary	Federal
11	Gajendra Narayan Singh Hospital	Madhesh	40%	30%	23%	30%	Tertiary	Federal

Tertiary level MSS implemented in 12 hospitals in FY 2078/79, among them Beri hospital scored the highest of 67 %, Above table shows the section wise latest MSS score of Tertiary level hospitals.

Hospital Strengthening Grant - Grant utilization status FY 2078/79

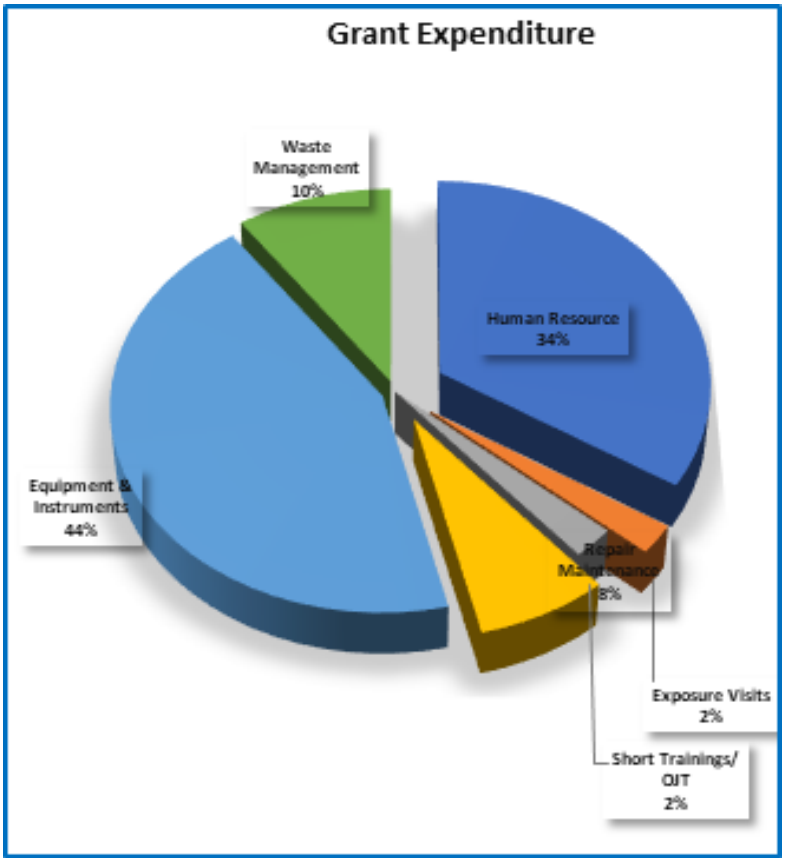


Figure 7.5 Grant utilization status FY 2078/79

Table 7.5 Distribution of Grant

SN	Distribution of Grant	%
1	**Total portion of grant used in Human Resource**	**34%**
1a	Total portion of grant used in Clinical Staff	27%
1b	Total portion of grant used in Non-Clinical Staff	7%
2	**Total portion of grant used in Exposure Visit**	**2%**
3	**Total portion of grant used in Short Trainings/ OJT**	**2%**
4	**Total portion of grant used in Repair & Maintenance**	**7%**
4a	Equipment Maintenance	1%
4b	Building Maintenance	6%
5	**Total portion of grant used in Equipment & Instruments**	**44%**
5a	Total portion of grant used in Clinical Equipment	32%
5b	Total portion of grant used in Non-Clinical Equipment	12%
6	**Total portion of grant used in waste management activities**	**10%**
7	**Total portion of grant used in other activities**	**0%**
	Total	**100%**

To facilitate MSS implementation, a complementary, flexible grant was provided to Primary and Secondary A level hospi-

tals. Grant utilization rate shows most of the hospitals are suffering from a scarcity of human resources, with 34% (27+7) of total grants being used for HR expenses in which they hire clinical and non- clinical staff to run the pharmacy, laundry, central sterile services department (CSSD), diagnostic, laboratory, nursing staffs for inpatient (IPD) services. 44% (32 + 12) grant has been used for equipment and instruments.

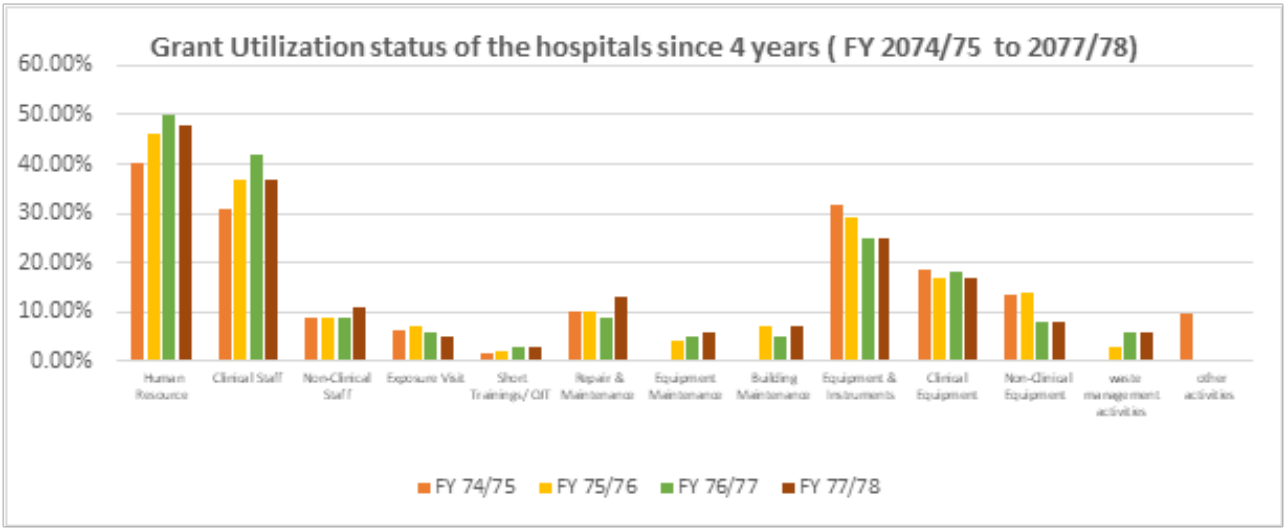


Figure 7.6 Grant utilization trend of the past four years

Grant utilization trend of the past four years shows most of the hospitals are suffering from a scarcity of human resources; almost 40% to 50% of total grants is being used to cover HR expenses each year in which they hire clinical and non-clinical staffs to run a pharmacy, laundry, CSSD, diagnostic, laboratory, nursing staffs for IPD services. 31% to 25% grant has been used for equipment and instruments, which are essential to provide day-to-day health care services. The specifics of the utilization of these grants will be useful for planning and budgeting of hospitals.

Table 7.6 Progress Status of the Secondary A Hospitals based on comparison of Latest MSS Score (Based on Latest MSS Score FY 2078 / 79)

Governance of Hospitals	Governance and management	Clinical services management	Support service management	Aggregate score	No of hospitals
Federal	61	49	51	52	11
Provincial	70	66	59	65	78
Local	50	43	33	42	29

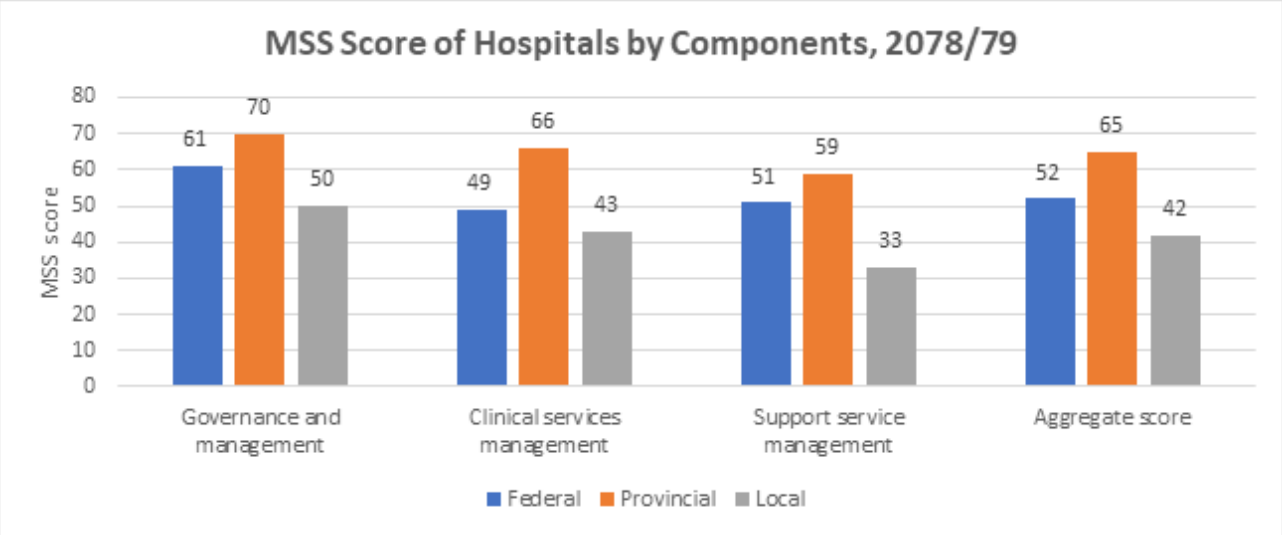


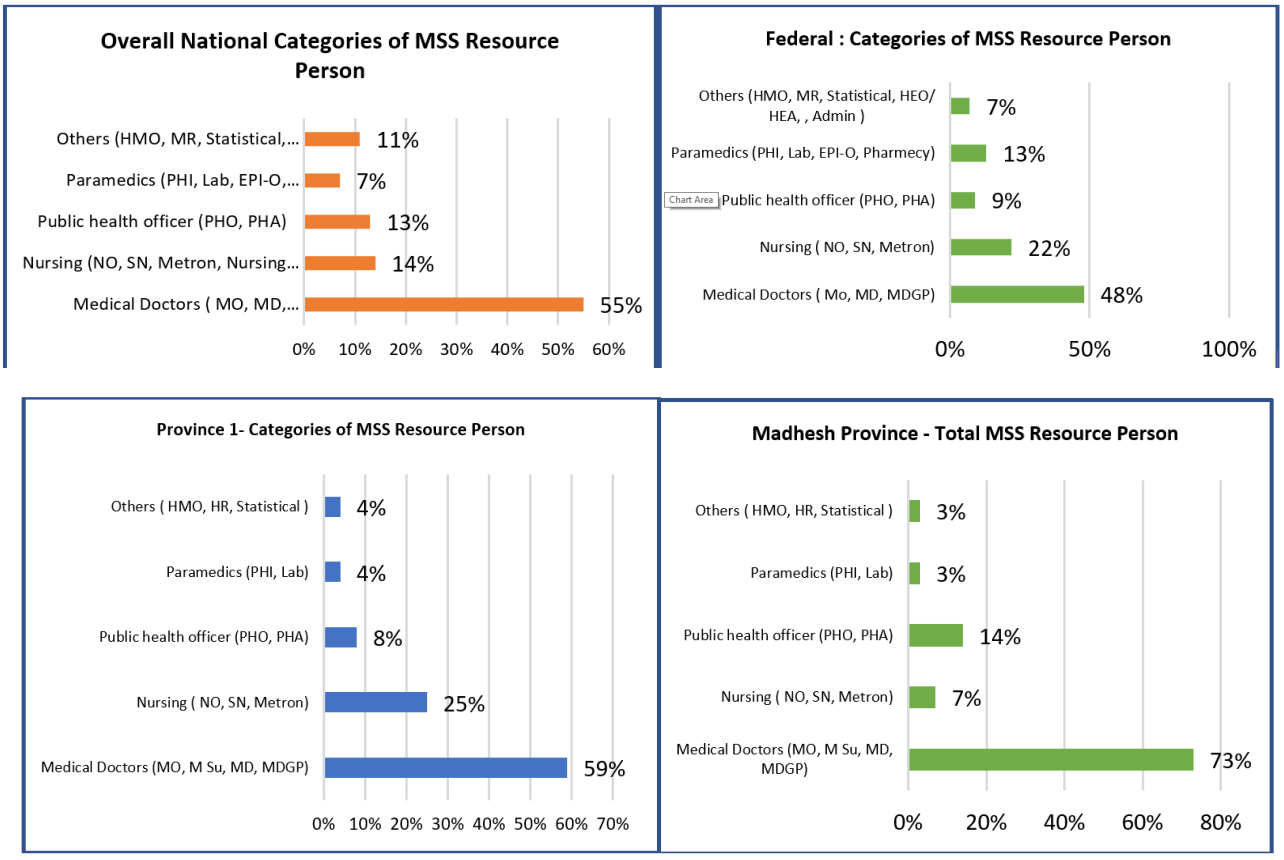
Figure 7.7 MSS Score of hospitals by components FY 2078/79

Table 7.7 Cadre wise List of MSS Resource Person:

SN	Category of RP	Overall Per-centage	Fed-eral	P1	P2	P3	P4	P5	P6	P7	Total
1	Medical Doctors (MO, MD, MDGP, Directors, Me Su)	55%	26	14	22	11	16	17	4	14	124
2	Nursing (NO, SN, Metron, Nursing Director)	14%	12	6	2	3	3	1	3	2	32
3	Public health officer (PHO, PHA)	13%	5	2	4	4	2	5	5	2	29
4	Paramedics (PHI, Lab, EPI-O, Pharmacy)	7%	7	1	1	2	1	2	2	1	17
5	Others (HMO, MR, Statistical, HEO/ HEA, Admin)	11%	4	**1**	**1**	**1**	**7**	**2**	**6**	**2**	24
	Total		**54**	**24**	**30**	**21**	**29**	**27**	**20**	**21**	**226**

Capacity development of government officials is a key input for health system strengthening and sustainability of the program. As a new program of the system NSI is continuous supporting MoHP/ DoHS to conduct MSS resource person development program annually. Currently total of 226 government officials are in the active list of MSS resource person. Among them 124 (55%) are medical doctors, 32 (14%) are from nursing officers, 29 (13%) Public health officers, 17 (7%) are from paramedics and rest of the 24 (11%) from other who has been working in health sector.

Carde wise list of Resource Person



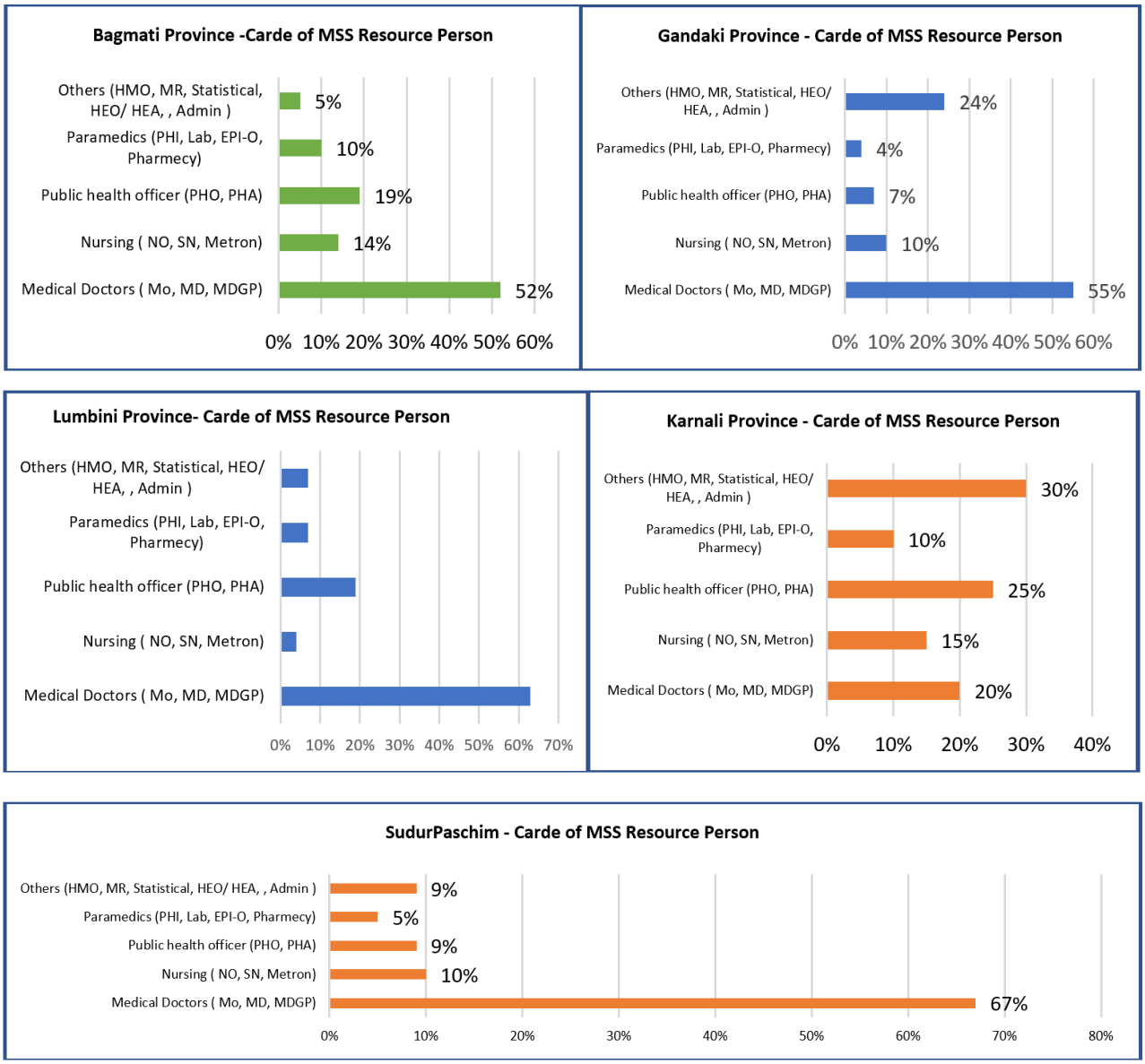


Figure 7.8 Carde wise list of Resource Person

Visible changes in Service indicators of Primary hospitals FY 2078/79.
During the MSS Assessment of hospitals, visible changes were observed which has uplifted the services at hospitals. The figure below shows the service indicator status in primary hospital.

Achievement in Key Service Indicator of Primary Hospital (N= 62)

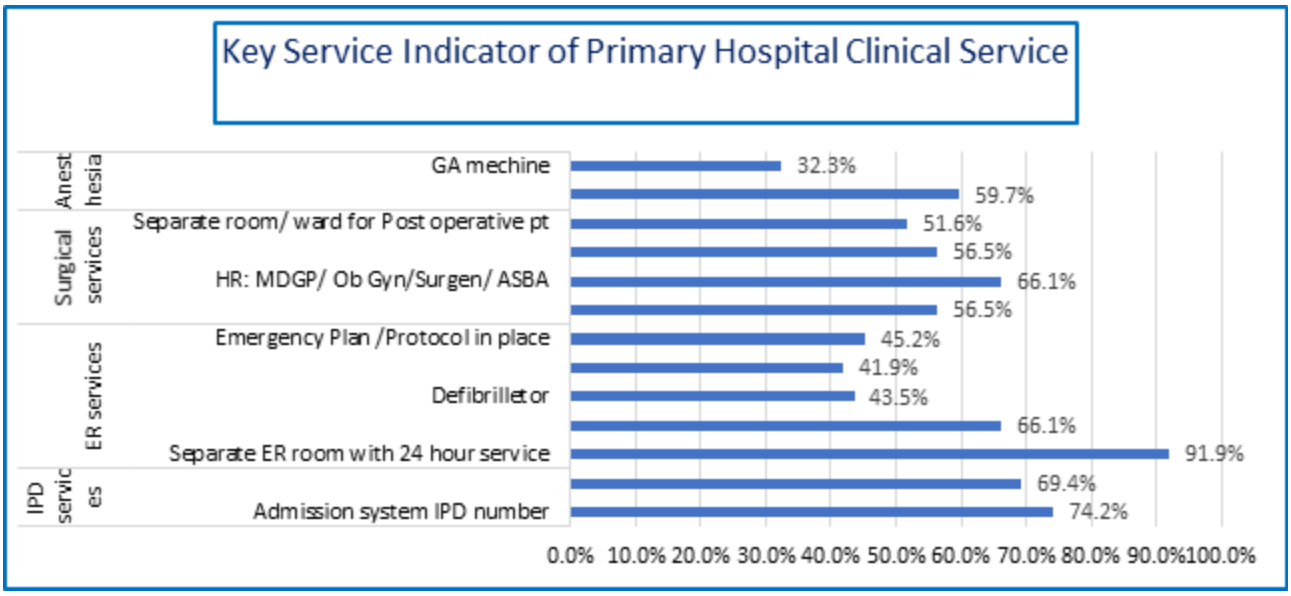


Figure 7.9 Key Service Indicator of Primary hospital Clinical Service

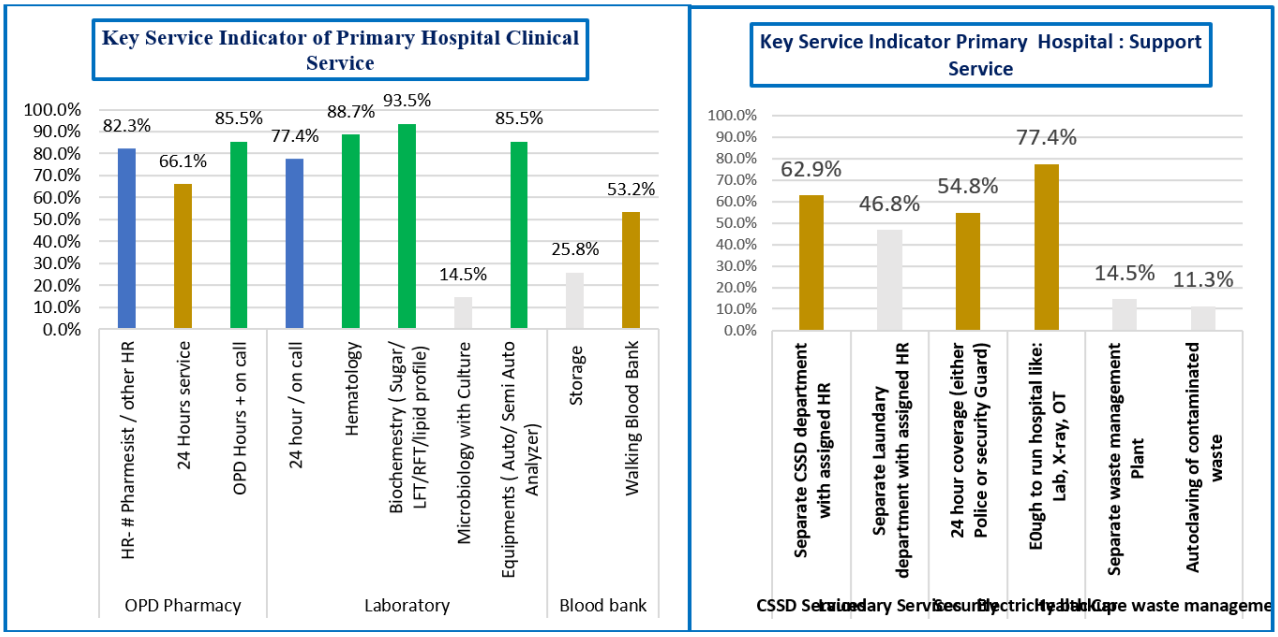


Figure 7.10 Key Service Indicator of Primary hospital Clinical and Support Service

Table 7.8 Province wise trend of MSS Score of Individual Hospitals of all provinces

Province wise MSS Score Trend of Individual Hospitals FY 2071/72 to 2078/79																		
Koshi																		
SN	Name of Hospital	MSS Score on District level MSS										Revised MSS						Remarks
		FY 2071/72 to FY 2075/76										FY 2076/77		FY 2077/78		FY 2078/79		
		WS 1	WS 2	WS 3	FU 1	FU 2	FU 3	FU 4	FU 5	FU 6	FU 7	MSS-1	MSS-2	MSS-1	MSS-2	MSS-1	MSS-2	
1	District Hospital Ilam	60%	72%	75%	55%	59%	61%	73%	72%	85%	88%	64%		63%		66%		
2	District Hospital Panchthar	47%	62%	72%	57%	59%	60%	68%	79%	75%	64%	51%		64%		66%		
3	District Hospital Taplejung	36%	53%	69%	51%	75%	75%	75%	72%	63%	83%	75%		89%		81%		
4	District Hospital Bhojpur	48%	55%	84%	60%	63%	66%	68%				66%		82%		73%		
5	District Hospital Sankhuwasabha	52%	65%	78%	68%	70%	81%	77%				63%		71%		59%		
6	District Hospital Terhathum	42%	61%	61%	77%	72%	74%	75%				66%		79%		73%		
7	Udayapur Hospital	57%	72%	85%	65%	62%	76%	67%				45%		66%		60%		
8	Katari Hospital	40%	60%	67%	53%	73%	73%	86%				61%		33%		34%		
9	District Hospital Khotang	40%	75%	87%	60%	63%	70%	75%				56%		76%		54%		
10	District Hospital, Phaplu,Solukhumbu	60%	66%	82%	75%	72%						45%		59%		67%		
11	District Hospital Okhaldhunga,Rumjatar	48%	64%	75%	80%	78%						42%		57%		43%		
12	District Hospital Dhankuta	76%	89%	94%	90%	84%						62%		83%		59%		
13	Inaruwa Hospital	40%	59%	69%	51%	45%						39%		42%		57%		
14	Rangeli Hospital	40%	76%	82%	61%	55%						47%		63%		41%		
15	Damak Hospital	48%	60%	66%								67%		81%		65%		
16	Mangalbare Hospital and Trauma Center	49%	67%	67%								55%		50%		42%		

17	Mechi Hospital													44%		33%		
18	Koshi Hospital											47%		48%		48%		
19	BPKIHS, Dharan															53%		
20	Madi Nagar Hospital																	

Madhesh

Province wise MSS Score Trend of Individual Hospitals FY 2071/72 to 2078/79

Province: 2

SN	Name of Hospital	MSS Score on District level MSS										Revised MSS						Remarks
		FY 2071/72 to FY 2075/76										FY 2076/77		FY 2077/78		FY 2078/79		
		WS 1	WS 2	WS 3	FU 1	FU 2	FU 3	FU 4	FU 5	FU 6	FU 7	MSS-1	MSS-2	MSS-1	MSS-2	MSS-1	MSS-2	
1	Jaleshwor Hospital	28%	42%	45%	35%	62%	39%	47%	68%	75%		48%		54%		60%	70%	
2	Kalaiya Hospital	27%	53%	63%	65%	67%	77%	62%	64%	64%	65%	38%		38%		52%	72%	
3	Gaur Hospital	27%	34%	47%	46%	51%	45%	44%	48%	45%		18%		36%		39%	50%	
4	Malangwa Hospital	29%	27%	43%	26%	32%	30%	51%	51%	40%		34%		34%		50%	57%	
5	Bardibas Hospital	34%	59%	71%	52%	47%	45%	38%				27%		22%		33%	39%	
6	Chandranigapur Hospital	31%	61%	77%	41%	67%	65%					37%		29%		36%		
7	Pokhariya Hospital	47%	40%	62%	62%	48%	55%	57%	78%			55%		56%		54%		
8	Bhardaha Hospital	42%	60%	69%	57%	58%						37%		52%		58%		
9	Lahan Hospital	59%	69%	81%	68%	65%						41%		40%		53%	70%	
10	Siraha Hospital	41%	76%	81%	51%	69%						41%		59%		86%	91%	
11	Provincial Hospital,Janakpur											30%		39%		54%	57%	
12	Narayani Hospital											26%		33%		44%		
13	Gajendra Narayan Singh Sagarmatha Hospital											39%		28%		30%		
14	Nayanpur Hospital													19%		32%	34%	

Province wise MSS Score Trend of Individual Hospitals FY 2071/72 to 2078/79

Bagmati Province

SN	Name of Hospital	MSS Score on District level MSS										Revised MSS						Remarks
		FY 2071/72 to FY 2075/76										FY 2076/77		FY 2077/78		FY 2078/79		
		WS 1	WS 2	WS 3	FU 1	FU 2	FU 3	FU 4	FU 5	FU 6	FU 7	MSS-1	MSS-2	MSS-1	MSS-2	MSS-1	MSS-2	
1	Sindhuli Hospital	62%	81%	85%	80%	82%	96%	96%				59%		65%		77%	78%	
2	Ramechhap Hospital	54%	69%	73%	66%	77%	71%	73%				60%		71%	68%	57%		
3	Jiri Hospital	75%	86%	90%	79%	88%	81%	84%				65%	69%	54%		51%		
4	Dhading Hospital	69%	87%	93%	89%	86%						81%		73%		93%		
5	Rasuwa Hospital	37%	54%	70%	68%	74%						42%	69%	56%		51%	49%	
6	Trishuli Hospital	72%	77%	79%	68%	74%						61%	63%	89%		94%		
7	Baghauda Hospital	41%	57%	65%	50%	53%						46%%		57%		53%		
8	Bakulahar Ratnanagar Hospital	52%	55%	71%	76%	80%						70%		77%		65%		
9	Madan Bhandari Academy of Health Science, Hetauda Hospital	49%	70%	72%	67%	57%						53%		50%		63%	67%	
10	Chautara Hospital	45%	76%	82%	66%	69%						74%	75%	57%		61%		
11	Methinkot Hospital	61%	63%	73%	61%	56%						57%	59%	51%		60%	61%	
12	Bajrabarahi Chapagaun Hospital											27%				31%		
13	Bhaktapur Hospital											38%		83%		84%		
14	Manikhel Hospital													15%				
15	Bishnu Devi Hospital													14%		29%		
16	National Academy of medical Sciences,Bir Hospital											41%				55%		
17	Bharatpur Hospital											50%		52%		63%		
18	Tokha Chandeswori Hospital															31%		
19	Pashupati Chaulagai Hospital															56%		
20	Badegau PHC															14%	27%	

Province wise MSS Score Trend of Individual Hospitals FY 2071/72 to 2078/79

Gandaki Province

SN	Name of Hospital	MSS Score on District level MSS										Revised MSS						Remarks
		FY 2071/72 to FY 2075/76										FY 2076/77		FY 2077/78		FY 2078/79		
		WS 1	WS 2	WS 3	FU 1	FU 2	FU 3	FU 4	FU 5	FU 6	FU 7	MSS-1	MSS-2	MSS-1	MSS-2	MSS-1	MSS-2	
1	Mustang District hospital	58%	64%	72%	52%	58%	61%	66%				43%		60%		51%	**48%**	
2	Beni Hospital	75%	89%	91%	85%	82%	84%	87%				51%	56%	50%	66%	71%	83%	
3	Parbat Hospital	53%	84%	91%	59%	56%	64%	69%	72%			47%		34%		70%	79%	
4	Bandipur Hospital	45%	52%	55%	66%	69%	72%	69%				50%	64%	50%	32%	42%		
5	Damauli Hospital	44%	78%	69%	71%	72%	75%	68%				65%		65%	77%	79%	90%	
6	Gorkha District Hospital	71%	75%	78%	80%	77%						38%		65%	40%	49%	78%	
7	Manang District Hospital	39%	57%	65%	62%	55%						37%		28%	32%	53%	45%	
8	Syangja District Hospital	59%	74%	78%	75%	77%	87%					63%		72%	60%	74%	87%	
9	Chapakot Hospital	29%	42%	63%								28%		34%		35%		
10	Matri Shishu Miteri Hospital	69%	90%	90%								52%		45%	56%	71%	78%	
11	Shishuwa Hospital	41%	65%	70%								42%		48%		57%		
12	Sundar Bazar Hospital	38%	63%	60%								29%	27%	41%		34%		
13	Dhaulagiri Hospital											57%		66%	73%	84%	86%	
14	Pokhara Academy of Health Science											46%				62%		
15	Darbang Primary Health Center													19%		23%	26%	
16	Madhyabindu hospital													34%	35%	48%	66%	
17	Lamjung District community Hospital													48%	58%	72%	91%	
18	Burtibang Hospital															35%	46%	
19	Rumja Deurali Hospital															10%	13%	

Province wise MSS Score Trend of Individual Hospitals FY 2071/72 to 2078/79

Lumbini Province

SN	Name of Hospital	MSS Score on District level MSS										Revised MSS						Remarks
		FY 2071/72 to FY 2075/76										FY 2076/77		FY 2077/78		FY 2078/79		
		WS 1	WS 2	WS 3	FU 1	FU 2	FU 3	FU 4	FU 5	FU 6	FU 7	MSS-1	MSS-2	MSS-1	MSS-2	MSS-1	MSS-2	
1	Pyuthan Hospital	48%	61%	69%	64%	59%	76%	72%	64%	81%		50%	54%	58%		74%		
2	Rolpa District Hospital	43%	59%	63%	67%	67%	66%	73%	70%	67%		62%		68%		63%	65%	
3	Gulariya District Hospital, Bardiya	58%	81%	85%	76%	73%	80%	88%	90%			62%		73%		86%		
4	Lamahi Hospital	42%	40%	45%								28%		36%		45%		
5	Argakhanchi Hospital	58%	76%	85%	76%	59%	59%	68%	72%			55%		74%		70%		
6	Bhim Hospital,(Bhairawa)	59%	69%	63%	59%	60%	76%	78%	73%			64%		52%		56%		
7	Gulmi Hospital	57%	72%	78%	69%	73%	69%	71%	75%			62%		65%		86%		
8	Kapilbastu Hospital	46%	57%	74%	53%	57%	76%	78%	74%	72%		55%	66%	70%		87%		
9	Pipara Hospital	50%	51%	55%	54%	41%						36%		46%		38%		
10	Prithivi Chandra Hospital, NawalParasi	61%	57%	74%	60%	77%						54%		62%	67%	73%		
11	Shivaraj Hospital	52%	60%	75%	79%	74%						58%		43%		44%		
12	Palpa Hospital	47%	65%	71%	60%	50%						47%		44%		51%		
13	Rampur Hospital	59%	73%	68%	73%	60%						38%		40%		53%		
14	Chisapani Hospital	38%	52%	66%								40%		40%		53%		
15	Rapti Provincial hospital											42%		66%	67%	71%		
16	Lumbini Provincial Hospital											36%		48%		74%		
17	Rapti Academy of Health Science											36%						
18	Bheri Hospital, Nepalgunj											35%		62%		67%		
19	Bhalubang Hospital													15%		11%	15%	
20	Rukum (East) Hospital													22%		34%	25%	

Province wise MSS Score Trend of Individual Hospitals FY 2071/72 to 2078/79

Karnali Province

SN	Name of Hospital	MSS Score on District level MSS										Revised MSS						Remarks
		FY 2071/72 to FY 2075/76										FY 2076/77		FY 2077/78		FY 2078/79		
		WS 1	WS 2	WS 3	FU 1	FU 2	FU 3	FU 4	FU 5	FU 6	FU 7	MSS-1	MSS-2	MSS-1	MSS-2	MSS-1	MSS-2	
1	Rukum (West) Distrct Hospital	56%	52%	75%	43%	50%	32%	57%	71%	80%		60%		65%		47%		
2	Salyan District Hospital	49%	72%	78%	57%	64%	67%	78%	75%	75%		66%		61%		65%	68%	
3	Dailekh District Hospital	60%	73%	71%	69%	82%	87%	91%	92%			78%		82%		71%	79%	
4	Dullu Hospital	38%	42%	65%	69%	72%	58%	65%	66%			57%		52%		57%	48%	
5	Mehelkuna Hospital	36%	47%	55%	59%	48%	62%	76%	77%			43%		55%		62%	67%	
6	Kalikot District Hospital	35%	71%	89%	80%	65%	67%	70%	70%			57%				65%		
7	Mugu District Hospital	24%	40%	75%	59%	47%	50%	55%				38%				56%		
8	Dolpa District Hospital	69%	59%	59%	73%	69%						43%				47%		
9	Humla District Hospital	39%	52%	52%	65%	67%	76%					55%				57%		
10	Jajarkot District Hospital	38%	48%	68%	58%	71%						37%		58%		59%	58%	
11	Provincial Hospital Karnali													45%		61%	79%	
12	Karnali Academi of Health Science															49%		

7.2 Inpatients/OPD Services

7.2.1 Background:

Curative care services are provided to a patient with the main intent of fully resolving an illness and to bringing the patient to their status of health before the illness presented itself. These services are given outpatient, emergency, and inpatient care at different levels of health facilities. The government of Nepal is committed to improving the health status of people by delivering high-quality health services. However, the increased burden of non-communicable diseases and mental health problems, accidental and disaster-related health problems, and the existence of infectious and non-infectious diseases are the major barriers to fulfilling people's expectations of quality health services. To address the health necessity of all age groups the national policy aims to expand and established at least one BHSC in every ward of the local level, one primary hospital for a basic emergency operation and primary trauma care at every local level, a secondary level hospital, provincial hospital and a highly specialized hospital under each province and at least a highly specialized hospital and academy of health science in every province under the authority of federal level.

7.2.2 Achievements in the fiscal Year 2078/79

Curative health services are expected to provide from all health facilities including outpatient, emergency, and inpatient care. These services are the collective activities of all departments and all hospital personnel, resulting in satisfactory patient care. For the fiscal year 2078/79, curative services were provided at all levels of hospitals including private medical colleges as well. Major revisions of HMIS tools have been carried out in the fiscal year and captured more specific data on non-communicable disease, mental health, and injury as well as the development of separate recording and reporting tools. Several batches of training for revised HMIS tools to medical recorders and data managers, as Four batches of master training of International Classification of Diseases 11th Revisions (ICD 11 MMS) were provided to healthcare persons, data managers, and IT staff as well. Further, to improve the quality of curative service data, an assessment of proper use of the classification of diseases, injuries, and conditions was carried out at a few federal and provincial level hospitals.

7.2.3 Status of Hospital Reporting:

Reporting is one of the quality indicators of the HMIS system. Health service data is reported by all health facilities including private facilities as well. A total of 719 hospitals both public and private (as of 2079/04/01 BS) are listed in the system. Each hospital must be reported in a designed dataset provided to them. The overall reporting of health services data by public hospitals was 99% at a national level. The reporting rate by non-public hospitals was only 43% in the fiscal year 2078/79. Each facility is supposed to enter complete and accurate data by the 15th day of the following month but completeness and timeliness are still major concerns in the HMIS from a private hospital.

7.2.4 Inpatient services:

Inpatient service is one of the most important services of the health care system. Inpatient care refers to medical treatment provided in a health facility that requires at least one overnight stay. Inpatient services are provided and have been reported by all types of hospitals for the fiscal year 2078/79. In the HMIS system, diagnoses were classified according to the ICD-10 disease classification system for all discharged patients. Morbidity and Mortality statistics were collected from the number of discharges including deaths.

7.2.4.1 Morbidity Classification

Two hundred and eighty-nine hospitals had reported inpatient morbidity according to ICD 10 principal diagnosis. In the Fiscal year 2078/79, more than five hundred thousand major diagnoses were reported which was less than half (48.5%) of total discharge. About 23 percent of cases were related to Pregnancy, Childbirth, and Puerperium. Maximum admissions were due to pregnancy-related cases followed by Symptoms, signs, and abnormal clinical findings not elsewhere classified. The disease of the ear, and the mastoid process was the lowest among 22 ICD-10 disease blocks .

Table 7.2.4.1 Morbidity Classification according to ICD 10 Blocks Principal Diagnosis

ICD 10 Block	Title	Number 2077/78	Number 2078/79	Percentage among total
A00-B99	Certain Infectious and Parasitic Diseases	27977	34456	5.15
C00-D48	Neoplasms	17247	20445	3.05
D50-D89	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	7165	7576	1.13
E00-E90	Endocrine, nutritional and metabolic disease	11749	16277	2.43
F00-F99	Mental and Behavioral disorders	5336	7339	1.09
G00-G99	Diseases of the Nervous System	3752	5706	0.85
H00-H59	Diseases of the eye and adnexa	39273	79747	11.92
H60-H95	Diseases of the ear and mastoid process	1015	2089	0.31
I00-I99	Diseases of the circulatory system	20877	26551	3.97
J00-J99	Diseases of the respiratory system	45273	72413	10.83
K00-K93	Diseases of the digestive system	40319	51643	7.72
L00-L99	Diseases of the skin and subcutaneous tissue	4953	5232	0.78
M00-M99	Diseases of the musculoskeletal system and connective tissue	5041	7369	1.11
N00-N99	Diseases of the Genitourinary system	38915	46800	7.01
O00-O99	Pregnancy, Childbirth, and the puerperium	121015	137338	20.54
P00-P96	Certain conditions originating in the perinatal period	9435	11082	1.65
Q00-Q99	Congenital malformations, deformations, and chromosomal abnormalities	1957	2643	0.39
R00-R99	Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified	53464	63235	9.45
S00-T98	Injury, poisoning, and certain other consequences of external causes	41394	44941	6.72
U00-U85	Codes for special purpose	4255	5641	0.84
V01-Y98	External causes of morbidity and mortality	9739	9943	1.48
Z00-Z99	Factors influencing health status and contact with services	12589	11129	1.66
Total		522740	668553	100

Source: HMIS/DoHS

7.2.4.2 The trend in yearly Patient Admission and Discharge

In the fiscal year 2078/79, 1548336 cases were admitted whereas 14,85,934 were discharged in the health facilities. If we see the trend over the last five years, the hospital admission rate had increased slightly. However, there was a significant reduction in the number in the fiscal year 2077/78 as the country was hit hard by the COVID-19 pandemic. Figure 7.4.2 depicts the trend of admission and discharge during the last five years. As of last fiscal year, the admission rate increased by 35 % for the fiscal year 2078/79. Many private hospitals started to report online in the HMIS system was one of the main reasons for the rising figure of admission at a national level.

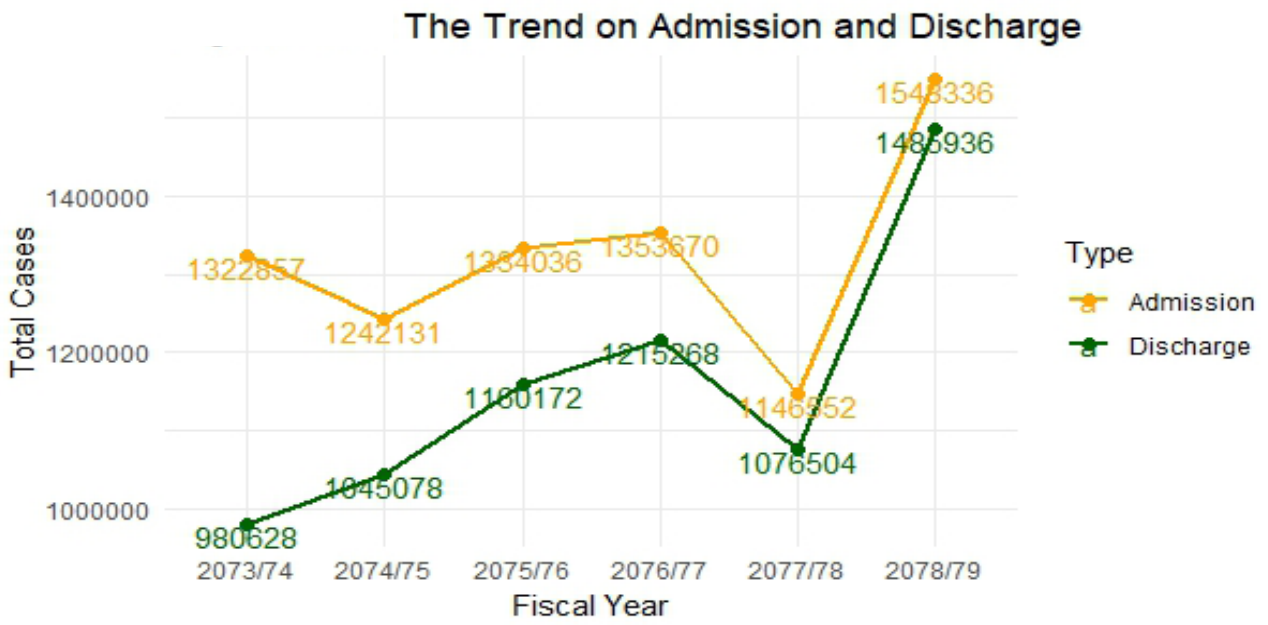


Figure 7.2.4.1 Trend of Admission and Discharge

7.2.4.3 Type of Discharge

A total of 1485934 cases were discharged from all types of hospitals. About 90.6% are cured and discharged home. Discharge on Patient Request (DPR) and patients who Leave against medical advice (LAMA) cases were also significant and accounted for four percent of the total discharged. Similarly, the death occurring during the hospital stay is called the inpatient death rate. As per data reported on HMIS during FY 2078/79, the Inpatient Death is 1.08% .

Table No 7.2.4.2: Age and Sex wise distribution by the outcome of Discharged patients

Age Group	Gender	≤ 28 Days	29 Days - 1 Year	01 - 04 Years	05 - 14 years	15 - 19 Years	20 - 29 Years	30 - 39 Years	40 - 49 Years	50 - 59 Years	≥ 60 Years	Total
Recovered/Cured	**Female**	28007	16365	23531	28281	52217	249140	133116	71960	76732	116977	796326
	Male	34670	24688	32772	41636	32625	67341	66114	64562	70096	122105	556609
Not Improved	**Female**	439	351	416	561	462	1354	1310	1307	1686	3686	11572
	Male	531	592	626	824	542	1418	1490	1587	1930	4125	13665
Referred Out	**Female**	712	541	570	682	875	2977	1631	1279	1604	3162	14033
	Male	963	838	804	803	574	1298	1425	1472	1586	3616	13379
DOR/LAMA/DAMA	**Female**	1438	1058	1316	1314	1757	5666	3717	2975	3159	8208	30608
	Male	1997	1489	1924	1735	1347	3529	3344	3368	3659	8580	30972
Absconded	**Female**	47	51	75	103	79	246	113	110	75	158	1057
	Male	50	90	93	78	55	120	115	91	66	144	902
Death < 48 Hours	**Female**	318	87	39	48	63	179	218	301	444	1389	3086
	Male	498	131	59	50	45	194	341	526	692	1787	4323
Death ≥ 48 Hours	**Female**	273	76	51	68	51	209	288	433	686	1963	4098
	Male	411	133	72	54	57	241	380	615	816	2525	5304

Source: HMIS/DoHS

7.2.4.4 Trend in the type of Discharges

The In-Hospital outcomes of patients were reported into six categories namely recovered, not improved (stable), Referred out, DoPR/LAMA/DAMA, Absconded, and Death. Overall, the trend of recovered cases was increasing pattern. The hospital inpatient death rate was found to be 1.6 % of the total discharged in the fiscal year 2077/78. The Inpatient mortality rate remains in a steady trend during the first four years; however, the number of reported deaths was slightly higher in the fiscal year 2077/78 due to COVID-19-related deaths. The pattern of leaving the hospital without completing the course of treatment such as being Referred out or Absconding LAMA/DAMA/DoPR was also significant.

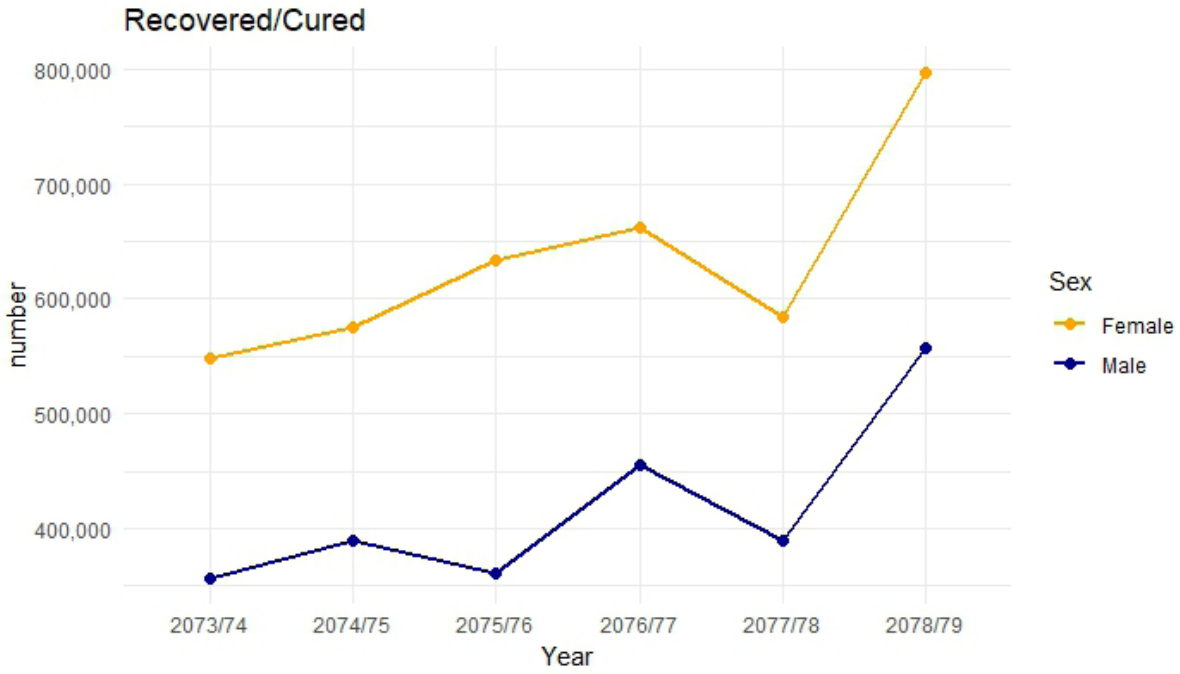


Figure 7.2.4.2 Trend of recovered/cured

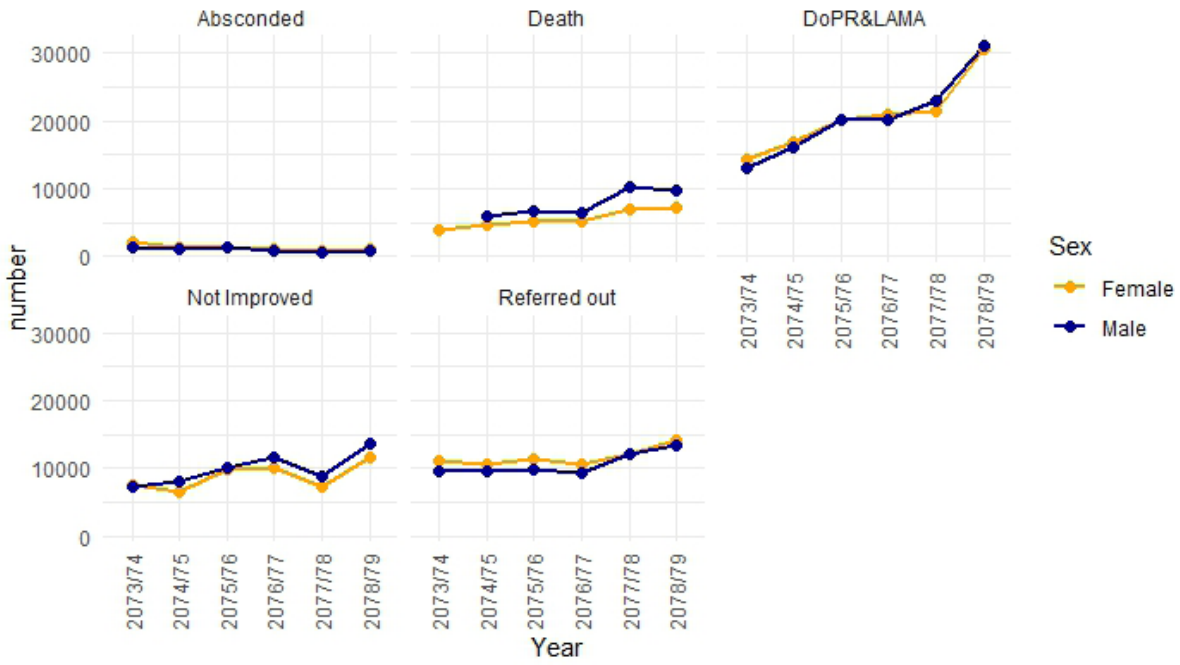


Figure 7.2.4.3 Trend of absconded/death/DoPR&LAMA/Not Improved/ Referred Out

7.2.5 Major Hospital Service Indicators

The average length of stay: In hospital management Average length of stay (ALOS) is also a major indicator. For efficient bed management, a reduction in the number of inpatient days results in decreased risk of infection, and an improvement in the quality of treatment. In the Fiscal year 2078/79, the national average length of stay was found as 4.1 days. However, the figure was higher for federal hospitals which accounted for 5.9 days.

Bed Occupancy Rate: Bed occupancy rate (BOR) is a measure of utilization of the available bed capacity in the hospital. It indicates the utilization of available bed capacity and is calculated as the percentage of cumulative in-patient days by the number of bed days for the duration. In the fiscal year, 2078/79 BOR is found as 46.1 % which was relatively low. Although there is no general rule for the optimal occupancy rate, a rate of around 80% is considered to be good in many hospitals. In 2077/78, most of the hospitals halted their inpatient services but they mistakenly reported the total no of operational beds. During the last five fiscal years, the bed occupancy rate was stable below 50%.

Inpatient throughput: It is another key performance indicator of hospital services. In general, throughput describes the movement of patients from admission to discharge.

Table 7.2.4.3: Key Hospital Performance Indicator

Hospital-level major Indicators			
Fiscal Year	**Average Length of Stay (ALOS)**	**Bed Occupancy Rate (BOR) %**	**Throughput of inpatients**
2074/75	3.4	47.9	5
2075/76	3.7	50.8	4.9
2076/77	3.4	41.1	4.1
2077/78	3.3	35	3.5
2078/79	3.5	46.1	4.1

Source: HMIS/DoHS

7.4.3 Operative Procedure in Hospitals

Surgeries are an integral part of the health care system. In the HMIS system number of surgeries is collected as major and minor surgeries by sex. In total 396 health facilities had reported a total of 614634 surgeries done at all levels of hospitals during the fiscal year 2078/79. Out of the total, 36887(53%) were major and the rest were minor surgeries. Females accounted for 54.64 percent of total cases. The trend in surgery type and gender during the last five years has presented in figure 7.4.3. Biratnagar Eye Hospital, Morang reported the maximum number of 60168 major surgeries during the fiscal year 2078/79, among other hospitals. of Due to the increase in traumatic injuries like road traffic injuries, occupational injuries, etc., cancers, and many other diseases surgical interventions in public health systems are also growing. Each year female numbers were leading due to the number of cesarean section delivery increasing every year.

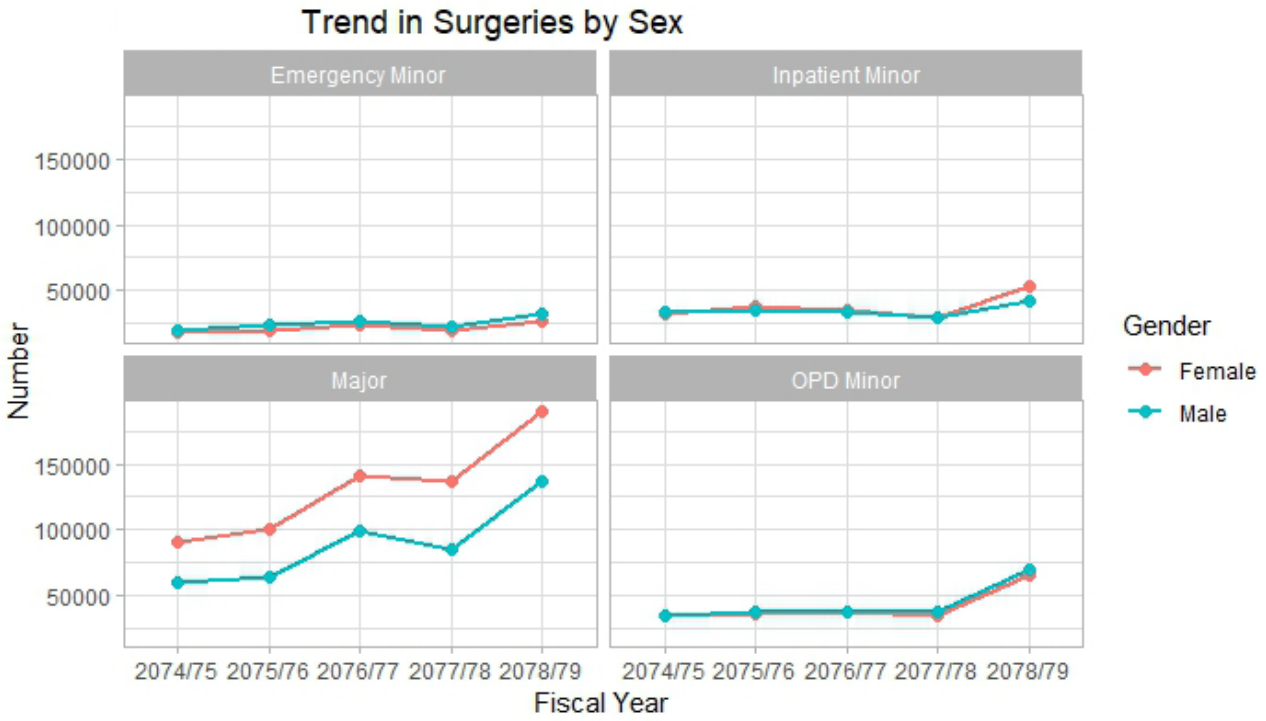


Figure7.2.4.4 Trend in Surgeries by Sex

7.4 Outpatient Services

Out-Patient Department (OPD) is one of the first points of contact with the hospital for diagnosis, treatment, and follow-up cases. Outpatient services are essential services available in health facilities on all days except holidays.

HMIS captures data related to OPD for allopathic at a health facility. In the fiscal year 2078/79, A total of 3,30,93,253 people visited a health facility for at least one reason. The trend of OPD service utilization shows that there is a continuous increase in the OPD visits reported from the fiscal year 2074/75 to 2076/77. The national trend of OPD services for the last five years is provided in figure 7.4.7. The number reported during 2077/78 has shown a decrease of 9 % as compared to the last fiscal year. OPD services were interrupted as major tertiary hospitals were transformed into Covid dedicated hospitals during the second wave of COVID-19. However, in the Fiscal year 2078/79, a massive increase in OPD services was reported in HMIS. After the massive follow-up from the central level as well as provincial level on private health institutions, the reporting from the private sector has significantly increased in the year 2078/79.

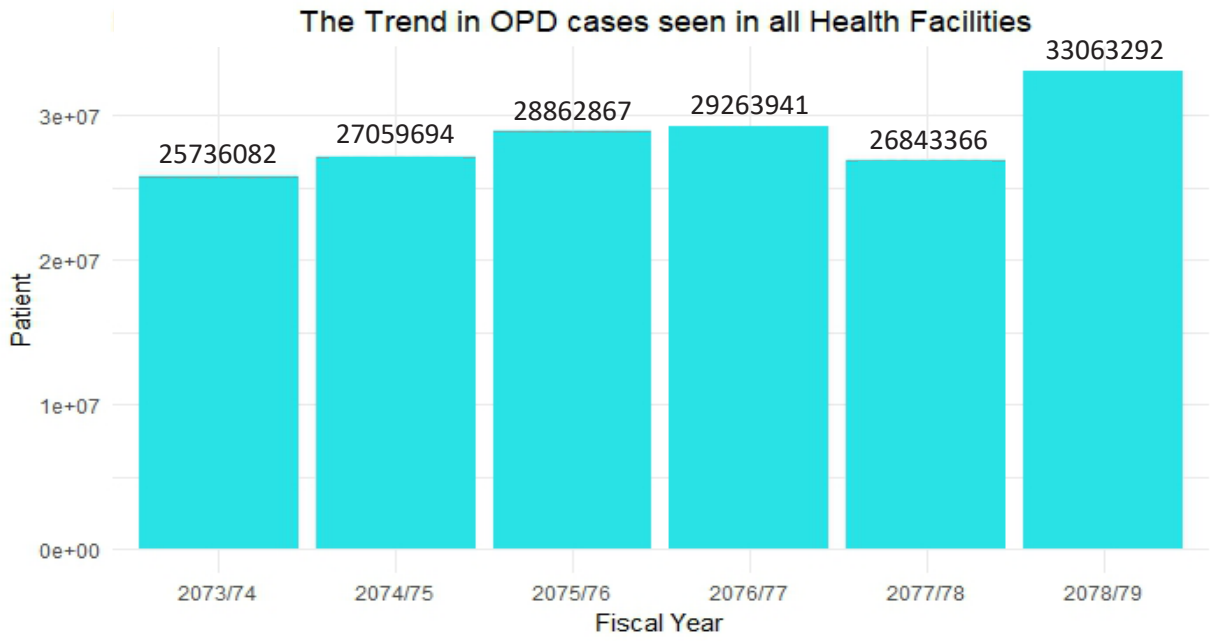


Figure 7.2.4.5 Trend in OPD cases seen in all Health Facilities

7.4.1 Out-Patient Morbidity

In HMIS, outpatient morbidity has been reported in 19 different sections that cover 232 diseases including communicable diseases, non-communicable diseases, injuries, organ-specific diseases, and mental health problems. As for the reported cases, the maximum OPD cases were related to Headaches followed by upper respiratory tract infection (URTI). The top ten outpatient morbidities have shown in table 7.2.4.4. Health posts, PHCs, and Primary hospitals have been reported continuously in the system however, the majority of tertiary hospitals and private hospitals had not reported outpatient morbidity throughout the year.

Table 7.2.4.4: Top Ten Outpatient morbidity

Morbidity	Number
Headache	1811753
Upper Respiratory Tract Infection (URTI)	1638805
Gastritis (APD)	1628069
Lower Respiratory Tract Infection (LRTI)	1048636
Fractures	971182
Backache(Musculoskeletal Pain)	808828
Hypertension	795087
Fungal Infection (Lichen Planus)	735022
Pyrexia of unknown origin(PUO)	682685
Diarrhea	645200
Acute Tonsillitis	553655

Source: HMIS/DoHS

7.5 Emergency Service

Emergency services are provided from a few primary health centers to all the tertiary level hospitals. In the Fiscal year 2078/79, a total of 2938849 people were presented for emergency services. Five-year data of emergency visits have been shown in the figure. Unfortunately, the cause-specific emergency visits are not captured in HMIS. The visit was an increasing trend between 2074/75 to 2076/77 before declining in the year 2077/78. Bagmati province remains in the

top position each year followed by Koshi Province shown in figure7.6.1 In addition, the proportion of female visits leads males each year as per figure 7.6.2

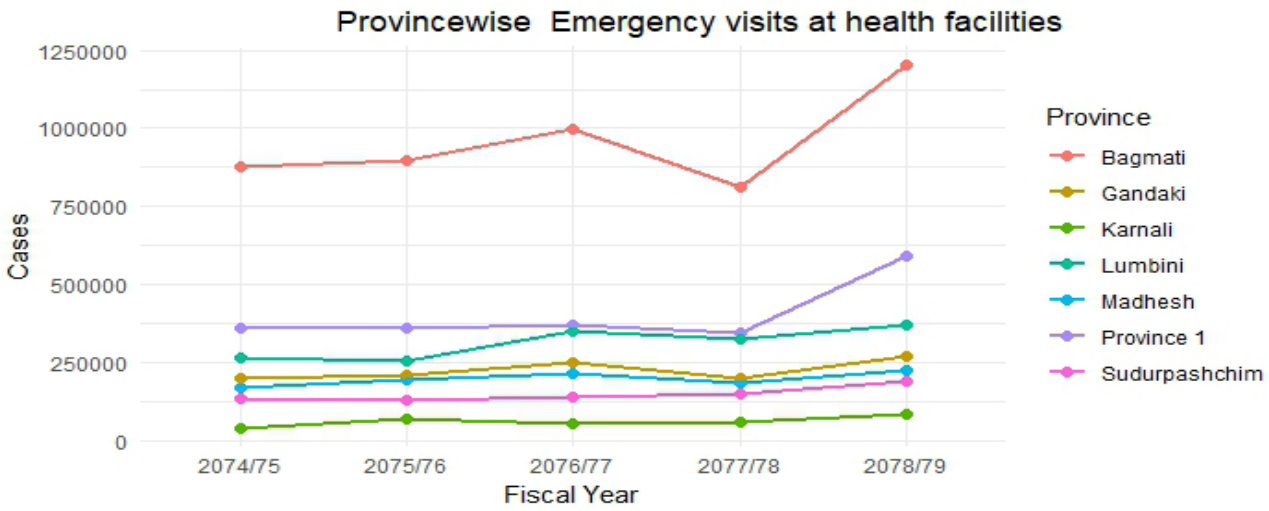


Figure 7.2.4.6 Provincewise Emergency visitss at health facilities

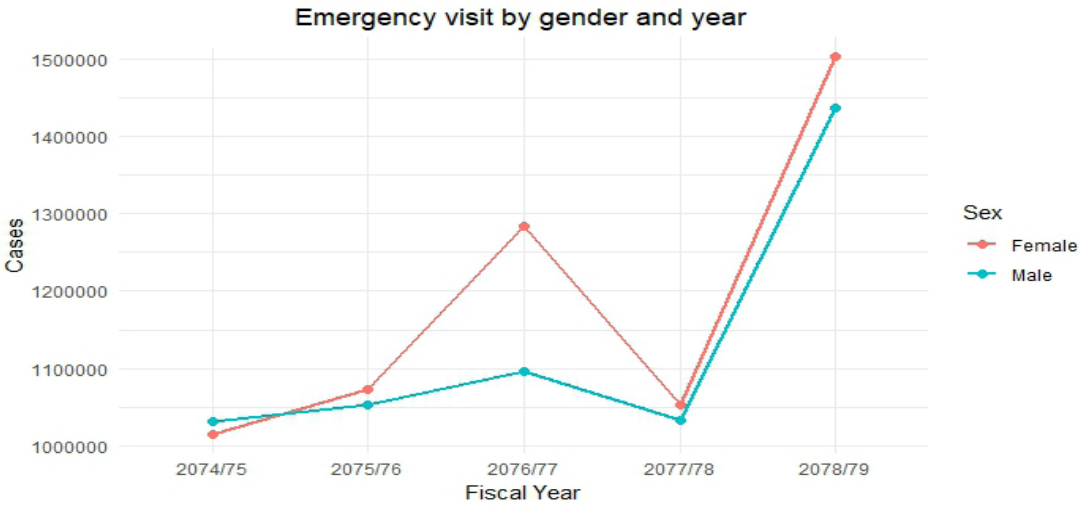


Figure 7.2.4.7 Emergency visit by gender and year

7.6 Deliveries in Health Facilities

Institutional delivery is one of the key service utilization and proven interventions to improve maternal health and well-being and to reduce maternal mortality through providing safe delivery and reducing complications that are related to and occurred during birth. In the fiscal year 2078/79, a total of 4,24,789 were delivered at the health institution. The type of deliveries in health institutions is presented in the bar diagram. Normal delivery is the most common type of birth. At the national level, 22% of deliveries are reportedly being conducted through Cesarean Section.

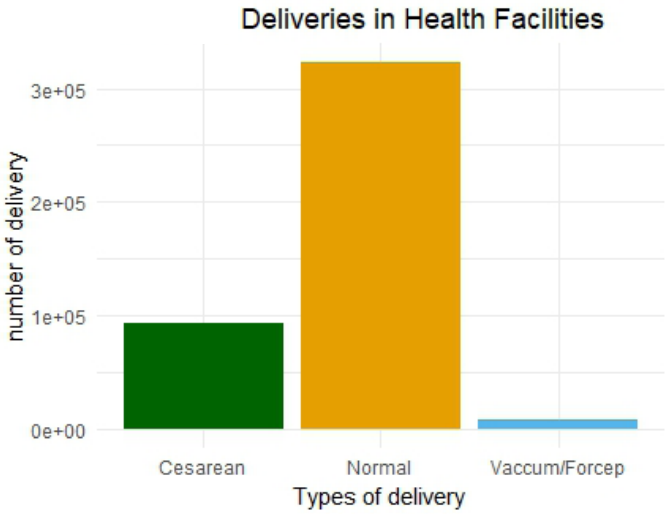


Figure 7.2.4.8 Deliveries in Health Facilities

7.7 Post-mortem

A post-mortem examination also known as the autopsy is conducted to determine the cause of death. These services are performed at a few tertiary level hospitals and all provincial hospitals. During 2078/79, 81 hospitals had conducted 9802 post-mortem examinations more than 1078 of last fiscal year that had reported in HMIS. This year also Koshi Hospital, Biratnagar had reported much 640 total autopsy cases followed by Mechi Hospital Jhapa who had conducted 540 cases. Tribhuwan University Forensic department had not reported a single case in the fiscal year 2078/79. The total number of postmortem cases by gender is presented in Figure.

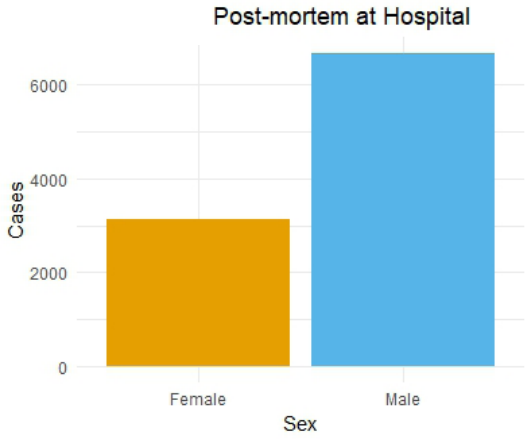


Figure 7.2.4.9 Post-mortem at Hospital

7.8 Brought Dead

Brought Dead (BD) denotes those deaths that happened before reaching an emergency. The point of entry of brought in dead cases is the emergency department of the hospital. One hundred seventy-one hospitals had reported a total of 5180 BD cases in HMIS during 2078/79. Male had accounted a 61 percentage of total cases.

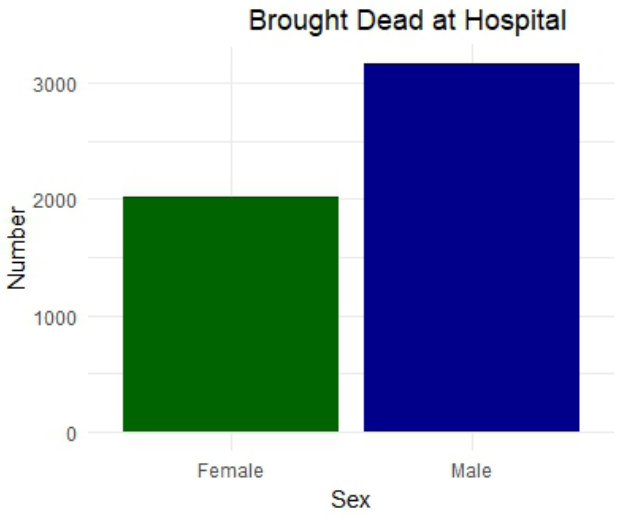


Figure 7.2.4.10 Brought Dead at Hospital

7.9 Major issues in Hospitals

Provincial-level annual review and a few workshops are done in each province regarding hospital level data quality issues in HMIS. Major issues are highlighted below

- Inadequate clinical and supportive staff thus poor recording of patients' health data
- Although many hospitals have running electronic systems but has limited to registration, billing, and pharmacy services only.
- Doctors patient ratio and nurse-patient ratios are not at WHO standard
- Poor infrastructure for service delivery
- Weak referral mechanism from lower-level facilities to a higher level
- Lack of ownership in patients' data by health care professionals and hospital authorities.
- Incomplete and inaccurate ICD 10 coding regarding morbidity and mortality
- Lack of dedicated medical record personnel at public and private hospitals.
- Non-uniform clinical recording form at the hospital
- Frequent staff turnover at private hospitals

7.3 Shahid Dharmabhakta National Transplant Center

Introduction

Shahid Dharma Bhakta National Transplant Center (SDBNTC) was established in 2012 by the Ministry of Health to strengthen and expand organ transplantation services in the country. This center stated its services merely with the OPD services, but within a few years of its establishment it has extended its services beyond organ transplantation.

Major Milestones of Shahid Dharmabhakta National Transplant Center (SDNTC)

• Establishment	2012, February
• Initiations of Dialysis services	2012, November 12
• Kidney transplantation started from	2013, January 19
• Free Hemodialysis service stated from	2013, March 29
• Human Organ Transplantation Act	2016, February 25
• 1st Pair Exchange Kidney Transplantation	2016, July 27
• Initiation of Cardiac Surgery	2016, November 17
• Human Organ Transplant Regulations	2016, December 1
• First Liver Transplantation	2016, December 7
• Free Kidney Transplantation	2017, April 15
• Second Liver Transplantation	2017, July 2
• Transplantation from a brain dead persons	2017, May 11
• Third Liver Transplantation	2018, June 2
• 1st cadaveric liver transplantation in Nepal	2019, January 18
• Total Kidney Transplant	968
• Total Liver Transplant	9

Objectives

- To strengthen and expand organ transplantation services in the country.
- To provide and expand specialized services beyond transplantation
- To provide high quality health care at a low price/free of cost
- To undertake research related to human organ transplant to understand the state of kidney and other organ failure in Nepal.
- To advocate for policy interventions
- To organize free health camps across Nepal to screen any kind of diseases.
- To conduct educational activities to raise awareness regarding organ failure, organ transplantation and organ donation.
- To produce high level human resources by providing structured training in various aspects of services to expand the services across the country.

Major achievements of FY 2078/79

- Kidney transplant services have started at the Government Hospital, Pokhara Academy of Health Sciences
- First kidney Transplant done out of valley at Pokhara Academy of Health Sciences in Government hospital which is ongoing till now done 4 Kidney transplantation in same hospital.
- MOU of Transplantation done with Surkhet Regional Hospital and Set Regional Hospital.
- Conducted 2 kidney and 1 Liver transplantations from a brain dead donor for the six in Nepal
- Carried out 160 kidney transplants and 3 Liver Transplantation in the FY 2078/79.
- Interaction programme done in different parts of the country about Brain death.

Status of health care services, fiscal year 2078/79

The number of patients in all these aspects has increased remarkably in the FY 2078/79. There were 47047 patients served in outpatient department, while the rate of admission and discharge were almost similar with 2106 and 2099 respectively.

There were 972 minor surgeries and 827 major surgeries in the FY 2078/79. The number of kidney transplantation escalated from 49 to 160 in FY 2078/79.

The number of sessions of paid dialysis decreased from 2940 in FY 7078/79 to 2526 in fiscal year 2077/78. There has been a slightly increase free dialysis sessions from 24123 in FY 2078/79 to 24021 in FY 2077/78.

Status of specialized diagnostic services

The number of lab tests done in FY 7078/79 was 160537. The number of ultrasound tests and X-ray and CT scan in the FY 7078/79 was 5897, 6854 and 2084 respectively. Similarly, the number of ECG done was 3931 while that of the echo-cardiograph was 3912 followed by 121 endoscopy and colonoscopy. The total number of BCM done was 425 and that of ABG was 814.

The status of human resources at SDBNTC shows an upward trend in each fiscal year. In the FY 2078/79, there were a total of 265 staffs of which 232 were technical and 33 were non-technical staffs. These both numbers are higher than that of previous years.

Statuses of Financial Resources

The total budget expenditure in the FY 2078/79 was 53,10,06,881/-

Physical infrastructures at SDNTC- FY 2078/79

- Hospital owned land: 0 Ropani
- Building:
  - ◊ Hospital Room: Inadequate
  - ◊ Doctor quarter: Not available
  - ◊ Staff quarter: Not available
- Ambulance : Functioning - 2
- Major Medical Equipment:
  - ◊ X-Ray machine – 1, Portable X-ray Machine -2, USG – 3 ECHO Machine - 1
  - ◊ Laboratory Equipment: HLA, Tacrolimus, Biochemistry, Hematology, dry chemistry analyzer, automated immunoassay analyzer, automated tissue presser, rotary microtome, automated coagulation analyzer, 6 port fully automated hematology analyzer, Inverted microscope.
  - ◊ Dialysis Machine: 77, CRRT Machine -2 Set
  - ◊ OT/ICU Major Equipment's: Ventilator – 15, Monitor – 19, Syringe Pump - 15, Infusion Pump – 15, Defibrillator- 6, Laparoscopy – 1, Endoscopy – 1, Thulium Fiber Laser -1, Morcellation Set -1, Lithoclast Machine- 1, Anesthesia workstation -5, Heart Lung Machine-1, Cautrey Machine- 3, C-Arm -1, Electro Cautrey and Argon Plasma coagulation Machine-1, Plasma Agitator -1
  - ◊ 256 Slice CT Scan
  - ◊ Cath Lab
  - ◊ Endoscopic Ultrasound,
  - ◊ CUSA
  - ◊ Low Temperature Autoclave
  - ◊ TEG Analyzer
  - ◊ Autologous Blood Salvage System
  - ◊ TEE Probe
  - ◊ PCA Pump
  - ◊ EBUS
  - ◊ ECMO
  - ◊ IABP
  - ◊ Holter Machine
  - ◊ TMT Machine
  - ◊ ACT Machine

Status of House Keeping at SDNTC, FY 2078/79

Table 7.3.1 Status of House Keeping at SDNTC, FY 2078/79

SN	Activities	Remarks
1	Cleanliness of the hospital	Satisfactory
2	Maintenance of hospital premises	Satisfactory
3	Sanitation	Satisfactory
4	Health care waste management	Satisfactory
5	Safe drinking water	Satisfactory
6	Canteen	Satisfactory
7	Triage system	Good
8	Hospital parking	Poor
9	Hospital garden	Poor

Challenges:

- Lack of adequate space
- Lack of awareness

Aims of SDNTC in FY 2078/79

- Conduct massive awareness programs on prevention of organ failure, organ donation and transplantation across the nation.
- Produce competent human resources for kidney, liver, heart surgeries through extensive training and technical support
- Conduct at least 200 kidney transplants per year
- Conduct at least 1 liver transplant and 1 heart surgery per month
- Increase the bed capacity to 300 beds
- Develop the center as a multi-specialty hub and health science institution

Available Services of Shahid Dharmabhakta National Transplant Center

- **Kidney Transplant**
- **Liver Transplant**
    * Nephrology (Hemodialysis, -CAPD), (CRRT) (Plasma exchange), Access surgery (Fistula creation, permanent catheter insertion)
    * (Endo Urology)(Mini PCNL, TURP, TURBT, Cystoscopy, URS)
- **(Gastroenterology / Hepatology)**
    * (OPD)
    * (Gastroduodenoscopy, Colonoscopy,ERCP) Endoscopic Ultrasound
    * (Laparoscopic Cholecystectomy)
    * HEPATOBILLOIARY SURGERY
    * (Gallstone , GB and Bile duct cancer)
    * (Liver Surgery)
- **(Cardiology Cardiothoracic & Vascular Surgeon)**
- **VATS**
- **Lung Resection**
- **Open Heart Surgery**
- **CABG**
- **Congenital Heart**

- **Valve Surgery**
- **Carotid artery surgery**
  * (ECG)
  * (BCM)
  * (Echo Cardiogram)
  * Bronchoscopy Lung Biopsy
  * Radio diagnosis
  * CT Scan
  * (X-Ray)
  * (Ultrasound)
- **(Pathology)**
- **(Organ Donation)**
- **(Physiotherapy)**
- **24 hour Pharmacy**

7.4 Pashupati Homoeopathic Hospital

BACKGROUND

Dr.Samuel Hahnemann of Germany had discovered Homoeopathic system before two and half centuries. This is based on fixed principals of "Similia Similibus Curantur". Medicine is provided on the basis of sign and symptom exhibited by patients.

Pashupati Homoeopathic Hospital is the only one hospital providing homoeopathic services to the people of Nepal in the public sector. The homoeopathic system is economic, easy and having no adverse effects. The hospital provides OPD service only. However, Hospital is planning is to provide Inpatient service, Pathology service and Physiotherapy in near future.

STRATEGIES ADOPTED

This is the only one hospital of Homeopathy in Nepal. This system is economic, easy and convenient, covering most of the diseases with no side effect from the medicine being used. OPD patients are outnumbered. But, due to lack of man-power and pathology lab IPD is not in action. The treatment provided here is free of cost.

SUMMARY OF ACHIEVEMENT

The number of patients is increasing day by day. Many referred cases are also treated here like allergic rhinitis, urticaria, laryngeal papilloma, PCOD and other skin diseases

Brief Annual Report

Curative Health Services:	Free Health Services
Preventive Service:	Preventive and Counseling Service Only
Health Camps:	Hospital provides yearly homeopathic service in different parts of the country.
Cost Effectiveness:	Government has to bear minimum cost for medicine

Table 7.4.1 List of Mandatory health service received in the fiscal year 2078/79

S.N.	LIST OF CASES	Total service received
1	Diagnosis and treatment of warts	2960
2	Diagnosis and treatment of skin ailments, allergies	2330
3	Diagnosis and treatment of Tonsils	275
4	Diagnosis and treatment of Gastric disorders	570
5	Diagnosis and treatment of Vitiligo	300
6	Diagnosis and treatment of Arthritis, Joint complaints	1192

Table 7.4.2 Health Camp Services: Fiscal year:– 2078/079

	TOTAL	GM	PSY	GI	ENT	EYE	GYNOBS	DENTAL	SKIN	ORTHO	OTHERS
2078/079	35009	25222	57	714	868	281	464	207	5590	1192	414
	1664	Arsenicum Album 30C distribution for prevention (prophylaxis) of Covid -19									
	36673	078/079 Total service without health camp									
2078/079	1756	➢ 2078/09/13-Dhunibeshi Nagarpalika,Neubise Health Post, Dhading =356 ➢ 2078/11/17-Pashupati Area Devlopment Trust, MahaShivaratri Parva Ktm. =448 ➢ 2078/12/18- Manahari Gaunpalika, Handikhola, Makawanpur =350 ➢ 2079/01/17-Lumbini Sanskritik Nagarpalik, Lumbini Rupendehi = 602									
	38429	Grand Total									

Note: Patient load is being increase in this fiscal year

Table 7.4.3 Last seven years trends of Service Provided at Homeopathic Hospital.

Fiscal year	Total Service Provided	G/M	Skin	ENT	Eye	Dental	Gyn/Obs	Others
2071/72	73736	40545	18786	3389	1203	1409	1312	7092
2072/73	82079	43247	21390	3740	1486	1670	2037	8509
2073/74	83376	44150	22067	3124	1560	1732	1994	8749
2074/75	83895	44311	22209	3237	1610	1903	2231	8394
2075/76	84448	45302	21125	3135	2025	1806	2530	8525
2076/77	49267	24317	11290	1430	1033	838	978	9381
	37493	Arsenicum Album 30 C distribution for prevention (prophylaxis) of Covid -19						
	86760	076/077 Total service without health camp						

	TOTAL	GM	PSY	GI	ENT	EYE	GYN OBS	DENTAL	SKIN	ORTHO	OTHERS
2077/078	25375	15378	53	1321	642	119	270	61	4733	1780	603
	12551	Arsenicum Album 30 c distribution for prevention (prophylaxis) of Covid -19									
	37926	077/078 Total service without health camp									

Note:Patient load is being decreased due to COVID 19 pandemic in this fiscal year

	TOTAL	GM	PSY	GI	ENT	EYE	GYN OBS	DENTAL	SKIN	OR THO	OTHERS
2078/079	35009	25222	57	714	868	281	464	207	5590	1192	414
	1664	Arsenicum Album 30C distribution for prevention (prophylaxis) of Covid -19									
	36673	078/079 Total service without health camp									
2078/079	1756	➢ 2078/09/13-Dhunibeshi Nagarpalika,Neubise Health Post, Dhading =356 ➢ 2078/11/17-Pashupati Area Devlopment Trust, MahaShivaratri Parva Ktm. =448 ➢ 2078/12/18- Manahari Gaunpalika, Handikhola, Makawanpur =350 ➢ 2079/01/17-Lumbini Sanskritik Nagarpalik, Lumbini Rupendehi = 602									
	38429	Grand Total									

Note: Patient load is being increase in this fiscal year

Table 7.4.4 Summary of Financial/Allocation Expenditure

Fiscal Year	Regular Budget in Rs (In lakhs)	Development Budget Rs (In lakhs)	Total Budget Rs (In lakhs)
2077/78	160+7=167	21	187

Fiscal Year	Regular Budget in Rs (In lakhs)	Development Budget Rs (In lakhs)	Total Budget Rs (In lakhs)
2078/79	203	31	234

CONSTRAINTS:

i. Lack of doctors, paramedics and other staffs made ineffectiveness in its services.
ii. Doctors and other staff are not provided with higher training and education.
iii. There is high need of pathology lab., Ultrasonography, Physiotherapy service etc.

CONCLUSION:

Pashupati homeopathic hospital is the central level hospital. It needs to be upgraded. Since 2076BS. Hospital is trying to implement the proposed O& M survey presented at Ministry of Health and Population. People of Kathmandu valley and nearby districts can take free and convenient service of the hospital. However, People far from Kathmandu valley are not able to take benefits provided by this hospital. It is essential to provide service at all 7 provinces of Nepal with utmost priority.

SUPPORTING PROGRAMS

8.1 Health Training

8.1.1 Background:

A competent, motivated healthy workforce forms the core of a high quality, effective and efficient health system. In line with the national policies, plans and programs of Ministry of Health and population (MOHP), National Health Training Centre (NHTC) runs as a federal body for co-ordination and management of all health trainings in Nepal. It was established in 1993 A.D. and is primarily responsible for policy formulation, planning/budgeting, need assessment, curriculum design, implementation, monitoring and evaluation (M&E), follow up and overall quality assurance related to training system. The training network includes seven provincial health training centers and 60 clinical training sites.

It caters to training needs of all Departments, Divisions and Centers of Ministry of Health and Population, thus contributing to meet the targets envisioned in National Health Policy 2019, National Health Sector Strategy (2015-2020) and Sustainable Development Goals (2030) AD. It plans and conducts training activities in line with the National Health Training Strategy 2004 AD. It is also responsible for accrediting clinical training sites and Clinical and public health related training courses to maintain the standard of the health training so as to strengthen the capacity of health service providers across the country.

8.1.2 Goal:

To enhance the technical and managerial capacity of health care service providers at all levels to deliver quality health care services towards attainment of the optimum level of health status of Nepali citizens.

8.1.3 Objectives:

- To develop and standardize the Learning Resource Packages for the training
- To conduct the pre- and in-service trainings to address the need of the country and to support the quality of care by enhancing the service provider's competency
- To regulate the quality of training activities by different mechanisms in adherence to national standards, protocols and guidelines
- To develop and accreditate the different training sites throughout the country and strengthens their capacity
- To provide post training support with follow up and enhancement

8.1.4 Strategies:

- Assessing, standardizing and accrediting training activities and clinical training sites
- Developing and standardizing training packages
- Institutional Capacity development of training sites
- Conducting pre-service, in-service, short term and long term trainings as per national requirements
- Integrating and institutionalizing training activities
- Developing links with professional career development organizations
- Strengthening Training Information Management System (TIMS) and develop trainer's pool at federal and provincial level.

8.1.5 Organizational structure:

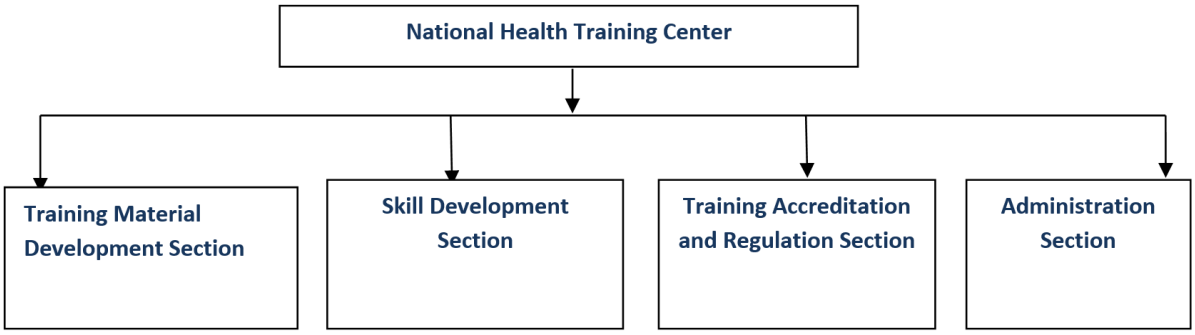


Figure 8.1.1 Organizational Structure of NHTC:

8.1.6 Training Network

National health training network co-ordinates and supports seven Provincial Health Training Center (previous Regional Health Training Centers/ Sub-Regional Health Training Center) currently established under Ministry of Social Development (MOSD)/Ministry of Health and Population of each Province and 62 clinical training sites (Figure 8.1.2). The hospital-based training sites conduct Family Planning, Skilled Birth Attendance, Mid-Level Practicum, Safe Abortion Services, Rural USG, Anesthesia Assistant, Pediatric Nursing, Medico-Legal and other types of competency based training program. The new organizational structure and training network are as shown in below.

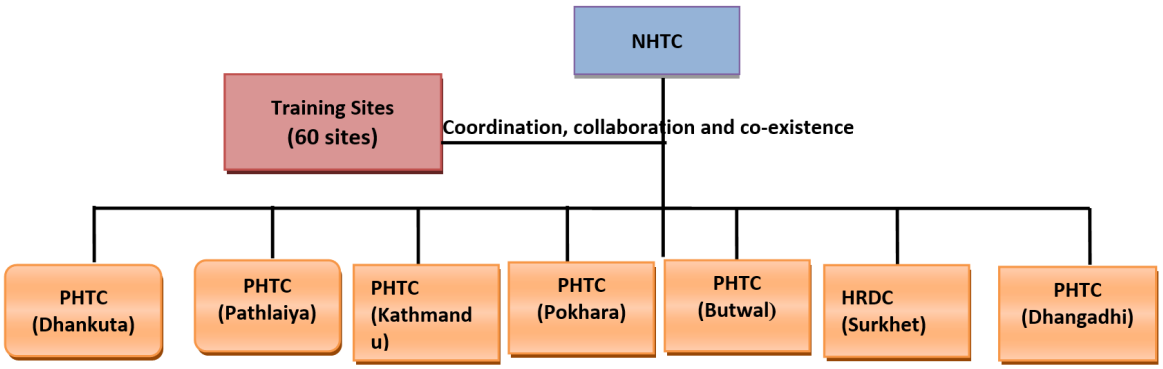


Figure 8.1.2 Training co-ordination Wings

8.1.7 Different Clinical Training Sites accredited by NHTC:

National Health Training Centre provides following training through different training sites as listed below.

Table 8.1.1: Clinical training sites

Province	Number of training sites	Name of the training site	Site accredited for
Koshi Province	9	FPAN, Charali, Jhapa	Implant, IUCD, Minilap
		AMDA Hospital, Damak, Jhapa	SBA, ROUSG, MLP, AAC
		Mechi Provincial Hospital, Bhadrapur, Jhapa	MLP
		FPAN, Itahari	VIA, SAS
		BPKIHS, Dharan	PNC, VIA
		Koshi Hospital, Biratnagar	RH, SBA, SAS, ASRH, ROUSG
		Nobel Medical College, Biratnagar	SBA
		Okhaldhunga Community Hospital	MLP
		SPN, Biratnagar	Implant, IUCD, Minilap, Vasectomy, SAS
Madhesh Province	5	Gajendra Narayan Singh HosVpital, Rajbiraj	SBA, Implant, IUCD
		FPAN Janakpurdham, Dhanusa	Implant , IUCD
		Province Hospital, Janakpur	SBA, Implant, IUCD
		Narayani Hospital, Birgunj	SBA, Implant, IUCD
		Siraha Province Hospital	MLP

Bagmati Province	21	Paropakar Maternity and Women's Hospital, Kathmandu	ASBA, SBA, Implant, IUCD, ASRH, AAC, CNC(SN-CU), VIA / Thermal ablation, SAS (CAC,MA,2nd Trimester Abortion Care), Minilap
		CFWC, Chhetrapati, Kathmandu	Implant, IUCD, Minilap
		FPAN, Pulchowk	IUCD, Implant, SAS
		MSS, Satdobato	IUCD, Implant, SAS, VIA / Thermal ablation
		FPAN, Chitwan	IUCD, Implant, SAS
		SPN, Narayanghat	IUCD, Implant, Vasectomy, SAS
		Bharatpur Hospital, Chitwan	Pediatric Nursing, ASBA, SBA, MLP, SAS, OTTM, ICU, CNBC II
		PHECT Nepal Kirtipur Hospital, Kathmandu	SBA, FP, VIA, Burn Care management
		PHECT Nepal Model Hospital, Kathmandu	SAS, VIA, AAC
		Nepal Medical College, Kathmandu	2nd Trimester Abortion Care, Hemodialysis
		Army Hospital, Chhauni, Kathmandu	SBA, IUCD, Implant
		TUTH, Maharajgunj, Kathmandu	NICU, ICU, OTTM, PNC, Medico-legal, Hemodialysis, FP(IUCD, Implant),1st trimester Abortion, SBA
		Kanti Children Hospital, Kathmandu	Pediatric Nursing care(PNC), PECCT
		Nepal Cancer Care Foundation, Lalitpur	VIA / Thermal ablation
		COVID 19 Unified Central Hospital, Bir Hospital	Geriatric, Hemodialysis, ICU, AAC, ECCT
		Manakamana Hospital Pvt.Ltd, Bharatpur	SBA
		Manmohan Cardiothoracic Vascular Transplant Center, Kathmandu	ICU
		Kathmandu Medical College Public. Ltd, Bhaktapur	Medico-legal
		National Kidney disease treatment Center, Balaju, Kathmandu	Hemodialysis
		National Trauma Center, Kathmandu	Basic Physiotherapy and Primary emergency Care, ECCT
		Dhulikhel Hospital, Dhulikhel	VIA/Thermal ablation
Gandaki Province	5	Pokhara Academy of Health Science, Pokhara	RH, SBA, Implant, IUCD, AAC, Medico- legal, ECCT
		Community Hospital, Lamjung	SBA, MLP
		Dhaulagiri Provincial Hospital, Baglung	SBA, MLP
		Matrisisu Miteri Hospital, Kaski	SBA
		Sisuwa Hospital, Kaski	SAS

Lumbini Province	11	Lumbini Province Hospital, Butwal	SBA, SAS, IUCD, Implant
		Bhim Hospital, Bhairahawa	SBA
		AMDA Hospital, Butwal	OTTM, SBA
		FPAN, Butwal	IUCD, Implant, SAS
		SPN, Chandrauta, Kapilvastu	IUCD, Implant, SAS
		Lumbini Medical college, Palpa	SBA
		FPAN, Dang	IUCD, Implant
		Bheri Hospital, Nepalgunj	SBA, ROUSG, Implant, IUCD
		Mission Hospital, Palpa	SBA, MLP
		Nepalgunj Medical College, Banke	SAS, SBA, ICU, NICU, ECCT
		Rapti Provincial Hospital, Dang	SBA, Implant, IUCD
Karnali Province	3	Karnali Provincial Hospital, Surkhet	ROUSG, SAS, SBA, ASBA, FP (Implant, IUCD, NSV, Minilap)
		Karnali Academy of Health Science, Jumla	SBA
		Chaurjahari Community Hospital, Western Rukum	SBA
Sudurpaschhim Province	6	Seti Provincial Hospital, Dhangadhi	SBA, MLP, SAS, IUCD, Implant
		Mahakali Provincial Hospital, Kanchanpur	SBA, ASBA
		FPAN, Kanchanpur	IUCD, Implant, SAS
		Dadeldhura Hospital	SBA, MLP, ASBA
		Bayalpata Hospital, Achham	MLP
		Tikapur Hospital, Kailali	SBA

The 60 clinical training sites in different provinces of the Country are shown in the figure 8.1.3

The 60 clinical training sites in different provinces of the

Country are shown in the figure 8.1.3

Figure 8.1.3: Clinical sites in seven provinces

Figure 8.1.3: Clinical sites in seven provinces

8.1.8 Major activities carried out in FY 2078/79

8.1.8.1 Training Material Development and revision

In the last fiscal year 2078/79, the Training Material Development Section of NHTC has developed new training packages along with the existing training packages such as Pediatric Essential critical care, Disability management training for medical officers, Training on social accountability, Health management training for health officers at local level. A glimpse of the activity is presented in the table table 8.1.2:

Table 8.1.2.: Status of development of LRP for the FY 2078/79

S.N	Name of Training Material	New/Revision/ Update	Status
1	Essential Critical Care Training (ECCT)	New	Completed
2	Pediatric Critical Care Training	New	Complete
3	Integrated Vector Borne and Disease Control Training	New	Completed
4	Reproductive Health Morbidity Screening Training	New	Completed
5	Social Accountability in Health Sector Training	New	Completed
6	Geriatric Health Training for Medical Officers	New	Completed
7	Modular Training on Health System Management For Health Section of Local Level	New	Ongoing
8	Orientation on Health System to Newly Elected Leaders of Local Level	New	Ongoing
9	Training on Sample Collection During and Outbreak Investigation for Laboratory	New	Completed
10	Basic Emergency Medical Technician Training	New	Completed
11	Ambulance Driver Training	New	Completed
12	Acute Respiratory Distress Syndrome (ARDS) Training	New	Completed
13	Rural Obstetric Ultrasound Training (ROUSG)	Revision	Completed
14	Infection Prevention and Control Training	Revision	Completed
15	First Trimester SAS Training for MD ObsGyn/MDGPs	Revision	Completed
16	Basic Critical Care Training for Nurses (ICU Training)	Revision	Completed
17	FP Training On The Job Model for MDGP/ObsGyn/Surgeons	Revision	Completed
18	Implant, IUCD, Minilap, NSV Training	Revision	Completed
19	Four Days Basic Training for Female Community Health Volunteers	Revision	Completed
20	Refresher Training for Female Community Health Volunteers	Revision	Completed
21	Hospital Preparedness for Emergencies (HOPE)	Adoption	Completed
22	Hospital Preparedness for Emergencies Training for Instructors (HOPE-TFI)	Adoption	Completed
23	Public Health Leadership for NCD Champions	Adoption	Ongoing
24	Training on Disability Management and Rehabilitation For Medical Officers	New	Ongoing

8.1.8.2. Skill Development

NHTC conducts various clinical and managerial training and orientation programs. The NHTC is following a classroom-based in-person training modality. But due to the surge of COVID-19 this year, NHTC has conducted virtual training also. The various trainings are classified as pre-service and in-service training.

1. Pre-service training: This type of training is focused on health professionals in their academic and non-academic courses who can enter the health system after the completion of their studies. NHTC provides the eighteen-month Diploma in Biomedical Equipment Engineering (DBMEE) pre-service training course to produce Biomedical Equipment Technician (BMET). The CTEVT-accredited DBMEE training is targeted for the plus two science graduates who will work as biomedical equipment technician after training completion. The graduate will perform preventive and repair maintenance of healthcare equipment used in different health facilities across Nepal. The AAC course under National Academy of Medical Sciences (NAMS) is considered as pre-service as well as in-service training course which is designed as a task shifting to produce a non-doctor Anesthesia Assistant. Staff nurses and health assistant are the candidates for this course and after graduation; they support various emergency surgeries, especially the cesarean section in peripheral hospitals as well as elective surgeries where an anesthesiologist is unavailable.

2. In-service training: NHTC provides different kinds of training to the health service providers who are in service to develop their capacity so that they can perform specific clinical and public health tasks. The in-service training can be classified here based on the type of training provided.

- **Basic training:**
  Basic trainings are organized for female community health volunteers (FCHVs) who are newly recruited by the local mother's group among the member. The duration of this course is 10 days.
- **Competency based training:**
  NHTC organize various clinical training for government health workers in coordination with multiple clinical training sites to upgrade their knowledge and skills in multiple clinical areas. These in-service training are based on local needs. NHTC fulfills the training demand by developing new training courses, update and revise the existing training curricula according to the national and international practice and scientific evidence. Forty-five courses are offered which are listed in the box below:

Table 8.1.3: Competency based training

Competency based courses	
1. Anesthetic Assistant Course (AAC)	24. Facility Based Integrated Management of Neonatal and Childhood Illness (FBIMNCI)
2. Advanced Skilled Birth Attendance(ASBA)	25. Gender Based Violence (GBV)
3. Adolescent and Sexual Reproductive Health (ASRH)	26. ICU / CCU
4. Antimicrobial Resistance Training (AMR)	27. Implant
5. Burn Care Management (BCM)	28. IUCD
6. Basic Life Support Training (BLS)	29. Medical Abortion (MA)
7. Comprehensive Abortion Care (CAC)	30. Mini-lap
8. Cervical Cancer Screening and Prevention (CCSP)	31. Medico-Legal Training
9. Critical Care Training Program (CCTP)	32. Mid-Level Practicum (MLP)
10. Community First Aid Training (CFA)	33. Non-Scalpel Vasectomy (NSV)
11. Case Investigation and Contact Tracing (CICT)	34. Management of Obstetric Fistula (MOF)
12. Comprehensive Newborn Care Level II (CNC)	35. Operation Theatre Technique and Management (OTTM)
13. Comprehensive Family Planning (CoFP and Counseling)	36. Post Abortion Care (PAC)
14. Community Based Integrated Management of Childhood Illness (CBIMCI)	37. Palliative Care (PC)
15. Community Based Newborn Care Program (CBNCP)	38. Primary Emergency Care (PEC)
16. Community Based Integrated Management of Neonatal and Childhood Illness (CBIMNCI)	39. Pediatric Essential Critical Care Training (PECC)
17. Comprehensive Nutrition Specific Intervention Package (CNSI)	40. Package of Essential Non-Communicable Disease (PEN)
18. COVID-19 Preparedness and Essential Critical Care Management (COVID-19 PE CCM)	41. Pediatric Nursing Care (PNC)
19. Clinical Training Skills (CTS)	42. Pelvic Organ Prolapse (POP)
20. Cardio-Thoracic and Vascular Intensive Nursing Training (CTVIN)	43. Post-partum Intrauterine Contraceptive Device (PPIUCD)
21. Diabetes Education for Nurses Training (DE)	44. Renal Replacement Therapy (RRT)
22. Essential Critical Care (ECC)	45. Safe Abortion Services (SAS)
23. Emergency Trauma Management (ETM)	46. Skill Birth Attendant (SBA)
	47. Spinal Cord Injury (SCI)
	48. Rural Ultrasound Training (RoUSG)

i. **Refresher training:** Refresher training is also provided to the existing government health service provider to update and improve their knowledge and skills in a frequent time intervals and when there are changes in practices. CAC, FCHVs, and SBAs are in-service refresher training provided according to the need of divisions and centers.

ii. **Induction training:** NHTC has begun providing induction training for newly recruited health service groups from 2072/73. The one-month courses (1 month) are provided for all health service disciplines. This training is provided to the newly recruited health officers only through the NHTC.

iii. **Other training:**

- Biomedical Equipment Assistant Training (BMEAT).
- Biomedical equipment training for users (cold chain, laboratory, X-ray).
- Orientation program (HFOMC, Appreciative Inquiry).

8.1.8.3. Training Accreditation and Regulation

In Fiscal year 2078/79, the accreditation and regulation section of NHTC has conducted following activities.
Nine training sites for different training programs were accredited namely:

1. COVID-19 Unified Central Hospital, Bir hospital for Geriatric, Hemodialysis
2. Dhulikhel Hospital for VIA/Thermal ablation
3. FPAN, Kanchanpur for SAS (MA/MVA)
4. Pokhara Academy of Health Science for Medico-legal
5. Koshi Hospital, Biratnagar for ROUSG
6. Nobel Medical College, Biratnagar for SBA
7. Rapti Province HoSpital, Dang for SBA, Implant, IUCD, PPIUCD
8. Lumbini province hospital for IUCD, Implant, PPIUCD
9. Karnali Province Hospital, Surkhet for ASBA, RoUSG, SAS

Follow-Up Enhancement (FEP): It was conducted with the purpose to assess the knowledge and skills of trainees to find the gaps and enhanced the existing skills, in the following districts:

1. Khotang
2. Bara
3. Sindhuli
4. Dolakha
5. Manang
6. Arghakhanchi
7. Nawalparasi West

8.1.8.4. COVID-19 preparedness and response

In response to COVID-19, NHTC has developed training packages and implemented training for different cadres of health service providers. The following activities were done in FY 2078/79 for COVID-19 preparedness and response:

- 6 days Essential Critical Care On-site Training for Doctors, Nurses and Health Workers for COVID-19 Management.
- ICU / CCU training for nursing staff (1 month).
- A Study on Training Outcomes among ECCT-Trained Doctors and Nurses Working in Different Hospitals after the COVID-19 Emergence.
- A four-day package of Pediatric Essential Critical Care (PECC) was prepared for Pediatricians, Medical Officers and Nursing Officers.
- Development of Acute Respiratory Distress Syndrome Package (ARDS).
- Revision of Infection Prevention and Control Package.
- Case Investigation and Contact Tracing Training packages.

- To strengthen and prepare the health workers for future emergencies, NHTC has conducted various COVID-19-related trainings to 289 health workers in FY 2078/79.

8.1.8.5. New initiatives

As a new initiative, it is realized that the focus needs to be shifted from a traditional to a blended approach, on-the-job training, and enhancing the online learning platform. Training packages are envisioned to develop based on new concept of learning theory 'low dose and high frequency' which helps to reduce absenteeism of health workers in regular health service with optimum utilization of available resources.
NHTC has revised existing training packages and developed new learning resource packages and conducted training based on emerging disease, critical care, and disaster-related response which are as follows:

- COVID-19 preparedness and response on Infection Prevention and Control
- Revision of Essential Critical Care Training package (from 2 days to 6 Days) and Pediatric Critical Care to health workers by using On-Site training approach.
- Six months psychosocial counseling package using blended approach
- First Aid with Basic Life Support (BLS) and Advanced First Aid for community responders
- NHTC is working proactively whilst capaciting provincial health training centers for development of training packages, quality assurance and regulation of training packages and conducting training.

8.1.8.6. Initiatives for future

NHTC has planned to develop specific training packages based on a gap identified in different kinds of literatures, reviewing international practices and the need of the health service provider in delivering services. It includes: SOP on sample collection during the epidemic, quality management system in the laboratory, revision of IUCD/ Implant/Immediate PPIUCD- related coach/ mentoring package, geriatric care for doctors, revision on Climate Change package, social audit in the health sector, dental Training Package, FCHV refresher package, and manual revision.
Along with this, NHTC started Field Epidemiology Training Program (FETP) for front line health workers to strengthen surveillance system and enhance capacity to respond outbreaks at community level with the support from US CDC. The training on Public Health leadership for responding to NCDs and Hospital Preparedness for Emergencies (HOPE) along with HOPE-TFI are the future endeavors to NHTC.

8.1.9 Annual target and achievements

a. Program activities

In the fiscal year 2078/79, a total of 3309 participants were trained by NHTC in different 79 training programs among the total trained participants, 63.79 were female (2111) and 36.20 were male (1198). Total 11385 participants were trained throughout the country from all accreditated training networks in different 167 training program. Among the total trained participants, 18.54% were females (2111) and 82.34% were male (9375).

b. Budget and Expenditure

The data shows the percentage of budget spent with respect to budget allocation in FY 2078/79 compared to previous FYs.

Table: 8.1.4.: Status of budget allocation and financial progress in five consecutive fiscal years

Budget	FY 2074/075 (in NRs '000)		FY 2075/076 (in NRs '000)		FY 2076/077 (in NRs '000)		FY 2077/78 (in NRs '000)		FY 2078/79 (in NRs '000)	
	Allocated Budget	Expenditure (%)	Allocated Budget	Expenditure (%)	Allocated Budget	Expenditure (%)	Allocated Budget	Expenditure (%)	Allocated Budget	Expenditure (%)
Federal level	204,149	90.3	10,37,00	91.23	11,72,00	51.27	11,28,00	62.27	9,16,00	78.32

ISSUES AND RECOMMENDATIONS:

S.N.	Issues	Challenges	Recommendations
1	Service delivery	• Multi-door trainings • Inadequate service related standard protocol for developing training package • Focus of training on transfer of knowledge(theory) rather than developing practical skills • Inadequate training follow up mechanism	• Establish one door accredited training system • Develop the SOP for training packages and training sites • Shift from the traditional to blended learning approach and link it with the CPD • Improve the quality of training by regularly updating trainers, by post-training follow-up, by preparing a roster of master trainers and by ensuring training quality as per guidelines
2	Health workforce	• Manage a separate pool of trainers from different discipline • Unplanned selection of participants • Training Need Assessment for institutionalizing need based trainings. • Lack of Coordination with Universities/ CTEVT to incorporate the national program requirement in the pre-service curriculum.	• Recruit and place adequate technical skilled human resources in health training center • Select proper candidate for long term training • Develop the capacity of both clinical and non-clinical trainers • Integrate trainings in pre-service education
3	Health information	• Inadequate skilled technical human resources • Inadequate recording and reporting mechanism	• Develop capacity of human resource to operate TIMS effectively • Maintain trainer's roster in each province
4	Logistics and infrastructure	• Lack of proper accommodation facilities for training participants and trainers • Limited sites for special training	• Manage hostel facility for trainings of long duration • Strengthen the support in infrastructure development and accreditation of training sites
5	Financing	• Inadequate allocation of budget for training monitoring and quality assurance • Inadequate incentives for trainers and budget for conducting planned trainings	• Establish the mechanism of self-sustainability of trainings and allocate adequate budget for training monitoring and quality assurance • Initiation of paid training systems through contracting out with the private sectors
6	Leadership and governance	• Lack of systematic coordination mechanism with province governments and local level for training management and quality control. • Issue of accreditation, renewal and accountability of training sites etc. • Timely revision of the training related policies and strategies.	• Coordination, collaboration and partnership with Province Governments and External Development Partners and UN Agencies for quality health training management and conduction • Clarify the federal and provincial roles in supporting partner's mobilization and training site development • Develop proper training related policies and update necessary strategies.

8.2 Vector Borne Disease Research & Training

Summary
The objective of Vector Borne Disease Research and Training Center (VBDRTC) is to fill the knowledge gap and generate scientific evidences in the field of Vector Borne Diseases. Therefore, VBDRTC is responsible for researchs and trainings that relate with VBDs such as Malaria, Kala-azar, Dengue, Chikungunaya, Zica, Westnyl diseases, Lymphatic filariasis, Scrub typhus and Japanese encephalitis. In the FY 2078/79 Vector Borne Diseases Trainings (VBDs) for VBDs focal persons/ health workers, malaria microscopic basic and refresher trainings for lab technicians and lab assistants were conducted to enhance their level of knowledge and skills related with prevalent vector borne diseases. Studies conducted during this fiscal year include monitoring of insecticide resistance in malaria vectors and transmission assessment survey of Lymphatic Filariasis.

Introduction

Vector Borne Disease Research and Training Center (VBDRTC) was established in the year 1979 AD as a Malaria Research and Training Centre under the Nepal Malaria Eradication Organization (NMEO). On 12th June 1996, the center was named as Vector Borne Disease Research and Training Center. The key objective of Vector Borne Disease Research and Training Center is to fulfill the knowledge gap and supplement with evidence base in the better understanding of VBDs etiology, its transmission intensity and interventions programs implemented by Nepal government. VBDRTC is responsible for research and training of VBDS including Malaria, Kala-azar, Dengue, Chikungunaya, Lymphatic filariasis, Scrub typhus and Japanese encephalitis.

Major activities carried out during FY 2078/79

1. Lymphatic Filariasis Elimination Programme: Transmission assessment survey (TAS)

Lymphatic filariasis (LF) is a parasitic mosquito-borne endemic disease spread in 73 countries which is one of the leading causes of global disability and targeted for global elimination. An estimated 1.4 billion people are at risk of LF disease. LF being a one of the major public health problems in Nepal,Government has expressed its commitment towards achieving elimination by the year 2030 through the mass distribution of Diethylcarbamazine citrate (DEC) and Albendazole to endemic districts of Nepal. The Nepal LF Elimination Program has already reached all 63 endemic districts. Till date, 48 districts are already qualified to stop MDA and have graduated to TAS II survey. During the FY 2078/79 VBDRTC conducted Re Pre TAS in Morang, Kailali, Bankey, Kapilbastu and Dang districts and TAS-I in Bardiya and Dhankuta districts and TAS-II in Darchula, Baitadi, Bajhang, Doti, Dadeldhura, Achham, Bajura, Dailekh, Surkhet, Jajarkot, Sunsari, Terhathum, Bhojpur and Udayapur districts with the guidance of MOHP and financial and technical support of USAID and WHO.

Table 8.2.1 LF Surveys conducted by VBDRTC in FY 2078/79

LF Surveys conducted by VBDRTC in FY 2078/79

S.N.	Activities	Survey Districts	Passed Districts
1	TAS-I (2EU)	Bardiya and Dhankuta	All Pass
2	Re Pre TAS (1 EU)	Morang	Fail
3	Re Pre TAS (2 EU)	Bankey,Kailali,Dang and Kapilbastu	Fail

LF Surveys conducted by VBDRTC in FY 2078/79

S.N.	Activities	Survey Districts	Passed Districts
1	TAS-II (5EU)	Myagdi,Lalitpur,Sunasari ,Terhathum,Surkhet and Jajarkot	All Pass
2	TAS-II (5EU)	Darchula,Baitadi,Bajhan g,Bajura,Acham,Dailekh a,Doti,Dadeldhura,Uday apur and Bhojpura.	All Pass

2. Training

2.1 VBDs training for health workers

The objective of this training is to update the knowledge, skills and strengthen management capacity of health workers on VBDs enhance the level of knowledge and skills of the participants in the management of prevalent vector borne diseases in Nepal. Three days VBDs training was conducted in District hospital; Dhading, Health Office Gorakha, Health Office Okhaldhunga, Municipalities of lahan, Siraha and Sukhipur, Siraha districts. The methodologies used were lecture, adio/visual aids, power-point presentation, group works and discussion**.** Medical superintendants, physician and pediatrician and & medical generalist, director, senior health administrator, vector control officer were used as facilitators. A total of 125 persons (25 persons/group) including MO, VCI/ VCO/ MI, HA, AHWs, SN, and ANMs were trained on VBDs as preset program schedule in the fiscal year 2078/79.

2.2 Malaria microscopy training

With a vision of malaria free Nepal by 2025, Nepal Malaria Strategic Plan 2015-2025 has been developed. Light microscopy (Giemsa Malaria Microscopy) is still the gold standard technique for malaria diagnosis. VBDRTC is providing basic malaria microscopy and refresher malaria training to laboratory technicians/assistants of malaria endemic areas. Purpose of this training is to generate competent manpower at microscopic centers.

2.2.1 The basic malaria microscopic training

This training is intended to provide to laboratory personnel who are new to malaria microscopy and are involved in malaria diagnosis. It is 30 days of course with lots of hands on techniques involving smear preparation, staining, and microscopic examination of malaria parasites. The expected outcome of this training is to provide basic malaria microscopy quality diagnosis and to acquire skillful eyes in differential diagnosis of all species of Plasmodium parasites. Twenty eight persons in two groups (14 persons in each group) were trained. in basic malaria microscopy at VBDRTC in FY 2078/79. Among 28 persons, 4 persons had achieved level A.

2.2.2 Malaria microscopy refresher training

This course is intended to provide training to those who had previously obtained basic malaria microscopy training to update and upgrade the skills in malaria microscopy and to strengthen the malaria microscopy laboratory services in malaria endemic districts. It is 15 days of course, was conducted in VBDRTC with lots of hands on techniques involving smear preparation, staining, and microscopic examination of malaria parasites, counting, quality assurance and national slide banking. A total of 13 persons were trained in refressor malaria microscopy training in 1 group.

3. Preparation of VBDs training materials

Training manual, guidelines and participatory books for health workers VBDs training had been prepared with the help of National Health Training Center (NHTC).

4. Research activities

4.1. Susceptibility Test of malaria vectors with Alpha-cypermethrin

Objective

To study the susceptibility status of malaria vectors against pyrethroid insecticide.

4.1.1. Results of the susceptibility test carried out in Kushanhari village of Kawashoti Municipality, Nawalpur district, Gandaki Province (Date: 2078/07/26 to 2078/08/02).

In order to study the insecticide resistance in field population of malaria vectors against Alpha-cypermethrin in this study, CDC bottle bioassays were performed on 84 adult female Anopheles mosquitoes with diagnostic dose of 12.5 mg/bottle of Alpha-cypermethrin and 36 adult female Anopheles mosquitoes were exposed with control bottles (coated with acetone only) alongside each CDC bottle bioassay. CDC bottle bioassays performed on 84 field populations of adult female Anopheles mosquitoes with diagnostic dose of 12.5 mg/bottle of Alpha-cypermethrin and diagnostic exposure time of 30 minutes showed 76.2% mortality. CDC bottle bioassays performed in 84 adult female anopheline mosquitoes against Alpha-cypermethrin, species wise mortality observed in descending order was; An. annularis (100%), An. pseudowillmori (100%), An. jamesii (100%), An. aconitus (97.6%), An. fluviatilis (80%), An. vagus (40%) and An. peditaeniatus (16.6%) respectively. A total of 120 adult female anopheline mosquitoes comprising 8 Anopheles species resting indoor inside the cattle sheds were captured by using mouth aspirators and torch lights. Among these 120 adult female anopheline mosquitoes captured; An. aconitus was the most prevalent species comprising 43.3%, followed by in descending order 19.1% An. annularis, 19.1% An. peditaeniatus, 6.6% An. vagus, 5.8% An. fluviatilis, 2.5% An. pseudowillmori, 1.6% An. jamesii and 1.6% An. pseudojamesii respectively.

4.1.2. Results of the susceptibility test carried out in Sunachuri village of Manhari Rural Municipality, Makwanpur district, Bagmati Province (Date: 2078/09/16 to 2078/09/22).

In order to study the insecticide resistance in field population of adult female Anopheles fluviatilis mosquitoes against Alpha-cypermethrin in this study, CDC bottle bioassays were performed on 138 adult female Anopheles fluviatilis mosquitoes with diagnostic dose of 12.5 mg/bottle of Alpha-cypermethrin and 34 adult female Anopheles fluviatilis mosquitoes were exposed with control bottles (coated with acetone only) alongside each CDC bottle bioassay. CDC bottle bioassays performed on 138 field populations of adult female Anopheles fluviatilis mosquitoes with diagnostic dose of 12.5 mg/bottle of Alpha-cypermethrin and diagnostic exposure time of 30 minutes showed 100% mortality.

4.1.3. Results of the susceptibility test carried out in Labana village of Lekbesi Municipality Surkhet district, Karnali Province (Date: 2078/12/13 to 2078/12/19).

In order to study the insecticide resistance in field population of adult female Anopheles fluviatilis mosquitoes against Alpha-cypermethrin in this study, CDC bottle bioassays were performed on 116 adult female Anopheles fluviatilis mosquitoes with diagnostic dose of 12.5 mg/bottle of Alpha-cypermethrin and 30 adult female Anopheles fluviatilis mosquitoes were exposed with control bottles (coated with acetone only) alongside each CDC bottle bioassay. CDC bottle bioassays performed on 116 field populations of adult female Anopheles fluviatilis mosquitoes with diagnostic dose of 12.5 mg/bottle of Alpha-cypermethrin and diagnostic exposure time of 30 minutes showed 100% mortality.

4.1.4. Results of the susceptibility test carried out in Chhabise village of Rainas Municipality Lamjung district, Gandaki Province (Date: 2079/01/05 to 2079/01/11).

In order to study the insecticide resistance in field population of malaria vector adult female Anopheles annularis against Alpha-cypermethrin in this study, CDC bottle bioassays were performed on 149 adult female Anopheles annularis mosquitoes with diagnostic dose of 12.5 mg/bottle of Alpha-cypermethrin and 42 adult female Anopheles annularis mosquitoes were exposed with control bottles (coated with acetone only) alongside each CDC bottle bioassay. CDC bottle bioassays performed on 149 field populations of adult female Anopheles annularis mosquitoes with diagnostic dose of 12.5 mg/bottle of Alpha-cypermethrin and diagnostic exposure time of 30 minutes showed 99.3% mortality.

5. Issues and action to be taken

S. N	Problems/constrains	Action to be taken	Responsibility
1	VBDRTC's dormatory for trainees is occupied by the regional educational directorate.	Provincial Regional Educational Directorate to be managed in other place.	VBDRTC & MoHP/ PMoSW
2	Old infrastructure: dormitory, office building and quarters.	Hostels, office and staff quarters to be renovated.	VBDRTC
3	Vacant post: parasitologist, entomologist & vector control officer	Vacant post needs to be filled	VBDRTC/MOHP
4	Lack of vehicles for training, research, surveys and outbreak investigation of VBDs.	At least one new vechicle should be provided for field program.	VBDRTC/MOHP
5	Lack of sanctioned post for Entomolpgist, microbiologist, epidemiologist, research officer and statistical officer.	O & M survey to be done to develop VBDRTC as center of excellance.	VBDRTC/MOHP

8.3 HEALTH EDUCATION, INFORMATION AND COMMUNICATION

8.3.1 Background

National Health Education, Information and Communication Center (NHEICC) is the central body for health promotion activities in Nepal under the Ministry of Health and Population (MoHP). It was established in 2050 B.S. NHEICC aims to plan, implement, monitor and evaluate health promotion programmes of the country. The health promotion programmes include advocacy, health education, health communication, community engagement and health promotion research and survey but are not limited to these only. The scope of NHEICC is mostly, guided by the National Health Communication Policy 2012, the National Health Policy 2019, communication strategies and other related guidelines, directives and plans. It functions to support national health programmes and services to achieve national health goals and Sustainable Development Goals (SDGs). The center applies key health promotion approaches such as advocacy, social mobilization and community engagement, mass media mobilization and social and behaviour change communication. NHEICC has four sections including Health Promotion, Non-communicable Disease (NCD) and Tobacco Regulation Section, Health Education and Material Development Section, Health Communication Coordination Section, and Administrative Section. NHEICC is the focal point of MoHP for tobacco control and regulation along with Risk Communication and Community Engagement (RCCE). Recently, NHEICC has been taking a leading role for SAFER initiative (anti-alcohol activities) for the first time in the South Asian Region.

8.3.2 Vision:

Healthy, conscious and responsive citizens concerned with happy life.

8.3.3 Goal:

To promote health, prevention and control of diseases and increase the maximum utilization of available health care services.

8.3.4 Objectives:

The general objective of NHEICC is to promote health of the people by raising health awareness and preventing diseases through the efforts of the people themselves and full utilization of available health services.
The specific objectives of NHEICC are:

- To assist the MOHP to formulate national acts, policies, strategies and guidelines related to health promotion and health communication
- To regulate the marketing of alcohol and tobacco products as well as harmful health products in coordination with the relevant agencies
- To strengthen, expand and implement health communication programmes and RCCE at all levels
- To facilitate related stakeholders to make healthy settings like healthy paalika, health promoting schools, health promoting workplaces, health promoting hospitals etc. with support and coordination of relevant agencies
- To generate, collect and mobilize resources to implement health promotion and communication programmes
- To develop and update IEC/ BCC materials in coordination with relevant stakeholders
- To provide technical support for health promotion, education and material development at all levels
- To mobilize and use modern and traditional health education methods and media to increase health literacy and promote healthy behaviour among the general public
- To prevent the inappropriate and unauthorized dissemination and duplication of messages or information and IEC materials on different health related issues
- To enhance capacity on health communication to develop, produce and disseminate quality messages and information

8.3.5 Strategies

Health education, information, and communication activities are implemented by NHEICC based on health promotion strategies such as:

1. **Advocacy**: Advocacy communication will be carried out at all three levels (i.e. Federal, Provincial and Local), within inter and intra ministries, policy makers, non-health actors, political parties, parliamentarian, health development partners and influencers to insure increased and sustained support and commitment for health promotion activities.

It advocates for NCD control and prevention, communicable disease and epidemics control and prevention, healthy paalika formation, health promoting school, hospital and workplace formation, proper implementation of Tobacco act and regulation, alcohol control and regulation, Adolescent, Sexual and Reproductive Health (ASRH), family planning, maternal health and implementation of Risk Communication and Community Engagement (RCCE) guideline.

2. **Social mobilization and community engagement**: Social mobilization and community engagement ensure the involvement of people at all levels to obtain support for health promotion activities which helps to mobilize the resources and improve service coverage. NHEICC decentralizes the programmes through the provinces, health offices, municipalities, rural municipalities and many more. It also increases the demand generation of health services and their promotion through health mother groups, health clubs, FCHVs, youth clubs, school and other relevant stakeholders.

3. **Mediate:** Health promotion demands coordinated action by all concerned: three tiers of governments, health and non-health sectors, non-governmental and voluntary organizations, religious leaders, influencers and the media. NHEICC has a major responsibility to mediate between differing interests in society for the pursuit of health through health promotion interventions.

4. **Social behaviour change communication**: Social behaviour change communication has been implemented through NHEICC and its wings to change the positive behaviour of an individual. Social Behaviour Change Communication (SBCC) is carried out by considering Gender Equality and Social Inclusion (GESI) to make an effective health education, information and communication programme successful. NHEICC also develops disability-friendly printed and electronic IEC materials and methods so that no one will be deprived of health education and information.

5. **Digitalization in health promotion and communication**: NHEICC works for the utilization of digital technology to create a platform and provide health information and education to people. It creates different web portals, applications, digital communication systems and digital infographics.

6. **Mass media approach:** NHEICC uses different mass media such as televisions, radios, digital boards and online and printed media to disseminate health messages and information. It also does social listening through media monitoring.

7. **Policy, strategies, and directives formulation**: NHEICC formulates policy, strategies and directives for proper implementation of health promotion activities as per the need.

8.3.6 Major activities and achievements by federal, province and local level in 2078/79

8.3.6.1 Health education, information and communication activities were carried out at the federal level as mentioned below (Table 8.3.1).

Table 8.3.1: Major activities carried out by federal level in 2078/79
• Health promotion programme for Samriddha Nepal
• Federal health promotion strategy development and advocacy
• Monitoring and facilitation for effective implementation of health promotion activities at provincial and local level.
• SAFER initiatives lunched
• Risk communication and community engagement directive endorsed
• RCCE federal unit established
• Addressed the issues and questions from call center 1115 and 1133 including social listening via swift content creation, dissemination and press brief
• Airing and broadcasting of disease outbreak and epidemic related messages.
• Communicable and epidemic disease control related communication programme and daily newspaper monitoring programme
• Promotion of COVID-19 vaccines through mass media
• Covid-19 prevention and control related communication programmes (TV, radio, social media, ringtone, sms, print)

• COVID dedicated TV programme (Corona Care and Swasthya Jeevan) and radio programme (Sundai Sikdai)
• Campaigns like Nepal mask campaign, Nepal mental health wellbeing campaigns and COVID-19 vaccination campaign were carried out
• Interaction programme of local level officials (elected and appointed) on the importance of Case Investigation and Contact Tracing (CICT) Risk Communication and Community Engagement(RCCE), CICT and COVID-19 vaccine communication in the context of COVID-19 (15 local levels of Bagmati, Lumbini and Province 2)
• Training on Risk communication and health reporting for Journalist in 7 provinces including federal level
• Partnership with different sectors such as Nepal Telecom, Ncell, Advertising board, shopping centers and online shopping sites, journalist network and transport agencies for COVID-19 message/SMS dissemination
• Journalist interaction on Family Planning (FP), Maternal health, and Neonatal health.
• Capacity building on SBCC of local leaders, health workers
• Training on Communication for Behavioural Impact (COMBI)
• Health awareness and communication programme for differently able people
• Development of print materials on FP, newborn health, safe motherhood, breastfeeding, immunization, pneumonia, diarrhoea, ASRH booklet and FP flipchart
• Broadcasting of FP, Safe motherhood, newborn health, ASRH, Nutrition, Child health, immunization, birth defects, reproductive health (RH) morbidity through TV, FM and digital boards.
• Health education and communication programme on accident and physical injuries
• Ear/Nose/Throat related health awareness and communication programme.
• Communication programme on non-communicable disease prevention and control.
• Airing of health messages and public health radio programmes (swasthya gatibidi, janaswasthya radio drama) through Radio Nepal.
• Broadcasting of health messages, public health dialogue (Janaswasthya Bahas) and Jivan Chakra through Nepal television including Press briefings.
• Health message exhibition on assembly, event, sports, health camp musical and cultural programme
• Publication of health messages, information and press release in national newspapers.
• Health education and communication programme for marginalized and deprived communities/groups
• Development of digital technology for health promotion
• Broadcasting and Airing of messages regarding NCD and Mental health through television and FM

Source: NHEICC

Health education, information, communication and health promotion activities that were carried out by provincial and local level in the reporting period are listed in the following table (table 8.3.2).

Table 8.3.2(i): Major activities carried out by province in 2078/79	
• Celebration of world health day and other health related days, weeks and months.	• Broadcasting of messages via local mass media (cable TV, online, FM, local newspaper)
• School health education programme	• Supervision and monitoring of health education programme
• Journalist interaction on different health issues.	
Table 8.3.2(ii): Major activities carried out by local level in 2078/79	
• Health mother group and social behaviour change campaign at local level.	• School health education programme

Source: NHEICC

8.3.6.2 Tobacco Control Programme

NHEICC under the MOHP is the national focal point for tobacco control and regulation in Nepal. In Nepal, more than 27000 people die due to diseases attributable to tobacco use every year.
Nepal signed the WHO FCTC on 3rd December 2003 and ratified it on 7th November 2006 and became a Party to the WHO FCTC on February 5, 2007. Based on the WHO FCTC, the government has enacted laws and procedural documents aiming at tobacco control and regulation.

Roadmap to Tobacco Control Legislation

The Tobacco Products (Control and Regulation) Act, 2011 is the primary law governing tobacco control in Nepal and regulates, among other things, smoking in public places, workplaces and public transport; tobacco advertising, promotion and sponsorship; and tobacco packaging and labeling. One regulation and three directives have been issued under the Act to implement its provisions: 1) The Tobacco Products (Control and Regulation) Regulation, 2068 (2011); 2) the Directive for Printing and Labeling of Warning Message and Graphics in the Boxes, Packets, Wrappers, Cartons, Parcels and Packaging of Tobacco Products; (3) Tobacco Product Control and Regulatory Directive, 2014; and (4) Directive on Printing Warning Messages and Pictures on Tobacco Product Boxes, Packets, Cartons, Parcels and Packaging Materials, 2014. The last directive listed increased the size of the graphic health warnings from 75 percent to 90 percent of the front and back of all tobacco product packaging beginning in 2015.

Strength of tobacco control programme of Nepal

The government of Nepal has established a tax fund from which the programmes of tobacco control, cancer and non-communicable disease prevention and care are organized. It is a kind of innovative financing. Besides this we have strong civil society and media engagement in tobacco control programmes. Furthermore, the policy instruments so far endorsed are highly comprehensive.

Activities of tobacco control programme carried out by federal level in 2078/79

1. Advocacy for Tobacco control and regulation with local leaders of 5 municipalities (i.e. Waling, Nijgad, Bhimdatta, Bheriganga and Guleriya)
2. Tobacco control and regulation act updated and printed.
3. Booklets related to tobacco control and regulations updated and printed.
4. Media campaign in World No Tobacco Day.
5. Communication programme on smoking and tobacco control and regulation including journalist interaction.
6. Train the trainer Workshop on Brief Tobacco Intervention in Nepal
7. Broadcasting and Airing of messages regarding Smoking and Tobacco product control through television and FM
8. Health tax fund programme on tobacco control and regulation.
9. Signage, stickers and mount-boards were developed and printed to aware about harmful effects of tobacco products.

8.3.7 Federal level physical and financial achievement of program activities.

The achievement trend is shown in the following table (Table 8.3.3)

Table 8.3.3: Percentage trend of physical and financial achievement by federal level in 2076/77 to 2078/79.

Programme	2076/77		2077/78		2078/79	
	Physical	Financial	Physical	Financial	Physical	Financial
Federal Level	95	76.41	98.23	74.99	89.07	81.13

Source: NHEICC

The above table shows that the physical and financial achievement in the year 2078/79 regarding Health education, information, communication, and health promotion programme at the federal level was 89 % and 81 % respectively.

8.3.8 Strengths, Weakness, Opportunities and Challenges (SWOT Analysis):

The strength, weakness, opportunities and challenges of health education, information, communication and health promotion programme in the reporting year is shown in the following table.

Table 8.3.4: Strength, Weakness, Challenges and Opportunities

Strength	Weakness	Opportunities	Threats/Challenges
• National health communication policy, strategy and directive are in place. • Good organizational structure at Federal/ Province level for health promotion programme • Behaviour change communication for health promotion approach has been developed in line with national health communication policy 2012. • Programmes flow from federal to province and local level. • Formulation of health promotion strategies 2022-2030 • RCCE guidelines inplace and establishment of federal RCCE structure	• Limited human resources for health promotion at federal and province level. • No organizational structure including human resources for health promotion at local level. • No reporting mechanism for HEIC activities • Roadmap of health promotion activities yet to be developed. • Preparedness mechanism during emergencies is not satisfactory.	• Launching of SAFER initiative • Interest of different stakeholders in RCCE activities • Initiation of digital technology in health • New initiations such as anti-alcohol control advocacy programme, Health Promoting school programmes, Formulation of strategies such as strategies for health promoting school, hand washing strategies. • Understanding health literacy as an outcome of health promotion by health managers and health workers which support changing their mind- set of working. • Incline towards healthy setting approach	• Multi-door health communication activities • COVID-19 pandemic • Inadequate allocation of budget for communication programme as per communication policy 2012 • Coordination challenges in federal structure. • Inadequate capacity of local government in prioritizing planning and implementation of health education programme. • Inadequate compliance with national health communication policy 2012, supportive guidelines and directives. • Less emphasis on health promotion activities as per the international declaration and changing patterns of diseases and health case scopes.

8.3.9 Recommendations

- Robust implementation of RCCE guidelines for emergencies.
- Develop roadmap for health promotion activities
- Advocate for allocation of budget based on the communication policy prioritized >2% of Health budget.
- Establish one door mechanism in health communication activities
- Increase health education officer positions at federal and provincial levels.
- Create health education officer positions at local level.
- Develop HMIS indicators for reporting HEIC activities
- Advocate and Empower Local level to make Work-plan and implement Health Promotion activities.
- Coordination, collaboration and partnership with Provincial and local governments

Table 8.3.5 National Health Education Information and Communication Center programme activities

SN	Activities	Unit	Targets	Achievement	Percentage
1	Broadcasting and Airing of the messages regarding Smoking and Tobacco product control through television and FM	Times	3	3	100
2	Airing of health messages and public health radio programme through Radio Nepal.	Times	4	4	100
3	Publication of health messages, information and press release in national newspapers.	Times	44	22	50
4	Dissemination of health news, information or messages through website, FaceBook, YouTube, twitter, apps including social media	Times	4	0	0
5	Communicable and epidemic disease control related communication programme and daily newspaper monitoring programme.	Times	4	4	100
6	Health awareness and communication programme for differently able people	Times	4	4	100
7	Ear/Nose/Throat related health awareness and communication programme.	Times	4	4	100
8	Communication programme on smoking and tobacco control and regulation.	Times	4	4	100
9	Communication programme on non-communicable disease prevention and control.	Times	4	4	100
10	Federal health promotion strategy development and advocacy	Times	4	2	50
11	Health promoting school programme conduction	Times	4	0	0
12	AMR awareness and orientation health promotion programme	Times	6	0	0
13	Health awareness and communication programme on brain death, kidney and organ donation	Times	4	4	100
14	Advocacy and strategic communication on occupational, environmental health and Air pollution, climate change	Times	12	10	83
15	Health awareness and communication programme on fuel emission and air pollution	Times	4	4	100

SN	Activities	Unit	Targets	Achievement	Percentage
16	Health education and communication programme on IMNCI, Immunization, Nutrition, Diarrheal diseases, pneumonia etc.	Times	4	4	100
17	Broadcasting of health messages, public health dialogue (Janaswasthya Bahas) and Jivan Chakra through Nepal television	Times	4	4	100
18	Health message exhibition on assembly, event, sports, health camp musical and cultural programmes	Times	4	4	100
19	Health education and communication programme on accident and physical injuries	Times	4	4	100
20	Health promotion programme for Samriddha Nepal	Times	4	0.5	12.5
21	Development of digital technology for health promotion	Times	4	3.5	87.5
22	Health education and communication programme for marginalized and deprived community or group	Times	4	2	50
23	Health awareness and communication program on mental health	Times	4	4	100
24	Health awareness and communication programme on birth defect	Times	4	4	100
25	Awareness and communication programme on family planning, safe motherhood and neonatal health.	Times	4	4	100
26	Dissemination of information and messages on online media	Times	4	4	100
27	Awareness and communication programme on family planning, safe motherhood, neonatal and adolescent health.	Times	4	4	100
28	Promotion of family planning and PPIUCD through inter personal communication for hard to reach group along with media mobilization for social behavior change.	Times	4	2.4	60
29	Broadcasting of health related messages and information through National Televisions.	Times	4	0.5	12.5
30	Airing and broadcasting of disease outbreak and epidemic related messages.	Times	4	4	100
31	Monitoring and facilitation for effective implementation of health promotion activities at provincial and local level.	Times	70	70	100

SN	Activities	Unit	Targets	Achievement	Percentage
32	Interaction programme of local level officials (elected and appointed) on the importance of Case Investigation and Contact Tracing (CICT) Risk Communication and Community Engagement(RCCE), CICT and COVID-19 vaccine communication in the context of COVID-19	Times	19	15	78.95
33	Advocacy for Tobacco control and regulation with local leaders of 5 municipalities (i.e. Waling, Nijgad, Bhimdatta, Bheriganga and Gulariya)	Times	5	5	100

Table 8.3.6 Targets of National Health Education Information and Communication Center programme activities

SN	Activities	Unit	Targets
1	Broadcasting and Airing of the messages regarding Smoking and Tobacco product control through television and FM	Times	3
2	Airing of health messages and public health radio programme through Radio Nepal.	Times	4
3	Publication of health messages, information and press release in national newspapers.	Times	44
4	Dissemination of health news, information or messages through website, Facebook, YouTube, twitter, apps including social media	Times	4
5	Communicable and epidemic disease control related communication programme and daily newspaper monitoring programme.	Times	4
6	Health awareness and communication programme for differently able people	Times	4
7	Ear/Nose/Throat related health awareness and communication programme.	Times	4
8	Communication programme on smoking and tobacco control and regulation.	Times	2
9	Communication programme on non-communicable disease prevention and control.	Times	4
10	Health promoting school programme	Times	5
11	AMR awareness and orientation health promotion programme	Times	3
12	Health awareness and communication programme on brain death, kidney and organ donation	Times	2
13	Advocacy and strategic communication on occupational, environmental health and air pollution, climate change	Times	12
14	Health awareness and communication programme on fuel emission and air pollution	Times	3
15	Health education and communication programme on IMNCI, Immunization, Nutrition, Diarrheal diseases, pneumonia etc.	Times	4
16	Broadcasting of health messages, public health dialogue (Janaswasthya Bahas) and Jivan Chakra through Nepal television	Times	4

SN	Activities	Unit	Targets
17	Health message exhibition on assembly, event, sports, health camp musical and cultural programme	Times	4
18	Health education and communication programme on accident and physical injuries	Times	4
19	Health promotion programme for Samriddha Nepal	Times	3
20	Development of digital technology for health promotion	Times	4
21	Health education and communication programme for marginalized and deprived community or group	Times	4
22	Health awareness and communication programme on mental health	Times	4
23	Health awareness and communication programme on birth defect	Times	4
24	Awareness and communication programme on family planning, safe motherhood and neonatal health.	Times	4
25	Dissemination of information and messages on online media	Times	4
26	Broadcasting of health-related messages and information through National Televisions.	Times	4
27	Airing and broadcasting of disease outbreak and epidemic-related messages.	Times	4
28	Monitoring and facilitation for effective implementation of health promotion activities at the provincial and local levels.	Times	150
29	Development of health-promoting strategies	Nos	1
30	Update last three years TV PSA with sign language	Nos	3
31	Health awareness programme for senior citizens	Times	2
32	Package development for Risk communication and community Engagement	Times	1
33	Health awareness on oral hygiene	Times	1
34	Health awareness programmes on genital hygiene	Times	1
35	HEIC programme through braille script	Times	2
36	Health and Hygiene promotion programmes	Times	4
37	Development of a handwashing strategy	Times	1
38	Communication programme related to SAFER Initiatives	Times	1
39	Communication programme on SMART couple promotion and reproductive health	Times	4
40	Workshop on Health Promotion for HEO/Managers	Nos	30
41	Capacity building training for health workers on Tobacco control and regulation representing from Waling, Nijgad, Bhim Datta, Bheri Ganga and Gulariya municipalities	Times	5
42	Workshop on HP strategy implementation	Times	1
43	Workshop on health Promotion for the Health workers from far western province	Times	1

8.4 Health Service Management

Background

The Management Division (MD) is responsible for DoHS's general management functions. The MD is the secretariat of Director General office of Department of Health Service(DoHS). As per revised Terms of References (ToR) of MD, it is the focal point for information management of the Health Management Information System (HMIS), Logistic Management Information System (LMIS), Health Infrastructure Information System (HIIS), etc, planning, coordination, supervision, forecast, quantify, procure, distribute of health commodities for the health facilities and the monitoring and evaluation of health programs. The division is also responsible for Supporting MoHP to develop policy, guidelines, directions and standards Support and facilitate MoHP to develop policy, guidelines, directions and standards related to environmental health to monitor the quality of air, health care waste management, water, and sanitation in health facilities. It also monitors the construction and maintenance of public health institution's buildings and supports the maintenance of medical equipment. It also involved inventory of bio-medical equipment, instruments and the transportation vehicles. The objectives and strategies of the Management Division are listed in Box 8.4.1

Box 8.4.1 Objectives and strategies of the Management Division

Objectives — The Management Division aims to support health programs and DoHS to deliver health services through the following specific objectives:

- Facilitate and coordinate among concerned divisions and centres to prepare annual plans, programs and to make necessary arrangements to get approval from the National Planning Commission (NPC) and Ministry of Finance.
- Make arrangements for the preparation and compilation of annual budgets and programs at the provincial and local levels.
- Monitor program implementation status and carry out periodic performance reviews.
- Manage integrated health data and information system.
- Manage and coordinate the construction and maintenance of buildings and other public health infrastructure including the maintenance of biomedical equipment.
- Support the Ministry of Health and Population (MoHP) to develop and implement environmental health, health care waste management, and safe drinking water-related policies, directives, and guidelines.
- Support MoHP to develop and update national-level specification bank for drugs and health equipment's.
- Plan and carry out the logistics activities for the uninterrupted supply of essential medicines, vaccines, contraceptives, equipment, HMIS/LMIS forms and allied commodities for the efficient delivery of healthcare services from the health institutions of government of Nepal in the country.

Strategies:

- Make arrangements to collect and analyse health data and information and use these to support the planning, monitoring, and evaluation of health programmes.
- Facilitate planning process from community to central levels via the optimum use of available resources including health service information.
- Support MoHP to conduct and expand regular periodic performance reviews and use outcomes for improvements down to community level.
- Facilitate the monitoring and supervision system at all levels.
- Establish a central data bank linking HMIS with the Human Resources Management Information System (HURIS), health facility and work force registry, surveillances, HIIS, LMIS, finance, surveys, censuses and other sources of information.
- Expand digital information systems at all levels.
- Monitor the health services provided by state and non-state health institutions.
- Develop and implement construction, repair and maintenance plans for public health facilities and for biomedical equipment.
- Develop and implement integrated supervision and monitoring plans.
- Establish and develop required infrastructure, human resource and guidelines to conduct other assigned designated and non-routine works.
- Logistics planning for forecasting, quantification, procurement, storage and distribution of health commodities.
- Introduce effective and efficient procurement mechanisms like e-Bidding, e- Submission.
- Use of LMIS information and real-time data in the decision making process.
- Strengthen physical facilities at the Federal, Provincial, District and Local level for the storage and distribution of health commodities.
- Construct and promote Online Inventory Management System and Non-Expendable/Expendable Items Inventory System in Federal, Provincial, District and Local level warehouses.
- Auctioning of non-functional cold chain equipment/furniture, vehicle etc.
- Repair and maintenance of bio-medical, cold chain equipment's/instruments and transportation vehicles.
- Capacity building of required human resources on logistics management regarding public procurement, e-bidding, e-procurement, and online Inventory Management System at all levels.
- Implement effective Pull System for year-round availability of Essential Drugs and other health commodities at all levels (Federal, Provincial, District and Local Level Health Facilities).
- Improvement in procurement and supply chain of health commodities, working on procurement reform and restructuring of federal, provincial and district stores.
- Formation of IHIMS Working Group at Federal and Provincial levels.

Organizational arrangements

The Management Division has four sections listed in (Box 8.4.2).

Box 8.4.2 Sections under Management Division

- Integrated Health Information Section (IHIMS)
- Environmental Health and Health Related Waste Management Section
- Health Infrastructure Development Section
- Logistic Management Section

The specific functions of sections and unit are given below;

8.4.1. The Integrated Health Information Management Section

This section manages health related service data and information from community to the central level. This system provides the basic information and data for planning, monitoring and evaluation of the health system at all levels. The major functions of the IHIMS as per its ToR are listed in Box 8.4.3

Box 8.4.3 Major functions of the Integrated Health Information Management System

- Support MoHP to develop national level policies, plans, regulation, guidelines, standards and protocols to integrated information system.
- Need based update and making information digital friendly for effective management and health information.
- Develop, expand and institutionalize existing health sector information system such as HMIS, LMIS, HIIS etc. as an integrated information system.
- Identification and revision of sector wise health indicators for national level health information.
- Develop periodic and annual health reports and disseminate the finding based on rigorous analysis and existing health information.
- Facilitate for capacity building and health personnel for institutionalization of integrated information system at different levels.
- Coordination and cooperation with provincial and local level government for health-related information management system development and implementation.
- Facilitate divisions/centers of DoHS for developing annual work plan and budget.
- Prepare and document monthly, trimester and annual progress and various activities conducting by divisions/ centers under DoHS and reporting to MoHP
- Support to MoHP in the process of formulating policies/ plans from DoHS.

Nepal's health sector needs accurate, comprehensive and disaggregated data to monitor/evaluate its performance, to identify inequalities between different ethnicities and geographic areas, to plan future interventions, and to monitor of NHSP-2 , NHSS targets, health sector targets of 15th five year plan and performance of each year's annual work plan and budgeting (AWPB) health programs by each divisions and centers to provide evidence to inform strategic and policy level decisions. IHIMS has set its slogan as "provide standardized and quality data to all" aligning with the HMIS mission "to achieve HMIS mission, HMIS aims is to provide complete, accurate, relevant & timely [CART] information on a sustainable, integrated and comprehensive manner, by well trained and highly motivated staff with necessary resources and appropriate technology.

Major activities conducted by IHIMS in FY 2078/79:

The followings are the major activities conducted by IHIMS.

- IHIMS's Roadmap,2022-2030 has approved by MOHP and it is in the process of implementation.
- HMIS and eLMIS recording and reporting tools are drastically revised as per program need. Now 73 revised R/R Tools are functioned in the system and accordingly revised in DHIS 2 platform.
- Trained and oriented on the revised HMIS tools up to LLG levels (MToT:89 persons, ToT for district level- 168 persons, ToT for LLG level Training- 1522 persons).
- UNICEF supported Dashboard related program for LLGs are expanded up to in 16 LLGs
- MToT/ToT Training on ICD 11 for morbidity and mortality have conducted in all Government hospitals.
- Preparation of HMIS standard operating Procedure(SoP), User policy, operation guidelines have been completed.
- Projection/estimation of target population up to ward level has completed.
- Assessment of Routine Data Quality Audit (RDQA) in five districts (Morang, Dhanusha, Dhading, Tanahu, Pyuthan) have been completed.

- Data verification/validation, monitoring and microteaching/on-site coaching of health facilities have been completed.
- Facilitation of annual reviews at different levels have been completed.
- Preparation and publication of DoHS Annual Report,2077/078 has been completed.
- Establishment of National Health data warehouse has been initiated.
- Upgrading of DHIS-2 platform from version 2.30 to recommended version.
- Online self-reporting from HF has been increased from 2517 to 3779 in FY-2 078/79.
- Total COVID 19 vaccinated from 42,96,478 to 4,78,38,854 doses in FY 2078/79 has been reported and managed in DHIS2 platform.
- Total of 9,73,291 QR code certificates have been generated in the FY 2078/79.

8.4.1.1 Health Management Information System (HMIS)

HMIS running on DHIS2 platform is one of the ICT friendly platform with highly scalable features is being used to manage health sector information in an integrated and comprehensive manner, also used as one door system as recommended by health policy, public health act, public health service regulation and cabinet decision.

After the revision of HMIS tools in FY 2078/79, there are now 68 HMIS recording tools and 5 reporting tools, among which recording tools are completely paper based whereas, reporting is directly done through online HMIS/DHIS2 which is maintained in paper based reporting forms (tools) in HFs.

The following are the reporting forms used in HMIS:

- HMIS 9.1: Female community Health volunteers (FCHV) ,
- HMIS 9.2: PHCORC report ,
- HMIS 9.3: Community health units (CHU), Urban Health centers (UHC), health posts (HP) and Primary Health Centers (PHC) report ,
- HMIS 9.4: Public hospitals report and
- HMIS 9.5: Remaining non-public health facilities/organizations report .

Trend of on-time reporting rate of HMIS

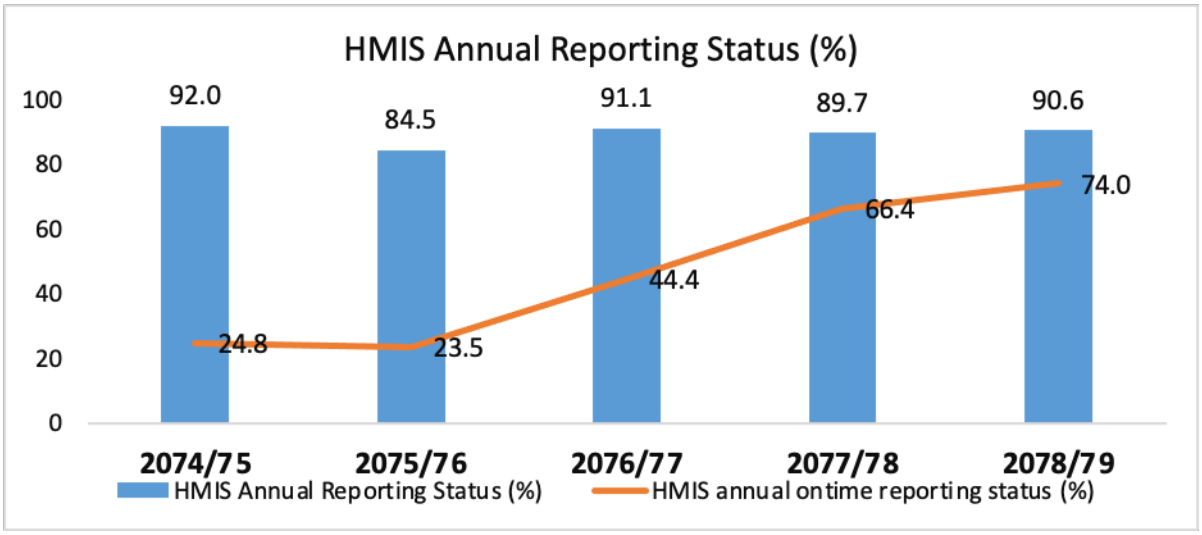


Figure 8.4.1 Reporting Status

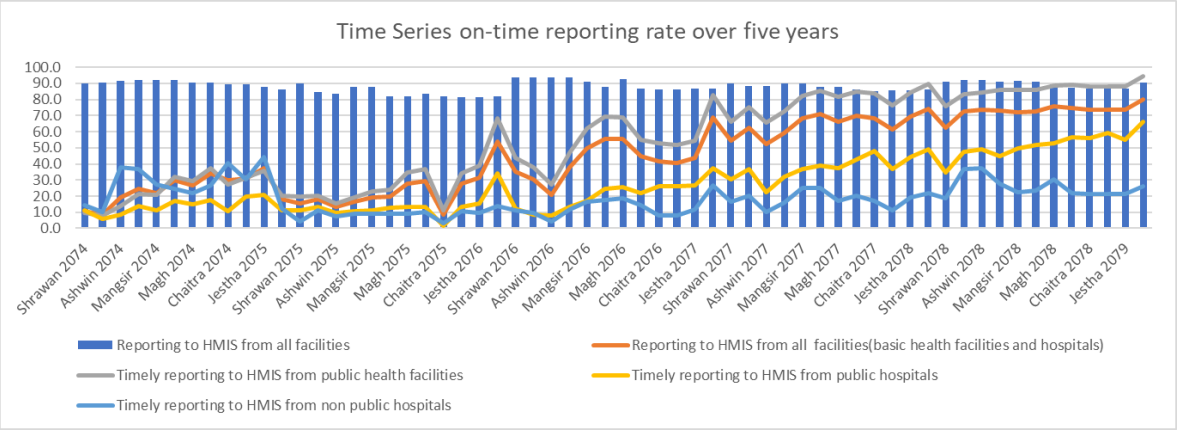


Figure 8.4.2 Reporting Rate on time over Five years.

The data entered in DHIS2 within 15 days of next month is considered as **on-time** reporting as defined by HMIS.

- Over the five years' time period, the on-time reporting has been improved from 24.8% (FY 2074/750 to 74% (FY 2078/790. (Fig 8.4.1).The increment is 94.3% in public health facilities whereas there is only increment to 26% from non-public hospitals in 5 years (Fig 8.4.2).
- On-time reporting rate for public hospitals has also been improving over the 5 years period but it is still in the lower side (54.2%) (Fig 8.4.2).

Provincial Reporting Status,2078/79

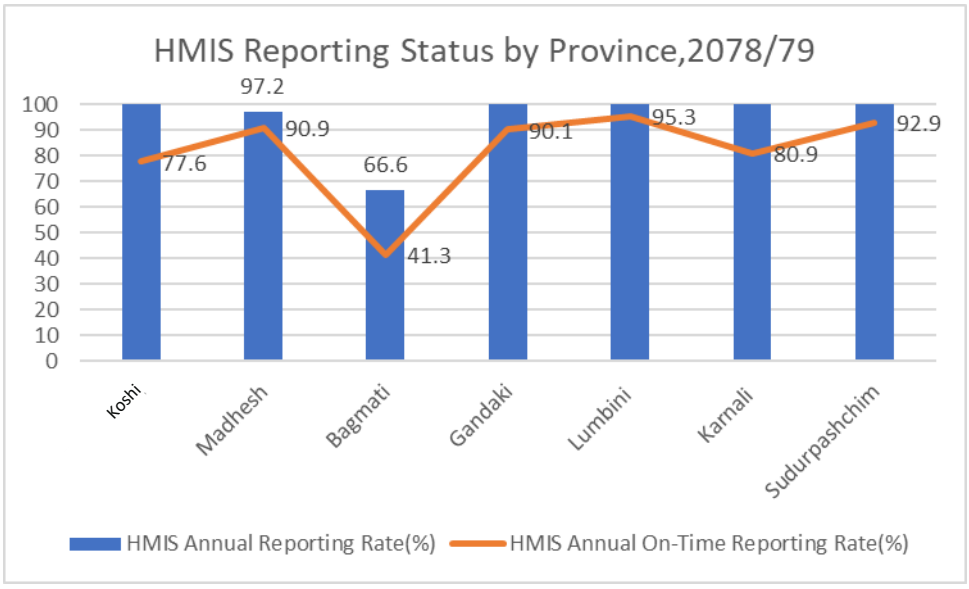


Figure 8.4.3 Reporting status by Province, 2078/79

There is a huge variation in **Reporting Rate** as well as **On-time Reporting** rate among seven provinces. Lumbini province has the highest **On-time Reporting** rate (95.3%) whereas, Bagmati province has the lowest level of reporting both in **Reporting Rate** (66.6%) as well as **On-time Reporting** rate (41.3%) (fig 8.4.3).

Major strengths of HMIS/DHIS2: HMIS provides monthly aggregated health service data, that coordinates all three tiers of governments.

- HMIS/DHIS2 has the data entry provision up to the Health facility Level , i.e., there is data flow at all six levels (National, Province, District, Local Level Government, Ward and Health facility).
- HMIS uses the DHIS2 platform which has the feature of Application Program Interface (APIs) that makes the system interoperable/integrated with other systems. Also, standard dashboards can be created and published in

DHIS2 for monitoring the program indicators

- One of the most important features of DHIS2/HMIS is its scalability and flexibility which can be used for the customization of datasets, indicators, validation rules etc..
- **Some issues/bottlenecks of HMIS**: The long prevailing bottleneck of DHIS2/HMIS is the use of Nepali Calendar in DHIS2.
- Despite of having the API feature in DHIS2, interoperability with all other existing systems is still the challenge.
- There is still inadequate skilled human resource in recording and reporting at various levels especially at LLGs and Hospitals,
- **Reporting Rate** and **On-time reporting** especially in metropolitan cities, tertiary public hospitals and private hospitals in Kathmandu, Lalitpur and Chitwan of Bagmati province,
- There is still inadequate capacity in data analysis especially at LLG and Health facility level and use of data at all levels,
- Transition to Electronic Medical Record (EMR)/Electronic Health Record (EHR) remains as a challenge,
- Although there is a significant increment in online self-reporting in the FY 2078/79, there remains a challenge for online self-reporting from all the Health Facilities (only 38% self-reporting while remaining HFs data are reported from LLGs).
- Capacity development on ICD-11 is also a challenge.
- **Recommended actions to resolve the Issues:**
- Fix Nepali Calendar issue in DHIS 2 which can be updated along with the global version upgrade of DHIS2 .
- Make all existing HIS including hospital MIS interoperable to each other using API.
- Manage O&M survey to update the existing Human Resource in recording and reporting at various levels especially at LLGs and Hospitals.
- Improve the recording and reporting status with new intervention in metropolitan cities, tertiary hospitals and private hospitals with more focus in Kathmandu, Lalitpur and Chitwan districts of Bagmati province.
- Focus on knowledge and skill transfer regarding data analysis and use in planning at LLG and Health facility level.
- Develop minimum standards for Electronic Medical Record (EMR)/Electronic Health Record (EHR).
- Increasing the self-reporting sites ensuring electricity, hardware, internet and HR at each health facility in coordination and collaboration of 3 tires of governments even taking support from development partners in PPP model.

8.4.1.2 Health Information Dashboard

Background: In 2018, UNICEF initiated the technical support to the Ministry of health and Population (MOHP) for piloting the performance dashboard where the financial, logistic and health information together could be seen and analyzed in a single dashboard that would be helpful for planning and monitoring system of municipalities, provinces and federal level departments.

The Health Information Dashboard was piloted in two municipalities and recently the government has taken ownership and has planned to expand in additional 15 municipalities. In addition, UNICEF has also been supporting in strengthening HMIS at the municipalities and provinces as a part of health system strengthening.

Introduction: Dashboard is an important tool for public health expert and professionals, health care providers, community leaders, policy makers, and other stakeholders to provide information on standardized health-related performance metrics. It supports to produce appropriate information which supports good decision-making that is required to determine the appropriate way to reach out to the community, the best way to assess and monitor resulting programs and projects and to partner with other community stewards.

Appropriate data and tools help make the most efficient and effective impact. Dashboards can provide information for many different organizational functions including financial performance, accounting, human capital assessment, mobile phone tracking, equipment performance, inventory tracking, project management and program funding.
Goal: The goal of the Dashboard program is to provide warnings, action notices, summaries of conditions, support decision-making, reporting, evidence-based planning for community health initiatives, use visual and displays data pulled

from disparate systems at a glance.

Objectives:

- Pulling information together to assess or scan the community and identify high-priority an opportunity for improvement.
- Illuminating community trends and establishing community base lines for periodic monitoring.
- Tracking the progress of initiatives to benefit the community.
- Providing reports to management, government, internal stakeholders and external stakeholders.
- Tracking the progress of initiatives to benefit the community.
- Providing reports to management, government, internal stakeholders and external stakeholders.

Major Activities carried out by DoHS/MD/IHIMS in 2078/79 for health dashboard implementation:

- Installed New Server in IHIMS which was received from UNICEF Nepal.
- IHIMS/MD developed Dashboard web based application, including demo system with support from UNICEF. (Public and for non-public) Web portal. The dashboard is Interoperable with DHIS-2, HF Registry, SUTRA and TABUCS.
- Conducted Dashboard orientation for Dhulikhel Municipaity, Jaleshower Municipality, Mithila Municipality and Kanchanrup Municipality of Bagmati and Madhesh Province respectively in 5-6 June 2021.
- Conducted Dashboard orientation for Badimalika Municipality, Jayaprithivi Municipality, Dogdakedar Rural Municipality, Amarghadhi Municipality, Dipayal silgadhi Municipality, Shikhar Municipality, Godawari Municipality of Sudurpashchim Province in 13-14 June 2022.
- Conducted Dashboard orientation for Kadachakra Municipality, Simikot Rural Municipality, Kanakasundari Rural Municipality, Soru Rural Municipality, Chandannath Municipality, Thuli Bheri Municipality of Karnali Koshi Province6-17 June 2022.

Future Plan: DoHS/MD/IHIMS and UNICEF plan is to expand health information dashboard gradually in 753 Municipalities.

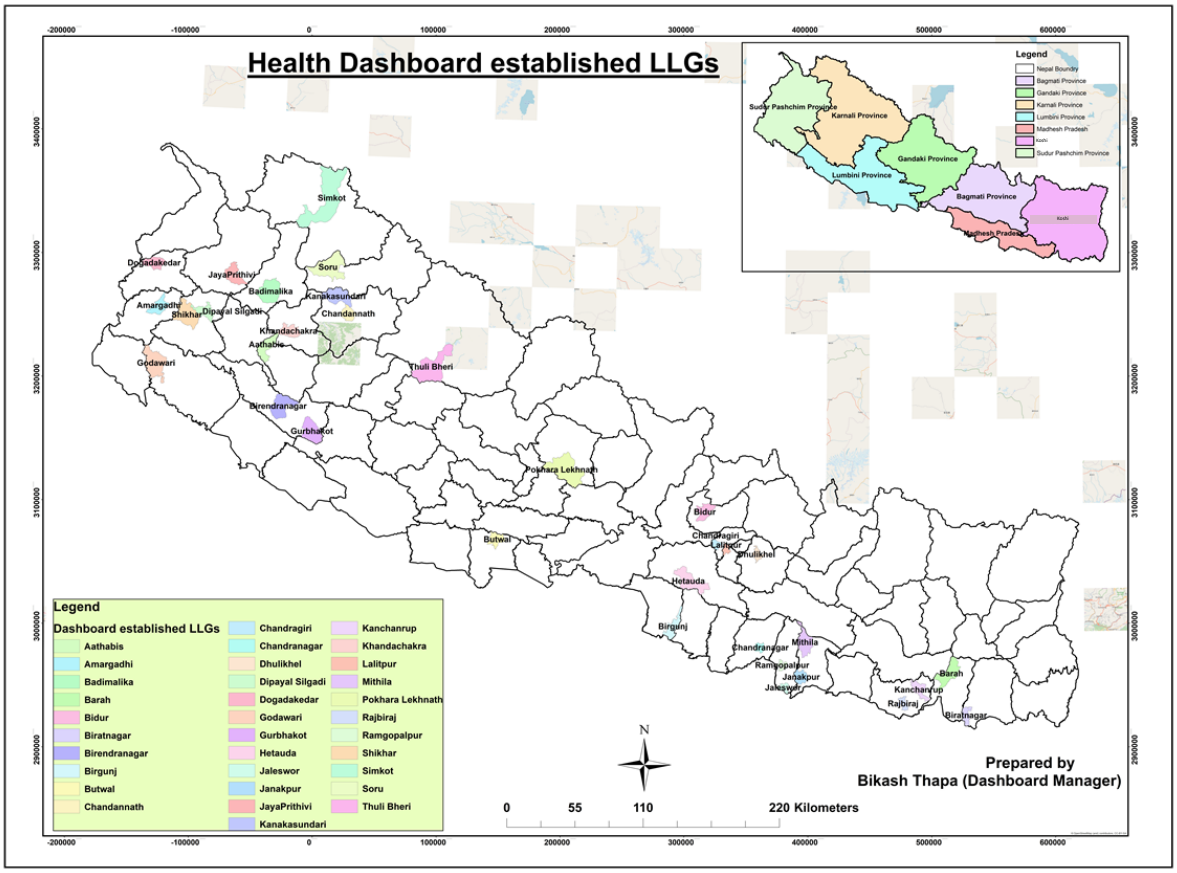


Figure 8.4.4 Location of Health Dashboard established LLGs

8.4.1.3 Logistic Management Information System (LMIS)

The Logistics Management Information System (LMIS) Unit was established in LMD known now as MD in 1994 to systematize the management of logistics. These are some of the major events in the implementation of LMIS:

- LMIS units started web based LMIS in FY 2065/66 and online IMS was established in 2073/74 for store management.
- MD started using eLMIS from Baishakh 2075 B.S. to strengthen supply chain management, LMIS data entry and data visualization for better decision making.
- Online Module of eLMIS is currently implemented up to Local Level stores to effectively manage real time operations and based on the need of the stores gradually expanding on Service Delivery Points(SDPs), and those SDPs where eLMIS has not been implemented, are sending monthly LMIS form to LLG to enter the data.
- The quarterly reporting frequency is now being changed to monthly reporting starting from fiscal year FY 2079/80 which was planned and decided in the FY 2078/79, which will increase data accuracy and will play a vital role in forecasting and supply planning as well as on-time information to address the supply chain related issues

After the restructuring of Nepal's governance in federal structure, the logistics management division was also restructured, and its functions are now being carried out through logistics management section under the Management Division of the Department of Health Services. Major Functions of Logistic Management section are collection and analysis of real time data up to LLG level and monthly LMIS reports from all the health facilities across the country for the preparation, reporting and dissemination of information to:

- Forecast annual requirements of commodities for public health program including family planning, maternal, neonatal and child health, HIV and AIDS commodities, vaccines, and Essential Drugs.
- Ensure demand and supply of drugs, vaccines, contraceptives, essential medical and cold chain supplies at all levels.
- Quarterly monitor the national pipeline and stock level of key health commodities.

Revision of LMIS form and Basic Logistics Training Manual:

- IHIMS/Management Division revised the Basic Logistic Training manuals to fulfill the requirement of tracking and tracing COVID 19 commodities.
- After LMIS reporting switched from quarterly to monthly, IHIMS/Management Division revised the reporting forms, formats and reporting guidelines.
- Provincial Health Directorates organized virtual orientations to all LLGs and SDPs to update about the changes.
- Similarly, GHSC-PSM provided TA to revise and update the manuals, reporting formats and guidelines. The project also supported MD to print all the forms and formats for FY 2079/80.

RDQA: Data quality assessment: The main objective of data quality assessment was to monitor quality of eLMIS data on data accuracy, timeliness, and data availability.

- Review and optimization of information flow for the LMIS reports- MD together with Provincial team and technical assistance with GHSC-PSM and EDPs working on supply chain in Nepal advocated for improved reporting rate, as a result, MoHP issued a letter to all provinces to make necessary arrangements for LMIS data entry at district or LLG level instead of sending reports to Kathmandu for entry.
- To address this directly, MD along with GHSC-PSM implemented the eLMIS transactional module to all central and provinces, 77 HO, 753 LLG, 8 laboratories and 1066 Service Delivery points by Fiscal year 2078/79. Once eLMIS rolled out at the LLG stores, LMIS data entry for their Service Delivery Points was done by the respective LLGs. The objective of the LMIS data entry activities at the LLG level was to improve reporting timeliness, increase data visibility for forecasting, quantification, and procurement at the local level, and reduce the costs of transporting LMIS forms to Kathmandu.

Improving trend in reporting rate

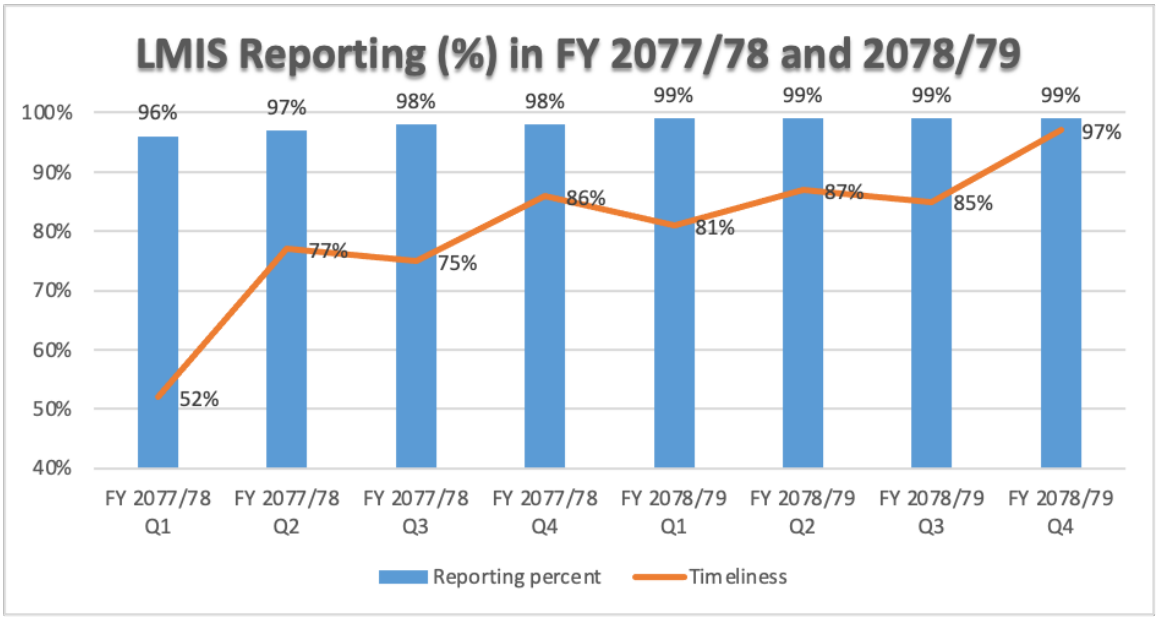


Figure 8.4.5 : LMIS Reporting

Figure 8.4.4 shows that LMIS reporting has been improved by 1% in FY 2078/79 (99%) compared to FY 2077/78(98%) Timeliness of reporting has been improved significantly by 13% over the same period after the implementation of data entry through real time eLMIS at all local level government.

After the successful implementation of eLMIS at all local level government in FY 2077/78, reporting rate improved with timeliness and real time health commodities stock status was available for decision making at LLGs. (The description of timelines in Quarterly LMIS is entry within 30 days after the completion of the quarter while LMIS in monthly basis, it is just 15 days after completion of the month.)

Reporting Status by Province in fiscal year 2078/79

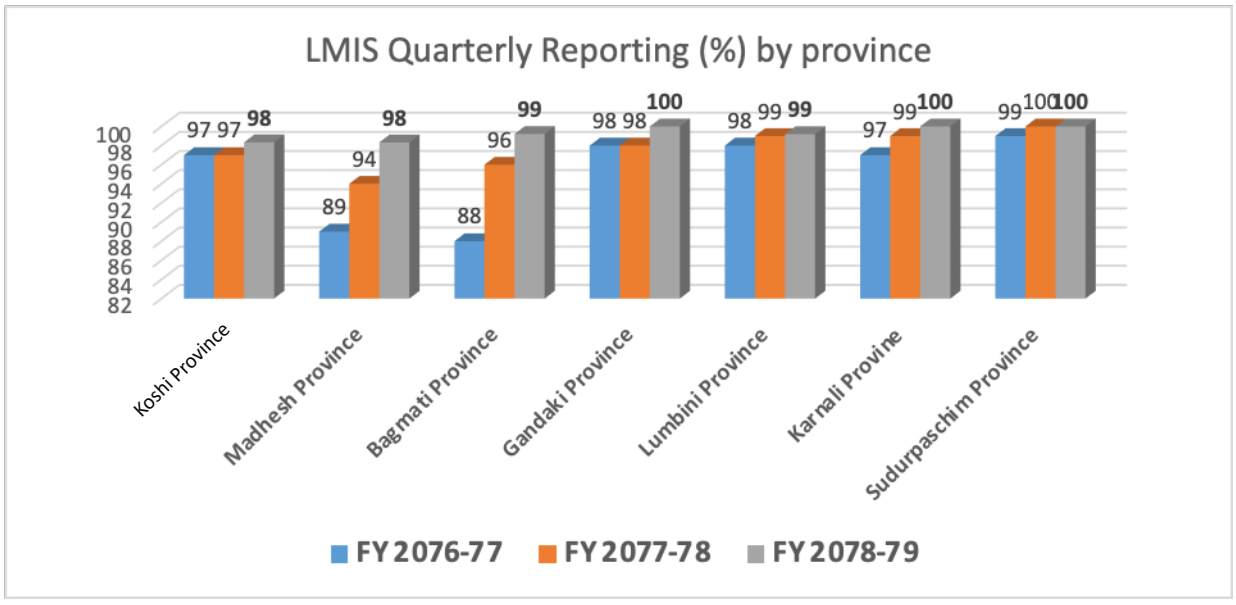


Figure 8.4.6 : LMIS Reporting by Province

Previously eLMIS was implemented only at provincial and health office level. In FY 2077/78, eLMIS was expanded at all local level government due to which LMIS reporting rate increased in FY 2077/78 and continued to increase in FY 2078/79. Koshi Province and Madhesh province are relatively at lower side (98%) (Figure 8.4.5).

Electronic Logistic Management Information System(eLMIS)

As per the approved ToR mentioned in the box 8.4.3, IHIMS also manages the Logistic Management Information System (LMIS) on monthly basis and electronic Logistic Management Information System (eLMIS) on real time transaction basis. The overall objective of eLMIS is to ensure one Supply Chain Management system for all health commodities inventory management and reporting on a consolidated single platform to ensure countrywide data visibility, availability, accuracy and ownership.

Modules of eLMIS:

There are two major modules: reporting and transactional. Both options are used to ensure the availability and visibility of data for informed decision making to ensure continuous availability of health commodities to end users.

eLMIS is accessible to the users by using different modes: Online, Offline and Mobile, based on the user's requirements and need, this mode of usage can be configured.

The overall benefits of eLMIS implementation are:

Strategic impacts

- Availability of logistics data for measuring supply chain Performance.
- Capture and analyze logistics data for informed decision making process.
- Availability of real-time data enables MoHP to strengthen supply and demand planning, optimize transportation processes, control inventory costs, and minimize risks that lead to Stockouts, expiries and wastage.
- Capability to set up and report on KPIs for FP, MNCH, Vaccines, Essential drugs programs.
- Integration with Health information system for visibility and analytics.
- Full visibility and real time data for management of supply chain management(SCM)

Operational impacts

- Reduced cycle time for doing some supply chain activities (e.g., Order processing and reporting).
- Improved efficiencies in capturing consumption and other critical supply chain data.
- Reduced LOE required to prepare and process orders.
- Provided capabilities to supply chain performance enabling PHLMC, DHO, SDPs, and MD/DoHS of MoHP to make accurate decisions within appropriate time.
- Provided end-to-end visibility into operational data on a real time basis.
- Improve supply chain process and communication with different stakeholders.

Public health outcomes

- Increased availability of health commodities at SDPs
- Reduced stock outs of health commodities and others

Conduction of eLMIS training: IHIMS/Management Division conducted eLMIS training to 908 Service Delivery Points in this fiscal year. This helps to track and trace Health Commodities Inventory data on the implemented sites.

Implementation/expansion of eLMIS Sites

LMIS/MD has successfully implemented the electronic Logistics Management Information System (eLMIS) in all Central Medical Stores, all Provincial Health Logistics Management Center (PHLMC), 77 Health office stores, 753 LLGs, all 8 Laboratory and 1066 Service Delivery Points within FY 2078/79. eLMIS will soon be implemented in remaining service delivery points to improve supply chain processes and to have real time data for the quick and effective decision making from all the sites (table 8.4.1 and Figure 8.4.6)

Table 8.4.1: Expansion of eLMIS Sites

Year/Qtr	Count of eLMIS Sites
2074/75-Q3	5
2074/75-Q4	20
2075/76-Q1	31
2075/76-Q4	1
2076/77-Q2	14
2076/77-Q3	14
2076/77-Q4	127
2077/78-Q1	348
2077/78-Q2	438
2077/78-Q3	6
2077/78-Q4	6
2078/79-Q1	117
2078/79-Q2	259
2078/79-Q3	219
2078/79-Q4	313
Total	1918

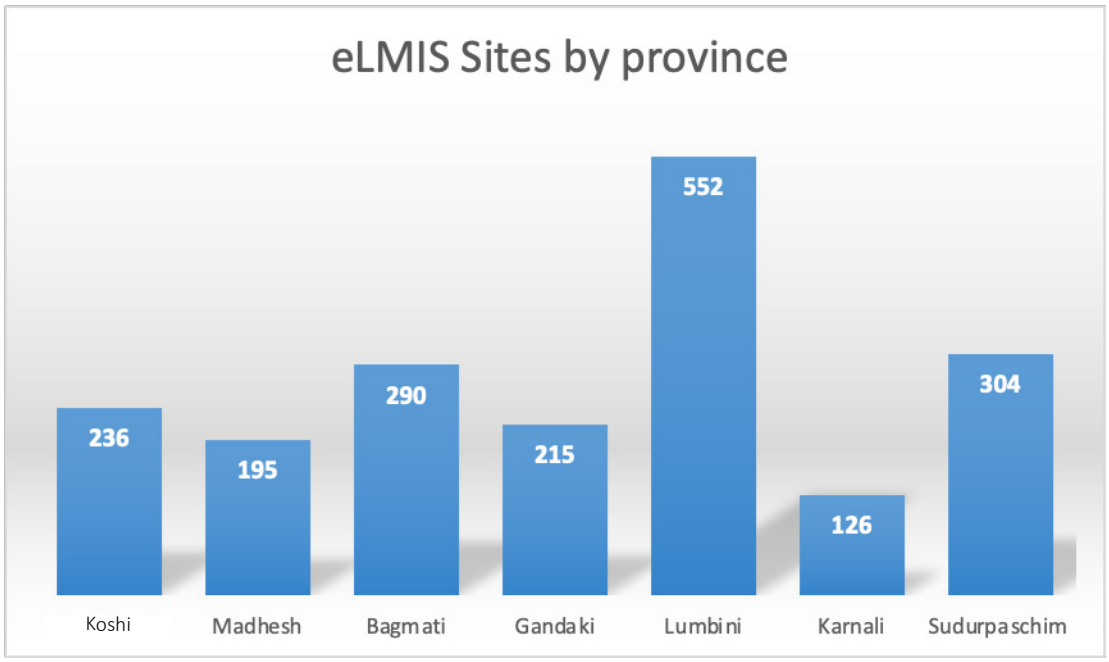


Figure 8.4.7: eLMIS Sites by Province
Province wise total eLMIS sites in FY 2078/79.

With the COVID-19 pandemic, MD initiated to track and trace COVID-19 commodities in eLMIS and decided to implement eLMIS up to Service Delivery Points where computer and Internet are available. A separate feature was added on eLMIS to manage and track COVID-19 commodities. Separate new requisition type as 'COVID-19' in addition to regular and emergency requisition.

A new dashboard was added on eLMIS for tracking COVID-19 commodities with additional real-time reports to track COVID-19 stock status. Also, with the monthly LMIS conversion, LMIS has matched reporting interval with HMIS and LLGs have initiated timely monitoring for stock out, over stock and stock availability of health facilities which reduces the chances of stock out.

Expansion of eLMIS at Service Delivery Point– As eLMIS is already implemented up to all central, provincial, Health Office, LLG stores across all 7 provinces. LLGs realized the importance of supply chain processes and need of real time information for the service delivery points on their catchment areas and has taken initiation on gradual expansion of eLMIS sites at their Service Delivery points, among them around 85% SDPs are operational (table 8.4.2).

Operational Status health facilities wise.

Table 8.4.2: eLMIS Sites by operational status

Health Facility Type	Operational	Non-operational	Count
Central Stores	9	0	9
PHLMC Stores	7	0	7
National and Provincial Public Health Laboratories	5	3	8
District Health Offices	75	2	77
LLG stores	614	139	753
Hospitals	92	35	127
Medical colleges	1	11	12
HP/PHC/BHU/CHU/UHC/Ayurved and Others	819	106	925
Total	1622	296	1918

Support through help desk– Management Division continues to provide system support to all users on more than 2000 sites across the country. eLMIS Helpdesk located at the Management Division, Teku, Kathmandu and eLMIS coordinators in each province provide user support through toll-free helpline, troubleshooting guidelines, support personnel and training.

The helpdesk receives calls and emails from eLMIS users, which are documented and given support tickets. Each query is tracked in the support Team Foundation Server software.

Standard operating procedures – Management Division developed and implemented standard operating procedures (SOPs) for the functionality of the eLMIS to address user difficulties. The procedures have been submitted and approved by the Management Division.

eLMIS monitoring and data utility for decision making: eLMIS performance and COVID-19 dashboards were developed and updated daily to monitor stock status of COVID-19 commodities and show the use of the eLMIS at the live sites. LMIS/MD is extracting and providing data to different stakeholders for quick and effective decision making and is playing a vital role on the data analysis to track supply chain KPIs for internal users as well as donors and partners.

Availability of Key Health Commodities

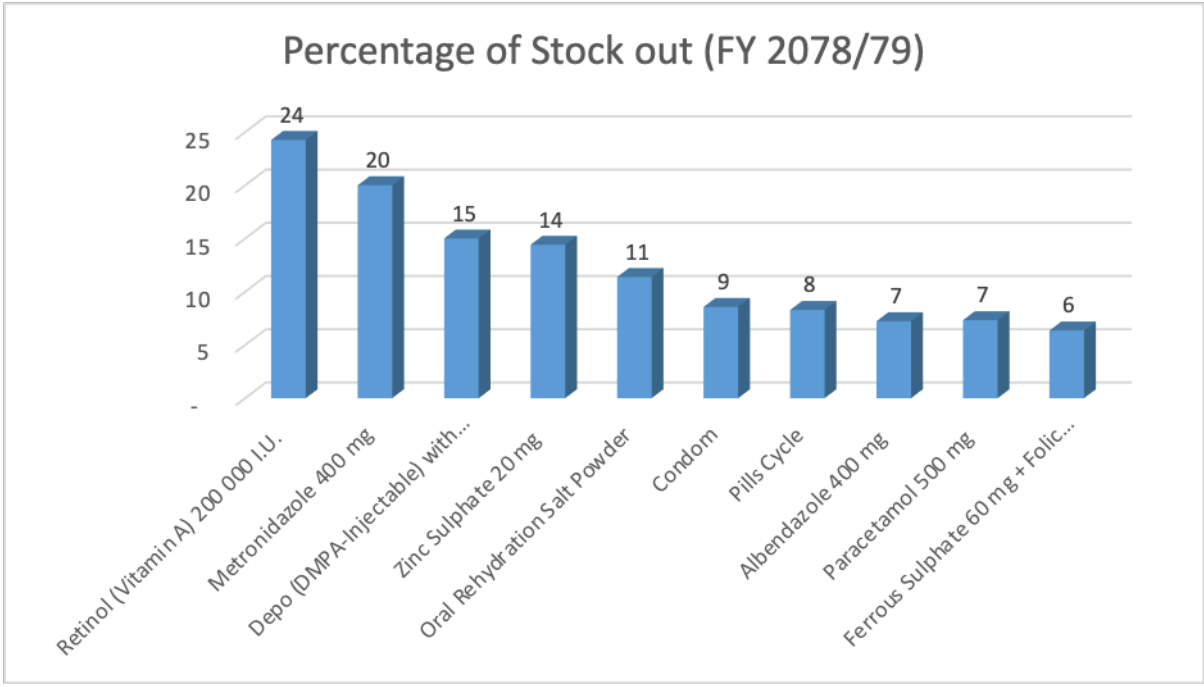


Figure 8.4.8: Stock out Status in fiscal year 2078/79
Data Source: eLMIS system

e/LMIS report provides data visibility of stock status at the health facility level of key health commodities like Condom, Depo, Pills, ORS, Zinc, Vitamin A, Ferrous Sulphate, Albendazole, Paracetamol and Metronidazole 400mg and essential drugs for free health services on a monthly basis. The figure 8.4.7 shows average quarterly stockout rate in 2078/79. FP commodities- Depo, Condom, and Pills have stockout of 15%, 9%, and 8% respectively. Out of MNCH and essential commodities, Paracetamol has the lowers stock out (6%) whereas Vitamin A shows the stockout of 24%.

8.4.1.4 Health Infrastructure Information System (HIIS)

As per the approved ToR mentioned in the box 8.4.3, IHIMS also needs to manage HIIS. The HIIS is expected to provide the basis for decision making on infrastructure, building construction and maintenance as well as for resource allocation. The system is in the process of completion from health infrastructure development section and is in the process of handover to IHIMS.

8.4.2. Infrastructure Development Section (IDS)

Functions of the Infrastructure Development Section are listed in Box 8.4.4

Box. 8.4.4 Major Functions of the Infrastructure Development Section

- Support MoHP for development of national level policy, regulation and standards related to physical structure of health facilities and medical equipment.
- Maintain the updated record and upgradation of physical infrastructure through HIIS and health equipment on relevant platform.
- Facilitate health facilities to develop national plan for need based infrastructure development.
- Coordination with concerned authorities for basic infrastructure management of health facilities.
- Facilitate for development update and monitoring of hospital code of conduct.
- Facilitate for supervision, monitoring and quality control of health infrastructure and equipment.
- Manage information on the actual status of medical equipment in health facilities;
- Coordinating with government agencies and other stakeholders for the maintenance of health facility and hospital medical equipment.
- Manage and mobilize biomedical engineer and other human resources.

Major Activities Conducted by IDS in Fiscal Year 2078-79

- The equipment inventory update of biomedical equipment orientation programme was conducted in 54 health facilities.
- The equipment inventory is recorded using **PLA**nning and **M**anagement of **A**ssets in **H**ealth **S**ervices (PLAMAHS) software.
- Biomedical equipment inventory is identified using sticker. More than 5,000 stickers are placed in equipment in 54 health facilities.
- Since 2061/62, a total of 1950 facilities have been built out of 2,082 facilities undertaken. In 2078/079 NPR 2.715 billion was spent on health building construction through DUDBC (Table 8.4.3). MoHP committee monitors these works regularly.

Table 8.4.3: Summary of building construction Status by DUDBC (2061/062 – 2078/079)

Detail	Number
Total number of health facilities undertaken	2082
Number of facilities under construction	69
Near to completion facilities	45
Completed/handed over facilities	1968*
Budget allocated (in NPR) in 2078/079	3,30,80,02,000
Expenditure (in NPR) in 2078/079	2,71,53,32,789 (82.08%)
* Out of 1968 completed/handed over facilities, 18 facilities are completed but final payment is due.	

Management Division used to oversee the construction and maintenance of health facility buildings and other infrastructure in partnership with the Department of Urban Development and Building Construction (DUDBC). Construction works costing more than one million was being implemented through DUDBC. However, recently MoHP has started to manage the construction of building of basic hospital of 5/10/15 beds at local level.

Table 8.4.4: Building construction scenario in previous five years from DUDBC.

Types of building	2074/75	2075/76	2076/77	2077/78	2078/79
Health posts with birthing centres	-	-	-	2	1
Quarters	-	1	-	-	1
Office buildings					1
Hospital buildings	-	6	-	-	1
Maternity and Child Health Block in Provencal hospital (Kanchanpur)	-	-	-	-	1
Maintenance and Renovation	-	-	4	-	3
Vaccine Warehouse	-	-	-	8	-
Provincial Public Health Laboratory (PPHL)	-	-	-	5	-
Provincial Medical Store	-	-	-	3	-
Ayurved Panchakarma & Yog	-	-	-	1	-
Ayurved Hospital	-	-	-	1	1
Federal Level Hospital (Koshi & Teku)	-	-	-	-	2
Local Level Hospital (Jogbuda - Dadeldhura and Chaurjhari – Rukum P.)	-	-	-	-	2

8.4.3 Environment Health, Health Care Waste Management and Water and Sanitation in Healthcare Facilities

The Constitution of Nepal has established the right to a clean environment (Article 30) and clean drinking water and sanitation as a health-related right (Article 35-iv). Without proper WASH services and safe waste management in healthcare facilities, it is unlikely that countries will reach the goals set out by Sustainable Development Goals 3 (ensuring healthy lives and promoting health and well-being) and 6 (ensuring the availability and sustainable management of water and sanitation for all).

The Joint Monitoring Programme (JMP) report of 2019 defines and estimates the basic WASH services in healthcare facilities, including water, sanitation, hygiene, waste management, and environmental cleaning, in order to monitor the targets set by SDG 6.1 (universal and equitable access to safe and affordable drinking water), 6.2 (access to adequate and equitable sanitation and hygiene for all), and 3.8 (universal health coverage).

According to the WHO/UNICEF Joint Monitoring Programme (JMP) report from 2019, the WASH (Water, Sanitation, Hygiene) services at healthcare facilities in Nepal are inadequate. It is estimated that over 2 million Nepali people are served by healthcare facilities without access to water, and over 2 million others use facilities without proper sanitation. Information regarding hygiene and cleaning is lacking, so it's possible that many more people are using healthcare facilities that don't offer proper hand hygiene or routine cleaning. Only about 389,000 people have access to healthcare facilities with basic waste management. Globally, more than 10% of healthcare institutions lack access to clean water and sanitation. According to a recent survey by the Ministry of Health and Population, most health facilities in Nepal have improved water sources (94.1%) and functional toilets (89.4%). 61% of these facilities also have soap and running water available.

The availability of safe healthcare waste management is limited globally, especially in developing countries. A third of healthcare facilities in the world do not have a proper system in place to handle healthcare waste, according to the latest data from JMP (2019). The COVID-19 pandemic has further increased the generation of healthcare waste, putting additional strain on already overburdened facilities and raising environmental concerns.
Nepal generates between 0.99 and 1.73 kg of healthcare waste per bed per day, with 0.33 to 0.59 kg of this being hazardous waste. An analysis of 12 hospitals in Koshi Province found an average waste generation rate of 2.3 kg per active bed per day, with the average rate of risk waste generation being 0.8 kg per active bed per day. Three forth of waste was risk waste pre-segregation, but post-segregation only 37% was considered risk waste.
The Ministry of Health and Population has also aimed to improve the healthcare waste management system through its Health Sector Strategy Implementation Plan 2016-2021. The Ministry has revised and approved the National HCWM Standards and Operating Procedures in 2020, and has also approved the National Standard on WASH in healthcare facilities to further improve the WASH status in these facilities. These initiatives are supported by laws such as the Public Health Service Act 2075 (2018), the Public Health Service Regulation 2077 (2020), the Solid Waste Management Act 2068 with amendment in 2074, and the National Health Policy 2076 (2019).

Environmental Health and Healthcare waste management section serves as a focal point for development of quality standards for WASH in Healthcare facilities, Healthcare waste management. It also facilitates building climate resilient health facilities and prepare plan of action to reduce greenhouse gas emission from health facilities as committed during COP26. This section was establishing to implement the above function of the federal government. Detail terms of reference of this section is included in Box 8.4.5.

Box 8.4.5 Major Functions of the Environmental health and healthcare waste management section

Support and facilitate MoHP to develop environmental health related policy, guidelines, directions and standards.

- Facilitate for carrying out regular surveillance and studies related to impact and drinking water, air and overall environmental on health status and support for environmental pollution control.
- Support MoHP for development of national laws, policies, plans, standards and protocols for health-related waste management.
- Facilitate for scientific management of health-related waste released from different health facilities under federal, provincial and local government.
- Carry out monitoring and central activities for scientific management of healthcare waste released from health facilities under federal government.

8.4.3.1 National Health Care Waste Management Standards and Operating Procedure 2020

National Health Care Waste Management Standards and Operating Procedure 2020 is approved from ministerial decision of ministry of health and population to guide the healthcare waste management in Nepal.

National Health Care Waste Management Standards and Operating Procedures 2020 which includes following information:

- Sources and categorization of Health Care waste.
- Environmental and public health impacts.
- Health care waste management planning and role of different level of Governments.
- Legal framework, commitments and principles.
- Different steps of health care waste management system including waste minimization, treatment and management of hazardous health care waste.
- Health and safety practices, training and raising awareness.

8.4.3.2 National Standard on Water, Sanitation and Hygiene for Health Service providers- 2078

The importance of having proper water, sanitation, and hygiene in healthcare facilities cannot be overstated, as it directly affects the quality of health services and patient satisfaction. To ensure that healthcare facilities meet these standards and provide a clean and safe environment, the Ministry of Health and Population (MoHP) has approved a standard outlined in the Public Health Service Regulation 2077 (Annex 8). This standard sets guideline for different levels of healthcare providers in regards to WASH, including healthcare waste management and environmental cleaning.

Table 8.4.5 Standard of WASH in Healthcare Facilities

		Types of Health Facilities				
	Required standard	**Category-1**	**Category-2**	**Category-3**	**Expanded Service**	**Mobile camps**
Drinking Water	Basic				√	√
	Adv*. Level 1			√		
	Adv*. Level 2	√	√			
Sanitation	Basic			√	√	√
	Adv*. Level 1		√			
	Adv*. Level 2	√				
Hygiene	Basic				√	√
	Adv*. Level 1			√		
	Adv*. Level 2	√	√			

* advanced level (See the standard for the details of categories and standards)

Major activities carried out in Fiscal Year 2078-79

- Conducted onsite coaching at 15 hospitals based on the National Health Care Waste Management Standard and Operating Procedure 2020 and National Standard for WASH in Healthcare Facilities.
- Support to strengthen HCWM and WASH in 17 COVID 19 Designated federal and provincial hospitals in collaboration with partner organisations including the GIZ, UNDP.
- Conducted a batch of training of trainers on Environment Health, WASH and Healthcare waste management to the focal persons of provincial health directorate, provincial health training centres, federal and provincial hospitals.
- Conducted a batch of training on WASH and Healthcare waste management to the focal persons of district hospitals of Lumbini and Karnali provinces with USAID/SSBH support
- Dissemination workshop at five provinces on both the National Healthcare Waste Management Standard and Operating Procedure and Standard of WASH in Healthcare facilities
- Supply of 150 litres horizontal autoclave to strengthen the HCWM in 30 different hospitals
- Audio Visual materials development on healthcare waste management.
- More than 3000 safety boxes with used syringes during COVID 19 vaccination were managed in the Kathmandu valley with the support of WHO.
- Rapid assessment of the situation of HCWM and WASH in 53 district hospitals by Management Division in collaboration with WHO (Box 8.4.6)

Box 8.4.6 Findings of rapid assessment

Waste segregation:

- at all generation points in 35% of hospitals
- some sorting is done in 60% of the hospitals
- Nearly two thirds had adequate Color coded containers

Handling shraps- 58% not recapped, 53% use sharp containers or the needle destroyer

Waste transport: Separate trolleys in 56%, 34% designated routes.

Waste storage: About 40% do not have area for waste storage before treatment

Waste treatment: 40% treat infectious waste before disposal,

56% have autoclave or alternative treatment technology

Waste disposal: About 45% with municipal waste, about a-third without treatment.

Liquid waste: Only 15% have a wastewater treatment plant.

Vaccine waste: with autoclave in 26% of the hospitals

8.4.4. Logistic Management Section

The function of the Logistic Management section are listed in Box 8.4.7

Box 8.4.7 : Major functions of the Logistic Management Section

- Support MoHP for development of procurement and supply related national laws, policies, guidelines, quality standards, protocols.
- Support MoHP to prepare national level standard and specification bank for drugs, health related tools and equipment.
- Procurement of vaccine, family planning commodities and other essential health commodities to the province.
- Facilitate federal and local level government for procurement and supply of the essential medicines and equipment.
- Coordination and facilitation to develop and institutionalize logistic information system at the national level.
- Management of essential commodities at the health facilities under DoHS.

Issues, challenges and recommendations

Issues, challenges and recommendations — health service management

Issues and challenges	General recommendations
Inadequate skilled human resources	Produce/Recruit skilled human resources
Insufficient budget for building health facility and hospital buildings.	Provide funds and human resource support for upgraded health facilities.
Health facility buildings construction delayed and obstructed (around 1% sick projects).	Mandatory supervision and approval by concerned health facilities before payment for building construction. Self-dependence for health facility building construction in the long term.
The standardization of public hospitals	Strategic planning to bring public hospitals to design standard as per guidelines
Insufficient and poor implementation of waste management guidelines by health facilities and hospitals	Expand programme and budget for health care waste management as per guidelines
The monitoring of private health services	Establish a delegated monitoring team for the regular monitoring/ supervision of private health facilities
Low Budget in Drug Procurement and supply in local level	Sufficient budget will be allocated as per need.

Capacity building in procurement, forecasting, quantification and LMIS	LMS has planned to conduct that training at all provinces.
Management of Expired, Wastage and unused materials	LMS will collect those materials from all provinces and destroy or disposed as process.
High demand of required equipment	LMS will demand budget for equipment procurement.

Specific recommendations - Health Service Management

Some specific recommendation from national and provincial reviews are as below

Recommendations	Responsibility
a. Health infrastructure	
• Endorse proposed Central Coordination Committee and Technical Committee • Form joint taskforce representing MoHP, MD/DoHS, PHDs and DUDBC officials to assess delayed and ongoing infrastructure projects and make plan to address issues • Operationalise joint monitoring team for the field monitoring of construction projects • Endorse standard building design and guidelines • Develop a building planning cycle • Establish/strengthen a health infrastructure section with adequate capacity at central and regional levels to be responsible for construction related planning and budgeting. • Update and strictly implement land development criteria considering geographical variation, urban/rural settings (guidelines have been endorsed by MoH with ministerial decision). • Assess all types hospitals against standard guidelines and develop standardization plan. • Develop mechanism to standardise PHC-ORC structures in coordination with communities.	**Federal MoHP, MD/ DoHS, Provincial Government PHDs, HOs**

8.5 National Public Health Laboratory

8.5.1 Introduction

National Public Health Laboratory (NPHL) is a national level referral lab with the mandate of regulating all the clinical laboratories throughout the country. It was established in 1968 A.D. as a Central Health Laboratory and began functioning as Public Health Laboratory since 1991 A.D.

Along with diagnostic services, NPHL is concerned to identify and confirm the agents of public health threats which may cause public health emergencies of international concern. So it conducts laboratory-based surveillance and plays a crucial role for the laboratory confirmation during the outbreaks of various emerging and re-emerging diseases. National Influenza Centre, HIV referral laboratory, ARV monitoring facilities, Antimicrobial resistance (AMR) program, JE/Measles/ Rubella surveillance program etc. are the major laboratory-based surveillance programme of NPHL.

As a super specialized laboratory of the country, it provides molecular characterization and genotyping of the certain pathogenic organisms. A BSL-3 lab has been constructed for the purpose of bio containment precautionary required to isolate dangerous biological agent (Risk group 3agents).

NPHL is providing flow cytometry, HLA typing, triple marker and quadruple marker screening service on routine basis through its modern equipment and advance technologies. Immunohistochemistry lab has been installed and is about provide service in near future.

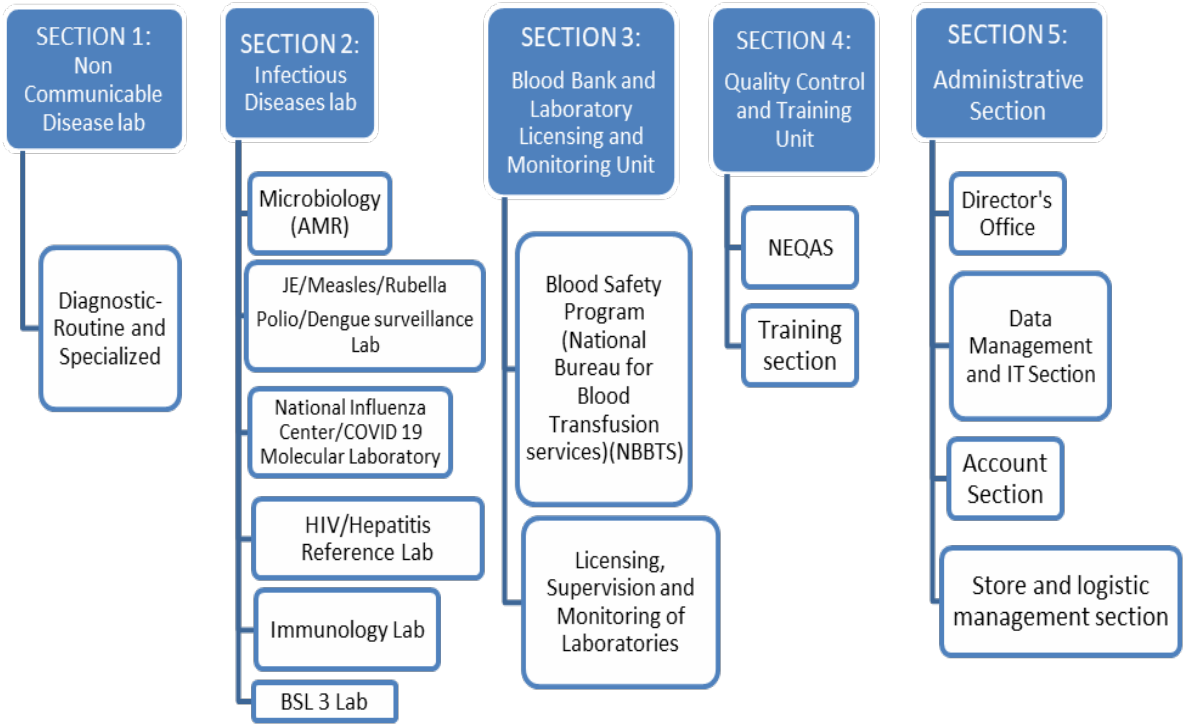
It is responsible for registration and licensing of private sector laboratories including blood banks. Throughout the country 73 laboratories have been licenced from NPHL. Among them 16 are A category lab and remaining 57 are B category laboratory.

Apart from this, NPHL is actively supporting MOHP in the control of CoVID-19 pandemic since 2020.

8.5.2 OBJECTIVES:

- To act as a national reference laboratory
- To encourage research and collaboration for the improvement of health laboratory services
- To conduct health laboratory related Training and workshops
- To Assist MoHP for preparing medical laboratory related, policy, legislation and guidelines.
- To monitor service Quality of laboratories
- To provide licensing to Clinical Laboratory and to supervise and monitor them.
- To Support and regulate blood transfusion service
- To provide Sickle cell screening and provide support to sickle cell endemic areas
- To conduct Influenza surveillance, AMR surveillance, polio containment
- To measure HIV viral load, Hepatitis B & C viral load etc.

8.5.3 Working Structure of NPHL



8.5.4 NON-COMMUNICABLE DISEASE DEPARTMENT (NCD)

Five sections (Haematology, Biochemistry, Endocrinology, Histocytopathology and Histocompatibility & Immunopathology Laboratory) are running under non-communicable disease department. Both routine and specialized services are provided from those departments. Some of the specialized services form NCD department are:

1. Leukaemia panel (flow cytometric technique)
2. Haemoglobin electrophoresis for haemoglobinopathies.
3. Coagulation factor assays and inhibitor assays,
4. molecular tests like: BCR-ABL fusion gene, Factor v-V leiden mutation etc.

Besides those diagnostic facilities, NCD department also monitors sentinel sites for Hemoglobinopathies situated at Nepalgunj, Bharatpur, Dhangadhi and Butwal.

8.5.5 NATIONAL BUREAU FOR BLOOD TRANSFUSION SERVICES:

The National Bureau for Blood Transfusion Services (NBBTS), based at National Public Health Laboratory (NPHL), is the national authority for implementing the National Blood Programme (NBP). NBBTS works to ensure the safe and adequate supply of blood and blood products to meet transfusion needs. It is involved in developing policies, guidelines and standards related to blood transfusion service. As a national reference laboratory for transfusion transmissible infections (TTIs), it is responsible for conformational testing of inconclusive results related to blood transfusion. It is also responsible for governing National hemovigilance program, training BTSC staff, supervising, monitoring and licensing of BTSCs, conducting motivational program and providing equipment to the BTSCs to initiate or enhance the related services.

8.5.6 QUALITY CONTROL AND TRAINING DEPARTMENT:

National public health laboratory is an ISO 15189: 2012 accredited laboratory. Many quality related activities and training are conducted under this sections. Various National External Quality Assurance Programs (NEQAS) are being operated throughout the country through this department.

8.5.6.1 ISO 15189:2012 accreditation continuation:

National public health laboratory has been assessed and accredited in accordance with ISO 15189:2012 in the discipline of clinical chemistry, immunology, serology, hematology and molecular testing since 2020. Initially a total of 66 test were within the scope of ISO accreditation, last fiscal year 72 new test are added to the list.

8.5.6.2 NEQAS PROGRAMS IN NPHL

Table 8.5.1: List of NEQAS programs offered by NPHL

SN	NAME OF PROGRAM	TARGETED LAB	FREQUENCY OF CYCLE	STARTED
1	General/Basic NEQAS program a. Basic clinical Biochemistry b. Basic Hematology c. Gram's stain ' d. Peripheral blood smear (PBS morphology)	All lab /hospital/ clinic/polyclinic/ of government, semi-government & private sectors	3 times of years (Shrawan- Bhadra, Mangsir- Poush & Chaitra- Baishak)	1987 AD
2	Dried tube specimen (DTS) EQA program - HIV 1 & 2 rapid test & ELISA	HIV testing sites only	Twice a year (Ashwin & Chaitra)	2021 AD
3	EQA program for bacteriology - Bacteria Identification - Antimicrobial Susceptibility Testing (AST)	AMR SITES	4 times a year (March, June, Sep & Dec)	2005 AD
4	CD 4 EQA program (distribution only) - CD 4 count	CD 4 testing sites (28)	Bimonthly	
5	Transfusion Transmitted Infections (TTIs)serology for blood transfusion service centre (NEQAS –TTIs) a. HIV 1 & 2 b. Hepatitis B Virus Surface Antigen (HBsAg) c. Anti HCV antibody d. Syphilis Antibody	For all Blood Transfusion service center of Nepal.	2 times of Year (Shrawan- Bhadra & Chaitra- Baishak.)	2012 AD
6	COVID-19 PCR EQAS proficiency test	For all COVID-19 PCR Sites	4 times of year Shrawan, Magsir, Falgun, Baishak	2020 AD
7	COVID-19 PCR EQAS Retesting	For all COVID-19 PCR Sites	Monthly	2020 AD

8.5.6.2.1 General/Basic NEQAS program

NEQAS program was started in NPHL in 1987 AD with the support of the International Nepal Fellowship (INF). In earlier phase government laboratories were enrolled in NEQAS programs, which now have been extended to the private sector too. NEQAS program is schedule for three times a year. Proficiency panel are prepared and sent to participating laboratories. After analysis of report from laboratories, feedback is sent to them along with next lot panel.
There are total 26 proficiency panels prepared for general NEQAS program, they are:

1. Hematology panel: HB, Total WBC count, Total RBC count, DC, Platelets, PCV, PBS.
2. Clinical biochemistry panel: Lyophilized serum for glucose, urea, creatinine, uric acid, total protein, albumin, potassium, total cholesterol, HDL Cholesterol, SGPT, SGOT, Sodium, Potassium, LDH, Gamma GT, Total Bilirubin, Direct Bilirubin, CK Total,
3. Microbiology panel: Gram stain slide.

Table 8.5.2 The activities and their progress in fiscal year 2078-2079 have been listed below:

Lot no.	Total no of participating labs.	Government Lab	Private Lab	No of responding lab.	Private lab responders	Government lab responders	Number of labs with Score based on SDI range (%)			
							+/- 0-1	+/-1-2	+/- 2-3	+/- 3
48 (78-shrawan)	654	201	453	288 (44%)	224 (77.7%)	64 (22%)	10-25%	40-60%	10-15%	
49 (78-Poush)	603	211	392	344 (57%)	271 (78.5%)	73 (21%)	30-35	55-65	12-18	

50 (79-Jaestha)	610	215	395	373 (61%)	289 (77.2%)	84 (22%)	30-33	50-60	15-20	

Table 8.5.3 Result interpretation

SDI Range	Interpretation
within -1.0 to +1.0	Excellent
between ± 1.0 to ± 2.0	Good
between ± 2.0 to ± 3.0	accept with caution. warning Signal
beyond ± 3	Unacceptable performance, action signal

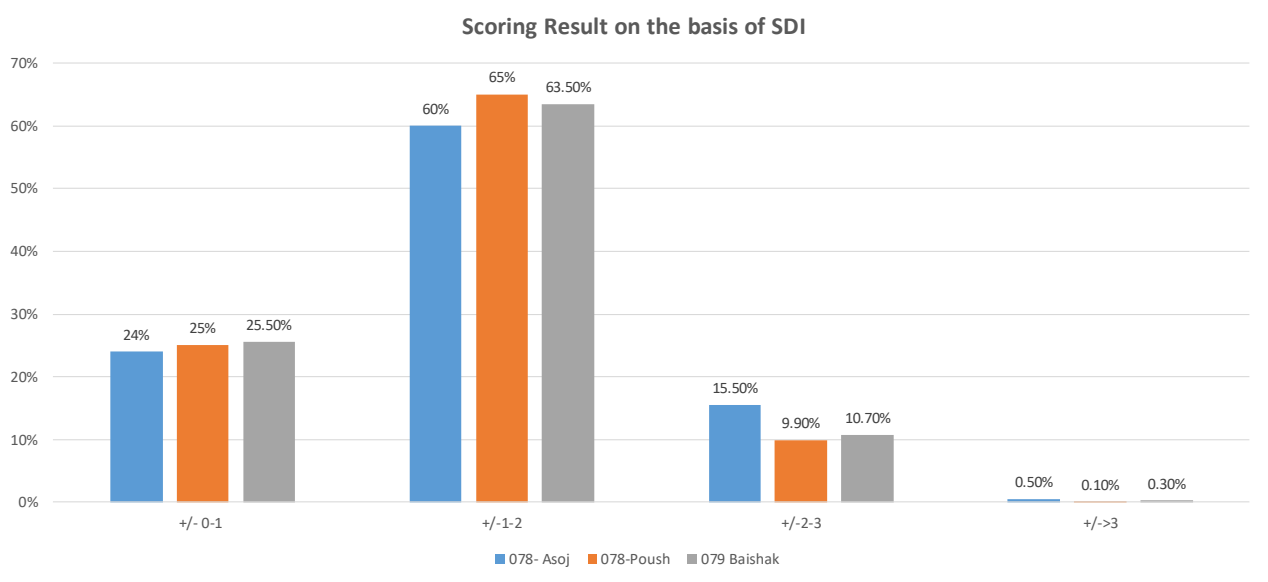


Figure 8.5.1: Scoring Result on the basis of SDI

8.5.6.2.2 Transfusion Transmitted Infections (TTIs) serology for blood transfusion service centre (NEQAS –TTIs)

Under this program, PT Panel for test related to Blood transfusion service (HIV I & 2, HBsAg, HCV and VDRL) is sent to BTS sites twice a year. A total of 60 sites at each lot were enrolled in the last fiscal year. Response rate is shown below:

Table 8.5.4 Blood transfusion service

Batch Number	Total Sent	Responding BTSCs	Grade	Unresponsive
NTQ-1 (Bhadra 2078)	114	60	Excellent- 37 Need to improve – 21 Unacceptable -2	54
NTQ-2 (Baisakh 2079)	120	60	Excellent- 50 Need to improve - 10	60

Performance is evaluated as below:

- BTSC Scoring **100% in NEQAS** - Excellent performance
- BTSC Scoring **90-100%** Need to improve performance.
- BTSC Scoring below **90%** Unacceptable performance (Urgent action needed to review the technical competency of the BTSC)

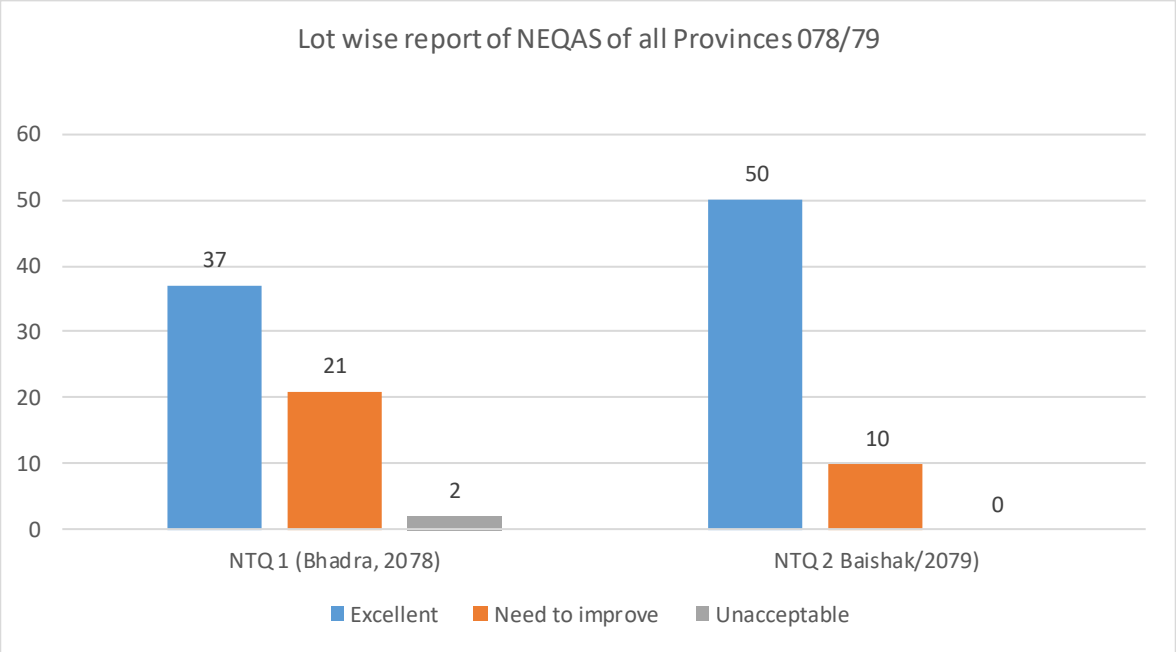


Figure 8.5.2 Lot wise report of NEQAS of all provinces FY 2078/79

8.5.6.2.3 EQAS for HIV testing:

Various EQA scheme are running for HIV testing laboratories. Some of them are:

Proficiency panel testing of HIV Serology using Dried Tube Specimen (DTS):
This program is conducted twice a year. Samples are prepared by NPHL and are sent to participating laboratories via respective Provincial Public Health Laboratories. Performance result of one of the batch is as following:

Duration: April 2022-June 2022

Table 8.5.3 Performance Evaluation

SITE	Batch	Total participants	Excellent (100%)	90-100	80-90	<80
PPHL SUDURPASCHIM	NPHL-HIV-PT3	23	8	0	1	14
PPHL LUMBINI PROVINCE	NPHL-HIV-PT3	26	21	0	3	2
PPHL-1(BIRATNAGAR)	NPHL-HIV-PT3	18	8	0	2	8
PPHL (KARNALI PROVINCE)	NPHL-HIV-PT3	8	6	0	1	1
PPHL (BAGMATI PROVINCE)	NPHL-HIV-PT3	22	11	0	3	8
PPHL(GANDAKI PROVINCE)	NPHL-HIV-PT3	18	8	0	1	9
PPHL (MADHESH PROVINCE)	NPHL-HIV-PT3	12	6	0	2	4
Total		**127**	**68**	**0**	**13**	**46**

CD4 EQAS:

Under this scheme, EQA samples are distributed by NPHL to CD4 testing labs throughout the country. These samples are obtained from Siriraj Hospital Bangkok, Thailand and evaluation is also done by the same institute. NPHL receives the feedback after submitting the results and the same is forwarded to concerned laboratories. It's a bimonthly program where samples are sent to participating laboratory once in every 2 months.

8.5.6.2.4 EQA program for bacteriology:

NEQAS in Bacteriology is conducted only for AMR surveillance sites since 2000 A.D. NPHL dispatches four batches of EQAs each year to all participating laboratories. Laboratories are required to identify the given organism and perform

Antibiotic Susceptibility test and report it in a standard format that is provided. The received results are compiled and scored according to WHO scoring system. Feedback of each batch is sent along with the samples of next EQAs batch.

Table 8.5.4 Avarage score of EQAs test

Lot number	Date	Number sample dispatched labs	Results obtained from	Average score in %
2/2021	078- Bhadra	22	13 (59.1%)	88.5% (IDEN) 83.8% (AST)
3/2021	078- Poush	22	17 (77.3%)	93.1%(IDEN) 88.2% (AST)
1/2022	078-Chaitra	26	17 (65.4%)	85.3%(IDEN) 78.2% (AST)
2/2022	079- Jestha	26	19 (73.1%)	72.8%(IDEN) 80.8% (AST)

8.5.6.2.5 Quality assessment on Covid-19 test (COVID-19 PCR EQAS proficiency test & COVID-19 PCR EQAS Retesting

Various EQA schemes are in function for COVID-19 PCR labs. Like: retesting, Proficiency testing and onsite supervision.

EQA by retesting:

This EQA scheme for COVID-19 PCR labs was initiated in June-July 2020. This is a monthly program in which retesting is performed on a defined number of samples sent from participating labs. 10 positive samples and 10 negative samples are received from each individual CoVID-19 PCR testing sites which are retested at NPHL and the feedback is sent back.

Table 8.5.5 EQA by retesting

YEAR	Month	Total Number of Labs	Number of labs participated	% of Lab participated
2078	Shrawan	90	46	51
	Bhadra	90	56	62
	Asoj	95	47	49.4
	Kartik	96	42	43.7
	Mangsir	96	49	51
	Poush	99	33	33
	Magh	99	42	42
	Falgun	103	21	20
	Chaitra	103	29	28
2079	Baishak	94	26	27
	Jestha	94	17	18
	Asadh	94	10	10

PT panel EQA:

This program started from Sept- Oct 2020. This a tri-monthly program in which proficiency panels are prepared at NPHL, coded, and sent to designated COVID-19 laboratories. Samples are tested at sites and results are sent back to NPHL. NPHL then provides the sites with feedback reports.

Table 8.5.6 PT panel EQA

PT Batch	No. of labs to which PT panel was dispatched	No. of responding labs (%)
1 (Bhadra/ Asoj 2078)	88	82 (93%)
2 (Mangshir -2078)	96	87(90.65%)
3 (Falgun -2078)	93	87 (93.54%)
4 (Jestha/Shrawan- 2079)	83	79 (95%)

Validation activities:

Validation activities are being conducted by QC and training department. Validation is mainly focused on COVID-19 PCR labs and related diagnostic items.

Table 8.5.7 List of PCR labs being validated by NPHL in the fiscal year 2078-2079:

Province	Number of labs validated	
	Government	Private
Koshi	-	-
Madhesh	-	-
Bagmati		14
Gandaki	-	-
Lumbini	-	-
Karnali	-	-
Sudurpashchhim	-	-
Total	**-**	**14**

Table 8.5.8 List of diagnostic items validated/ evaluated by NPHL in fiscal year 2078-079:

Type of kit	Validation type	Total number
COVID-19 PCR Kit	Paper evaluation	2
	Bench evaluation	11
COVID- 19 Ag Kit	Paper evaluation	4
	Bench evaluation	
VTM	Paper evaluation	2
	Bench evaluation	
Extraction kit	Paper evaluation	6
	Bench evaluation	2
Others	Paper evaluation	3
	Bench evaluation	2

8.5.6.3 Trainings:

The training section facilitates the laboratory staff to acquire and update laboratory knowledge and skills for the smooth functioning of clinical laboratory. Many in house and inter laboratory trainings are conducted in NPHL. Below is the list of the training conducted in last fiscal year (2078/2079):

Table 8.5.9 In-house Training/Orientation:

S.N	Training Name	Date	No of participants
1	Training on laboratory Critical Value alert	2078/04/32	20
2	Orientation training on SIEMENS	2078/05/16	25
3	Orientation training for Billing Counter and Report Dispatch	2078/7/04	14
4	Workshop on how to conduct research and publish it. (First phase)	2078/07/06 to 2078/07/07	20
		2078/11/23	20
6	Orientation training on IPC & waste management to supporting staff of NPHL	2078/07/14	7
7	Training on Gene sequencing	2078/07/20 and 2078/09/06	18, 24 respectively
9	Demonstration of Fire drill	2078/09/18	30
10	Application training on EQA by UK Randox	2078/09/27	20
11	Training on interpretation of results of automated cells counter	2078/09/28	15
12	Orientation training on CLINOX operating system	2078/09/29	20
14	Training on Quality Indicator	2078/11/23	23
15	Training on autoclave operating system	2078/03/15	8

Table 8.5.10 Inter laboratory Training/Orientation:

S.N	Training Name	Date	No of participants
1	Orientation on Bio safety / Biosecurity and Health care waste management and Isolate shipping and Transportation.	2078/04/13	16
		2078/04/18	17
		2078/04/20	16
		2078/04/32	14
		2078/05/10	16
		2078/05/15	16
		2078/05/17	20
		2078/05/24	15
		2078/05/30	14
8	Local Level Lab Inspection Category D and E Virtual orientation Training kathmandu, Bhaktapur, Lalitpur district	2078/05/23	40
9	Skilled based " Hands on microbiology laboratory placement training	2078/05/24	3
12	Local Level Lab Inspection Category D and E Virtual orientation Training Koshi Province – Province 7	2078/06/05 – 2078/06/15	Approximately 50-60
19	EID Training Province no 1, Sudurpaschim, Gandaki, Bagmati.	2078/06/17	20
		2078/07/07	23
		2078/07/14	20
		2078/11/11	17
20	Implementation workshop of ESBL tricycle Project	2078/06/23	40

22	Incitation Meeting of Integrated Influenza SAARS CoV-2 Sentinel Surveillance in Nepal	2078/07/10	60
24	Consultative meeting Experts integrated Influenza SAARS CoV-2 Sentinel Surveillance in Nepal	2078/07/16	16
25	Polio Transport Meeting	2078/08/02	30
26	National Training on Integrated Influenza SAARS CoV-2 Sentinel Surveillance in Nepal	2078/08/12	40
27	ART Councillor HIV Viral Load sample Collection Transport And data Management	2078/08/15 to 2078/08/17	26, 17,15 respc.
30	Training of trainers on Biosafety/Biosecurity	2078/08/19	10
31	Data Analytics introductory training	2078/08/20	10
32	Component preparation Training	2078/08/22	21
33	Hands on microbiology placement training	2078/08/26	5
34	Quality assurance and quality control in bacteriology laboratory	2078/09/27	10
35	Implementation meeting of integrated influenza SARS cov 2 in Pokhara, Biratnagar, surkhet, Janakpur, Lumbini	2078/11/5	20
		2079/02/13	20
		2079/03/3	19
		2079/03/9	20
		2079/03/12	27
36	DHIS2 data analyses training	2078/11/08	20
38	Excel training for AMR surveillance data management	2078/11/29	25
39	Workshop on preparation local antibiogram & antimicrobial guideline	2078/12/21	20
41	Lab Clinic Interface AMR	2079/02/30	30
		2079/03/03	20
		2079/03/05	30
42	Laboratory waste management orientation training in Surkhet	2079/03/09	18

8.5.8 HIV REFERENCE LABORATORY

HIV/Hepatitis Reference Laboratory is situated at Infectious Disease Block in National Public Health Laboratory and is mainly focused on the Testing and monitoring of HIV and Hepatitis related activities and program. It consists of Molecular Unit and Immuno-Serology Unit where routine and molecular level tests are performed and reported. NCASC, Global fund, EPIC Nepal (FHI360), WHO and other supporting partners are supporting for several HIV related tests and programs. Laboratory Integration System (LIS) for HIV viral load and EID reporting have been started with the support of Save the Children/Global Fund.

To assure the Quality of itself, NPHL has been participating in various international EQA program. For example: for HIV Viral Load and EID to Centres for Global Health CDC- USA, for HBV and HCV viral load to NRL Australia, for CD4 test to Siriraj Hospital- Bangkok and for Serology and molecular EQAS to CMC Vellore and NRL, Australia.

HIV Reference Unit: Viral load tests on HIV, HBV and HCV

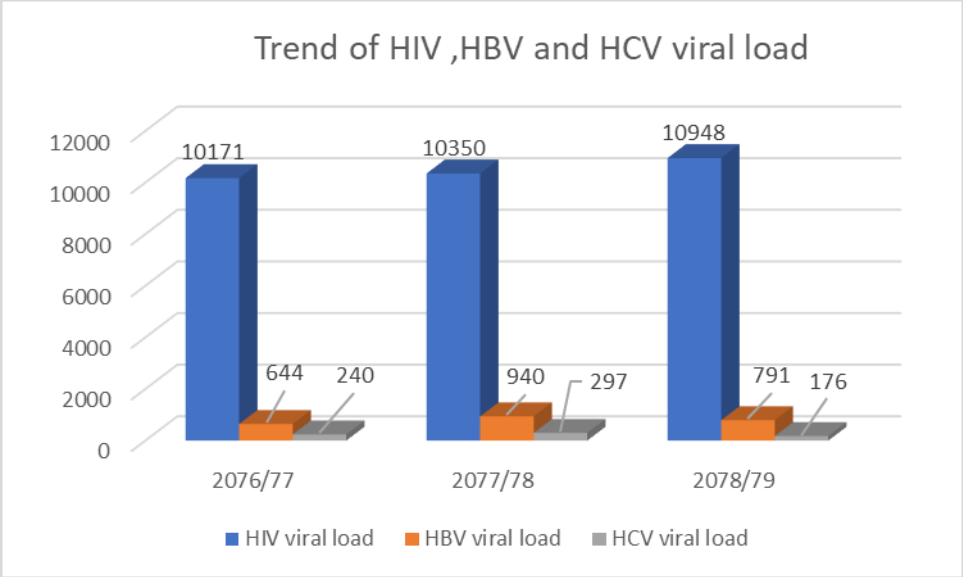


Figure 8.5.3 Trend of HIV, HBV and HCV viral load

8.5.9 NATIONAL INFLUENZA CENTRE

National Influenza Centre was established on 19th April 2010. It has been recognized as 132nd IC at global level and 9th IC in the WHO south East Asia region by WHO since 2010 AD. It has been performing molecular diagnostic assay based influenza surveillance in Nepal since its establishment. It is guided by National Influenza Surveillance Network (NISN) which is Influenza surveillance network at national level and includes both animal and human component. It has been performing Integrated Influenza & SARS CoV-2 surveillance from 16 hospital-based sentinel sites for ILI and SARI cases. This dual surveillance has been implemented successfully in five province public health laboratories and 12 Sentinel Hospitals.
National Influenza Centre (NIC) has been performing CDC Multiplex testing for respiratory pathogens such as Influenza A, Influenza B and SARS CoV-2. Besides Flu and SARS CoV-2, PCR of Respiratory syncytial virus in children of age group< 2 years, Adeno Virus, Monkey pox virus, Dengue, Zika, Chikungunya virus & Rabies Virus has been started for free of cost.

In fy 078/079 National Influenza Center performed Influenza & SARS CoV-2 Multiplex testing in 7891 samples from sentinel sites in which 39 Influenza A (H1N1 pdm 09), 570 Influenza A/H3 and 550 SARS CoV-2 samples tested positive. The Summary of the Influenza test done in 2078/79 is as shown in the figure below (ISO week wise).

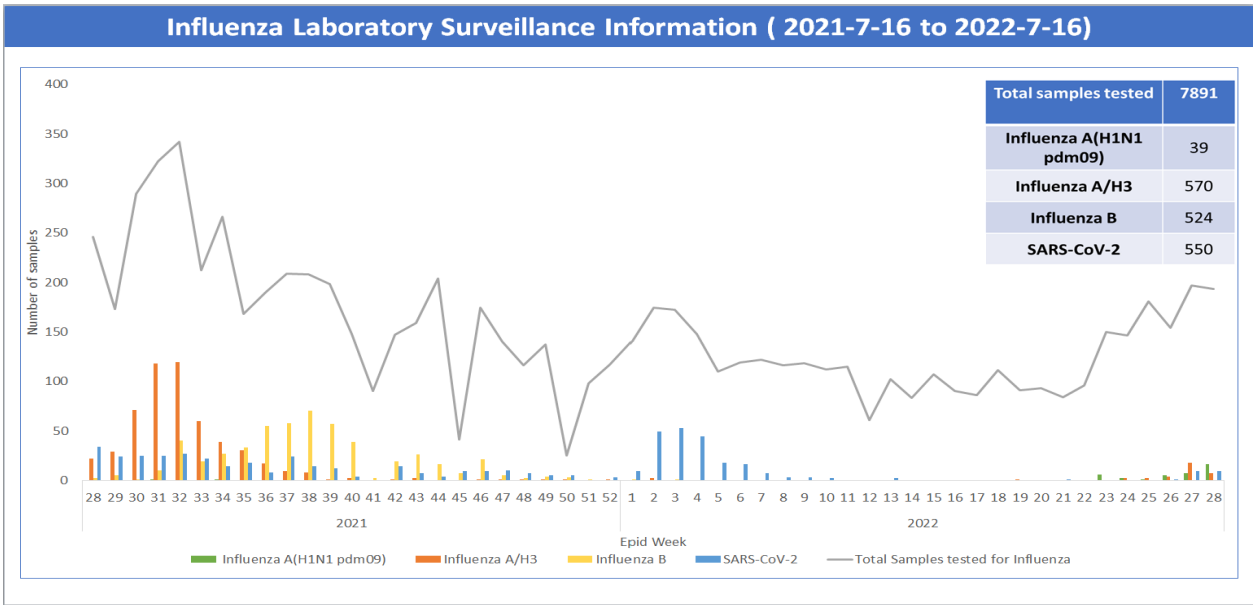


Figure 8.5.4 Total test reported in Influenza Laboratory Surveillance Information System

Table 8.5.11 Routine Tests Performed in fiscal year 2078/079

Name of Test	Number of Tests Done in fiscal year 2078/079
1. SARS CoV-2 RT PCR	56212
2. Influenza Uniplex and Multiplex RT PCR	8542
3. Dengue Virus RT PCR	3

New Initiatives of NIC in fiscal year 2078/079

1. **Test Added at National Influenza Center**

- Respiratory syncytial virus RT PCR
- Chicken pox (Varicella zoster virus) RT PCR
- Monkey pox RT PCR
- Dengue Virus RT PCR
- Zika Virus RT PCR
- Chikungunaya Virus RT PCR
- Rabies Virus PCR.

2. **Expansion of Integrated Influenza & SARS CoV-2 Sentinel Surveillance**

National Public Health Laboratory has restructured the sentinel sites and has initiated sub national testing sites for Integrated Influenza & SARS CoV-2 testing. The National Influenza Centre has implemented surveillance of Influenza and SARS CoV-2 in five provinces. The five provinces are testing Influenza and SARS CoV-2 from their sentinel sites on regular basis. The five province public health laboratory are sending reports of dual surveillance weekly and ship the positive samples to NPHL for further subtyping of influenza and genome sequencing of SARS CoV-2.

3. **Initiation of Genomic Surveillance of SARS CoV-2**

National Public Health Laboratory has been performing whole genome sequencing of SARS CoV-2 since September 2021. WHO Nepal played an important role for the initiation of whole genome sequencing. In the last fiscal year 541 whole genome sequencing of SARS CoV-2 was done on its own platform. Among them 415 were Omicron variant and 126 were Delta variant.

Month-wise no. of SARS-CoV-2 samples sequenced at NPHL

Total no. of samples sequenced at NPHL				
Year	Month	Total samples sequenced	Omicron Variant detected	Delta Variant detected
2021	Sep	12	0	12
	Oct	24	0	24
	Nov	27	0	27
	Dec	56	2	54
2022	Jan	64	58	6
	Feb	68	65	3
	March	44	44	0
	April	47	47	0
	May	44	44	0
	June	95	95	0
	July	60	60	0
	Total	541	415	126

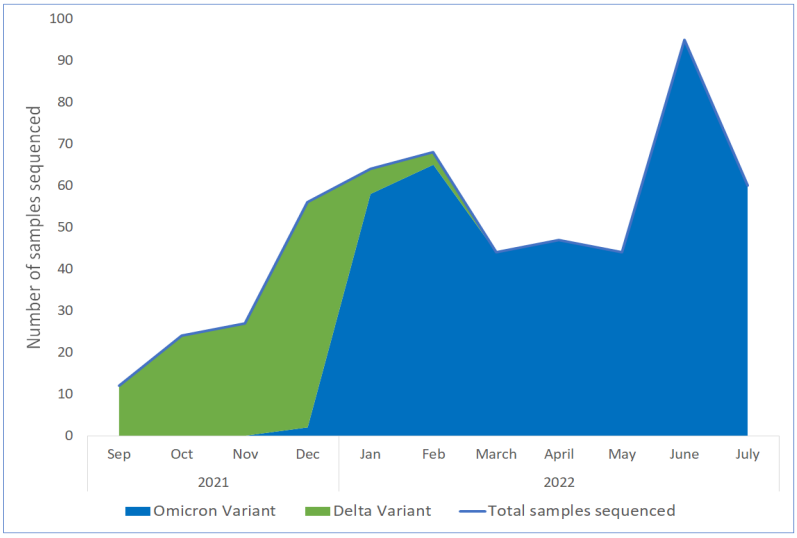


Figure 8.5.5: Data of Whole genome sequencing of SARS CoV-2 and trend of Variants in fiscal year 2078/079

4. **Establishment of Bioinformatics Unit**

For the analysis of data generated from whole genome sequencing, National Public Laboratory has established Bioinformatics unit since 2021. It was established with help of FHI 360. Analysis of the sequenced data of SARS CoV-2 has been performed routinely and is reported to EDCD director and other concerned officials. After 48 hours, the sequenced data are uploaded into GISAID global platform according to the protocol.

5. **Activities of Pathogen Genome Sequencing Consortium**

Pathogen Genome Sequencing Consortium was established on March 17, 2021 after the approval of Proposal from Ministry of Health & Population. The consortium has chairperson from National Public Health Laboratory. Remaining members are from different government and non-government organizations. NPHL conducts meeting with the members of consortium on regular basis. The consortium members are benefited by Joint training, mentoring, workshops etc. The training on Bioinformatics has enabled the consortium members to analyse the data within country even without Bioinformatician.

Other Major Events of last fiscal year:

1. **Experience sharing of COVID-19 Laboratories-Poster Walk (Baisakh 05, 2079)**

To share the experience between COVID 19 Laboratories a one-day event (Poster Walk) was organized by National Public Health Laboratory on **Baisakh 05, 2079**. All Total 83 Laboratories including NPHL had participated in the program.

2. **Co-ordination and Review on Public Health Laboratory Activities (Chaitra 7-8, 2078)**

A two days' coordination and Review meeting between public health laboratories was held on Chaitra 7-8, 2078. It included various activities like: presentation on communicable disease from National Public health laboratory, panel discussion and discussion on draft of national laboratory strategy.

8.5.10 JAPANESE ENCEPHALITIS, MEASLES AND RUBELLA & POLIO CONTAINMENT LABORATORY

Infectious and communicable diseases are of growing concern and continue to be a major public health problem worldwide. Among them, vaccine preventable diseases still have the top most mortality rate worldwide among the children of below 15 years' age. In order to reduce and control the mortality and morbidity of such vaccine preventable disease (Japanese Encephalitis, Measles, Rubella, etc.) World Health Organization and Government of Nepal are working in close collaboration. In this regard National Centre for Infectious Diseases (NCID) was established at NPHL.

The centre is performing lab based surveillance of various vaccine preventable diseases. WHO-IPD also supported with training for one Medical Microbiologist and one Laboratory Technologist for the effective and smooth performance of the centre. JE/Measles lab of was accredited by WHO on October 2018 which is still continued.

8.5.10.1 Environmental Surveillance for Poliovirus in Nepal

Environmental surveillance is a highly sensitive and effective method for detecting Polio virus (PV) in environmental samples. This practice has been adopted by many countries and region worldwide. Environmental surveillance can provide valuable supplementary information, particularly in high density urban populations where AFP surveillance is absent or questionable, where persistent virus circulation is suspected and in area where frequent virus re-introduction is perceived.

No WPV have been reported from Nepal since 2010. National Public Health Laboratory (NPHL) in collaboration with WHO, has been conducting environmental surveillance of polio virus since November 2017 and no poliovirus (wild/ VDPV/Sabin type 2) has been isolated from sewage samples.

In the past environmental Surveillance was confined only to Kathmandu valley. Now NPHL has expanded the surveillance activities to some provinces. Sewage treatment plant at Biratnagar and campus area at Janakpur are the selected sites for Koshi Province and Madhesh Province respectively. Laboratory personnel of provinces have been oriented on sample collection and processing procedures.

8.5.10.2 National Malaria Reference Laboratory

As per National Malaria Lab Plan 2019, NPHL is recognized as National Malaria Reference Laboratory. To achieve the national goal of malaria elimination by 2025, and malaria-free status by 2026, national steering committee for malaria has been formed. NPHL works in close coordination with EDCD and has successfully conducted Malaria QA/QC workshop in all the 7 provinces. NPHL has passed the external quality assessment of 1st lot of malaria PCR.

8.5.10.3 Rotavirus Surveillance

NPHL, with technical support from WHO, is conducting rotavirus surveillance. Stool specimens are collected from Kanti Children Hospital Kathmandu, Nepalgung Medical College Nepalgunj and B P Koirala Institute of Health Sciences, Dharan. ELISA is performed and then samples are sent to WHO regional reference laboratory.

8.5.11 MICROBIOLOGY:

Microbiology laboratory at NPHL constitutes of Routine Bacteriology, Mycology and Parasitology laboratory. AMR surveillance and routine microbiology activities go hand in hand in the Microbiology Department. NPHL is the focal point for AMR surveillance. It has been designated by Ministry of Health & Population as the National Reference Laboratory and National Coordinating Centre for Antimicrobial resistance (AMR) Surveillance. AMR surveillance in Nepal started in 1999. A total of 10 organisms are monitored at present. The Director is the chairperson and The Microbiology Head is the Member Secretary of Human Health Technical Working Group (HH-TWG) for AMR surveillance.

The AMR surveillance network started with nine laboratories, which now has 26 participating laboratories. NPHL conducts capacity building training for the site personnel on bacterial identification, antibiotic susceptibility testing, biosafety and biosecurity practices as well as quality assurance in bacteriology laboratory. The sites are monitored and onsite orientation provided to the lab personnel with technical support and logistics supply from Fleming Fund Country Grant for Nepal. External Quality assessment of sites is performed on a quarterly basis.

Protocol for Laboratory based Surveillance of antimicrobial resistance in clinical bacterial isolates in Nepal was printed and distributed to the surveillance sites. SOP on Bacteriology for AMR Surveillance was also printed after interactions with microbiologists and specialists from various institutions. The SOP and bench aids were distributed to the surveillance sites in valley as other sites were unapproachable due to lockdown. Three batches of Microbiology EQAS were sent to the AMR surveillance sites including two unknown organisms per panel sent. This year, Molecular laboratory was established in the department. It will be used for detection of resistance genes in multi-drug resistant strains received at NPHL from the surveillance sites.

The AMR surveillance data received from all the sites was collected, collated and the complete data from 23 sites was submitted to Global AMR Surveillance System (GLASS) with the help of WHO country office and FHI 360 (Fleming Fund).

Table 8.5.12 Activities of Microbiology Laboratory

S.N.	Diagnostic:
1.	Bacteriology: Bacterial Culture and sensitivity; Water Analysis (MPN)
2.	Mycology: Fungal Culture and sensitivity
3.	Parasitology: Parasitological Analysis
4.	Serology: Rapid Tests for Dengue, Brucella, Kalazar, Leptospira, Scrub Typhus, Salmonella (WIDAL), Cholera Antigen and H. pylori.
5.	Automation: VITEK-MS (MALDI-TOF), VITEK compact (MIC), Bactec (Blood culture)
6.	Surveillance Activities
7.	Antimicrobial resistance surveillance (26 sites)
8.	Cholera (ECHO-N) Surveillance (21 sites)

Status of Routine work in bacteriology Department in Fiscal year 2078/079 (ISO week wise)

In Fiscal Year 2078/079 Microbiology Department has performed 9398 tests with 4637 bacterial culture and sensitivity, 109 Fungal culture, 229 AFB stain, 135 Gram stain, among others.
Other than diagnostic, water testing for bacteriology MPN (44), outbreak samples were received and tested for water MPN and stool culture for Vibrio, Salmonella and Shigella (587). Vibrio cholerae O1 Ogawa (43), Vibrio cholerae Non O1 & O139 (3), Salmonella (24), Shigella (3).

8.5.12 AMR (Antimicrobial Resistance) surveillance activities

NPHL conducts laboratory surveillance on ten pathogens for antimicrobial resistance surveillance to monitor the burden of these diseases and to inform disease control strategies. Frequency of various pathogens and their antibiotic resistance are described below.

A total of 8550 isolates of surveillance interest were reported in the year 2021. Majority of the isolates were reported from TUTH (35.5% of the total isolates). The data thus obtained were analysed and interpreted accordingly. In addition to the resistance pattern analysis, the data collected in 2021 were also analysed for specimen type, age and sex wise distribution for each organism. Of them, MDR E. coli (54%) was the highest reported pathogen followed by MDR Klebsiella (23%), MDR Acinetobacter spp (10%), MRSA (9.3%), Salmonella spp (1.6%), and Shigella spp (0.2%). Fastidious organisms, S.pneumoniae (86), N.gonorrhoea (9) and H.influenzae (3) are only reported from few sites reported in very low numbers. No V.cholerae has been reported in 2021.

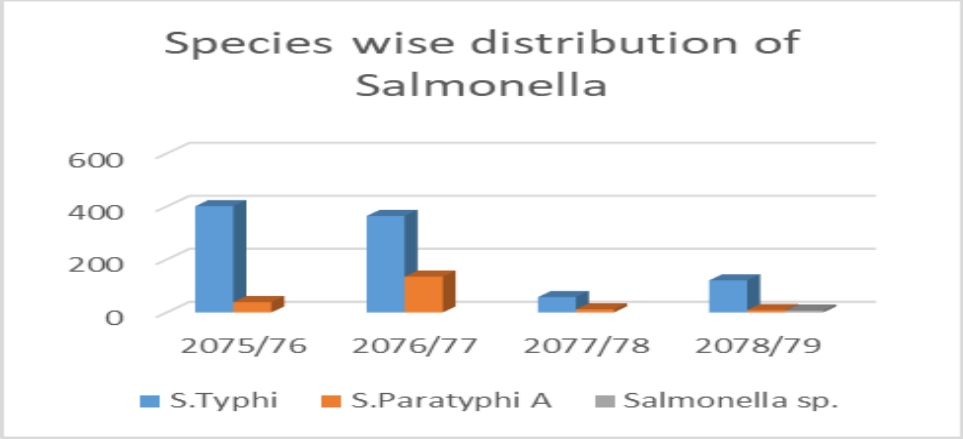


Figure 8.5.6: Trend of enteric fever (cause and AMR)

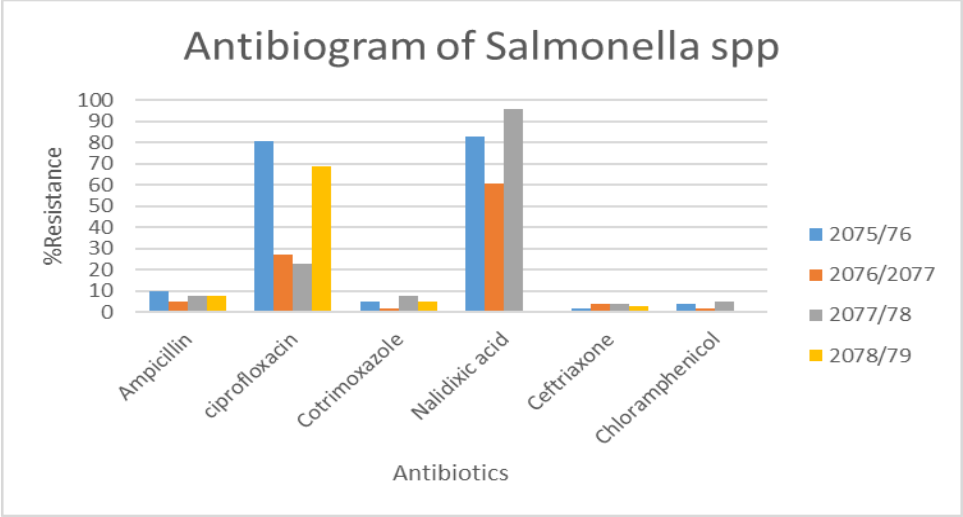


Figure 8.5.7 Trend of Antibiogram of Salmonella spices

- A total of 137 Salmonella isolates were reported of which 119 (87%) were recovered from blood.
- Of the reported Salmonella, 87% were Salmonella enterica serovar Typhi (121/137), 6.4 % were Salmonella enterica serovar Paratyphi (9/127) and 5% (7/137) were Salmonella spp.
- S.Typhi isolates showed high susceptibility to Ampicillin, Cotrimoxazole, Beta lactam combination drugs and Azithromycin as compared to S.Paratyphi A. However, S.Paratyphi A isolates showed high susceptibility to fluoroquinolones, chloramphenicol and third generation cephalosporin. No MDR isolate was reported.

Bacterial Diarrhea:

A total of 18 Shigella isolates were reported in the year 2021, of which 67% were Shigella spp followed by S.sonnei (17%), S.dysentriae (11%) and S.flexneri (5%). The isolates were 73% susceptible to chloramphenicol followed by azithromycin (63%) ,3G cephalosporins, (46%), Ampicillin (38%) and cotrimoxazole (33%).Only 12% isolates were susceptible to Fluoroquinolones. 50% of the Shigella isolates were MDR exhibiting resistance to 3 or more classes of antibiotics.

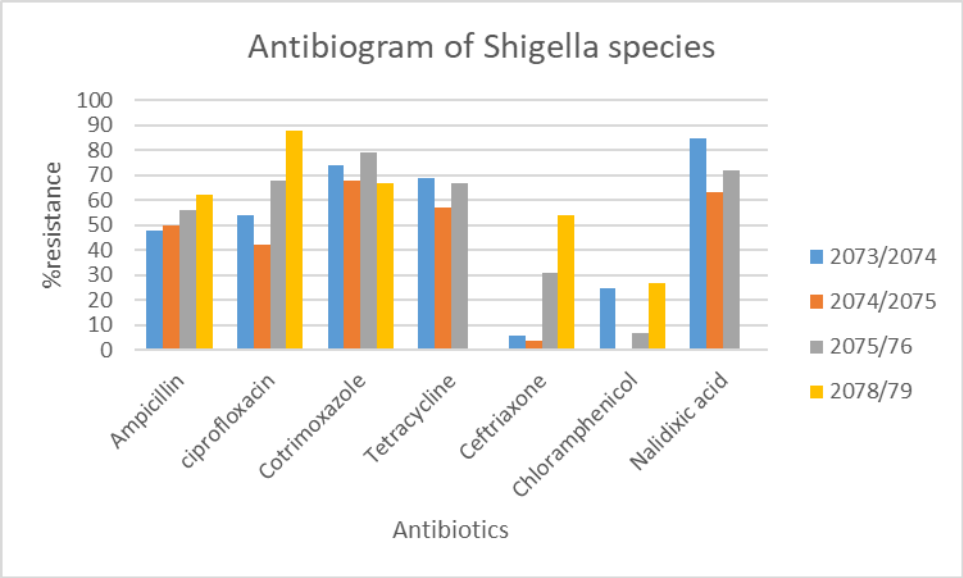


Figure 8.5.8 No Vibrio cholerae was isolated in 2021.

8.5.12.1: AMR in respiratory infections: Among Respiratory Infections, AMR surveillance monitors S. pneumoniae and H.influenzae

- A total of 86 Streptococcus pneumoniae isolates were reported in 2021. The isolates showed 78 % susceptibility to clindamycin followed by Ofloxacin (75%) and azithromycin (64%). All the isolates were sensitive to chloramphenicol and Vancomycin. 5% Isolates showed resistance to Linezolid.

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Only 3 Haemophilus influenzae isolates were reported in the year 2021 from 2 surveillance sites.

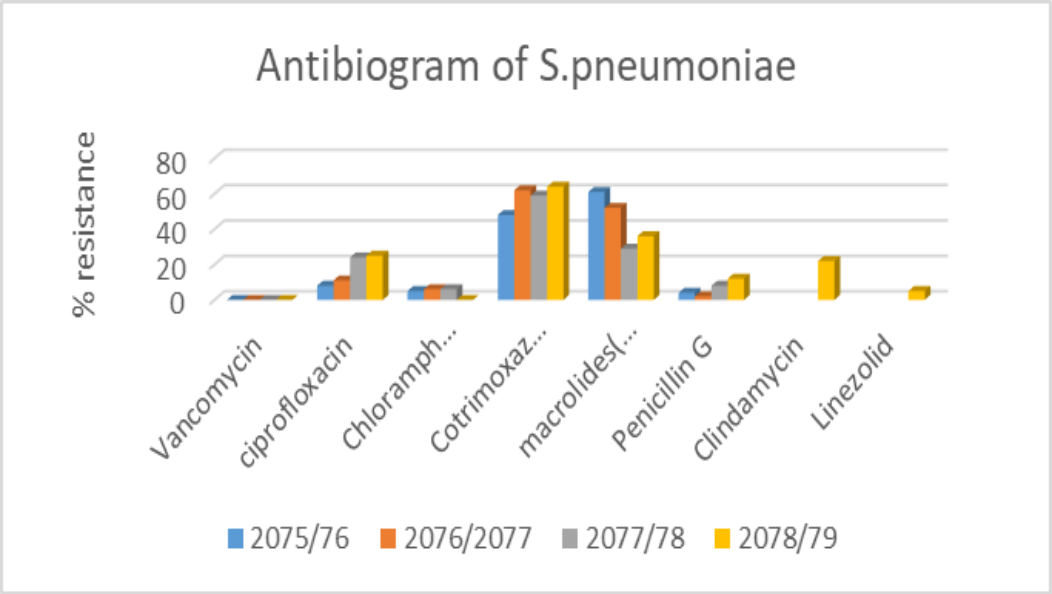


Figure 8.5.9: AMR in respiratory infections

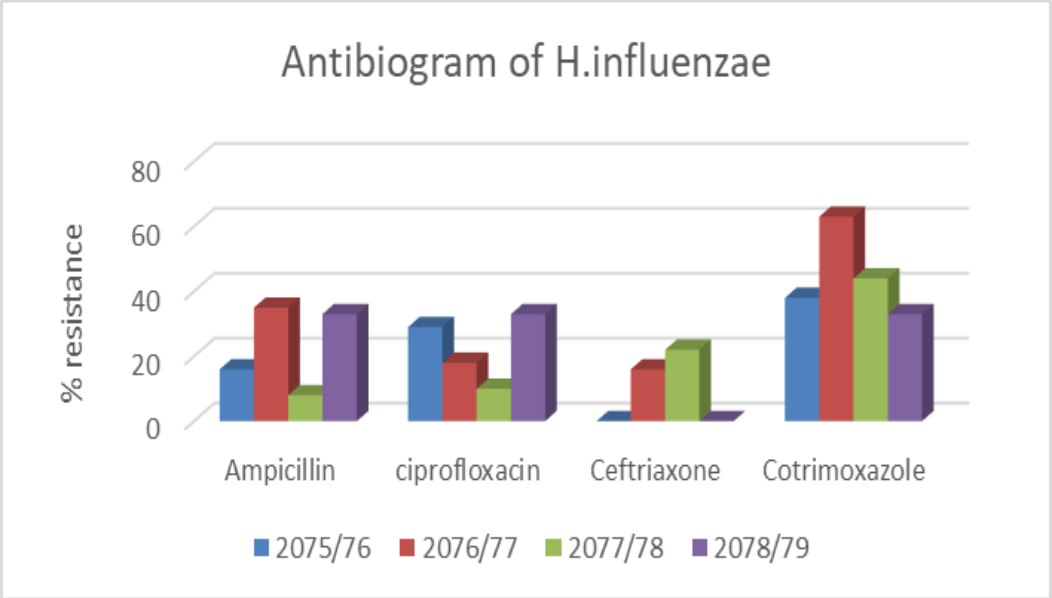


Figure 8.5.10 AMR in Nosocomial Infections: Among nosocomial pathogens, AMR surveillance monitors MRSA, MDR Klebsiella and MDR Acinetobacter

MRSA:

- A total of 4126 isolates of S. aureus were reported in 2021, of which only 805 (19.5%) were methicillin resistant
- Most of the isolates were recovered from pus (54.7%) followed by urine and blood
- The reported MRSA isolates exhibited 80% resistance against macrolides, followed by 71% towards Ciprofloxacin, 50-55% towards gentamicin, levofloxacin, clindamycin etc. Almost all MRSA isolates were sensitive to Linezolid (99%).

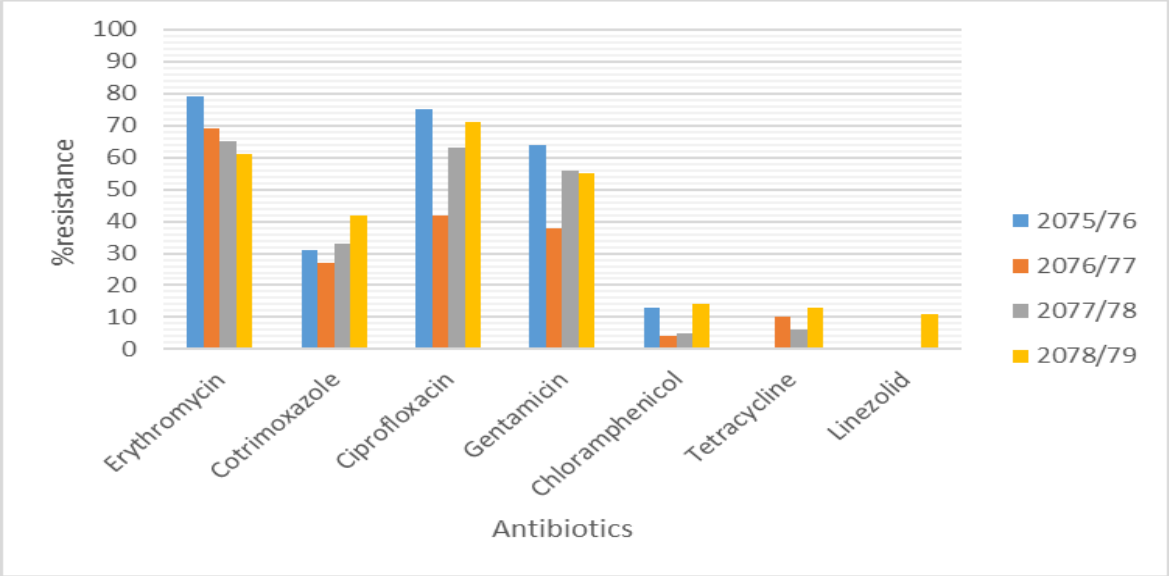
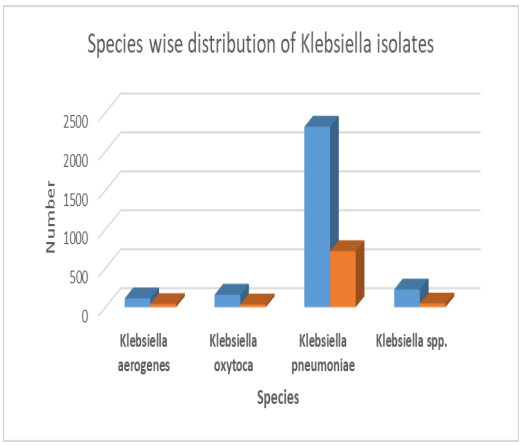


Figure 8.5.11: AMR in MRSA

MDR Klebsiella

A total of 4622 Klebsiella isolates were reported of which 1972 (42.6%) were MDR in 2021. Of them 80% (3713) were Klebsiella pneumoniae, 425 (9.1%) were Klebsiella oxytoca and 2.7% (127) were Klebsiella spp (not differentiated up to the species level). Most of the Klebsiella pneumoniae isolates (45%) were MDR. MDR Klebsiella exhibited 64% to 97% resistance against all tested antibiotics.



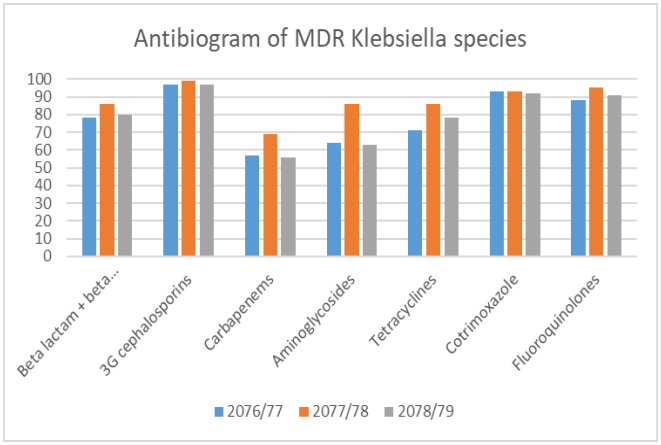


Figure 8.5.12: AMR in Klebsiella

MDR Acinetobacter

- Second highest reported pathogen
- More than half of reported Acinetobacter are MDR (54.4%)
- Isolation is higher in blood but MDR rate is high in respiratory samples

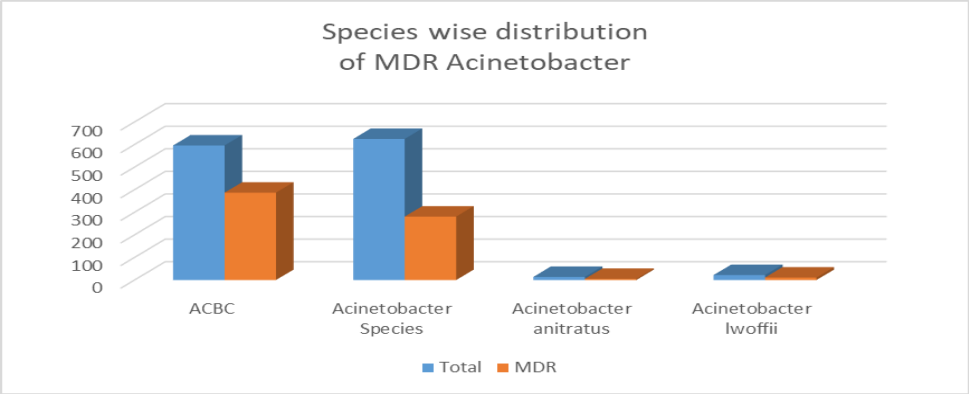
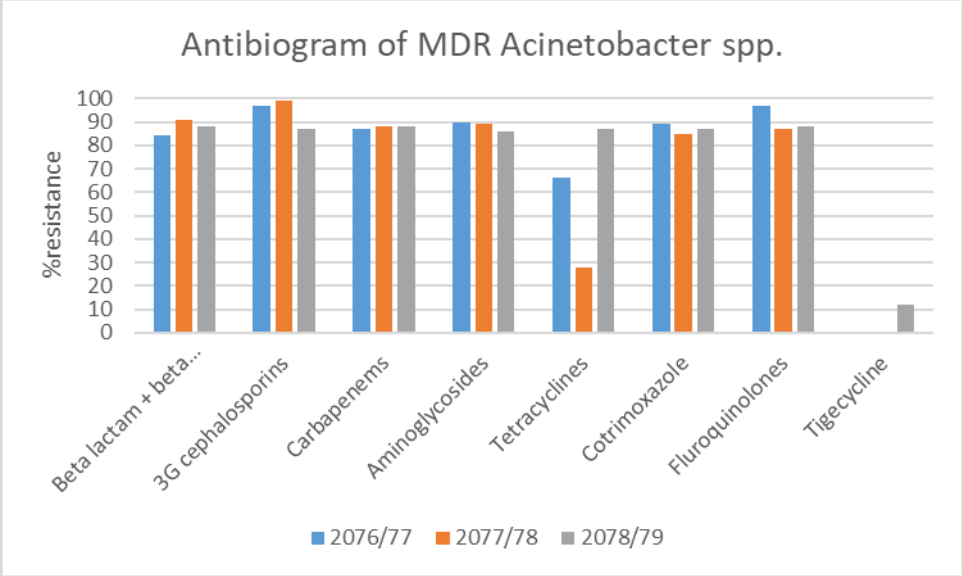


Figure 8.5.13: AMR in Acinetobacter



AMR in uropathogens: ESBL producing E.coli

- Among 6940 E.coli isolates reported 8.3% were ESBL producers.
- Most of the isolates were recovered from urine (80%) of which 8.2% were ESBL positive.
- Most of the isolates were recovered from females of 21-30 years age group

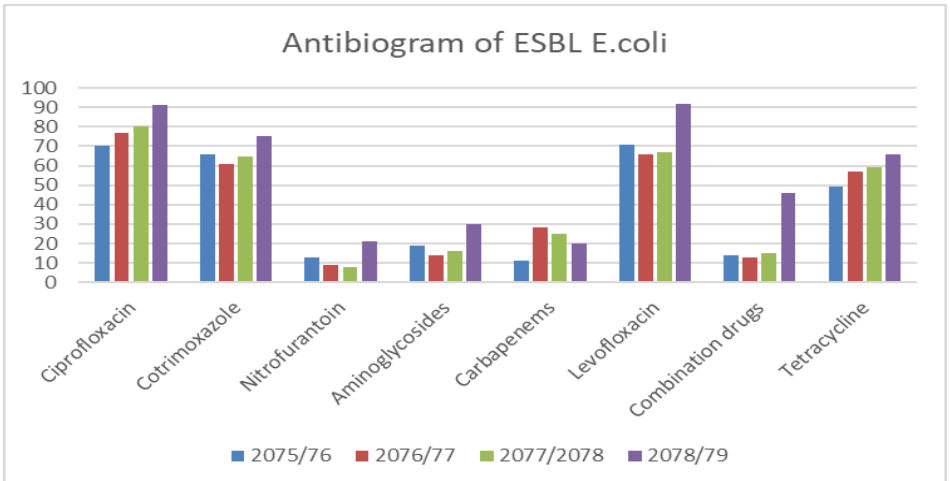


Figure 8.5.14: AMR in ESBL producing E.coli

8.5.13 REVENUE GENERATION

NPHL generates revenue from different laboratory testing services. There is increasing trend on revenue generation and laboratory services provided in comparison with previous years.

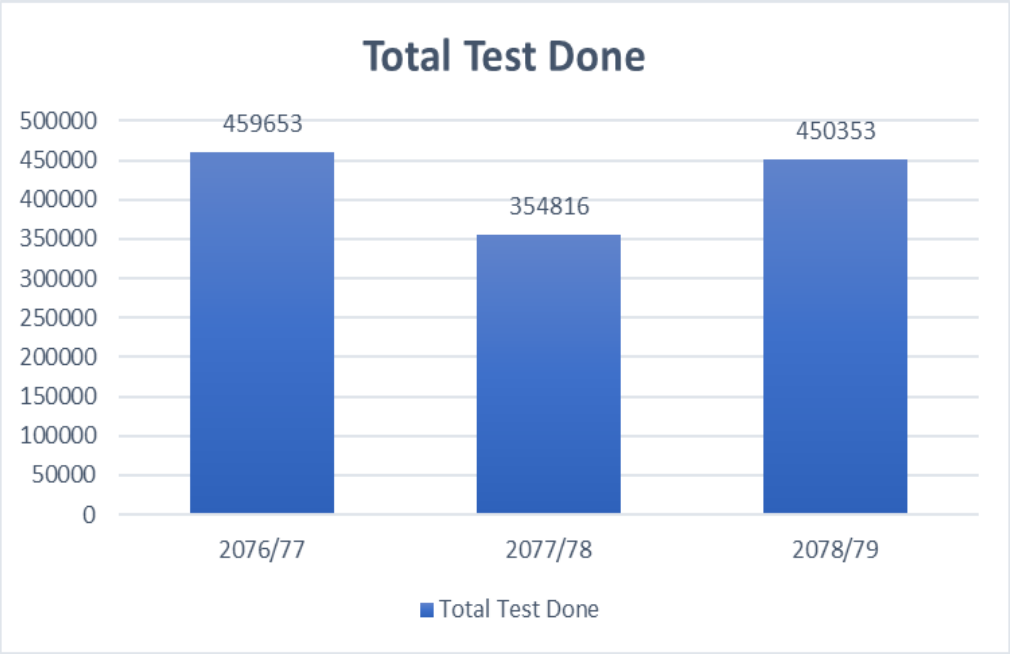


Figure 8.5.15: Total number of laboratory testing services provided by NPHL
Source: NPHL/LIS

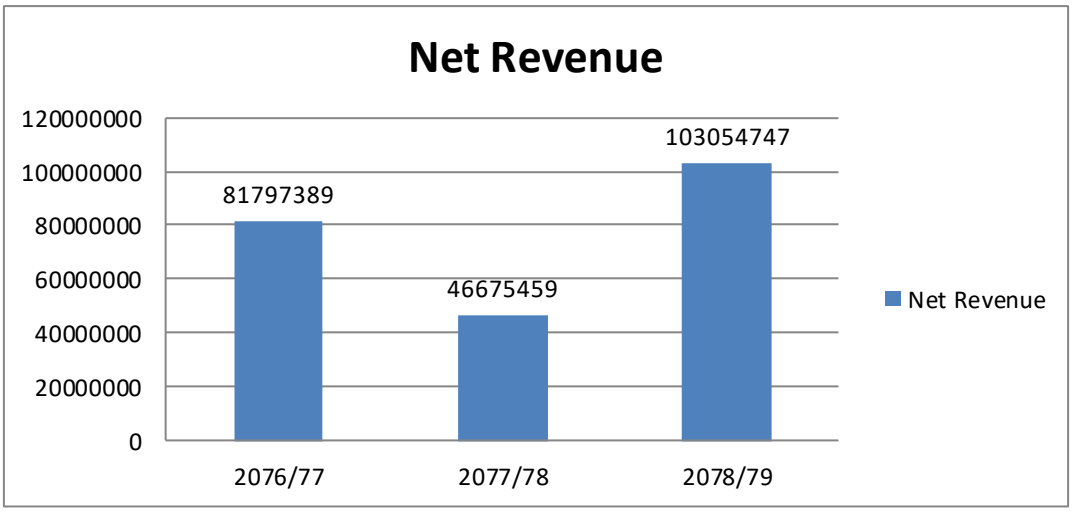


Figure 8.5.16: Trend of revenue generation from laboratory service at NPHL (amount in Nrs.)
Source: NPHL/LIS

Note: Service effected by COVID-19 Pendamic FY 2076/77 & FY 2077/78

8.5.14 MAJOR ACTIVITIES OF NPHL:

- Routine and specialized diagnostic services including services of referral laboratory.
- Public health related activities (laboratory based surveillance [AES/Japanese encephalitis, measles/rubella, polio, antimicrobial resistance (AMR), influenza)], HIV reference unit, National Influenza Centre, BSL-3 laboratory and outbreak investigation)
- Training and workshops
- Logistics procurement and supply and laboratory refurbishment
- Supervision and monitoring, regarding function of clinical lab & BTSCS.
- National External Quality Assurance Scheme (haematology, biochemistry, gram stain, microbiology, AMR on

selected bacterial pathogens and TTIs)
- Sample processing for Polio containment.
- Assisting MoHP for preparing medical laboratory related, policy, legislation and guidelines.
- Procurement of especial types of kits and reagents and equipment for provincial and local level government laboratories.
- General administration functions.

8.5.15 FUTURE PLAN:

- Updating the Laboratory portion of health institution establishment Guideline 2077.
- Monitoring the tests which are out sourced from Nepal.
- Strengthening the PPHL with equipment and other necessary arrangements in all provinences.
- Decentralization of public health and diagnostic services in to PPHL.
- Laboratory mapping from (category A to E) throughout the country.
- Strengthening diagnostic as well as research activities in government based provincial and district level hospitals. Register all government hospitals-laboratory in NPHL.
- Categorization of all the hospital-, polyclinic- or clinic- based laboratories in into A to E category.
- Emphasize for ISO accreditation for government laboratories.
- Planning to get ISO accrediatation for rest of the routine tests.
- Emphasize appropriate Management Information Systems in laboratories. Emphasize online appointment, report dispatch and counselling.
- Establishment of IRC in NPHL.
- Emphasize special tests, molecular tests, tests for research purpose and decrease load of routine tests in NPHL.
- Emphasize for EQAS for all laboratory.
- ISO accreditation of PT panel prepared by NPHL.
- Improve and expand current PT panels prepared by NPHL.

ISSUES, CONSTRAINTS AND RECOMMENDATIONS

Issues	Recommendation	Responsibility
Lack of country's law and bylaws most needed for laboratory standardization and accreditation.	Provision of laboratory related law and protocol for standardization and accreditation.	MoHP, NPHL
Insufficient budget allocation for quality assurance activities of medical laboratories	Provision of adequate budget allocation for quality assurance activities of medical laboratories	MoF, MoHP, NPHL
Lack of scholarships for higher education and advance level trainings for laboratory personnel.	Provide scholarships for higher education and advance level trainings for laboratory personnel.	MoHP, MoE, DoHS, NHTC, NPHL
Strengthen NPHL as referral central with Prevention of out sourcing clinical sample outside country.	Data collection of out-sourced sample and management for increasing referral centres within the country.	MoHP, DoHS, NPHL
Involvement of local government in controlling illegally running laboratories as well as providing rights for monitoring and licensing of at least initial level (Category E) laboratory.	Providing training to local government regarding monitoring and licencing of laboratory.	MoHP,DoHS, NPHL
Laboratory mapping	planning and implementation of laboratory mapping	MoHP,DoHS, NPHL
Strenghthening diagnostic as well as research activities in government based federal, provincial and district level hospitals. Register all government hospitals-laboratory in NPHL.	Planning and implementation of increasing diagnostic as well as research based tests with sufficient infrastructure, equipments and manpower.	MoHP,DoHS, NPHL

Manpower: Strenghthening laboratories with proper and needful manpower comparable to international standards.Strenghthening at least A and B category laboratory with molecular tests to combat pandemic issue like COVID-19 in future.	planning and implementation of laboratory services with sufficient infrastructure, equipments and manpower	MoHP,DoHS, NPHL
Laboratory safety: Proper biosafety and biosecurity is essential in all laboratories. Waste management of hazardious/infectious material.	Short course training of “biosafety and biosecurity” to staffs and new commers.	NPHL
Poor implementation of NEQAS.	Provision of sufficient training, and effective policy for its implementation.	MoHP, NPHL

8.6 Personnel Administration

8.6.1 Background

Human resources are the pivotal resource for health care delivery. Human resource management involves the planning, motivation, use, training, development, promotion, transfer and training of employees. The proper placement and use of human resources is crucial for effective quality health care delivery. DoHS's Personnel Administration Section (PAS) is responsible for routine and program administrative functions including upgrading health institutions (O&M), transfer of health workers, upgrading of health workers up to the 7th level according to delegated authority of Ministry, DoHS is responsible for capacity building and the internal management of human resources. The objectives of PAS are listed in Box 8.6.1.

Box 8.6.1: Objectives of the Personnel Administration Section

The main objective of the section is to mobilize human resource to deliver quality health services. The specific objectives are as follows:

- To transfer and manage all posts up to 7th level according to the delegated authority of ministry.
- To place health staff at sanctioned posts under DoHS.
- To manage human resources at the different levels under DoHS.
- To manage and update personnel information of all levels and institutions under DoHS.
- To manage the posting and transfer of medical officers who completed their studies under government scholarships.
- To execute organisation and management (O&M) surveys to establish and extend the structure of health institutions and organizations under DoHS.
- To recommend to MoHP for approval special leave and education leave requested by health workers.
- To provide legal opinion and advice on the questions of legal dilemma.
- To prepare reply to defence on the cases filed against the department of health services.
- To provide assistance and opinion on legal documents as well as on the procedure & guidelines to be prepared.

8.6.2 Routine activities

The number of sanctioned and fulfilled posts under DoHS of fiscal year 2078/79 is given in Table 8.6.1 The routine responsibilities for personnel administration are as follows:

- According to the Health Service Regulations, 2055 and MoHP policy, DoHS is responsible for the transfer of the health workforce up to the 7th level.
- Manage the upgrading of its employees to the 7th level twice a year.
- Work to maintain the professional discipline of its employees.
- Approve house leave, sick leave, delivery leave and other types of leave. It recommends to MoHP for the approval of special and education leave request by up to 7th level employees.
- Manage the retirement of staff.
- The approval of resignations of staff above the 6th level is made through DoHS.

Table 8.6.1: Type and number of DoHS workforce, fiscal year 2077/78

SN	Types of human resources	Grade/level	Sanctioned	Fulfilled
1	Director General	Additional Secretory (12th)	1	1
2	Director	11th (G.H.S.)	1	1
3	Director	11th (PHA)	2	2
4	Director	11th (HI)	1	1
5	Director	11th (G.Nur.)	1	1
6	Senior /Sub Health Administrator	9/10th (PHA)	3	3
7	Senior General Nursing	9/10th (GN)	1	1
8	Senior Community Nursing Administrator	9/10th (PHN/CN)	2	2
9	Senior Public Health Administrator	9/10th(H.I)	3	3
10	Chief Medical Officer/Medical Superintendent	9/10th(G.H.S.)	2	2
11	Senior/ Consultant Medical Generalist	9/10th(MG)	3	3

SN	Types of human resources	Grade/level	Sanctioned	Fulfilled
12	Senior/ Consultant Dermatologist	9/10th(D&V)	1	1
13	Senior /Consultant Gynaecology and Obstetrics	9/10th (G/O)	1	1
14	Senior /Consultant Psychiatric	9/10th (Psy)	1	1
15	Senior /Sub-Health Administrator	9/10th (Intrigrated Chiki)	2	2
16	Chief Nutrition Officer	9/10th(H.I)	1	1
17	Senior /Consultant Dental Surgeon	9/10th(Denti.)	1	1
18	Director /Deputy Director/ Senior Demographer	Gazetted II (Stat.)	1	1
19	Under Secretary	Gazetted II	1	1
20	Under-Secretary (Finance)	Gazetted II	1	1
21	Section Officer	Gazetted III	7	7
22	Account Officer	Gazetted III	2	2
23	Legal Officer	Gazetted III	1	1
24	Statistics Officer /Demographer	Gazetted III	5	5
25	Pharmacist	7/8th (Phar)	2	2
26	Senior /Public Health Officer	7/8th(H.I)	9	9
27	Nutrition Officer	7/8th(H.I)	1	1
28	Medical Officer	8th	7	7
29	Senior Medical Lab Technologist	7/8th(G.M.L.)	1	1
30	Senior Community Nursing Officer	7/8th(PHN/CN)	7	7
31	Senior/ Nursing Officer	7/8th(GN)	5	5
32	Entomologist	7/8th(HI)	1	1
33	Veterinary Doctor	Gazetted III(Agri/Vet.)	1	1
34	Computer Officer	Gazetted III	3	3
35	Mechanical Engineer	Gazetted III	1	0
36	Biomedical Engineer	8th (Bibi.)	2	0
37	Architect Engineer	Gazetted III	1	0
38	TB/leprosy Officer	7th (HI)	1	1
39	Nayab Subba	Non gazetted I	8	8
40	Health Assistant /Public Health Inspector	5/6th(HI)	6	6
41	Cold Chain Assistant	4/5th(HI)	3	3
42	Lab Assistant	4/5/6th (G.M.L.)	2	2
43	Light Vehicle Driver	Not classified	7	7
44	Office Assistant (Peon)	Not classified	8	8
		Total	121	117

Source: PAS, DoHS

8.6.3 New initiatives

The following new initiatives started from the fiscal year 2078/79:

- Every Friday 9:30 to 10:30 Cleaning within DoHS complex.
- Every Sunday 10:30 am Director's meeting with Director General.
- All Division and Centre's Director's submitted to Director General every weeks action plan and working schedule.
- An online calendar of operations (online action plan) of divisions and DoHS introduced.
- Digital attendance introduced within DoHS.

8.6.4 Issues and recommendations

Issues	Recommendations
Coordination between MoHP, DoHS and Districts for personnel management	Functionalise coordination mechanisms between agencies concerned with producing and deploying human resources including induction training (academia, councils, training centres, MoHP). MoHP and MoFALD to work together to fill health worker posts in all health facility level.
Lack of functional database of DoHS personnel	Establish electronic Database of DOHs personnel record system
Human resource placement in rural and remote facilities	Effectively implement the time-bound transfer of personnel starting from district to central level with the decentralization of authority.
Mobilization issue on scholarship doctors in remote areas	Develop and implement an incentive package to retain doctors at remote areas.
Lack of enough human resources at DoHS	New O&M survey should be done to ensure effective performance.

8.7 Financial Management

8.7.1 Background

An effective financial support system is imperative for efficient health service management. The preparation of annual budgets, the timely disbursement of funds, accounting, reporting, and auditing are the main financial management functions needed to support the implementation of health programs. Finance Administration Section (FAS) is the focal point for financial management for all DoHS programmes. The financial management objectives and targets are given in Box 8.7.1.

Box 8.7.1: Health financial management objectives and targets

Objectives:

- To support all programmes, divisions and centres for preparing their annual budgets
- To obtain and disburse programme budgets
- To keep books of accounts and collect financial reports from all related health institutions
- To prepare and submit financial reports
- To facilitate internal and external auditing
- To provide financial consultations.
- To clear and response the audit findings.

Target —To achieve 100 percent expenditure of all budgets in accordance with programme work plans within a specified times as per financial rules and regulations of the government and to maintain the recording, accounting and reporting system accurately and on time.

8.7.2 Achievements in the fiscal year 2078/79

Out of total National Budget, NRs. 43,27,00,18,000.00 was allocated for the health sector (DoHS) during the fiscal year 2078/79 for the execution of programs under the Department of Health Services Network (Table 8.7.1).

Table 8.7.1: Health budget details, FY 2078/79 (in NPR)

Budget	Total
Department of Health Services	277,138,000
Family Welfare Programme	5,211,366,000
Epidemic and Disease Control Programme	493,941,000
Health Management Programme	1,231,878,000
Curative Service Programme	38,893,000
Nursing and Social Security Services Programme	2,536,855,000
Covid -19 Control	33,479,947,000
	43,270,018,000

Table 8.7.2: Central level recurrent budget expenditure by programme, FY 2078/79

Budget Programme Code No	Programme budget heading	Released and expenditure budget by Programme		
		Total	Financial Progress %	Physical Progress %
37001011	Department of Health Services	226,147,000.00	81.6	92.5
37001103	Family Welfare Programme	3,489,118,000.00	67.91	76.09
37001105	Epidemic and Disease Control Programme	288,281,000.00	58.36	65.15
37001107	Health Management Programme	987,149,000.00	80.13	85.19
37001112	Curative Service Programme	20,343,000.00	52.3	88
37001116	Nursing and Social Security Services Programme	2,300,791,000.00	90.43	85.03
37000118	Covid -19 Control	18,056,916,000.00	53.97	53.93
	Total	**25,368,745,000.00**	**58.62**	

Table 8.7.3: Cumulative financial irregularities up to 2078/79 (NPR In'000)

Irregularity amount to be regularized	Irregularity clearance	Percent	Remarks
5,48,42,36	1,14,43,40	20.87	DoHS, Center and other
3,31,15,07	91,83,55	27.73	DoHS only

Table 8.7.4: Irregularity clearance status of last three years FY 2076/77 - 2078/79 (NPR In '000)

Fiscal Year	Total irregularity amount	Irregularity clearance	Clearance %
2078/79	5,48,42,36	1,14,43,40	20.87
2077/78	4,77,58,01	934,452	19.57
2076/77	4,07,86,69	415,355	10.18

Source: Finance Section, DoHS

8.7.3: Issues of financial management

Following major issues of financial management is given below:

Problems and constraints
Still remain to ensure the rational allocation of health budget to the provinces and local level programs and availability of human resources.
Mismatch in the allocation of health budget to the LGs in the certain levels.
Non-release of committed EDPs budgets in time.
Difficulty in financial reporting procedures and reimbursement from External Development Partners (EDPs)
Accounting manpower is very less compared to the work volume. So need to review position of accounting staff Specifically, accountant (non-gazetted 1st) position is zero, so needed 3 accountant position for financial administration section.

8.8 MEDICO-LEGAL

Field of Forensic Medicine or medico-legal service sector is not yet completely known and understood in Nepal. Forensic Medicine service to needy people in Nepal is still waiting for it's proper identity. This field has a great wish to grow up in normal way to address and to provide help for Nepali people as there is high degree of suffering in society because of improper and inadequate justice related with the cases of medico-legal evidences. This service sector which is supposed to be developed by state is not yet addressed adequately and remains as one of the unrecognized sectors. As a result of improper, incomplete and nonscientific application of forensic evidences the justice system is suffering directly and "Rule of law" or "Law and order" are suffering indirectly. There are more than enough examples of several year imprisonment for an innocent person and release as reward for a criminal by courts cases because of inaccurate collection, documentation and interpretation of evidences related with the crime against human body because of weaknesses in medico-legal works. Mainly unnatural deaths, suspicious deaths and criminal death cases are poorly investigated which could reveal exact truth if medico-legal evidences are collected and interpreted accurately.

Constitution of Nepal 2072 in it's article 35 guarantees Right to Health for all Nepali citizen and in articles 20, 21 and 22 Right to justice, Right of victim of crime and Right against Torture. In violation of such fundamental rights there are provisions of proper remedy or compensation. There are other articles like article 42- Right to social justice, article 44 Right of consumers which are partially or completely related with medico-legal field for their proper implementation in real life of people. For effective application of above constitutional rights, medico-legal sector in Nepal must be addressed adequately with priority. Nepal has been developing and implementing various programs to achieve SDG 2030 as one of the major global objective for all countries. **The 16th** goal **"Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all level"** cannot be achieved without proper address to medico-legal service sector at all health institutions and hospitals of Nepal. Time has compelled to recognize medico-legal field and it is shown by other way with spontaneous appearance of more than five dozens of Nepali doctors specialized in the field of forensic medicine. Now it is high time for Nepal Government to facilitate the environment to utilize those experts in medico-legal field for providing their specialist service to Nepali people.

Few events related with forensic field have coming up with the support and advocacy by MELESON (Medico-legal Society of Nepal), a registered professional society of practicing Nepali Forensic Medicine specialists in the country. Some of the positive outcomes during previous years can be listed as follow:

1. Ministry of Health and population has appointed few Forensic Medicine specialists in some hospitals in contract service for two years.
2. A historical first National Medico-legal Workshop was held on this year at Kathmandu which was organized by Ministry of Health.
3. Six types of medico-legal examination and reporting formats are prepared and prescribed by Nepal Government with initiation of Ministry of Law and Justice on 2073 and now annexed in relevant laws.
4. National Health Training Center from Department of Health requested to MELESON to prepare six various types of Standard Operating Procedures (SOP), Reference Manuals and Training Manuals for standard medico-legal examination and reporting procedures on 2018. On 2020, the SOPs were amended with consideration of concurrent changes in laws and more practical approaches of their application.

Revision of following SOPs and manuals was done on 2020:

a) SOP and manuals for autopsy work
b) SOP and manuals for injury examination
c) SOP and manuals for sexual offence cases examination
d) SOP and manuals for age estimation
e) SOP and manuals for examination of victims of torture

But till date the revised version of SOPs could not be implemented because of unknown reasons in Department of Health and National Health Training Center.

5. During fiscal year 075/076, Cabinet of Ministries of Nepal has passed a Medico-legal Services Operation Guideline 2075 and two private Medical Colleges were permitted to conduct medico-legal autopsy and clinical medico-legal examination at Dhulikhel by KUSMS and at Bhaktapur by Kathmandu Medical College.
6. GBV Protocol was amended as per requirements in new context with incorporation of more than 5 years' experience from the work in the particular field.

7. A road map has been passed to develop medico-legal sector in the country by Central Medico-legal Operation Committee at Ministry of Health and Population on fiscal year 2077/78 as novel activity to address the field which include:
    a. Establishment of a focal desk in MoHP with a forensic specialist to find out the ways for updating medico-legal service sector in the country.
    b. To suggest Province Social Development Ministries or Ministries of Health at Provinces to establish Medico-legal Coordination Committee as mentioned in Medico-Legal Service Operation Guideline 2075.
    c. To establish a Medico-legal Unit in all hospitals with beds more than 100 with appointing a focal person with a trained doctor in medico-legal field or Specialist if available there
    d. To monitor the situation of medico-legal services in Provinces either by Central Medico-legal Service Operation Committee or Provincial Medico-legal Coordination Committee at least twice within a year and report to Ministry of Health and Population.
    e. To prepare and update the autopsy unit at all hospitals where medico-legal services are provided as per Medico-legal Services Operation Guideline 2075.
    f. To update the Clinical Medico-legal Service physical facilities in concerned hospitals where service is provided and to handover the clinical medico-legal service to OCMC in hospitals where OCMC are functioning.
    g. To request all Province level and higher hospitals for creation of post of Forensic Medical Officer through O & M survey and immediate request to MoHP to appoint Forensic Medical Officer in following 13 hospitals: Mechi Hospital Bhadrapur, Koshi Hospital Biratnagar, Gajendra Narayan Hospital Rajbiraj, Janakpur Hospital, Narayani Hospital Birgunj, Hetauda Hospital, Bharatpur Hospital Chitwan, Maternity Hospital Thapathali, Lumbini Province Hospital Butwal, Veri Hospital Nepalgunj, Surkhet Province Hospital, Seti Province Hospital Dhangadhi and Dadeldhura Hosital.
    h. To start medico-legal services from all Medical Colleges in the country through their Forensic Medicine Departments.
    i. To provide special training for all mortuary helpers through structurally designed training package.
    j. To make assessment on physical facilities and human resources at all hospitals in the country
    k. To make a systematic data collection of all medico-legal cases in Health Information Management System (HIMS)
    l. To review the remuneration on autopsy work and to allocate remuneration on all types of clinical medico-legal examination and reporting

Activities at Policy level for the development of forensic field in Nepal on 2078/079

Though with great difficulties some of the above listed plans and activities are identified, the follow up process to implement the plans is still on dark. The main actor through guideline is Central Medico-legal Services Operation Committee headed by Quality Standard and Regulation Division of MoHP. Hardly two meetings were held within the period of 2078/079 which is insufficient for something to be realized and moving forward. Only one Karnali Province could form Provincial Medico-legal Coordination Committee out of seven Provinces.

A desk for Forensic Medicine Expert was established under the Quality Standard and Regulation Division at MoHP and an expert was appointed in contract basis for the activities guided by the Central Medico-legal Service Operation Committee as per the road map to develop Forensic field in the country. But the desirable outputs till date are not visible due to lacking of backup support.

Printing and dissemination of the revised version of SOPs by NHTC for six types of medico-legal works remains pending on this fiscal year also with unknown reason.

Some of the regular training activities in the fiscal year 2078/79

During the last fiscal year, number of activities related with medico-legal services could be conducted by MoHP, NHTC Department of Health and Ministry of Social Service Karnali Province. Around 200 doctors working at periphery were benefited by these orientation and skill enhancing training.

a) Clinical Medico-legal Training (7 days) organized by GESI Section of MoHP for:
    - 19 MOs and other doctors working at different hospitals of Koshi Province in Biratnagar
    - 22 doctors at Dhangadhi of Sudur Paschim Province,
    - 25 doctors at Butwal of Lumbini Province,

- 26 doctors at Pokhara of Gandaki Province,
- 23 doctors at Birgunj of Madhesh Province

b) National Health Training Center (NHTC) DoH organized the 17 days complete Medico-legal Training for three groups of MOs from different hospitals throughout the country and 30 Medical Officers are trained at Department of Forensic Medicine MMC Maharajgunj.

c) A complete medico-legal training including medico-legal autopsy and clinical medico-legal works for 16 doctors was organized by Ministry of Social Development, Karnali Province at Surkhet.

d) Bagmati and Lumbini Provinces organized three trainings for 30 MOs from the concerned provinces which were conducted at Department of Forensic Medicine MMC Maharajgunj.

Though there are many problems in health care service delivery system in the country, the medico-legal service sector which is in pathetic condition must be addressed to keep minimum standard. There are suggestions provided from the National Medico-legal Workshops 2074 and 2075 for very basic and minimum care in forensic medicine sector. Now the proposed activities are modified in to a road map can be considered as one step forward to address the issues. Proper implementation of the provisions given by new legal provisions, guideline and standards must be implemented to keep this sector for elimination of existing malpractice and sub standards in medico-legal service sector of the country. If those provisions are implemented step by step, it may take no longer to achieve minimum standard in this field of sensitive and important service. A separate Section or Division or Unit through O & M at Ministry and similar structures at all Provinces seems to be necessary establishment to take responsibility for the proper implementation of newly emerged and planned thoughts and idea for the minimum development in standard medico-legal service for the people. Central Medico-legal Services Coordination Committee must take responsibility to move forward with the proposed activities related with the forensic field in the country.

HEALTH COUNCILS

9.1 Nepal Nursing Council

Nepal Nursing Council (NNC) is established under Nepal Nursing Council Act 2052 (1996). It came into operation on 2053-03-02 (16June 1996). NNC is an autonomous body formed to maintain quality nursing and midwifery education for the provision of quality nursing and midwifery services to the public.

The main functions of the council are:

1. Register the nurse and midwife through licensing examination and manage the registration of qualified nursing/ midwifery professionals
2. Formulate policy required to operate the nursing and midwifery profession smoothly and to provide better care to the public
3. Monitor the quality of nursing and midwifery services for better care
4. Formulate professional code of conduct of the nursing and midwifery professionals and to take action against those professionals who violate such code of conduct.
5. Develop the scope of practice for nursing and midwifery professionals to determine the work limit of nursing and midwifery professionals
6. Publish the annual Journal of the Nepal Nursing Council

Table 9.1 Registration Status of nurses and midwives in NNC

SN	Categories of nurses	Number
1	Auxiliary Nurse Midwife (below PCl level)	36,969
2	Registered Nurse (PCL and bachelor)	73,514
3	Specialized nurse (master and above)	1194
4	Registered Midwife (bachelor level)	51
5	Foreign nurse/midwife	848

The NNC had registered 36,969 Auxiliary Nurses (ANM), 73,514 nurses, 51 Midwives and 848 foreign nurses/ midwives till 25th Mansir, 2079 (11th December, 2022)

Major activities carried out by NNC on 2078/79

- Finalized the scope of practice for different level of nurses
- Finalized the practical record book for bachelor and PCL level midwives
- Develop the guidelines for simulation based education
- Finalized the guidelines for Continue Professional Development CPD)
- Conduct the online good standing and verification certificate to the nurses who are out of country
- Held the licensing Examination for Nurse (PCL & B.Sc.) and Midwife for registration and practical exam was also included to test the skill for newly graduate midwives during licensing exam
- Display all essential documents developed by NNC at NNC web site
- Registration of Specialization for Master Level Nurses of Specialized license certificate for master level of nurses

Key Opportunities

- Initiation of Continue professional development(CPD) Program for renewal of License.
- Monitor the nursing/midwife services in both public and private hospital.
- Specialize registration of nurses by license exam
- Registration of different cadre of nurses and midwives according to their qualification
- Computer based licensees' examination system

Key Challenges

- Amendment of NNC Act and regulation
- Implementation of CPD program
- Extension of NNC at provincial level
- Address the moral and ethical issues of nurses
- Maintain the online and up to date information of previously registered nurses

Ways forward

- Plan to take specialized license exam for Master nursing
- Plan to maintain the online and up to date information of previously registered nurses
- Formation of CPD committee to implement the CPD program
- Planning for Computer based licensees' examination for nurses and midwives
- Amendment of NNC act and regulation as per federal system
- Development of rules regulations related to midwifery and nursing professionals as per federal democratic republic of Nepal.

9.2 NEPAL AYURVEDA MEDICAL COUNIL (NAMC)

The Nepal Ayurveda Medical Council (NAMC) is the autonomous body to regulate and control Ayurveda medicine in Nepal. It was established under the Ayurveda Medical Council Act, 2045. The council is the regulatory and legislative body for Ayurveda courses, human resources, institutions, practitioners and traditional healers in Nepal. All Ayurveda practitioner and educational institutions have to register with the council. The council has developed a code of ethics for Ayurveda doctors and minimum requirements for Ayurveda educational institutions. The council's main committee consists of an Ayurveda doctor nominated by the government as chairperson, three doctors nominated by the government, the DoAA director, three doctors elected by registered doctors, one campus chief nominated by the government and one Doctor nominated as registrar nominated by the government. The main functions and objectives of the council are listed below:

Functions and objectives of the council

- Arrange for the smooth provision of Ayurveda treatment.
- Develop the system of use of Ayurveda medicines.
- Determine the qualification of doctors and to register them.
- Advice the government on the production, sale and distribution of Ayurveda medicines.
- Suggest to the government for making arranging research on Ayurveda.
- Recognise appropriate Ayurveda educational institutions in Nepal.
- Determine the curriculum, terms admission and examination system policies and essential infrastructures of educational institutions.
- Recognise the educational qualifications granted on Ayurveda, modern medicine and surgery and paramedics.
- Prepare a code of conduct for Ayurveda doctors and to monitor its implementation.
- Prepared the telemedicine guideline.
- Developed the Disease Treatment Protocol & Kshashutra Standard.

Conducting the Licensing Examination by computer.

The number of registered members, institutions and courses are given below:

List of Institutions

Post Graduate (MD)

1. Tribhuvan University, IOM, Ayurveda Campus, Kirtipur,

Bachelor Level Programme (BAMS)

1. Tribhuvan University, IOM, Ayurveda Campus, Kirtipur
2. Mithila Ayurveda College & Research Center, Janakpur, Dhanusha (Affiliated by NSU)
3. Nepal Ayurveda Medical College, Birgunj, Parsha (Affiliated By T.U.) (Pipe line)
4. Nepal Sanskrit University, Kendriya Ayurveda Vidhyapeeth, Bijauri, Dang. (Pipe line)
5. Patanjali Ayurveda Medical College & Research Centre, Dhulikhel, Kabhre. (Affiliated By NSU) (Pipe line)

Certificate Level Programme (AHA)

1. NSU, Janta Vidhayapeeth, Bijauri, Dang
2. Dhanwantari Ayurbigyan Adhyan Sansthan, Baphal, Kathmandu (Affiliated by CTEVT)
3. Himalayan Ayurveda College, Baneshwor, Kathmandu. (Affiliated by CTEVT)
4. Unique Medical College & Research Centre, Rajbiraj Saptari. (Affiliated by CTEVT)

Table 9.2.1 Statistics of registration (up to 2079/8/14)

Category	Registered in 2078/79	Total Number
MD/MS/PG	09	143
BAMS/equivalent	59	880
Ayurveda B. Pharmacy	02	09
AHA/Equivalent	60	1687
AAHW /TSLC	248	3013
Traditional healers	00	19

Academic institutions	00	09
Foreigner practitioners	01	01

Table 9.2.2 Specialization details (up to 2079/8/14) are given below

Subject Specialization	Registered in 2078/79	Total Number
Shalya Chikitsa	00	15
Kaya Chikitsa	04	39
Dravyaguna Vigyan	00	13
Rasa Shastra	01	08
Kaumarabhritya (Balrog)	01	05
Prashuti tantra	01	10
Basic Principle	02	09
Shareera Kriya	00	01
Rachana Shareer	00	03
Shalakya Tantra	00	05
Roga Nidan	00	03
Panchakarma	00	07
Swastha vritta	00	03
Agad Tantra	00	02
Manovigyna & Manas rog	00	01
Yoga	00	01
Public Health	00	02
TCM IM	00	05
TCM AMT	00	10
M.Pharma (Ayu.)	00	01
Total	**19**	**143**

Major achievements in FY 2078/79

1. Renovation and restructuring of office setup, furnished office rooms, meeting hall and acquired a vehicle with MoHP Assistance.
2. Updated website.
3. Developed Telemedicine Practice Guidelines for Registered Ayurveda Practitioners in Nepal.
4. Formation of various committees including Committee formation for revision/Amendment of Nepal Ayurveda medical council act and regulations & Bulletin Publication Committee.
5. Conducted Licensing Examination for undergraduates (BAMS) every Six months round the year to certify Ayurveda Doctors.

(NAMC- Nepal Ayurveda Medical Council, MD - Master of Medicine, BAMMS- Bachelor of Ayurveda & Modern Medicine & Surgery, BAMS- Bachelor of Ayurveda Medicine & Surgery, AHA- Ayurved Health Assistant; AAHW- Auxiliary Ayurveda Health Worker)

9.3 Nepal Health Research Council

Introduction

Nepal Health Research Council (NHRC) is the national apical body for promoting health research across the country. NHRC was established in 1991 by an Act of Parliament and was given the responsibility to promote and coordinate health research regulation, evidence generation, translation of evidence into policy and practice, and capacity building of national scientists in the areas of health research and evidence. Nepal Health Research Council serves as the main national institution responsible for technical and ethical review of proposals submitted by individual health researchers, national authorities, NGOs, INGOs and universities. After review, the Ethical Review Board (ERB) of NHRC approves these proposals. In its role of generating evidence, NHRC carries out research on its own on national health issues aligning with the national health priorities. NHRC has also approved 55 Institutional Review Committee at different academic and research institutions in Nepal. The capacity-building roles of NHRC encompass providing education, organizing training on various aspects of health system research to national scientists with special emphasis on promoting the research competency of young researchers. Nepal Health Research Council has been providing health research grants to the researchers in order to enhance the research activities throughout the country. NHRC also conducts workshops and dissemination programs to facilitate uptake of research findings by the policymakers into health system policies and practices Similarly, NHRC facilitates access to research finding from different research reports, journals, books, magazines, etc. through the library digital database and the NHRC Journal.

Major activities in the fiscal year 2078/79

Research projects/activities

Nepal Health Research Council conducted different research activities with support of Government of Nepal and other development partners in FY 2078/79. The research activities conducted by NHRC during the last fiscal year are listed below:

1. Population-Based Cancer Registry
2. Situation Assessment of Bipanna Nagarik Aausadhi Upachar Kosh Program of Government of Nepal
3. Sero-Prevalence and Entomological Study of Dengue and Scrub Typhus in Chitwan, Kaski and Dolkha of Nepal- A Pilot Study
4. Situational Assessment of Antibiotics use and its resistance in Nepal
5. Identifying the Cause of Death From Verbal Autopsy in Thaha Municipality, Makawanpur- A Pilot Study
6. Impact Assessment of Health Tax Fund Utilization of Government of Nepal
7. Operational Research on Implementation of Integrated Disease Surveillance System in Nepal
8. Effectiveness of an Educational Intervention on Knowledge, Attitude and Practice Regarding Pharmacovigilance Among Health Care Professionals of Nepal : A baseline Survey
9. Integrated Biological and Behavioral Surveillance (IBBS) Survey Among Male Labour Migrants (MLM) in Six District (Illam, Panchthar, Dhankuta, Jhapa, Morang and Sunsari) of Koshi Province
10. An Analysis of Inpatients Expenditure at NICU in Tertiary Care Centers in Nepal
11. Bioactivity-guided isolation and characterization of anti-diabetic activities from selected medicinal plants of Nepal.
12. Assessment on Feasibility and Implementation Status of Geriatric Health Service at Selected Hospitals of Nepal
13. Prevalence of Rheumatic Musculoskeletal Pain and Disability in Western Nepal- A Cross-Sectional Community Based Study Adopting WHO-ILAR COPCORD Stage 1 Protocol
14. Study on Hemoglobinopathies and G6PD deficiency in Madhesh Province of Nepal
15. Assessment of Non-communicable diseases and injuries among children in selected tertiary level hospitals in Nepal.
16. Measuring access to assistive technology in Nepal: A Country Report 2021

COVID-19 Related research Projects

1. Impact of Covid-19 on Health Care Management Among Clients with Non-Communicable Disease at Selected Hospitals in Nepal.
2. A survey on factors associated with COVID-19 deaths in Nepal
3. Adverse events following the COVID-19 Vaccination reported in Nepal and experiences of the vaccination: A retro-prospective study
4. Occurrence and Severity of COVID-19 among Vaccinated and Unvaccinated Individuals in Nepal: A Retrospective Cohort study

5. Assessing Health Complications of COVID-19 Recovered People Visiting Selected Hospitals of Kathmandu Valley, Nepal
6. Public awareness and attitude towards COVID-19 infection and vaccines: A cross-sectional national survey in Nepal

Drug Trial Related to COVID-19

1. Randomised Evaluation of COVID-19 Therapy (RECOVERY) Trial
2. WHO Solidarity Trial on COVID-19 treatment

Table 9.3.1 Health Research Grant

Grants	Awardees
Undergraduate	25
Postgraduate	22
Provincial	56
Total	103

Table 9.3.2 Training and Workshop

Name of the Training	Training Program (Fiscal Year 2078/2079)	
	Date of the Training	No. of Participants
Health Research Proposal Development and Research Management	29 Aug – 03 Sep 2021	140
	09 – 14 Jan 2022	90
Data management and Analysis	24 – 29 Oct 2021	58
	30 Jan – 04 Feb 2022	150
Scientific Writing	25 – 30 July 2021	35
	12 – 14 Sep 2021	130
	07 – 09 Feb 2022	100
	26 – 28 Oct 2021	25
Operational Research on Climate and Health in Nepal	9th -14th Nov 2021	27
Training workshop on Systematic Review and Meta-Analysis	01 – 06 Aug 2021	300
R for Data Analysis	14-20 Feb 2022	80
Training Workshop on Mathematical Modeling for Epidemic Control and Prevention	21-24 June 2022	22

Eighth National Summit of Health and Population Scientist of Nepal

The Eighth National Summit of Health and Population Scientist in Nepal was continuum of the previous annual summits celebrated every year on the establishment day of NHRC (10-12 April, 2022) with the support of GoN and different stakeholders in the country including the EDPs, INGOs and NGOs. The National Summit provides a platform for researchers and academicians to share recent and relevant health evidences; and policymakers to interact with researchers and academia to identify recent evidences.

Ethical Review Board (ERB) of NHRC received 809 health research proposals for ethical clearance in the FY 2078/2079. For this, 40 ERB meetings and 69 Expedited sub-committee meetings were conducted to review and discuss the sub-

mitted proposals. Total 660 research proposals got ethical approval with 113 proposals in process, 10 proposals were withdrawn from the researcher due to unavailability of the budget and emergency situation of the country and the rest proposals were not responded to by the researcher and 26 proposals are in pending. During the fiscal year NHRC conducted a workshop on Review and Revision of National Ethical Guideline and standard Operating Procedure (SOP).during this fiscal year fifty research projects were monitored among approved proposal from ERB.

Institutional Review Committees (IRCs)

There are 55 IRCs established until the last fiscal year across the country to promote health research at the institutional level especially in health science universities, institutes, colleges and hospitals. Every year, a team from NHRC inspects the Institutional Review Committees approved by NHRC. During Fiscal Year 2078/79 NHRC 29 monitoring visit was conducted. Similarly 6 training on Ethical Review Process in Health Research especially for IRC member and other interested candidate was conducted on an online platform.

Journal Publications:

JOURNAL OF NEPAL HEALTH RESEARCH COUNCIL, **VOL. 19 NO. 3 ISSUE 52 JUL-SEP 2021**

JOURNAL OF NEPAL HEALTH RESEARCH COUNCIL, **VOL. 19 NO. 4 ISSUE 53 OCT-DEC 2021**

JOURNAL OF NEPAL HEALTH RESEARCH COUNCIL, **VOL. 20 NO. 1 ISSUE 54 JAN-MAR 2022**

JOURNAL OF NEPAL HEALTH RESEARCH COUNCIL, **VOL. 20 NO 2 ISSUE 55 APR-JUN 2022**

9.4 Nepal Medical Council

Introduction

Nepal Medical Council (NMC) is a regulatory organization established by an Act of Parliament (NMC Act 2020) that comprises 19 members. NMC is empowered to protect and promote the health and safety of the public by ensuring proper standards in the training and practice of modern medicine, registering doctors and regulate their practice and ensuring that individual professionals have a fair and unbiased hearing at any disciplinary inquiry. The community and patients occupy a supreme position in the conduct of its multiple duties. The dedication, honesty and integrity of the executive members and employees, the council's service and regulation work has progressed effectively. In the coming days, these actions will continue as expected.

Nepal Medical Council being an authorized government body, the decisions and actions taken is done in accordance with the law and legal procedure at the same time the decision of medical council can be challenged in the court. In addition to this, it is necessary to present the activities and the decisions of the council to the public and stakeholders through its official channels. In this report, the work done by Nepal Medical Council in the past year have been mentioned.

Functions, Duties and Rights

According to the Nepal Medical Council Act 2020 (amended in 2044, 2047, 2056 and 2058), Functions, duties and powers of the council shall be as follows:

a. To give recognition as prescribed to the medical college which provides or cause to provide study, teaching and training in medical science.
b. To make recommendation for cancellation of registration and approval in cases where it has been found not compliance at the time of evaluation and review of prescribed policy of the curriculum, terms of admission and examination system and other infrastructures and other matters of standards of the Medical College which provides or cause to provide study, teaching and training in medical science.
c. To determine policy as required for smooth operation of the medical profession.
d. To issue registration license by determining qualification of the medical practitioner and conducting prescribed licensing examination for the qualified medical practitioner.
e. To prepare code of conduct of the medical practitioner as prescribed and remove the name of a medical practitioner from the registration book after taking actions as prescribed against the medical practitioner who has breached such a code of conduct.

Out of this, the rights of (a) and (b) have come under the jurisdiction of the Medical Education Commission.

Structure

Established according to section 3 of the Nepal Medical Council Act 2020, the council currently has a total of 16 executives including one president, one vice president and 14 members. Among the deans, one nominated member, one consumer representative, one nominated expert member and one elected member are yet to be filled. The term of office of nominated or elected members of the council is four years.

The formation of specific committees and the appointment of spokespersons is fixied by the council. Currently the following committees are active in the council.

1. Education and CPD. Committee
2. Professional Conduct and Health Committee
3. Practitioner Registration Committee
4. Foreign Practitioner Registration Committee
5. Dental Committee
6. Examination Committee

Representation

1. Medical Education Commission – Member
2. National Board of Medical Specialties (Medical Education Commission) – Member
3. Nepal Health Research Council – Member
4. Nepal Health Professional Council – Member
5. Academies of Health Sciences – Senator
6. Committee according to Section 189(2) of Civil Criminal Procedure Code 2074 – Coordinator

7. Quality Committee (Nepal Standards Department) – Member
8. Organ Transplant Coordinating Committee – Member
9. Health Coordination Division, Ministry of Health and Population (Foreign Health Professionals) – Member
10. Rapid Response Team of Ministry of Health and Population) – Member
11. Inter-Council Information Technology Committee – Coordinator
12. Integrated Umbrella Act Drafting Committee (Integrated Councils Act, Food and Drug Act, Integrated Health Sciences Academies Act, National Health Accreditation Authority Act, Integrated Health Research Act, Integrated Hospital Development Committee Act and other necessary Acts) – Member

Progress and achievements (All figures are updated as of December 31, 2022) 2079.09.16 BS.

Eligibility certificate

Eligibility certificate is required for bachelor levels of medical and dental disciplines, postgraduate study, fellowship, and higher-level training in forign country. As per the new regulation eligibility certificate is issued by Medical Education Commission effective from 2020 September.

Table 9.4.1 Certificate Issued by medical education commission

Year	UG	PG
2015	1379	544
2016	478	390
2017	495	399
2018	586	333
2019	557	240
2020	111	201

Directive and application form is available in the webpage mentioned below.

https://eligibility.mec.gov.np/user/register

https://www.mec.gov.np/public/uploads/shares/eligibility_guideline-2077_final.pdf

Good standing certificate

Good standing certificate is required for registration of Nepali medical practitioner in the specified country's medical practice regulating authority. The certificate is requested for promotion, residency training, fellowship training and employment.

Table 9.4.2 Good standing certificate issued

SN	Country	2022
1	UK	592
2	USA	496
3	Maldives	453
4	Nepal	235
7	UAE	116
6	Australia	109
5	India	106
8	Canada	30
10	Germany	20
9	Qatar	9
11	Singapore	7
14	Brunei	8

15	Denmark	3
16	Hong Kong	2
12	Ireland	1
13	Saudi	1
18	Bangladesh	1
TOTAL		**2189**

License examination

Table 9.4.3 Bachelor level license examination appeared vs passed

Year	Appeared	Passed	Pass %
2018	4342	2408	55.5
2019	5207	2672	51.3
2020	2937	1813	61.7
2021	2541	1354	53.28
2022	5687	2386	42

Included 64th license examination held on 2079.06.06 BS.

Table 9.4.4 Postgraduate level special license examination appeared vs passed

Year	Appeared	Passed	Pass %
2018	1182	745	63.0
2019	1374	872	63.5
2020	1163	755	64.9
2021	808	494	61.1
2022	1673	1234	73.8

Included 24th license examination held on 2079.08.09 BS.

Table 9.4.5 Native doctors' registration till 2022 December 31 (2079.09.16 BS)

2018	UG	Male	Female	Total	COMB	Male	Female	Total
	Medical	1274	690	1964	Medical	14126	6907	21033
	Dental	99	275	374	Dental	999	1719	2718
	Total	1373	965	2338	Total	15125	8626	23751
2019	UG	Male	Female	Total	COMB	Male	Female	Total
	Medical	1359	754	2113	Medical	15485	7661	23146
	Dental	119	363	482	Dental	1118	2082	3200
	Total	1478	1117	2595	Total	16603	9743	26346
2020	UG	Male	Female	Total	COMB	Male	Female	Total
	Medical	1074	594	1668	Medical	16559	8255	24814
	Dental	318	145	463	Dental	1436	2227	3663
	Total	1392	739	2131	Total	17995	10482	28477
2021	UG	Male	Female	Total	COMB	Male	Female	Total
	Medical	882	416	1298	Medical	17381	8671	26052

	Dental	110	308	418	Dental	1546	2535	4081
	Total	992	724	1716	Total	18927	11206	30133
2022	UG	Male	Female	Total	COMB	Male	Female	Total
	Medical	1139	614	1753	Medical	18520	9285	27805
	Dental	76	256	332	Dental	1622	2791	4413
	Total	1215	870	2085	Total	20142	12076	32218

Included 64th license examination held ob 2079.06.06 BS.

Table 9.4.6 Native postgraduate doctors' registration till 2022 December 31 (2079.09.16 BS).

The figures are included in total native doctors' registration.

Subject	Male	Female	TOTAL
Basic Medicine			
Anatomy	33	28	61
Biochemistry	25	35	60
Community Medicine & Public Health	100	90	190
Forensic Medicine	37	16	53
Hospital Administration	3	1	4
Microbiology	27	48	75
Pathology	147	215	362
Pharmacology	49	31	80
Physiology	39	33	72
Medicine and allied			
Internal Medicine	977	111	1088
Endocrinology	21	7	28
Cardiology	117	9	126
Paediatrics Cardiology	0	1	1
Clinical Genetics	1	1	2
Critical care medicine	1	1	2
Physical medicine & rehabilitation	3	0	3
Gastroenterology	44	1	45
Hematology	3	0	3
Hepatology	1	0	1
Nephrology	22	4	26
Neurology	26	4	30
Rheumatology	5	2	7
Respiratory and TB	25	6	31
Transfusion medicine & Tissue typing	3	0	3
Tropical medicine	1	0	1

Family Medicine	1	0	1
Pulmonology	1	1	2
Pallitive Medicine	1	0	1
MPH	1	1	2
Surgery and allied			
General Surgery	895	52	947
Cardiothoracic & Vascular Surgery	15	2	17
Cardic surgery	5	2	7
Gastrosurgery	1	1	2
Hepatobilary surgery	5	1	6
Neurosurgery	59	0	59
Pediatrics Surgery	16	3	19
Plastic surgery	10	3	13
Surgical Oncology	21	0	21
Urology	54	1	55
Coloractal Surgery	1	0	1
Thorasic Surgery	0	1	1
Specialities			
Anaesthesiology	500	177	677
Dermatology & Venerology	174	165	339
ENT	241	87	328
Emergency medicine	9	2	11
General Practice	358	93	451
Geriatric Medicine	4	1	5
Neonatology	6	2	8
Nuclear Medicine	14	2	16
Obst & Gyne	288	706	994
Oncology	11	0	11
Ophthalmology	240	223	463
Orthopaedic	798	7	805
Pediatrics	554	227	781
Pediatric hemato-oncology	0	1	1
Pediatric nephrology	1	0	1
Psychiatry	161	83	244
Radiotherapy	18	11	29
Radiology & Imaging	540	123	663
Pediatrics Hematology	0	1	1
Pediatrics Gastroentrology	1	2	3

Dentistry			
MDS	144	87	231
Community dentistry	3	3	6
Conservative Dentistry & Endodontics	24	42	66
Oral & Maxillofacial surgery	70	18	88
Oral medicine & radiology	4	8	12
Oral Pathology	5	10	15
Oral Science	1	1	2
Orthodontics	69	63	132
Pedodontics	4	29	33
Periodontics	17	41	58
Prosthondtics	49	42	91
Public health dentistry	5	1	6
Forensic Odontology	1	0	1
TOTAL	**7110**	2970	10080

Cancellation of registration

- Passed away registered practitioners and doctors with fake documents are deregistered and the information of which is available in https://nmc.org.np/deregistration. Till date 143 doctors' registration is cancelled.

Foreign national doctors' registration

- Details of foreign national doctors working in medical college, academy, mission hospital and private hospital is available in https://nmc.org.np/list/fnd-doctors. Till date 318 foreign doctors are working in Nepal with one year registration validity.

Provisions for registration, renewal, and regulation of foreign national doctors-
A foreign national doctor who is registered with the Medical Council and working within 35 (thirty-five) days after the expiry of the renewal period shall pay the regular renewal fee and complete all the necessary procedures for renewal and register the application with the Nepal Medical Council or the Ministry of Health and Population. The following provisions are applicable for them-

A. If a foreign doctor who has been registered with the Council once and does not apply for renewal within 35 days or if it is found that he has practiced medicine, when the application is not approved, such foreign doctor will not be re-registered for the next 2 years.
B. Disregarding the notification or knowingly working without registration, foreign doctors will be punished in such a way that they will be disqualified from working as a doctor in Nepal in the future. In addition to this, NMC will notify about him to the council/regulatory body of the country concerned.
C. No foreign citizen physician shall be registered or renewed in that organization for a maximum of 2 years after the decision of the warning to the organization that employs the foreign doctor in cases a. and b without registration or without renewing the registration.
D. In the case there is any complaint or complaint that a patient has been harmed during the period when the foreign citizen doctor is working without registration, and if found guilty, such doctor will be prosecuted according to the prevailing law.

Code of Conduct

In 2022, out of 66 complaints related to the Code of Conduct, 20 have been decided and 46 are in process. Out of the 20 complaints decided, 5 cases should not be acted upon, 3 cases were alerted to the doctor, 4 cases were instructed to the hospital, 6 were deemed to require further action, and 2 were to be further investigated through the Central Bureau of Investigation.

Online form and server

- All the services provided by the council are provided through online service and the provision of written application has been halted. It has been arranged that the service will be provided within three days of the formal and complete application.
- The date mentioned in the registration certificate is the date on which the exam was passed and approved by the concerned commitee.

Grievance and Grievance Mechanism

- Arrangements have been made to listen to complaints via the council's official email and in person application.

9.5 Nepal Health Professional Council

Nepal Health Professional Council has been established to make more effective the health services in Nepal, to mobilize the services of health professionals except the qualified doctors and nurses to be registered with the Medical Council in a managed and scientific manner and make provisions on the registration of their names according to their qualifications, according to "Nepal Health Professional Council Act 2053" by the Government of Nepal .

Functions, duties and powers of Council:
According to the article 9 of the Act, the functions, duties and powers of the Council shall be as follows:

1) To make necessary policies for smoothly operating the health profession related activities.
2) To determine the curricula, terms of admission and policies on examination system of educational institutions imparting teaching and learning on health profession and evaluate and review the related matters.
3) To determine the qualifications of health professionals and to provide for the registration of the names of health professionals having required qualifications

Registration levels and its qualification requirements:

According the qualification of health professionals, the NHPC will register into respective groups.

1. The health professional with Master degree will be registered into "Specialization" category of the related subject.
2. The health professional with Bachelor degree will be registered into "First Class" (A) category of the related subject.
3. The health professional with proficiency certificate level or equivalent will be registered into "Second Class" (B) category of the related subject.
4. The health professional with only one year study or course on health education or related field will be registered into "Third Class" (C) category of the related subject.

Subject committees of the Council:

For the registration of health professional, the council has 9 different subject committes:

1. Medical subject committee
2. Public Health subject committee
3. Radiology subject committee
4. Laboratory Medicine subject Committee
5. Physiotherapy and Rehabilitation subject committee,
6. Ayurveda subject committee,
7. Dental subject committee
8. Optometry Science Subject committee
9. Miscellaneous subject (Homiopathy, Yunani, Naturopathy,Acupuncture etc.) committee

Table 9.5.1 Subject, Level and Numberof Health Professionals Permanent Registered During : 2078 Shrawan to 2079 Ashadh

S.No.	Subject	Specialization	First	Second	Third
1	Public Health	134	533		
2	Health Education	1	5		
3	Medicine			1765	2418
4	Medical Microbiology	11	15		
5	Hematology	5			
6	Health Lab		182	520	1414
7	Radiography		87	194	
8	Biochemistry	18	2		
9	Homeopathy		3		

10	Acupuncture			15	
11	Physiotherapy	44	161	17	
12	Dental Science			137	8
13	Naturopathy		7		
14	Ophthalmology	28	104	199	
15	Operation Theater and Allied Health Sciences			5	
16	Clinical Psychology	2			
17	Prosthesic & Orthotitics		1		
18	Speech and Hearing	2	2		
19	Anaesthesia		7		
20	Dialysis Technology		1	8	
21	Perfusion Technology		1		
22	Yoga	1			
Sub total		246	1111	2860	3840
Total		8057			

Major Achievements in FY 2078/79:

- Formulate the procedures of different sub-committees
- Improvement of information system
- Infrastructure development- Procure one vehicle
- Strengthen financial capacity of council
- Continue Medical Education/CPD- Under process.
- Regulatory Activities for Respective Professionals-
- License examination for registration.
- License renewal.
- Good standing certificate.
- Verification.
- Monitoring of OJT/ community/clinical field practice/internship.

Further more:

- Support to produce more qualified HR in the health sector through licensing examination and reduce the supply of unqualified HR in market
- Establish a coordination mechanism with inter-councils for smooth the relationship
- Increase facilities to deliver the services
- Need to establish a monitoring unit to improve quality of services and reduce malpractices
- Require a mechanism to enhance the continuous professional development.

Way Forward:

- Set a national standard of HR for health
- Produce world class HR for global market
- Need coordination and collaboration among stakeholders
- Updated information of all types of HR
- Require inter-sectoral coordination to produce quality product

9.6 Nepal Pharmacy Council

Introduction

The Nepal Pharmacy Council (NPC) has been established to make effectiveness to the pharmacy Profession by managing and operating it in a scientific manner and also provide for the registration of names according to the qualification of pharmacists and pharmacy assistants. The functions, duties and powers of NPC are as follows:

Functions and Duties:

- Provision of registration of Pharmacist and Pharmacy Assistant.
- Provision of De- registration of Pharmacist and Pharmacy Assistant.
- Provision relating to the recognition of educational degree and certificate is under the authority of medical education Commission at Present.
- Monitoring of registered Manpower.

Infrastructure and Facilities:

- A shared space in National Medicine Laboratory (about 800 sq.ft).for which several approach has been made for own land and building to GON through Health Ministry, Board decided for own building on the capacity of NPC .
- Regular staff other than Registrar (vacant),
  - Assistant-2,
  - Exam Assistant-1(Daily Basis)
  - Helper-1.
- Managed by own financial resource.
- No budget allocation from the government.

Regular Activities:

- Licensure examination (three times a year).
- Registration of Pharmacist and Pharmacy Assistant after passing out the licensure examination.
- Revision of Code of Conduct.
- Skill Test before name registration after completing the licensure exam.
- Update Name registration of Pharmacist and Pharmacy Assistant.

Specific Activities:

- Issuing “No Objection Letter” for foreign study. (Diploma level).
- De registration of Pharmacist and Pharmacy Assistant.
- Revision of Name registration Examination Guidelines.
- Revision of Hospital Pharmacy Directive.
- Conducted AMC training workshop for Pharmacist
- Blacklisted two foreign Institution. (Diploma Pharmacy)
- Conducted 18^{th} ,19^{th} and 20^{th} Exam
- Implemented thumb and bar code system to Systematize the Licensure Exam
- Result within 5 hrs of Name Registration Exam.
- Upgrading and enlisting(M. pharm) Manpower

6 Approved Colleges:

College regulation is under Medical Education Commission at present

7 Pharmacy Manpower Status:

- Registered Pharmacist:-5800
- Registered Pharmacist Assistants:- 12000

HEALTH INSURANCE

Health Insurance Board

Background

Health Insurance happens to be a social health security program from the Government of Nepal which aims at enabling its' citizens with the access of quality health care services without placing a financial burden on them. In the beginning of 2072/073, it was run under the Social Health Development Committee, however since 2074/75, it has been running under the Health insurance Board (HIB) guided by Health insurance Act and Regulation. Health Insurance program prevents people from falling into poverty due to health care costs (catastrophic health expenditure). This program also advocates towards quality and dedicated health services and also helps to make responsible to service providers. Moreover, the program attempts to address barriers in health service utilization and ensures equity and access to the poor, vulnerable and disadvantaged groups so as to achieve Universal Health Coverage.

Objectives of health Insurance

- Ensure easy access and utilization to health services
- Ensure quality assurance of health services
- Reduces out-of-pocket expenses and protect people from financial hardships
- Provide opportunity to enhance capacity and ownership of health service providers

Target of Health Insurance

- Extends health insurance to all 753 local levels (by 2022), 50% family enroll during FY 2079/80 and to all family by 2030
- Intends to reduce out of pocket expenditure (OOPE) and improve financial protection of people

Main features of Health Insurance Program in Nepal

- It is a voluntary program, based on family contributions. Families of up to five members have to contribute NPR 3,500 per year and NPR 700 per additional member.
- The government bears the contribution amount for elders' people more than 70 years, MDR TB, Leprosy and HIV /AIDS cases and null disabled people and ultra-poor people with citizenship, certified of medical reports, red card holders and families having a poverty identity card respectively.
- Insures have to renew their membership through online system as well as contact with enroll assistant at local level with annual contributions.
- Benefits of up to NPR 100,000 per year are available for families of up to five members' with an additional NPR 20,000 covered for each additional member
- The maximum amount available peryear is NPR 200,000 according to the number of members in the family
- Insures have to choose their first service point. Insures can access specialized services that are not available at the first service point on production of a referral slipfrom their first contact point
- It is a cashless system for members seeking health services
- The program is IT-based with enrolment assistants using Smartphones at client household side
- Contractual agreement between providers and Health Insurance Board for providing services under benefit package at specific rate; the rate same for public and private hospitals

Program Implementation Status

The Health Insurance Program started from the Kailali district on 25th, Chaitra, 2072. Then it .was expanded to Illam and Baglung districts in FY 2073/74. At the end of FY 2076/77, the program was implemented in 58 districts of the country. Till th e end of FY 2078/79, the program was implemented in all 77 districts and 746 Local levels of the country. The list of HIB program-launched districts is shown in Table below.

Enrollment and Health service utilization Status of the fiscal year 2077/78

There were 13,507 people insured in FY 2072/73, 228,113 people insured in FY 2073/74, 11,30,575 people at the end of FY 2074/75. Similarly, 147,938 people were reenrolled during FY 075/76 and 16,40,879 peoples are active insure in FY 2076/77. Likewise, a total of 3,226,964 people insured at the end of FY 2077/78. The total cumulative numbers of enrolled people are 6045192 and total renewed insures are 3451951at the end of FY 2078/79. During this FY, the total population coverage of the health insurance program is 22.52 percent. Among the total insures, about 42,48,606 people have active in health insurance program during FY 2078/79. The leading top five districts based on the number of new enrollments are Jhapa, Sunsari, Morang, chitwan and Kailali. The percentage of total renew among all enrollment is about 81.24%

Table 10.1: Summary of numbers of enrollment by district and Province (upto 2079 Ashad)

S.N.	Province	Name of District	Total No of Insuree till Aasad 2079	Total Renew Insuree	Total New Insuree	Active Insuree
1	Koshi Province	Bhojpur	35466	20592	4953	22054
2		Dhankuta	30722	13906	11328	24229
3		Ilam	133065	91619	16947	93207
4		Jhapa	617641	410375	91608	431313
5		Khotang	50936	34567	6835	38620
6		Morang	440991	230400	113426	316141
7		Okhaldunga	39897	26871	7361	33162
8		Panchthar	23832	7061	10513	17554
9		Sankhuwasabha	33044	15562	9358	22661
10		Solukhumbu	9576	3644	2188	5265
11		Sunsari	452136	263355	80119	292857
12		Taplejung	13211	2835	7217	10040
13		Terhathum	13546	6874	4351	10654
14		Udayapur	45656	16753	21471	38212
15	Madesh Province	Bara	39302	1972	36474	38446
16		Dhanusa	33963	12685	9277	21588
17		Mahottari	30770	11813	8826	19468
18		Parsa	61252	23401	22801	44221
19		Rautahat	48119	12871	25095	36159
20		Saptari	67790	17402	37331	54733
21		Sarlahi	23347	4746	15518	20258
22		Siraha	105318	41181	39552	77720

S.N.	Province	Name of District	Total No of Insuree till Aasad 2079	Total Renew Insuree	Total New Insuree	Active Insuree
23	Bagmati Province	Bhaktapur	213728	141830	36153	153711
24		Chitwan	414363	275835	65798	292025
25		Dhading	30476	11805	12625	23822
26		Dolakha	23511	2322	19886	22208
27		Kathmandu	21457	118	21287	21400
28		Kavrepalanchok	127230	76595	30351	99905
29		Lalitpur	4842	47	4789	4830
30		Makawanpur	174050	113720	24097	115217
31		Nuwakot	27665	9618	13734	23337
32		Ramechhap	45716	28242	6641	30947
33		Rasuwa	4490	1712	2037	3748
34		Sindhuli	92087	58243	12715	60930
35		Sindhupalchok	29485	10537	13284	23816
36	Gandaki Province	Baglung	87257	58267	13019	61087
37		Gorkha	79865	46721	12776	52175
38		Kaski	214815	140361	31231	137433
39		Lamjung	25743	6233	16814	23044
40		Manang	407	6	363	369
41		Mustang	921	217	295	512
42		Myagdi	28034	18404	3271	17535
43		Nawalparasi(Bardaghat SustaPurb)	77755	24022	43308	67298
44		Parbat	24373	11104	9297	19970
45		Syangja	112401	66946	28093	87523
46		Tanahu	104255	67355	14218	67329

S.N.	Province	Name of District	Total No of Insuree till Aasad 2079	Total Renew Insuree	Total New Insuree	Active Insuree
47	Lumbini Province	Arghakhanchi	72472	48340	9723	51867
48		Banke	57479	28786	13780	39302
49		Bardiya	117026	78587	11844	81682
50		Dang	26015	7376	13472	20837
51		Gulmi	95251	57552	26312	81758
52		Kapilbastu	80832	46193	11676	52279
53		Nawalparasi (BardaghatSustaPashchim)	26767	5753	16931	22667
54		Palpa	232830	193686	12298	170793
55		Pyuthan	48229	28035	4173	27499
56		Rolpa	31831	17674	4112	19743
57		Rukum East	7167	3062	771	3599
58		Rupendehi	116868	39395	49700	88890
59	Karnali Province	Dailekh	18840	7351	8223	15349
60		Dolpa	2564	545	362	660
61		Humla	14076	3416	6713	9986
62		Jajarkot	44723	24516	3532	21349
63		Jumla	63726	43305	7628	45120
64		Kalikot	44106	16239	6834	19594
65		Mugu	5773	1360	1510	2460
66		Rukum West	67233	33954	9542	36044
67		Salyan	8816	2989	3348	6337
68		Surkhet	71665	35152	16538	43787
69	Sudur Paschim Province	Achham	50760	25537	8798	32165
70		Baitadi	20816	12395	1884	12554
71		Bajhang	38139	27282	1664	26811
72		Bajura	32546	18774	1262	16989
73		Dadeldhura	13800	6438	5516	11939
74		Darchula	10621	4638	1380	5415
75		Doti	8187	3803	3006	6786
76		Kailali	252459	163487	50421	197358
77		Kanchanpur	49069	25586	15445	39214
		Total	6045192	3451951	1347029	42,48,606
	Total Renew			81.24%		

Table 10.2: Gender wise Insuree Trend since FY 2072/073- 2078/079

Table below shows that, male, female and third gender enrollment status. Female are slightly higher than male enrollment.

SN	Fiscal year	No. of Total Insuree	Gender wise distribution		
			Male	Female	Others
1	2072/73	12,623	5,972	6,647	4
2	2073/74	2,28,113	107,804	120,277	32
3	2074/75	11,30,575	533,829	596,633	113
4	2075/76	16,40,879	782,143	8,58,449	287
5	2076/77	31,58,212	1,509,771	16,48,106	335
6	2077/78	45,70,533	22,02,736	23,67,362	435
7	2078/79	60,45,192	29,24,918	31,18,752	1522

Table 10.3: Province-wise total No of Service Provider Health Institutions types (upto 2079 Ashad)

Following table shows the total service providers listed up to FY 2078/79. Highest number of service providers under HIB was in Province one followed by Bagmati, Madhesh Province and Lumbini Province respectively. Category of service providers are Public hospitals, (which includes Basic hospitals, Provincial hospitals and federal hospitals) PHCC, community hospital and eye hospitals.

Province	Public hospital	PHCC	Community/Pvt. hospitals	Eye hospital	Total
Koshi	44	40	19	7	109
Madesh	16	34	8	5	63
Bagmati	51	30	8	6	94
Gandaki	24	24	4	1	53
Lumbini	23	28	5	6	62
Karnali	16	14	1	2	33
Sudurpaschim	16	16	3	1	36
Total	**189**	**186**	**48**	**28**	**451**

Table 10.4: Province wise total No of Insured Population (up to 2078/79)

Province one was highest insured followed by Gandaki, Bagmati, Karnali and Lumbini Provinces.

S.N.	Province Name	Total Population	Total Insured till Asad 2079	Percentage
1	Koshi Province	4535943	1939719	42.72
2	Madesh Province	5404145	409861	7.58
3	Bagmati Province	5529452	1209100	21.87
4	Gandaki Province	2403757	755826	31.44
5	Lumbini Province	4499272	912767	20.28
6	Karnali Province	1570418	341522	21.75
7	Sudurpashchim Province	2552517	476397	18.66

	Total	2,6294504	6045192	22.99

Table 10.5: Province wise enrollment of Targeted Groups upto2079 Ashad:

Province Name	FCHV.	MDR TB	HIV	Leprosy	Null Disability	Senior Citizen	Ultra Poor
Koshi Province	22556	810	3185	1062	41365	186166	24252
Madesh Province	4994	220	3131	140	103851	204739	10880
Bagmati Province	14577	60	6438	571	14879	94365	42740
Gandaki Province	13180	29	3160	181	14442	104958	37333
Lumbini Province	18515	998	6318	460	17427	108918	127011
Karnali Province	6163	169	1000	80	5026	30709	87610
Sudurpashchim Province	22714	514	6680	593	6561	76850	166015
Total	**102699**	**2800**	**29912**	**3087**	**203551**	**806705**	**495841**

Opportunities of HIB program

- Constitution of Nepal 2072, in Article no.51 of State's guideline principle highlighted the importance of health insurance program.
- Health Insurance Act 2074 has envisioned the compulsory enrollment of the people working in the formal sector.
- High political commitment.
- Designed as a tool for providing equitable and quality health service.
- Health system strengthening (generic prescribing, hospital pharmacy, gate keeping system)
- Sustainable approach to provide social health security to Nepalese people.
- Supportive role of government (Constitution provision, periodic plan/ 15th plan and annual
- Budget have given high priority to Health insurance Program)
- Interest and concern of Provincial and Local level government

Program related Constraints /Challenges:

- High turnover of enrollment assessment
- Low awareness level to community people on health insurance
- Limited district covered by ultra-poor registration (only 26 districts)
- Unavailability of servicesand medicines from health institutionand hospital pharmacy respectively according to benefit Package.
- Irrational referral system by first service point.
- Inadequate medical equipment and materials at the service points.
- Inadequate human resources at the service points.

WAY FORWARD:

SHORT TERM	MEDIUM TERM	LONG TERM
• O&M of HIB • Minimum service standard of service providers to be fixed • Premium collection through e-banking system • Online registration/application to be adopted • Guidelines, regulation, Standard to be prepared • Amendment of Act and regulation.	• Stringent regulatory norms to develop for the effective • Coordination with MoHP, Provincial and local government for proper deployment of the doctors and employee at service sites • Initiation for automated claim management (EMR/HER system) • Prepared new benefit for Bipanna program and update the existing Insurance benefit package.	• Embarkation of HIB responsibilities: from both regulatory and operational to regulatory only • Separate authority for review of claims (May be third party administration-TPA) • Standard Medical Treatment Protocol (SMTP) to be developed and the service and price to be fixed as per the protocol • Full implementation of automated system EMR /EHR and link it with IMIS.

DEVELOPMENT PARTNERS SUPPORT

DEVELOPMENT PARTNERS SUPPORT

The outcomes discussed in the previous chapters are the results of combined efforts of the Ministry of Health and Population (MoHP), various development partners (multilateral, bilateral) and other supporting organizations including international organizations and national NGOs and private sectors. The Department of Health Services acknowledges its partnership with these organizations and their large contributions to Nepal's health sector. This chapter lists the focus of these organizations' various programs. Partners have also provided technical assistance in their areas of expertise.

Development partners support the government health system through a sector-wide approach (SWAp). The SWAp now supports the implementation of the new Nepal Health Sector Strategy (NHSS, 2016–2022[1]). The Joint Financing Arrangement (JFA) has been signed by various partners and the government. The JFA describes in detail the arrangement for partners' financing of the NHSS. The JFA elaborates the pool funding arrangement and parallel financing mechanism as bilaterally agreed between the government and the donor partners. In the current sector programme, the World Bank has allocated all its commitment through a Program-for-Results, a tool which disburses fund against a verifiable set of results, called Disbursement Linked Results (DLRs). UKAid and GAVI are also disbursing part of their commitments against some DLRs identified and agreed with the MoHP. In addition, in the Fiscal Year 2021/2022, Development Partners continued to provide additional funding, in-kind and technical support to the MoHP for the preparedness and response to COVID-19 pandemic.

The Ministry of Health and Population extended the NHSS 2016-2021 by a year to the end of FY 2021/2022 because of COVI-19 pandemic. The development partners have also re-aligned their support to the extended phase of the sector program.

Table 11 Development Partners Contributing to Health Sector in Nepal

MULTILATERAL ORGANIZATIONS

Organization	Major program focus	Geographical coverage	Health sector budget for FY2020/21	Contact details
UNFPA	1) Sexual and Reproductive Health Program: Policy Advocacy & Capacity Building on SRHR, Capacity Building of Health Workers on SRHR, and Strengthening Adolescent Friendly Health Services; Emergency Preparedness and response including RH sub-cluster coordination and support.	Nation-wide with provincial offices in Madhesh, Lumbini and Sudurpaschim Provinces. Ongoing project/ programmes: Koshi Province (2 districts), Madhesh (8 districts), Bagmati (3 districts), Lumbini (5 districts), Karnali (2 districts) and Sudurpaschim (7 districts)	Total allocated budget of all programs activities: **USD 4,753,073** Total expenses of all programs activities: **USD 4,366,871**	Young Hong, Representative Email: whong@unfpa.org UNFPA Nepal, UN House, Pulchowk, Lalitpur PO Box 107, Kathmandu, Nepal Tel: +977 1-5523880 nepal.office@unfpa.org
	2) Family Planning: FP/RH commodities support; Strengthening SCM including eLMIS; Service delivery and capacity building support to improve method mix and accessibility to services, Systems strengthening (Family Planning Sustainability Roadmap, FP2030 partnership), and evidence generation 3) Family Planning/Reproductive health commodities support			
	4) Maternal Health: Support implementation of Safe Motherhood Roadmap, Midwifery regulations, faculty strengthening, education standardization, support national program on RH morbidities, Support Maternal Mortality Study, and policy advocacy.			
	5) Health sector response to GBV: functionalization of the safe house, shelter home and OCMC, including psychosocial and medico-legal training to service providers.			

Organization	Major program focus	Geographical coverage	Health sector budget for FY2020/21	Contact details
UNICEF	1) Maternal and newborn health 2) Child Health including immunization 3) Adolescent Health and HIV services 4) Health System Strengthening including emergency response 5) Nutrition - Caregivers and communities have increased knowledge and skills to provide improved adolescent, maternal, infant and young child nutrition and care practices - Health workers at subnational levels have increased capacity to provide quality care and treatment for/services to SAM children using standard protocols - Health workers, FCHVs and communities have increased capacity to stimulate demand for supplementation (Vitamin A, IFA, MNP) and to promote fortified foods (iodized salt, wheat flour) and a diversified diet	District number: **18** District number: **77** District number: **18** District number: **77** District number: **77** District number: **77** District number: **77**	Total allocated budget of all health program activities: **US $ 6,736,732** Total expenses of all health program activities: **US $ 6,736,732** Total allocated budget of all Nutrition programs activities: **US $ 1,736, 766.00** Total expenses of all Nutrition program activities: **US $ 1,736, 766.00**	Office address: **UNICEF Nepal, UN House, Pulchowk, Lalitpur** Tel: 5523200 Fax: 5527280 Email: kathmandu@unicef.org Web: **http://www.unicef.org/nepal**

Organization	Major program focus	Geographical coverage	Health sector budget for FY2020/21	Contact details
WHO Nepal	1) Vaccine preventable disease surveillance and technical support to strengthen national immunization programme. 2) Strengthen prevention, detection, and response capacities to health emergencies and disasters as International Health Regulations following an all-hazard and multisectoral approach. 3) Support in development of National Policies, Strategies and Guidelines for Communicable and Non-Communicable Diseases and strengthening Disease Control & Elimination interventions. 4) Support to strengthen health systems capacities through policy, regulations, strategies, plans, guidelines, protocols for health system building blocks.	District number: all 77 District number: all 77 District number: all 77 District number: all 77	Total allocated budget of all program activities: US $ 10.9 Million Total expenses of all program activities: US $ 10.4Million	Office address: Dr Rajesh Sambhajirao Pandav WHO Representative to Nepal WHO Country Office for Nepal UN House, Pulchowk, Lalitpur Tel: + 977-1-552199 Fax: + 977-1-5527756 Email: pandavr@who.int Phone: Web: https://www.who.int/nepal
World Bank	COVID-19 Emergency Response and Health Systems Preparedness Project - COVID-19 Emergency Response - COVID-19 vaccination - Health Systems Strengthening	National Scope with 77 district coverage	- Total IDA allocation for Nepal's COVID-19 response activities: US$122 million - Red Book allocation for FY 2021/2022: NPR 8050 lacs - Amount disbursed: US$46.7 million	Office address: The World Bank Yak & Yeti Hotel Complex Durbar Marg Kathmandu Tel: +977 1 4236000 email: spinto@worldbank.org; abhandari3@worldbank.org; mghimire1@worldbank.org web: www.worldbank.org

Organization	Major program focus	Geographical coverage	Health sector budget for FY2020/21	Contact details
	Nepal Health Sector Management Reform Program for Results - Governance Reforms: Procurement and Financial Management - Data for decision making - Accountability in public health sector management	National Scope with 77 district coverage	- Total IDA allocation for FY 2021/2022: US$50 million - Amount disbursed in FY 2021/2022 for DLI results achieved in previous FY: US$17 million	

BILATERAL ORGANIZATIONS

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH	1) **Social health protection** – Support Health Insurance Board (HIB) and Social Security Fund (SSF Nepal) to improve core processes such as enrolment, claims management, monitoring with support of digital tools 2) **Subnational health management** – Support to strengthen capacities at local level; Support selected 5 municipalities for evidence based local level planning and budgeting in Health sector, support 13 COVID designated hospitals across country to strengthen and institutionalize Health Care Waste Management system as per standard 3) **Integrated Health Information System**: Support MoHP for promoting standard and interoperability, improve access to digital data and information - improve access to health sector management data and information, Support Health Insurance Board and Social Security Fund Nepal for implementation of openIMIS, and open-source insurance management system, Support for implementation of Birth Notification System in selected district to improve CRVS 4) Improve **reproductive health** service through institutionalization of selected approaches; key support area includes support toward Menstrual Hygiene &Management, WASH in Schools, supports Midwifery education at selected partner universities	Support to National Scheme District number; 77 District number: 13 Support to Federal Level District number: 1 District number: 4	Total allocated budget of all programs activities: EUR **1,641,400** Total expenses of all programme activities: EUR **1,641,400**	Office address: Bhiuti Marga, Sanepa, Lalitpur 02, Bagmati, Nepal PO Box 1457 Tel: + 977 1 5905128-30 Fax: + 977 1 5905138 Email: s2hss@giz.de Web: https://www.giz.de/en/worldwide/108571.html

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
United States Agency for International Development (USAID)	1) **Maternal Newborn and Child Health (including Nutrition)** 2) **Family Planning & Reproductive Health** 3) **HIV/AIDS and STI** 4) **Water Sanitations Hygiene program** 5) **Health System Strengthening**	District number: **47 districts** Through: Good Nutrition Program - Suaahara II and Strengthening Systems for Better Health (SSBH) projects District number: **all 77 districts** Through Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM), Suaahara II, SSBH, Redbook, Adolescent Reproductive Health (ARH) and Momentum Private Health Care Delivery (MPHD) projects District number: **37 districts** Through Meeting Targets and Maintaining Epidemic Control (EpiC) project District number: **42 districts** Through Suaahara II, Karnali Water, Clean Air, Health, and Hygiene - Swachchhata projects Districts: **Nationwide** Through SSBH, GHSC-PSM, Medicines, Technologies, and Pharmaceutical Services (MTaPS), Promoting the Quality of Medicines Plus (PQM+), Demographic and Health Surveys Program - (DHS), World health Organization (Polio Program Support), Physical Rehabilitation Activity Strengthening and Spreading Independent Living Concept (SSILC)	Total allocated budget of all programs activities: US$ 54,392,935 Total expenses of all program's activities: US$ 54,392,935	Office address: USAID/Nepal c/0 US Embassy Building, Maharajgunj GPO Box: 295 Tel: 01-4234000 Fax: 01-4007285 http://nepal.usaid.gov

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
British Embassy Kathmandu	1) Health system strengthening, including health policy, planning and budgeting, health governance and devolution (federalism), improving quality of care, using data for decision making; 2) Improving access to medicines including safe motherhood and family planning, gender, equity and social inclusion; 3) Procurement and public financial management; 4) Social accountability in the health sector; 5) Response to COVID-19 including vaccines; and 6) Health infrastructure and hospital retrofitting	Nationwide	Total Expenses of all programme activities: £4,839,338 financial aid disbursed, and £4,408,167 technical assistance.	Office address: British Embassy Kathmandu PO Box 106 Lainchaur Kathmandu Nepal Email: BEKathmandu@fcdo.gov.uk Web: https://www.gov.uk/world/organisations/british-embassy-kathmandu

INTERNATIONAL NON-GOVERNMENT ORGANIZATIONS

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
ADRA Nepal	1)Family Planning & Adolescent Sexual and Reproductive Health program, eLMIS, and End Child Marriage 2) Women's Health & System Strengthening project related uterine Prolapse 3) Improvement of Maternal, Child Health and Nutrition Program and Maternal Mortality Survey 2021 4) COVID-19 Response and Recovery	District number: 14 District number: 4 District number:2 District number: 14 hospitals and 8 districts	Total allocated budget of all programs activities: US $ **989,605.00** Total expenses of all programs activities: US $ **882,457.00**	Office address: Sanepa, Lalitpur, Nepal Tel: (977) 5455913/14 | info@adranepal.org http://adranepal.org/ https://www.facebook.com/joinADRANepal/ https://twitter.com/adranepal https://www.youtube.com/results?search_query=ADRA+Nepal

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
Ipas Nepal	Focus program: Sexual Reproductive Health and Rights (SRHR) including safe abortion and contraception services and Gender Based Violence Presentation and Response. Major support areas: - Agency building of women and girls on SRHR - Engagement with civil society and community for creating enabling environment for SRHR - Technical assistance for SRHR policy and advocacy - Technical support for strengthening safe abortion and post abortion family planning services - SRHR, Gender and Climate Justice - Gender Based Violence Prevention and Response	Sankhuwasabha, Terathum, Ilam, Sunsari, Udayapur, Okhaldhunga, Morang, Gorkha, Syangja, Myagdi, Palpa, Arghakhanchi, Rolpa, Dadeldhura, Achham, Doti, Bajura, Bajhang, Baitadi and Kailali and 15 hospitals	Allocated budget $1,892,280.43 Total expenses of all project's activities $1,812,164.00	Office Address: Kathmandu Metropolitan City, Ward Number-4, Baluwatar, Kathmandu Telephone: 1-4420787 Fax: 977-4425378 Email: ghimirej@ipas.org Website: https://nepal.ipas.org/
Birat Nepal Medical Trust (BNMT Nepal)	1) Tuberculosis reduction and elimination 2) Coronavirus Sequencing Surveillance in Nepal and response to COVID19 emergency 3) Sexual and Reproductive Health and Rights and menstrual hygiene Management 4) Oncology support and palliative care support	District number: 12 District number: 8 District number: 1 District number: 2	Total allocated budget of all programs activities: US $1,342,666 Total expenses of all programs activities: US $1,336,193	**Office address:** Lazimpat – 2, Kathmandu, Nepal. Tel: 977 1 4436434, 4428240 Fax: 977 1 4439108 Email: bnmt@bnmt.org.np Web: www.bnmtnepal.org.np www.impacttbproject.org www.epiintelnepal.org www.drones4nepal.org

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
CARE Nepal	1. Reproductive, Maternal, Neonatal, Child and Adolescent Health (RMNCAH); Capacity building of health workers, construction of birthing center, equipment support to birthing center, community mobilization and awareness 2. COVID-19 response, recovery including vaccination; PPE support to hub hospital and birthing centers, RCCE, WASH and technical support to local government to develop and implement health emergency response plan and support of cold chain equipment	District number: Jajarkot District number: Seven district (Nabalparasi west, Rupdendehi, Kapilbastu, Bake, Bardia, Kailali and Kanchanpur)	**Total allocated budget of all program's activities:** 80,820,000.00 Total expenses of all program's activities: 80,409,875.00 Total expenses of all program's activities: 80,409,875.00	Office address: House Number 777/34, Jhamsikhel, Lalitpur Tel: 01-5422800 Fax: 01-5421202 Emil: npl.carenepal@care.org and adweeti.nepall@care.org Web: carenepal.org
World Vision International Nepal (WVI Nepal)	1) Maternal, Newborn, and Child Health Nutrition 2) Nutrition and Resilient Livelihood 3) Water, Sanitation, and Hygiene 4) Sexual reproductive health of adolescents and women of reproductive health 5) COVID response **Major Activities:** PD Hearth to rehabilitate malnourished children and growth monitoring promotion; Integrated WASH and contribution to the health system strengthens For COVID -19: WASH items, hand wash stations, Health gear including PPEs, Oxygen Concentrators, Oxygen Cylinders, including RCCE etc,	District number: 7 districts District number: 7 districts District number: 7 districts District number: 7 districts District: 8 districts + MoHP and Provinces	Total allocated budget for all program's activities: US $ 2685539 Total expenses of all program's activities: US $ 2523256 Total plan for COVID Response: US $ 1233140 Total Expenses for COVID response: US $ 1208189	Office address: Jawalakhel, Lalitpur, Nepal **G.P.O. Box**: 21969 Tel: **Phone**: +977 1 5548877 Fax:Fax: +977 1 5013570 Email:ganesh_pandey@wvi.org **URL**: www.wvi.org/nepal ……

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
United Mission to Nepal (UMN)	1) Integrated components on MCH, mental health, Nutrition, WASH, FP, ASRH, and health system strengthening 2) Mental health 3) COVID response	District number: 1 District number: 1 District number: 6	Total allocated budget of all programs activities: US $ 1324944 Total expenses of all programs activities: US $ 1292688	PO Box: 126 Thapathali, Kathmandu Tel: 4228118, 4268900 Fax: 4225559 Email: communications@umn.org.np Web: umn.org.np
One Heart Worldwide	1)Maternal and Neonatal Health	District number:12	Total allocated budget of all programs activities: US $ 2 million Total expenses of all programs activities: US $ 1.9 million	Office address: Bagdol-4, Laliptur Tel: 01-5188515 Email: ohwnepal@oneheartworldwide.org Web: www.oneheartworldwide.org
NLR Nepal	1. Leprosy program 2. PEP++ Program 3. Impact Assessment of SDR-PEP under routine condition 4. SDR-PEP Demonstration project 5. Disability Inclusive Development **(Please fill-up not more than 4-5 major programs activities only)**	District number: 23 District number: 2 District number: 4 District number: 6 District number: 6 **(Please fill-up only district numbers)**	Total allocated budget of all program activities: US $ 616,765 Total expenses of all programs activities: US $ 459,397 **(Not need to specify program wise budget allocation & expenses)**	Bikash Man Singh Executive Director NLR Nepal Office address: Sankhamul Marg, Baneshor, Kathmandu, Nepal Tel: +977 014784296 Fax: Email: info@nlrnepal.org.np bikash@nlrnepal.org.np Web: https://nlrnepal.org.np/

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
Plan International Nepal	1) Early Childhood Development (Positive Parenting program based on nurturing care framework which includes nutrition, health, safety and security; responsive caregiving; and early stimulation for parents below 3 years of age. 2) SRHR (Sexual Reproductive Health and Right) – Strengthening adolescent friendly corner in HFs, sexuality education, MHM and capacity building of HWs on adolescent friendly SRHR services.	District number: 7 districts District number: 7 districts	Total allocated budget of all programs activities: US $ 1093564 Total expenses of all programs activities:	Office address: Country Office Maitri Marga, Bakhundole Lalitpur, Metropolitan City, Ward no.3 Tel: 977-1-5535580, 5535560 Email: Shanti.upadhyaya@plan-international.org Web: www.plan-international.org/nepal
Population Services International Nepal	1) **Women's Health Project (WHP)** Improve knowledge and access to Long Acting Reversible Contraception (LARC) and Safe abortion Services through private and public sector: Provider training, onsite quality assurance, distribution of commodities and equipment, and information sharing through health facility initiated awareness raising activities and mass media 2) **Adolescent Youth Project (AYP)** Increase knowledge and use of family planning products and services among adolescents and youth (15-24) from private sector service sites 3) **Maternal and Newborn Health (MNH), Continuum of Care** Improving utilization and linkages across the continuum of quality maternal and neonatal health services in Madhesh Province, Nepal	Province: 1, Bagmati, Lumbini & Sudurpaschim District number: 17 Province: Lumbini & Sudurpaschim District number: 7 Province: Madhesh District nmber: 5	Total allocated budget of all program activities: US $ 4,343,395 Total expenses of all program activities: US $ 2,209,830	Office address: Pulchowk, Krishnagali, Lalitpur, Nepal Tel: 5553190. 5550620 Fax: 5550619 Email: info@psi.org.np Web: www.psi.org

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
FAIRMED Foundation Nepal	1) Neglected Tropical Diseases 2) Maternal and Newborn Health 3) Health system strengthening, and behavior change at community level 4) GESI and Disability Inclusiveness	District number: 9 (**Lumbini Province:** Kapilvastu, Rupendehi, Nawalparasi West, and Rukum East. **Gandaki Province:** Baglung, **Bagamati Province**: Sindhupalchowk **Koshi Province**: Jhapa, Morang and Sunsari)	Total allocated budget of all program's activities: US $1,568,316 Total expenses of all program's activities: US $ 1,475,649	**Office address:** FAIRMED Nepal, Jhamsikhel Lalitpur, Nepal P.O. Box: 10047 Tel: +977-01-5420612 Email: nepal@fairmed.ch
Save the Children	1) Test and treat HIV and Behavior Change Communication 2) Test and treat TB 3) Test and treat Malaria 4) Maternal and New born Health 5) Adolescent Health	**Coverage**: - **HIV**: **77** districts, **TB: 77** districts, **Malaria**: **25** districts **MNH**: National TA and implementation in 1 district **Adolescent health**: **3** Districts	Total allocated budget of all programs activities: US $ 14,911,048 Total expenses of all programs activities: US $ 13,286,973	**Office address: -** Save the Children International Nepal Country Office Shree Krishna Bhawan, Airport Gate Area, Shambhu Marg, Sinamangal, Kathmandu, Nepal GPO Box 3394 Tel: 977-1-4468130 / 4464803 Fax: 977-1-4468132 E-mail: post.nepal@savethechildren.org Website: http://nepal.savethechildren.net

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
FHI360 Nepal	**USAID- and PEPFAR-supported EpiC Nepal** • HIV prevention including HIV pre-exposure prophylaxis (PrEP) • HIV testing and counseling (HTC) including HIV self-testing • Sexually transmitted infection (STI) treatment • Community-based anti-retroviral therapy (ART) • Community care, support and counseling for adherence and retention • Stigma and discrimination reduction • Technical assistance for capacity and system strengthening	37 districts, – 387 local bodies (6 metropolitan cities, 8 sub-metropolitan cities, 112 municipalities and 117 rural municipalities) National level	**Total budget:** US$ 9.2 million **Total Expenditure:** US$ 6.6 million	Gopal Bhawan, Anamika Galli, Baluwatar, Kathmandu-4, Nepal Tel: +977.1.4437173 Fax: +977.1.4417475 Email: bhshrestha@fhi360.org Website: www.fhi360.org/countries/nepal
	USAID-supported EpiC Nepal • Technical, logistics and management support for COVID-19 testing, COVID-19 genome sequencing; oxygen ecosystem; COVID-19 case management; logistics supply chain management; capacity building on essential critical care; COVID-19 vaccine storage (ultra-cold chain), deployment and administration, data management and capacity building for roll-out of Pfizer vaccine	National level	**Total budget:** US$ 5.7 million **Total Expenditure:** US$ 4.6 million	

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
	UK aid- funded Fleming Fund Country Grant for Nepal • Technical, logistics and management support for multi-sectoral coordination and collaboration for One Health • Support to develop/update antimicrobial resistance (AMR) National Action Plan/Protocols/ Guidelines/Standard Operating Procedures • Support for capacity and infrastructure strengthening, laboratory equipment, supplies/ consumables • Technical assistance for laboratory biosafety and security, waste management, quality management system, quality assurance/quality improvement • Support to strengthen AMR/ antimicrobial use (AMU)/ antimicrobial consumption (AMC) surveillance and data management, recording, analysis and dissemination • Promote rational use of antimicrobials • Support to conduct AMR and AMU survey in humans and animals	23 laboratories/surveillance sites (15 human health, 7 animal health, and 1 food sectors, 13 districts)	**Total budget:** US$ 1.6 million **Total Expenditure:** US$ 1.3 million	

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
	USAID-supported MOMENTUM Private Healthcare Delivery (MPHD) Nepal • Design/adapt a model to catalyze private sector provision of quality FP services to adolescents and young people (15-29 years) • Apply tailored Quality Improvement approaches including Provider Behavior Change Communication and Human-Centered Design • Enhance engagement and capacity of private sector facility owners/ providers on business skills, data management and provider-initiated demand generation for sustaining FP service delivery Initiate/strengthen public-private sector linkages, coordination and collaboration.	103 private sector health facilities in 7 municipalities in 3 districts in 2 provinces	**Total budget:** US$ 2.5 million **Total Expenditure:** US$ 1.3 million	
	USAID Clean Air • Collaborate with municipal governments providing technical assistance in planning, budgeting, evidence-based decision making for addressing air pollution issues and its health impacts in Kathmandu Valley • Co-design and deliver training for and interactions with health professionals on air quality and health impacts of air pollution and engage health professionals and influencers for awareness raising events/campaigns Conduct assessments on patients' visits to health facilities for respiratory problems	All 18 municipalities and 3 districts of Kathmandu valley	**Total budget:** US$ 2.4 million **Total Expenditure:** US$ 0.9 million	

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
USAID's Health and Hygiene Activity (Swachchhata)	Supports to improve community health status by improved integration of hygiene in health service delivery 1) Construction and upgrade of WASH Infrastructure (Water supply schemes, Toilets, Handwashing stations) in health facilities. 2) Train health workers on infection prevention control and provider behavior change communication at health facilities. 3) Train Health workers and FCHVs on WASH Behavior Change Communication in health facilities to roll out BCC campaign in communities. 4) Support and strengthen the government's health and WASH sector, provide technical support. 5) Support in providing Infection prevention materials, IEC materials, and WASH and COVID-19 message	District: 7 (50 Municipalities and 248 Health Facilities)	Total allocated budget of all programs activities: **US $ 734,230** Total expenses of all programs activities: **US $ 540,814.34**	**Office address:** Simtali Chowk, Birendranagar Municipality-8, Surkhet, Nepal **Tel:** (977) 083-590250 **Contact person:** Bal Bahadur Thapa (Chief of Party) **Email:** bthapa@devworks.org **Web:** www.devworks.org

Non-Governmental Organizations

Organization	Major program focus	Geographical coverage	Budget for health sector for FY 2020/21	Contact details
Nepali Technical Assistance Group (NTAG)	1) Onsite coaching events on Maternal Infant and Young Child Nutrition 2) Promotion and advocacy of National Vitamin A Supplementation Program 3) Social Behavior Change Communication (SBCC) messaging on Maternal, Infant and Young Child Nutrition (MIYCN) through Interactive Voice Response (IVR) service platform. 4) Capacity building of Female Community Health Volunteers (FCHVs) on Infant & Young Child Feeding (IYCF)-Emergency, family MUAC. 5) Capacity building of partners program staff on Nutrition Key Messages. 6) Food demonstrations among community people to improve their knowledge and skills on nutritious food preparation at the household level (mothers, caregivers and male members of family). 7) Identification of malnourished children at the household level using mothers/caregivers and referring the malnourished children to Outpatient Therapeutic Care Centers (OTCCs) for treatment	• 42 districts (Suaahara-II) • 77 districts (National Vitamin A Program) • 6 districts (Building Hope Along the Karnali River Basin - BHAKARI) • 4 districts (Family MUAC Approach Pilot Programme)	Total allocated budget of all program activities: NPR. 89,317,461 US $ 686,846 Total expenses of all program activities: NPR. 71,198,171 US $ 547,510 Note: Exchange rate USD 1 = NRS. 132.04, December 20, 2022, nrb.org.np	**Office address:** Kathmandu Metropolitan City, House #: 193, Ukti Marga-11, Maitighar Height, Kathmandu, Nepal **Tel:** 977-1-5324884/ 5323477/5321133 **Email:** info@ntag.org.np **Web:** www.ntag.org.np

Organization	Major program focus	Geographical coverage	Budget for health sector for FY 2020/21	Contact details
Nick Simons Foundation International (NSFI)	1) Training: In service and Academic 2) Curative Service Support Program (CSSP) –(Human Resources of different cadres, and Equipment/ supplies) 3) Hospital Strengthening Program (HSP) - System Strengthening and MSS Implementation 4) Research and Advocacy	1)District number: 77 districts 2)District number: 44 hospitals/44 districts 3)District number: 77districts 4)District number: 77	Total allocated budget of all program's activities: US $ 5,783,333.33 Total expenses of all program's activities: US $ 4,359,042.66	Office address: Nick Simons Institute Box 8975 EPC 1813 Sanepa Lalitpur, Nepal Tel: 01 5420322 Fax: 01 5444179 Email: nsi@nsi.edu.np Web: www.nsi.edu.np
Marie Stopes International	1. Safe Abortion 2. Family Planning 3. Adolescent and Reproductive Health 4. Public Service Strengthening 5. Social Marketing 6. Training and Capacity Building	District number: 26 Tehrathum, Bhojpur, Sankhuwasabha, Khotang, Sarlahi, Sindhuli, Tanahu, Baglung, Mugu, Kailali, Darchula- All R/ Municipalities; Jhapa- Birtamod Municipality Morang- Biratnagar Metropolitan Sunsari- Itahari Sub-metropolitan Siraha-Lahan Municipality Parsa- Birgaunj Metropolitan Kathmandu- Kathmandu Metropolitan Lalitpur-Lalitpur Metropolitan Chitwan- Bharatpur Metropolitan Kaski- Pokhara Metropolitan Nawalparasi (Bardaghat Susta Paschim)- Bardaghat Municipality Rupandehi- Butwal Sub-metropolitan and Siddarthanagar Municipality Kapilvastu- Kapivastu Municipality and Sivaraj Municipality Dang- Tulsipur Sub-metropolitan Banke- Kohalpur Municipality Surkhet- Birendranagar Municipality.	Total allocated budget of all programs activities: US $ 1,988,763.91 Total expenses of all programs activities: US $ 1,988,763.91	KP Upadhyay 9851070208 Office address: Baluwatar, Kathmandu Tel: 01-4419371 Email: 1. msi@mariestopes.org.np 2. kp.upadhyay@mariestopes.o rg.np Web: www.mariestopes.org.np

Organization	Major program focus	Geographical coverage	Budget for health sector for FY 2020/21	Contact details
Nepal CRS Company	**Momentum Private Healthcare Delivery (MPHD) project** The MPHD project helps to expand public and private partnerships to strengthen the enabling environment for FP/RH in support of the MOMENTUM suite of awards in Nepal. MPHD Nepal contributes to Development Objective 3: Inclusive Health and Education Systems Strengthened of USAID/Nepal's Country Development and Cooperation Strategy goal of a more self-reliant, prosperous, and inclusive Nepal. The project work to support the advancement of selected private sector facilities along a pathway to equitable and profitable delivery of high-quality, person-centered FP services by ensuring they have: - Improved technical capacity to deliver quality, client-centered FP services, including counseling, contraceptive methods, and referrals, to adolescents and other reproductive age clients with high unmet need for FP, and - Improved managerial and overall institutional capacity towards offering services in an equitable, profitable, and sustainable manner.	Three Districts (Mahottari, Sarlahi and Surkhet)	Total allocated budget of all program activities: US $ 3,658,005.00 Total expenses of all program activities: US $ 3,346,359.00	Mahadevtar, Tokha road, Kathmandu Tel: 4962097/98/99 Email : info@crs.org.np
	Menstrual Hygiene Management (MHM) The objective of the project is to bring a positive change in the schoolgirls and women's knowledge, attitude and practice relating to menstrual health and hygiene management in the project districts. It also aims to improve the supply side by providing the biodegradable sanitary napkins at affordable price in the program area.	Four District (Doti, Bajhang, Dadeldhura and Baitadi)		

Organization	Major program focus	Geographical coverage	Budget for health sector for FY 2020/21	Contact details
	Sangini Franchise Network: This program provides training to service providers of private health facility in FP specially in Sangini (DMPA) to expand the Sangini Franchise Network to make availability and accessibility of quality FP services to the community people in Nepal.	In all 77 Districts		
Nepal Red Cross Society	1. **Preventive health** (Major focused: Capacity building of community and community- based institutions through following projects, CCBHP, WASH, Enabling Action for Community Health, Psychological support, NCD, Community based Health and First Aid and different campaigns) 2. **Curative health service** (Major focused: Eye health programme through Surkhet Karnali Eye hospital and Janaki Eye Care Hospitals and Nationwide Blood Transfusion Service and Prehospital Care/Ambulance procurement). 3. **Emergency Health Service** (Major focused: Covid -19 response, Oxygen plants, RRT, Red Cross Emergency Clinic, E-WASH and Emergency health preparedness and response.	District number: 77 District number: 67 District number: 77	Total allocated budget of all Programs/ activities : USD 2.3 million Total expenses of all programs activities: USD 4.1 million USD 2.3million	Office Address: Nepal Red Cross Society , National Headquarter, Kalimati, Red Cross Road, Kathmandu Tel : 01-4278719 Fax : + 977-4271915 Email : info@nrcs.org/ healthteam@nrcs.org Web: https://nrcs.org

Organization	Major program focus	Geographical coverage	Budget for health sector for FY 2020/21	Contact details
PHASE Nepal	1) Primary Health Care programme 2) Maternal and Child Health programme 3) Maternal and Child Nutrition programme 4) Community Awareness programme	District:5 District:5 District:5 District:5 (PHASE Nepal has been implementing its program in Humla, Bajura, Mugu, Gorkha and Sindhupalchowk districts.)	Total Expenses of all programs activities: US $ 282,479.52	Office address: PHASE Nepal Dadhikot, Bhatkapur Tel: 016634038/89/118 Email: info@phasenepal.org Web: www.phasenepal.org
Medic Mobile	1) **SMS-Based Care Coordination Tool for FCHVs:** Design, configuration and implementation of an open-source mHealth tool for community-based maternal and child health care coordination. SMS-based use cases that are currently deployed in partnership with municipalities and NGO partners include a) Antenatal care b) Postnatal care c) MPDSR (in districts where Community based MPDSR has been implemented) 2) **CHT (Community Health Toolkit), Android Application for Community Health Nurses:** Medic is supporting the Nursing and Social Security Division in the design, configuration and implementation of CHT (open source) for Community Health Nurses in Bhaktapur and Bardibas Municipalities.	District number: 21 District number: 2	Total allocated budget of all programs activities: **US$** **365,895** Total expenses of all programs activities: **US$** **246,332**	Office address: Medic Mobile Nepal Inc. Pvt Ltd. UN Park Lane, Lalitpur Tel: +977 5261611 Email: nitin@medic.org www.medic.org www.communityhealthtoolkit.org

Source: Respective EDPs, INGOs and NGOs

ANNEXES

ANNEX 1 Major activities carried out in FY 2078/79

Family Welfare Division: Child Health and Immunization section program activities:

SN	Activities	Unit	Target	Achievement	%
1	Procurement: Vaccine Carrier 2.9-3.5 ltr, 0.6 ltr Ice Pack Model Capacity – 5000 No	Times	1	1	100
2	Vaccine and water pack freezer procurement 120- 180 ltr, 40 No & 270-300 ltr, 30 No	Times	1	1	100
3	Cold chain equipment: ILR, Refrigerator, Freezer, Cold box	Times	1	1	100
4	Ice pack 0.6 ltr – 30000 No	Times	1	0	0
5	Ice pack 0.4 ltr – 25000 No	Times	1	0	0
6	Vaccine Procurement: BCG with diluent-200000, BCG diluent syringe (2 ml) – 235000, AD Syringe (0.05 ml) – 1100000, bOPV with dropper-250000, MR with diluent – 215000, MR & JE diluent (5ml) – 650000, JE with diluent – 250000, TD-180000	Times	1	1	100
7	GAVI Commodities vaccine and logistics: IPV – 325080, Penta-173850, PCV-563100, Rota- 1213500, 0.5 ml AD syringe-13842800, 0.01 ml AD syringe-1340400, Safety box-167075	Times	1	1	100
8	GAVI co-financing for Penta - 68300, PCV-39300, Rota-123000, TCV-10146700	Times	1	1	100
9	GAVI Commodities: Cold chain equipment along with GoN for custom clearance	Times	4	4	100
10	Cold chain equipment damage, custom clearance and handling	Times	4	0	0
11	NIP Review and Orientation on Microplanning, FID, hygiene promotion – 3days at Province level	Times	1	1	100
12	Procurement of Indelible ink for TCV campaign	Times	1	1	100
13	Tablet based real-time RCM and post TCV campaign coverage evaluation survey and assessment of RI strengthening	Times	1	1	100
14	Printing and distribution of IEC material, form, format and other materials for TCV campaign	Times	1	1	100
15	Discussion, planning with stakeholder for strengthening of routine immunization and hygiene promotion	Times	1	0	0
16	For sustain and management of fund in the immunization service deposit the amount in immunization treasury	Times	1	1	100
17	Materials production and distribution used for routine immunization program	Times	1	1	100
18	One day orientation on RI strengthening and AEFI by Additional one day in province review and routine immunization strengthening and AEFI orientation	Times	1	0	0
19	Initiation of program for Safely management and disposal of Immunization related waste materials in Kathmandu valley and all provincial hospitals	Times	1	1	100
20	Provincial Orientation to Pediatricians, MO, and related stakeholders on AEFI and its management and AEFI committee formation and orientation at Provincial level	Times	1	0	0

21	Preparation of provincial level review	Times	1	0	0
22	Mentoring and supervision for routine immunization strengthening, full immunization declaration and sustainability	Times	4	4	100
23	4 days basic training on Immunization for Health workers of Private hospital, UHC, CHU	Times	1	0	0
24	Orientation to high level stakeholders, NIP related committees regarding TCV campaign and introduction in RI	Times	1	1	100
25	A three-day federal level workshop for preparation of guideline, form, formats for TCV campaign and introduction in RI.	Times	1	1	100
26	Two days MTOT and planning meeting for TCV campaign and introduction of TCV in RI	Times	1	1	100
27	Media orientation on TCV campaign and introduction of TCV in RI	Times	1	1	100
28	Medical professionals, professional organizations, and media orientation on TCV campaign and introduction of TCV in RI in all seven provinces	Times	1	0	0
29	Mass media mobilization for TCV campaign and introduction of TCV in RI	Times	1	0	0
30	Opening of TCV campaign and introduction of TCV in RI at federal level	Times	1	1	100
31	Review of TCV campaign and introduction of TCV in RI	Times	1	0	0
32	AEFI Management and Treatment Cost	Times	1	1	100
33	HPV vaccine proposal preparation and guideline preparation workshop	Times	1	0	0
34	Interaction with parliamentarians, Journalists and stakeholders on National Immunization program at federal and provincial level	Times	1	0	0
35	3 days workshop for review and update on immunization related documents	Times	2	1	100
36	Orientation on NIP & immunization act for elected bodies of 14 low performing districts	Times	1	0	0
37	2 days workshop on Urban immunization strategy development and branding of immunization program	Times	1	0	0
38	Supervision monitoring support to hygiene program during vaccination, cold chain management and FID program	Times	1	1	100
40	Broadcasting of Typhoid Vaccine related message on FM Radio	Times	2	2	100
41	establishment of Hand washing Station at EPI Clinic/session	Times	2	0	0

Family Welfare Division: IMNCI program activities:

SN	Activities	Unit	Target	Achievement	% achieved
1	Procurement of Timer, Bag and Mask, Digital Thermometer resuscitation Doll and Pelvic Model Baby Weighing Scale	Times	1	1	100
2	Procurement of Equipment for SCU/ NICU service expansion	Times	1	1	100
3	Establishment of Kangaroo Mother Care unit/ corner	Times	1	1	100

4	Procurement of Medicine, equipment and instruments for IMNCI program and payment of last FY procured remaining amount.	Times	1	0	0
5	Preparation revision and printing of CBIMNCI and New-born care related ICE Materials	Times	3	3	100
6	Training of Trainer to Health worker on SNCU/NCU mentoring	Times	1	0	0
7	Point of Care Quality Improvement Project (POCQI) TOT and Review	Times	3	1	100
8	Nepal Every Newborn Action Plan (NENAP) -Implementation Plan (2016-2021) Review	Times	2	0	0
9	Trainers' training on Kangaroo Mother Care package	Times	1	1	100
10	FB-IMNCI related Recording reporting form Revision and orientation	Times	1	0	0
11	Assessment of Nepal Every Newborn Action Plan (NENAP)	Times	1	1	100
12	ToT on New born care to Medical Officer	Times	1	1	100
13	Production and Printing of CBIMNCI related ICE Material	Times	2	0	0
14	Orientation on recording and reporting of New-born child care service	Times	2	0	0
15	Orientation on revised CBIMNIC Protocol	Times	2	0	0
16	FBMNCI training to Health Workers of various Hospital	Times	1	0	0
17	Provincial level Consultation on NENAP IP	Times	7	0	0
18	Preparation of KMC orientation guideline	Times	1	0	0
19	Newborn care (SNCU/ NICU)/ FBIMNCI mentoring	Times	2	1	100
20	ToT on KMC to Health worker	Times	1	0	0
21	ToT on New born care to Medical Officers	Times	7	7	100
22	ToT on CBIMNCI	Times	7	7	100
23	ToT on CBIMNCI to Hospital Staff	Times	8	0	0
24	Preparation of Early childhood development guideline	Times	1	0	0
25	Early childhood development orientation to Health Worker	Times	1	0	0
26	Mentoring on SNCU/NICU to health worker	Times	5	5	100
27	ToT on CBIMCI service	Times	2	2	100
28	Review of free new-born care program	Times	1	0	0
29	Advocacy on National New-born care Program	Times	1	1	100
30	Stakeholders' meeting on IMNCI Program	Times	12	12	100

Family Welfare Division: Nutrition section program activities:

SN	Activities	Unit	Target	Achievement	% achieved
1	Procurement of Nutrition related commodities	Times	1	1	100
2	Capacity Enhancement program for Nutrition rehabilitation center	Person	1	1	100
3	Nutrition at Health Emergency Program	Times	1	1	100

4	Nutrition Week/ Breast feeding week / Iodine month Celebration	Times	1	1	100
5	TOT on Comprehensive Nutrition Package	Times	1	1	100
6	NUTEC Meeting	Times	1	1	100
7	Maternal Baby Friendly Hospital Campaign Review	Times	1	1	100
8	Nutrition Review Meeting at Province Level (PHTC, HD, Ministry, provincial medical Store)	Times	1	1	100
9	Nutrition Rehabilitation Center Review Meeting	Times	1	1	100
10	School Health and Nutrition Program	Times	1	1	100
11	Prepare Nutritional Rehabilitation center operational Guideline	Times	1	0	0
12	Printing and distribution of Hygiene Promotional IEC materials and Commodities	Times	1	0	0

Family Welfare Division :(4) Family Planning and RH

SN	Activities	Unit	Target	Achievement	% achieved
1	Procurement of Thermo coagulator	Times	1	1	100
2	Procurement of Colposcopy	Times	1	0	0
3	Procurement of Depo and Pills	Times	1	1	100
4	Procurement of Depo Syringe	Times	1	0	0
5	Procurement of FP (IUCD Implant NSV, Minilap) commodities and other equipment	Times	1	0	0
6	Operational Grant to Khetrapati Clinic	Times	1	1	100
7	Diagnosis, screening, and treatment of breast and cervical cancer of marginalized and vulnerable women	Times	1	0	0
8	Integrated RH Morbidity Service guideline Preparation	Times	1	1	100
9	Preparation of Long acting and Postpartum Family planning guideline	Times	1	0	0
10	Preparation of FP guideline for disable person	Times	1	1	100
11	Adolescent friendly Health Institution certification guideline revision	Times	1	0	0
12	Infertility Management Guideline Preparation	Times	1	1	100
13	FP Recanalization management	Person	4	4	100
14	Integrated FPRH program	Times	4	4	100
15	Integrated Reproductive Health Morbidity Program Expansion	Times	4	4	100
16	High level advocacy program on Family Planning	Times	1	1	100
17	Post-Partum Family Planning strengthen	Times	4	4	100
18	FPRH Recording Reporting Strengthen	Times	4	4	100
19	FP service capacity building to NSI support hospital Health personnel	Times	2	2	100
20	Expansion of FP service through Public Private Partnership strategy	Times	4	4	100
21	Adolescent friendly Health Institution Certification	Times	1	1	100

22	Conduction of RHCC meting	Times	4	4	100

Family Welfare Division :(5) Maternal and Newborn health

SN	Activities	Unit	Target	Achievement	% achieved
1	Procurement of Pratt dilators, sopher forceps, canula with adaptors	Times	1	1	100
2	Procurement of Inj. Oxytocin	Times	1	1	100
3	Procurement of Misoprostol Tablets	Times	1	1	100
4	MPDSR online system update	Times	1	1	100
5 6	Community Level MPDSR Review	Times	1	1	100
7	Onsite coaching on MPDSR	Times	1	1	100
8	MNH guideline, manual, protocol, strategy- update/printing	Times	1	1	100
9 10	MPDSR- Cause of death assignment training and orientation	Piece	1	1	100
11	Capacity Enhance Program for PNC service Expansion	Times	2	1	100
12	PPH Management by Misoprostol program Review	Times	1	1	100
13	Rural Ultrasound Program Review	Times	1	1	100
14	Strengthen of CEONCE Program	Times	3	1	100
15	Onsite coaching on Safe delivery to Hospital	Times	1	1	100
16	FP update for academician and Skill Standardization	Times	1	1	100
17	Dissemination and orientation on SAS guideline, ECP, PPFP and other SRHR activities,	Times	1	1	100
18	Orientation to Health Personnel on cesarean Section	Times	1	1	100

Epidemiology and disease control activities

S.N.	Activity	Target	Achievement	%
1	Procurement of necessary equipments (including thermal scan), and furniture needed for establishment of health desk Pokhara and Bhairahawa International Airport	1	1	100
2	Procurement and transportation of insecticide treated net for control in malaria and kala-azar affected area	1	1	100
3	Payment for the procurement of insecticide for supply in affect areas of malaria and kala-azar as per multiyear agreement	1	1	100
4	Procurement and transportation of drugs and kits for vector borne disease treatment and control	1	1	100
5	Payment to MD/MS,DM/MCH students	1	1	100

6	Salary payment to scholarship holder contract medical practitioner and health workers	1	1	100
7	VAT and Tax Payment of donor agencies expenses incurred	1	1	100
8	Continuation and new recruitment of human resource in contract in TIA and ground crossing point of entry	1	1	100
Leprosy Control and Disability Management program				
9	Development of Baseline Data Collection Program, SOP on Injuries and Road Accidents in coordination with the Ministry of Inter-Ministerial and and participation of relevant stakeholders	2	2	100
10	Meeting with Steering, Technical and Coordination Committee and relevant stakeholders	4	4	100
11	Municipality wise mapping of leprosy cases	2	2	100
12	Operational research on leprosy	1	1	100
13	Development, modification of information system as well as on-site orientation of DHIS-2 for disability rehabilitation, injury, skin disease and leprosy	2	2	100
14	Leprosy post exposure prophylaxis's orientation planning and monitoring	2	2	100
15	Printing and distribution of guidelines on rehabilitation, leprosy services, bulletin, annual reports, standard operating procedures (SOPs), clinical practice and related materials.	3	3	100
16	Development and printing of ToT manual for health workers on disability rehabilitation, injury, trauma, skin disease and leprosy.	2	2	100
17	Three monthly program review workshop, monitoring and evaluation	3	3	100
18	ToT on disability management and rehabilitation related services	3	3	100
19	Leprosy prevention program (active patient investigation, research, capacity building, etc.)	4	4	100
20	Case validation of leprosy , onsite coaching to health workers and updating records and reports	4	4	100

21	Printing and distribution of information materials on skin disease, leprosy, disability, injuries and rehabilitation	1	1	100
22	Transportation and management of multidrug	3	3	100
23	Awareness related program on leprosy	3	3	100
24	Awareness program on World Leprosy day and International day of person with disability	2	2	100
25	Case based surveillance on basis of leprosy child case	2	2	100
NCD and Mental Health				
26	ToT on non-communicable disease and mental health	1	1	100
27	Meeting and workshop on MSAP 2021-2025	5	5	100
28	Cancer control strategy and development	1	1	100
29	Injury Prevention Strategy and 5 year action plan development	1	1	100
30	Implementation Research for NCD	1	1	100
31	Technical and financial support by WHO on NCDs	1	1	100
32	Mental health program for prisoners	2	2	100
33	Sickle cell and hemoglobinopathy related program	3	3	100
34	PEN program in all 77 districts	1	1	100
35	Day celebration of NCD and mental health	7	7	100
36	Community mental health program	1	1	100

37	UNICEF support on child and adolescent	1	1	100
38	Technical and financial support by WHO on injury prevention	1	1	100
39	Technical and financial support by WHO on injury prevention	1	1	100
40	Development of sample primary hospital with technical and financial support by WHO on injury prevention	1	1	100
Disease Surveillance and Research Section				
41	Monitoring of climate change sensitive disease, support by WHO for activities related to climate informed early warnings	2	2	100
42	EWARS orientation program and data verification program related to infectious disease to medical personnel, health worker, medical recorder of new and non-working EWARS sentinel sites	4	4	100
43	Meeting of EWARS technical working group, processing, analyzing, publication and dissemination of yearly data from sentinel site	4	4	100
44	Surveillance system strengthening, interaction and surveillance program with concerned stakeholders regarding different infectious disease	4	4	100
45	Mapping of different infectious disease, drinking water quality monitoring, development of information system, Testing and monitoring of drinking water via drinking water protection plan	1	1	100
46	Development of SOPs and guideline for EWARS after prioritization	1	1	100
47	On basis of excellent data criteria obtained from EWARS sentinel site (yearly), review, prioritize and award them	30	30	100
48	National workshop on National Surveillance System of Nepal based on EWARS	2	2	100
Epidemiology and Outbreak Management Section				

49	Installment of internet along with its monthly expenses and recharge for mobile phones to the staff who involved in the management of Covid	1	1	100
50	Implementation research of Kalazar, Malaria and Dengue	1	1	100
51	Operating expenses of ongoing health desk in border area along with International Tribhuwan airport	1	1	100
52	Preparation of epidemic disease control, surveillance and emergency management according to the situation	4	3	75
53	Preparation, printing, and orientation of RRT field book for prevention and Control of epidemic diseases to the formed RRT (Rapid Response Group) groups in	1	0	0
54	Preparation, printing and orientation of Risk communication and Community engagement to the health staff of province, district and palika level in order to strengthen the flow of information on Epidemic response and management	1	1	100
55	Building Business Continuity Plan for the uninterrupted office service during epidemic time	1	1	100
56	Time to time research and investigation of infectious disease (emerging and re-emerging)	1	1	100
57	Operation of experts and health workers from the center to manage the spread of COVID-19, influenza and other epidemic diseases (to assist in the diagnosis, research, treatment, contact tracing and other activities).	1	1	100
58	To conduct operational research and investigation on the activities carried out to make the epidemic management of infectious diseases effective from time to time.	1	1	100
59	Temporary placement in TIA and Ground point of entry/new recruitment	1	1	100
60	Workshops to develop guidelines and protocols for coordinating work between stakeholders in accordance with IHR-2005, as well as table top exercises /simulations and public health emergency exercises and simulation exercises for other airports, including TIA.	2	2	100
61	To list / map the manpower and agencies that can be mobilized for Multi Hazard Emergency Risk Assessment and Epidemic Management at the Palikalevel and to prepare a blueprint for coordinated operations through interactive seminars with them.	2	2	100
62	IHR support core capacity review	1	1	100

VBD/NTD Section				
63	Involve private and professional organizations for malaria prevention, purchase various spices and other essentials required for program management and strengthen TWG, taskforce of insect-borne diseases.	4	4	100
64	Conduct Annual review meeting of NTD/VBD (Malaria, Kalazar, Dengue, LF)	1	1	100
65	On-site coaching from technical managers as per revised guidelines for malaria, kala-azar, dengue, scrub typhus, chikungunya and emerging insect borne diseases in government and non-government hospitals and health institutions, Monitoring on VL Assessment Survey in endemic doubtful districts.	4	4	100
66	TOT on Malaria and kalazar disease control and spray of insecticides.	1	1	100
67	Celebration of World Malaria Day	1	1	100
68	Mandatory testing of malaria in the patients with fever at health desks established at Point of Entry	1	1	100
69	Compulsory counseling and screening related to vector borne diseases in the help desks	1	1	100
70	Surveillance and mapping of vector causing dengue, mapping, Estimate national representative dengue burden by sero-epidemiology and testing aedes mosquitos for dengue virus from the endemic area of Nepal	1	1	100
71	Study of Cutaneous Leishmaniasis in Nepal; its current status, etiological agents and pathophysiology characteristics.	1	0	0
72	Prevalence of scrub typhus and study of risk factors associated with the disease occurrence in Nepal: Prospective and case control study.	1	0	0
73	Prevalence of asymptomatic and sub-microscopic cases of malaria in Nepal: Systematic cluster random study	1	1	100
74	Orientation on National treatment guidelines of malaria, kalazar, scrub typhus, chikungunya and other emerging diseases to health workers of both public and private sectors.	4	4	100
75	Technical support for the effective surveillance of vector borne diseases at Palika and Province level by the experts.	4	4	100
76	National LF disease elimination program , prophylaxis medicine campaign, morbidity mapping program and free Hydrocele surgery, technical support from center in Confirmatory mapping program in the Himalayan region	4	4	100

77	Preparation and printing of Annual progress report of vector borne diseases (National elimination program of LF, malaria, Kalazaretc)	1	0	0
78	Operation of malaria related program and updating TWG	1	1	100
79	Financial and technical support from the WHO in the operation of NTD/VBD program	4	4	100
80	Study of Drug resistant in VL and factors involved in the relapse cases of Kalazar in Nepal in context of National Kalazar Elimination programme.	1	0	0
81	Comparative study of RDT, microscopy and PCR for detection of malaria parasite in clinical suspected cases- a quality assurance perspective study	1	1	100
Zoonotic Disease and other communicable disease control section				
82	Diphtheria antitoxin, rabies immunoglobulin and tetanus Gama globulin including purchase of vaccine and syringe.	1	1	100
83	Conducting review seminars and planning with snake bite treatment centers, medical stores and organizations using rabies vaccine.	4	4	100
83	Addressing challenges and solutions with multiple activities along with interaction meeting through Coordination and Cooperation with different organizations under one health policy.	4	4	100
84	Development of roadmap and conduction of various activities as per action plan for elimination of dog mediated Rabies by 2030	4	4	100
85	Development of guideline for prevention, treatment and control of prioritized zoonotic disease	4	4	100
86	Identify potential pandemic and prevent the Emerging and Re-emerging Zoonotic Diseases in Nepal by researching their current interactions with humans, animals, and the environment	4	4	100
87	Conduct public awareness program considering Adverse conditions in human health due to livestock, animal products and animal production materials and anti-microbial resistance, food borne zoonotic diseases	4	4	100
88	Development of institutionalized structure for implementation of one health strategy, development of one health hub related software in order to strengthen and conceptualize for sustainability	4	4	100
89	Conduction of public awareness program for monitoring, supervision and prevention of zoonotic and other communicable disease affected regions	4	4	100
90	Monitoring of snakebite treatment center, permission to run rabies disease outbreak investigation in the outbreak are, mobilization of Human resource, onsite coaching, printing of flex, certificate and information material	1	0	0
91	Zoonotic disease related (Zoonotic influenza, Avain influenza, seasonal influenza and other animal related), rabies, corona virus (SARS, MARS, SARS CoV2), leptospirosis, brucellosis, salmonelosis, leishmaniasis, zoonotic TB disease, cysticercosis, hydatidosis, toxoplasmosis) interaction, orientation and capacity development program for health workers and hospitals of central and province	4	4	100

92	Preparation and distribution of IEC materials on rabies and snakebite	2	2	100
93	Orientation and workshop in provincial and local level for conduction of activities as per the guidelines prepared from IHR-PVS bridging workshop	4	4	100
94	Procurement and transportation of cell culture ARV vaccine, immunoglobulin for high risk rabies person	1	1	100
95	Procurement and transportation of ASV(per poison) for poisonous snake bite affected person	1	1	100
96	Procurement and transportation of immunoglobulin/Monoclonal antibody against rabies	1	1	100
97	Meeting for preparation of IHR 2005 SPAR report in all 7 provinces	3	3	100
98	Development of Sukraraj Tropical Hospital as referral center for rabies and snakebite	4	4	100
99	Conduction of public awareness program for prevention, treatment and management of rabies and snakebite in coordination with human and animal health in different places of country	4	4	100
100	Provincial level orientation program regarding zoonotic disease record management	4	4	100
102	Expenses of established health desk office, masalanda, stationary and communication expenses	4	4	100

Curative Service Division of all sections program activities:

SN	Activities	Unit	Targets	Achieved	%
1	TOT on Basic Health Service Standard Treatment Protocol (BHS STP)	Times	4	4	100
2	TOT on Emergency Health Service Standard Treatment Protocol (EHS STP)	Times	1	1	100
3	Clinical Update Program	Times	7	7	100
4	Protocol development on Eye, ENT and Oral Health Departments of different levels of Hospitals	Times	1	1	100
5	Private Hospital Monitoring for Registration, Renewal and Upgrading	Times	20	10	50
6	Free Denture Camp for Elderly People	Times	2	2	100
7	Orientation for Health workers on Eye, ENT and Oral Health	Times	2	2	100
8	Advocacy program on UHC	Times	3	3	100
9	STP for Different Diseases	Times	3	2	66
10	Orientation on Palliative Care	Times	7	7	100

Nursing and Social Security Division of all Sections program activities:

S.N.	Activities	Unit	Targets	Achieved	%
1.	Provision of free treatment to "Jaan Andolan Gaite" citizens, release of budget as per quarterly	Times	4	1	25
2.	Acid attack reimbursement	Times	4	4	100
3.	Provision of free treatment to impoverished citizens "Bipana Nagarik Anushadi programme" release of budget as per quarterly	Times	3	3	100
4.	"Bipana Nagarik Anushadi programme" reimbursement meeting	Times	4	4	100
5.	Print the documents developed by NSSD		5	5	100
6.	Development of national infection prevention and control guide-line	Number	1	1	100
7.	Update of software of Nursing and midwifery human resources		1	1	100
8.	Continue support and update of software of Infection prevention and control training package, BipannaNagarikAusadhiUpchar , GOLS, FCHV.		4	4	100
9.	Conduct community health nursing programme for maintenance of geriatric health, reproductive health, and control of communi-cable and non-communicable disease and mental health	Times	2	2	100
10	National review of school heath and nursing programme	Times	1	1	100
11	Conduct leadership and management training in blended modal-ity	number	60	60	100
12	IPC training for nurses	Number	40	40	100
13	Develop capacity development training of medical officer to care geriatric citizens	Number	20	14	70
14	Clinical mentoring for nurses	Number	6	6	100
15	Review of geriatric services	Times	1	1	100
16	Conduct policy dialogue in geriatric health care services	Times	1	1	100
17	Review of OCMCs services with care centers hospitals	Times	7	7	100
18	Conduct interaction programme related to OCMC with local level	Times	3	3	100
19	Orientation of GBV clinical protocol	Times	5	5	100
20	Orientation of SSU services.	Times	3	3	100
21	Orientation of national documents for teachers working in nurs-ing college	Times	10	10	100
22	Develop protocol for nursing procedure	number	3	3	100
23	Conduct a training in blended modality for health care providers for care of geriatric population	Times	4	4	100
24	Review of Bippanna Nagarik Program	Times	6	6	100
25	Geriatric, FCHV and nursing day celebration	times	3	3	100
26	Integrated supervision of health institutions that providing SSU, OCMC, Geriatric care services.	Times	20	3	15

National Tuberculosis Control Center program activities:

S.N.	Activities	Unit	Targets	Achieved	%
1	Procurement of laptop and printer	Pcs	4	4	100 %
2	Construction of store warehouse	times	1	1	100 %
3	Construction of parking shade	Times	1	1	100 %
4	Joining CC camera	Times	1	1	100 %
5	Micro planning activities for TB free initiatives	Times	2	2	100 %
6	Preparation of aDSM Guideline	Times	1	1	100 %
7	RDQA Training	Times	7	7	100 %
8	Procurement of N95 Mask and personal protection equipment	Times	1	1	100 %
9	Expansion of NTPMIS	Times	1	1	100 %
10	Commemoration of World TB Day	Times	1	1	100 %
11	Conditional grant to Kalimati Chest hospital	Times	3	3	100 %
12	Procurement of Consumable and Chemical for sputum Microscopy	Times	1	1	100 %
13	Procurement of HR for National Reference Laboratory	Times	9	9	100 %
14	Procurement of Lab consumable for DR Survey	Times	1	1	100 %
15	Procurement of Consumable and Chemical for C/DST	Times	1	1	100 %
16	Procurement of Digital Xray Film	Pieces	12000	12000	100 %
18	Procurement of First Line Drug TB	Times	1	1	100 %
19	Procurement of Second Line Drug TB	Times	1	1	100 %
20	TB Training (Medical Officer, Logistic lab etc.)	Times	7	7	100 %
21	Procurement of Cartridge for GeneXpert Machine	Pieces	156300	60645	39 %
22	Courier service for Culture /DST test	Times	5000	5000	100 %
23	Supervision to TB Treatment Center	Times	45	40	89%
24	TB Trainer's Training	Times	2	2	100 %
25	National PME Workshop	Times	3	2	66 %
26	Printing of Annual Report and TB RR tools	Times	1	1	100 %

National AIDS and STI Control Center program activities:

SN	Activities	Unit	Target	Achievement	Achievement %
1	ToT for Medical Officers on Hepatitis B & C Treatment	Times	2	1	50 %
2	MToT on Logistic Management	Times	1	1	100 %
3	Training for health workers on HIV & TB, related human rights & medical ethics	Times	1	1	100 %
4	Annual Review of HIV /PMTCT Programme	Times	1	1	100 %
5	Sexually Transmitted Infection (STI) Training	Times	1	1	100 %
6	Printing of PMTCT Manual	Times	1	1	100 %

7	Interaction with Privates sectors on HIV programmes	Times	9	4	44 %
8	AIDS Day Celebration	Times	1	1	100 %
9	Awareness Programme for Adolescent	Times	1	1	100 %
10	Production of HIV, Hepatitis & STI Related PSA	Times	1	1	100 %
11	Printing of Recording & Reporting Tool	Times	1	1	100 %
12	Broadcast of HIV/AID, Hepatitis & STI related PSA	Month	12	12	100 %
13	Incorporate HIV-related stigma & discrimination into health education and school curriculum in coordination with CDC.	Times	1	1	100 %
14	DHIS – 2 tracker training to ART Counsellor	Times	10	6	60 %
15	Procurement of ARV Drugs	Times	1	1	100 %
16	Procurement of STI & OI Drugs	Times	3	3	100 %
18	Procurement of reagent of CD4, Viral load & HCV	Times	3	1	33 %
19	Procurement of Hepatitis C Drugs	Times	3	3	100 %
20	Procurement of HIV Diagnostic Test Kit	Times	2	1	50 %
21	Procurement of Hepatitis C Diagnostic Test Kit	Times	1	1	100 %

National Health Training Center program activities:

S.N	Activities		Annual Progress		
		Unit	Target	Achievement	%
Training Material Development Section					
1.	Health Training Need Identification	Times	1	1	100
2.	To prepare and use the profile of health training materials and distribute it at the state and local level	Times	1	1	100
3.	Content development and field testing in coordination and collaboration with various partner organizations	Number	4	2	50
4.	Development of various new training textbooks and field tests	Times	5	5	100

5.	Workshops seminar on training strategy, training materials development procedure and curriculum development in all provinces	Times	7	7	100
6.	Revise / update and publicizing training materials as required (as demanded by the Center and the branches).	Number	7	7	100
7.	Post-training effectiveness evaluation, software system development for backup exchange	Times	1	1	100
Skill Development Section					
9.	TOT on ASBA for Physicians	Person	4	4	100
9.	TOT on Pediatric Nursing	Person	20	20	100
10.	Diploma in Biomedical training to 24 students and continuation of 2077/78	Times	1	1	75
11.	Induction training for health officers appointed through the public service commission	Times	3	3	100
12.	Medico-Legal Training on Post Mortem Examination and Clinical Forensic Medicine for Physicians	Times	3	3	100
13.	ToT on Operation Theater Techniques and Management Training (OTTM) for Nursing Staffs	Times	1	1	100
14.	Comprehensive New Born Care for physicians/ Nursing Staffs (CNC-II & III)	Times	3	3	100
15.	ToT on ICU/CCU for Nursing Staffs	Times	3	3	100
16.	ToT on Occupational Health and Safety Training for Physicians / Health Workers / Nursing Staffs	Times	2	2	100
17.	ToT on Anti-microbial Resistance Prevention for Physicians / Health Workers	Times	4	2	50
18.	CTS Training to instructors of various trainings	Times	2	2	100
19.	Anesthesia Assistant Training for HA and Staff Nurse	Person	5	5	100
20.	ToT on role of health workers on Gender Based Violence for Physician / Health Worker / Nursing Staff	Times	1	1	100
21.	ToT on Burn Care Management for Physicians / Health Workers / Nursing Staff	Times	3	3	100
22.	ToT on Primary Emergency Care for Physician / Health Worker / Nursing Staff	Times	3	3	100
23.	ToT on Cervical Cancer Screening (VIA/Thermal Coagulation) for Physician /Nursing Staff/Health worker	Times	4	3	75
24.	Refresher training to trainers of various trainings	Times	4	4	100
25.	TOT on Infection Prevention for Physicians / Health Workers / Nursing Staffs	Times	1	1	100
26.	SAS ToT for MD Educator	Times	1	0	0
27.	Basic Life Support Skill training for Health Workers	Times	4	4	100
28.	ToT on (ObsGyn / MDGP) Second Trimester Abortion Care for Physician	Person	5	5	100
29.	Essential Critical Care Management training	Times	3	2	66.67

30.	Basic psychosocial counseling training for nurses and health workers working in OCMC, mental hospitals, etc.	Times	1	1	100
31.	ToT on Laboratory Bio-Safety and Biosecurity for Laboratory Health Workers	Times	1	0	0
32.	Training on Hemodialysis for Nursing and Health workers	Times	3	1	33.33
33.	Pre-Hospital Care (Emergency Medical Technician/Dispatcher) Training for Health Workers/Ambulance Workers	Times	1	1	100
34.	TOT on PEN (NCD Package) for Physician / Health Worker	Times	2	2	100
Training Accreditation and Regulation Section					
35.	Accreditate, renew and regulate the operation of sites related to health training	Number	6	6	100
36.	Follow-up Enhancement (FEP) Program for SBA, FP, MLP, OTTM, PEN and other trainings	Districts	7	7	100
37.	Prepare a Follow-up and Enhancement (FEP) tool for various training programs	Number	1	1	100
38.	Preparing a checklist for training site accreditation of various clinical trainings	Times	1	1	100
39.	Program to support students coming to Internship/Orientation/ Study Purpose	Number	4	2	50
40.	Planning, preparation, meetings and other activities related to Continuous Professional Development (CPD)	Number	4	2	50
41.	Program to develop skills and capacity building of employees working in NHTC	Times	1	1	100
42.	Getting SSL certificate for TIMS data security	Times	1	1	100
43.	Training site development and strengthening of various clinical training (materials, halls, furniture, laptops, anatomical models and other support required for the site)	Number	5	5	100
44.	Interaction programme with stakeholders	Times	1	1	100
45.	A Study on Training Outcomes among ECCT-Trained Doctors and Nurses Working in Different Hospitals after the COVID-19 Emergence	Times	1	1	100
46.	Study on Post-Training Utilization of Competencies of Implant and VIA/Thermal Coagulation Trainees and Outcome on Service Delivery	Times	1	1	100
47.	Annual Report Manufacturing and Printing	Times	1	1	100
48.	Quality Overview and Support of Training Activities being Conducted	Times	12	8	66.67
49.	Preparation of Online Pre and Post Questionnaire for Medico Legal Training to Update and Host the Website at TUTH Institute	Times	1	1	100
50.	Seminar on Review, Workshop on action plan with various clinical training sites of all seven provinces	Times	7	7	100
BMET Unit					

51.	Training on User Maintenance of X-ray Equipment	Times	1	1	100
52.	Training on User Maintenance of Lab Equipment	Times	1	1	100
53.	BMET Refresher Training	Times	1	1	100
Capital Expenditure					
54.	Strengthening the training hall at the National Health Training Center	Times	1	1	100
55.	Maintenance of national health training center premises, gardens etc.	Times	1	1	100
56.	Office equipment computers, photocopier, printers, etc.	Set	3	1	33.33
Current Administrative Expenditure					
57.	Office maintenance	Times	1	1	100
58.	Office Operating Expenses	Times	1	1	100
59.	Transportation of various training materials (at state, local level and training sites)	Times	1	1	100
60.	Printing of various training materials	Times	1	1	100
61.	Email, Internet, Website	Times	3	3	100
62.	Newspaper and books purchase	Times	1	1	100
63.	Car and third party insurance	Number	1	1	100
64.	Two wheelers insurance	Number	2	2	100
65.	Vehicles fuel office purpose (diesel and petrol)	Litres	3060	3060	100
66.	Miscellaneous	Number	3	3	100

National Health Education Information and Communication Center program activities:

SN	Activities	Unit	Targets	Achievement	Percentage
1	Broadcasting and Airing of the messages regarding Smoking and Tobacco product control through television and FM	Times	3	3	100
2	Airing of health messages and public health radio programme through Radio Nepal.	Times	4	4	100
3	Publication of health messages, information and press release in national newspapers.	Times	44	22	50
4	Dissemination of health news, information or messages through website, FaceBook, YouTube, twitter, apps including social media	Times	4	0	0
5	Communicable and epidemic disease control related communication programme and daily newspaper monitoring programme.	Times	4	4	100
6	Health awareness and communication programme for differently able people	Times	4	4	100

SN	Activities	Unit	Targets	Achievement	Percentage
7	Ear/Nose/Throat related health awareness and communication programme.	Times	4	4	100
8	Communication programme on smoking and tobacco control and regulation.	Times	4	4	100
9	Communication programme on non-communicable disease prevention and control.	Times	4	4	100
10	Federal health promotion strategy development and advocacy	Times	4	2	50
11	Health promoting school programme conduction	Times	4	0	0
12	AMR awareness and orientation health promotion programme	Times	6	0	0
13	Health awareness and communication programme on brain death, kidney and organ donation	Times	4	4	100
14	Advocacy and strategic communication on occupational, environmental health and Air pollution, climate change	Times	12	10	83
15	Health awareness and communication programme on fuel emission and air pollution	Times	4	4	100
16	Health education and communication programme on IMNCI, Immunization, Nutrition, Diarrheal diseases, pneumonia etc.	Times	4	4	100
17	Broadcasting of health messages, public health dialogue (Janaswasthya Bahas) and Jivan Chakra through Nepal television	Times	4	4	100
18	Health message exhibition on assembly, event, sports, health camp musical and cultural programmes	Times	4	4	100
19	Health education and communication programme on accident and physical injuries	Times	4	4	100
20	Health promotion programme for Samriddha Nepal	Times	4	0.5	12.5
21	Development of digital technology for health promotion	Times	4	3.5	87.5
22	Health education and communication programme for marginalized and deprived community or group	Times	4	2	50
23	Health awareness and communication program on mental health	Times	4	4	100
24	Health awareness and communication programme on birth defect	Times	4	4	100
25	Awareness and communication programme on family planning, safe motherhood and neonatal health.	Times	4	4	100
26	Dissemination of information and messages on online media	Times	4	4	100
27	Awareness and communication programme on family planning, safe motherhood, neonatal and adolescent health.	Times	4	4	100
28	Promotion of family planning and PPIUCD through inter personal communication for hard-to-reach group along with media mobilization for social behavior change.	Times	4	1.5	37.5
29	Broadcasting of health-related messages and information through National Televisions.	Times	4	0.5	12.5
30	Airing and broadcasting of disease outbreak and epidemic related messages.	Times	4	4	100
31	Monitoring and facilitation for effective implementation of health promotion activities at provincial and local level.	Times	70	70	100

SN	Activities	Unit	Targets	Achievement	Percentage
32	Interaction programme of local level officials (elected and appointed) on the importance of Case Investigation and Contact Tracing (CICT) Risk Communication and Community Engagement (RCCE), CICT and COVID-19 vaccine communication in the context of COVID-19	Times	19	15	78.95
33	Advocacy for Tobacco control and regulation with local leaders of 5 municipalities (i.e. Waling, Nijgad, Bhimdatta, Bheriganga and Guleriya)	Times	5	5	100

National Public Health Laboratory program activities:

SN	Activities	Unit	Targets	Achieved	%
1.	Construction of Laboratory building for curative center as per master plan	Number	1	0	0
2.	Procurement of Gene Sequencing Machine	Times	1	1	100
3.	Procurement of small, medium Machine	Number	3	3	100
4.	Procurement of machine for FlourescenceInsitu Hybridization (FISH) for test	Times	1	1	100
5.	Procurement of machine/biopsy for examination of cancer & upgradation of lab in central level hospital	Times	2	2	100
6.	Procurement of Software for Integrated Management to All blood transfusion Services	Times	1	1	100
7.	Procurement of Software for Digitization to Internal Administration	Times	1	1	100
8.	Software Upgrade & Update	Times	2	2	100
9.	AMC & Maintenance of Heavy Equipment machine	Times	7	7	100
10.	Management program for BSL III lab conduction	Times	3	3	100
11.	Procurement of Server & Upgrade	Times	3	3	100
12.	Training on Blood Component Preparation	Times	1	1	100
13.	Management Program for AMR/JE/Measles/Rubella/Polio/Rota Virus	Times	3	3	100
14.	Management & Expansion of Influenza Surveillance to Province Level	Times	3	3	100
15.	Procurement of Kits & Chemical for Sickle Cell Anemia Thalassemia Cancer	Times	3	3	100
16.	Refresher training on lab-based waste management for federal & district level hospital	Times	1	1	100
17.	Providing different service, integrated team mobilization during epidemic outbreak	Times	3	3	100
18.	Viral load examination of Hep B & C	Times	3	3	100
19.	Procurement of essential kits, chemical & reagents for HLA including regular lab examination	Times	3	3	100
20.	Conduction of ISO, accreditation & quality control	Times	2	2	100
21.	Overall management of Quality control of public & private laboratory	Times	3	3	100
22.	Establishment of Bioinformatics Unit in NPHL	Number	1	1	100
23.	Procurement of Kits & Chemical for lab testing of non-communicable diseases	Times	3	3	100
24.	Procurement of reagents for getting 50 % discount in lab/health examination for disadvantage & vulnerable group like old aged people, differently able, Jana Andolan Ghaite & Kidney patient	Times	3	3	100

25.	Procurement of essential kits, chemical & reagents for molecular lab examination	Times	3	3	100
26.	Research activities of NPHL for communicable & non communicable diseases	Times	3	3	100
27.	Conduction of awareness programme on laboratory service	Times	3	3	100
28.	Procurement of essential kits, chemical & reagents for molecular lab examination	Times	3	3	100

Management Division related all Sections program activities:

SN	Activities	Unit	Target	Achievement	%
1	Works including apron, parking, belt, wall and landscape preparation for the newly constructed central medical store.	Building	1	1	100
2	Maintenance and improvement of physical structures within the department premises	Times	3	3	100
3	To complete the fence and fence wall for the Central Store Pathlaiya	Times	1	1	100
4	Performing plumbing related works within the department premises	Times	4	4	100
5	Performing electrical related works within the department premises	Times	4	4	100
6	Continuation of payment for construction of modern central vaccine stores	Building	1	1	100
7	Printing and distribution of program operation guidelines for state and local levels	Times	1	1	100
8	Payment of internet service connected to HMRES branch	Times	1	1	100
9	Printed HMIS / LMIS forms for federal and various hospitals as well as buffer stocks	Times	1	1	100
10	Vaccine program metadata analysis since 2051	Times	2	0	0
11	Conduct ICD10 program to strengthen medical record information system	Times	1	1	100
12	Workshop on Interaction and Modality Preparation with Stakeholders on ICD11 Implementation	Times	2	2	100
13	Training of target population projection program according to local level	Times	2	2	100
14	Roadmap discussion program of HMIS at state level	Times	2	2	100
15	Targeted population projection program according to local level	Times	1	1	100
16	Orientation of modified HMRES tools for state level	Times	4	4	100
17	Prepare standard and interoperability guidelines to be adopted while operating health information related and ready to use health information related software as well as printing and distribution.	Times	3	3	100
18	Development of interoperability of hospital electronic records report	Times	3	3	100
19	Activities for linking private hospital data to DHIS through application program interface	Times	1	1	100
20	Operating expenses for monthly, quarterly, half-yearly, annual and other regular meetings of the Department of Health Services	Times	4	4	100
21	HMRES and DHRES training follow-up for health workers working in prisons and other institutions.	Times	3	3	100
22	Data Verification and Validation	Times	4	4	100

SN	Activities	Unit	Target	Achievement	%
23	Roadmap finalization of IHMIS	Times	2	2	100
24	Training and follow-up for officials related to ELMIS	Times	4	4	100
25	Gender Based Cascade Assessment of National Programs	Times	2	0	0
26	Integrated review of HMIS / ELMIS as well as HIS program	Times	2	2	100
27	Material Assistance for Dashboard Extension in 15 Municipalities of Province No. 2, Karnali and Far Western Province	Event	15	15	100
28	Preparation and operation of dashboard of health service progress in 15 more municipalities of Province No. 2, Karnali and Far Western Province.	Times	4	4	100
29	Discussion on records and reports of federal and other hospitals	Times	2	2	100
30	Update HMRES records and report forms, guidelines and health indicators	Times	2	2	100
31	Antar Pradesh Exchange Visit and Observation of Medical Recorder	Person	60	60	100
32	Coordination program with the concerned ministry, department and prisons for information management of prison health services	Times	1	1	100
33	IMU system consolidation and operation	Times	3	3	100
34	Seminar on quantification of health products	Times	1	1	100
35	Statistical documentation and report strengthening program of various public health programs including vaccination	Times	1	1	100
36	Assistance and coordination from the federal level in the activities conducted in the state and local level reviews	Times	4	4	100
37	HMRES and DHRS follow-up and onsite coaching for hospital staff including establishments, central hospitals, teaching hospitals and private hospitals.	Times	4	4	100
38	MTOT operation of ICD11 program	Times	1	1	100
39	Training on Data Management, Analysis and Use - PHAT_	Times	10	10	100
40	Preparation and printing of annual report	Times	3	3	100
41	Field work related to integrated online health information management and DHRES2	Times	4	4	100
42	Onsite coaching mentoring and micro teaching for quality health facts in the hospital	Times	3	3	100
43	Health Information Management and Analysis for Data Managers - R / GRES / STA Training	Times	2	2	100
44	Waste management and sanitation within department premises, including continuity from third parties	Person	4	4	100
45	For the implementation of Healthy Waste Management Standards and Procedures 2077 and for drinking water, sanitation and hygiene with stakeholders at state and local level including onsite coaching and private interaction.	Times	2	2	100
46	Onsite coaching in hospitals to strengthen health related waste management	Times	24	24	100
47	Preparation of procedures for the construction of model public health institutions for the management of health waste in every state and for the provision of drinking water, sanitation and hygiene.	Times	2	2	100
48	Preparation of roadmap on waste management and drinking water, sanitation and hygiene of health institutions	Times	1	1	100

SN	Activities	Unit	Target	Achievement	%
49	Preparation of materials related to sanitary waste management, drinking water sanitation, hygiene and other environmental health	Times	3	3	100
50	Coordinating activities with stakeholders for the production of audio and video materials on topics related to sanitary waste management, drinking water sanitation, hygiene and other environmental health.	Times	3	3	100
51	Training and follow-up for HIV related officials	Times	4	4	100
52	Update details of physical infrastructure of health sector and publication of booklet	Times	4	4	100
53	Specification Bank, Plums Update and Operations	Times	4	4	100
54	Expenses related to bill, advertisement and publication of information	Event	2	2	100
55	Procurement of Health Materials Master Plan Finalization Seminar	Times	1	1	100
56	Technical testing sub-committee meeting operating expenses	Times	2	2	100
57	Purchasing old and new file management and operating expenses	Times	2	2	100
58	Integrated Annual Procurement Plan Monitoring Committee Meeting Operating Expenses	Times	8	8	100
59	Revision and printing of Pharmaceutical Goods Procurement and Supply Management Facilitation Booklet 2074	Times	2	2	100
60	Meeting of committee including bid evaluation committee	Times	2	2	100
61	Drug and equipment quality testing	Times	1	1	100
62	Medicines, vaccines and vaccine-related materials, tools, ingredients. Including transportation and redistribution	Times	4	4	100
63	Conducting meeting of organ transplant coordination committee and construction of web site	Times	24	24	100
64	Payment of taxes including VAT on donor assistance	Times	4	4	100
65	Conducting necessary meetings and workshops for the work related to the health sector	Times	12	12	100
66	Technical assistance for timely implementation of Cold Chain Equipment (CCEOP) plan connectivity, management and monitoring functionality received through UNICEF	Times	20	20	100
67	Capacity building of other staff including vaccine management	Times	2	2	100
68	Development and implementation of National Vaccine and Cold Chain Management Action Plan, multilateral budget	Times	4	4	100
69	IP of effective vaccine management. Preparation and EVMA Technical assistance for improvement plan	Times	4	4	100
70	Orientation of Effective Vaccine Management to Healthcare Employees Receiving Cold Chain Equipment through CCEOP - 1 in-charge and 1 Cold Chain Handler from each healthcare organization	Times	3	3	100
71	Review of annual vaccination and cold chain management work at national and state level	Times	8	8	100
72	Capacity strengthening of NLWG	Times	4	4	100
73	Past balance payment of telemedicine service to Nepal Telecom	Times	1	1	100

Annex 2: Program Targets for FY 2079/80

Family Welfare Division: Child Health and Immunization Section program activities:

SN	Activities	Unit	Target
1.	Ice pack procurement: 44000 pcs 0.6 ltr, 25000 pcs 0.4 ltr in total 69000	Time	1
2.	BCG Vaccine with diluent, 200000 vial Multiyear Procurement plan procurement and reimbursement	Time	1
3.	BCG Vaccine diluent syringe 230000 Multiyear Procurement plan procurement and reimbursement	Time	1
4.	BCG AD Syringe 900000 Multiyear Procurement plan procurement and reimbursement	Time	1
5.	bOPV vaccine with dropper (10 doses vial), 235000 vials Multiyear Procurement plan procurement and reimbursement	Time	2
6.	MR vaccine with diluent (10 doses vial) 215000 vials Multiyear Procurement plan procurement and reimbursement	Time	1
7.	WHO PQ/RUP standard vaccine diluent syringe for MR & JE 5ml 650000 pcs Multiyear Procurement plan procurement and reimbursement	Time	1
8.	JE Vaccine (5 doses vial) with diluent, 250000 vials Multiyear Procurement plan procurement and reimbursement	Time	2
9.	Td vaccine (10 doses vial), 180000 vials Multiyear Procurement plan procurement and reimbursement	Time	1
10.	fIPV 1625400 dose vaccine (0.5 ml – 325080 vials), 0.1 ml syringe 1340400 & 14750 pcs safety box, Commodities support from Gavi	Time	1
11	Penta vaccine 10 dose vial 174200 (1742000 doses), 0.5 ML 2130300 SYRINGE & 17848 SAFETY BOX, Commodities support from Gavi	Time	1
12	PCV vaccine 4 doses 441500 vial (1766000 dose) 0.5 ml 1784880 syringe & 17848 safety box, Commodities support from Gavi	Time	1
13	Rota Vaccine (1 dose vial), 1044000 doses, Commodities support from Gavi	Time	1
14	TCV Vaccine 146840 (5 dose vial), 734200 dose, 870400 AD syringe and 9575 safety box Commodities support from Gavi	Time	2
15	0.5 ml AD syringe for routine immunization and campaign, 5000000 pcs syringe procure and tax clearance	Time	1
16	Gavi Co-financing: DPT-Hep B Hib vaccine (10 doses vial), 43250 vial cost USD 384582, PCV (4 doses vial) 26100 vial cost USD 319998, Rota vaccine (1 dose vial), 81000 vial cost USD 210156 and TCV vaccine (5 doses vial), 20760 vial cost 143244 in total 1057980 payment through UNICEF according to USD exchange rate	Time	1
17	Cold chain equipment (ILR, refrigerator, freezer, cold box etc.), Commodities support from Gavi (CCEOP)	Time	1
18	Gavi Co-financing: Cold chain equipment procurement agreement payment to UNICEF (CCEOP) including remaining amount from last year	Time	1
19	Custom, tax clearance, shipment and handling of the immunization and cold chain equipment procured and donated, remaining payment	Time	4
20	Procure and donation immunization cold chain and other equipment tax clearance	Time	4
21	Damage and emergency maintenance of the immunization and immunization related equipment and cold chain equipment	Time	4
22	AEFI management and treatment support expenses	Time	4

SN	Activities	Unit	Target
23	National Immunization Program Committees meeting, meeting allowance, snacks and transportation expenses	Time	4
24	Fund allocation for the immunization treasury for the sustainable financial management for immunization service	Time	1
25	Production and distribution of 700000 pcs full immunization card according to full immunization act	Time	1
26	External audit expenses of GAVI fund donation	Time	1
27	4 days basic training for the health workers, 12 batch – 300 (HWs related to immunization, private and urban health clinic and HW working at palika level @province and district level)	Time	1
28	Materials printing and distribution to be used for routine immunization program (HW reference and facilitator guideline, microplanning template, immunization schedule, hygiene promotion package and motivational materials)	Time	1
29	Monitoring and supervision for routine immunization strengthening full immunization declaration and sustainability program	Time	4
30	Proposal and guideline preparation workshop for the HPV vaccine introduction	Time	1
31	One day orientation at province level for pediatrician, consultant and stakeholders on AEFI, vaccine safety, VPD surveillance	Time	1
32	Two days review and planning workshop on impact on immunization program due to the COVID pandemic, immunization program review and strengthening for equitable access, full immunization ensure & sustainability and hygiene promotion	Time	1
33	Dissemination of TCV campaign learnings and coverage survey findings	Time	1
34	Three days immunization program review, micro planning update, full immunization declaration and sustainability, hygiene promotion orientation and planning workshop (10 batch)	Time	1
35	Orientation, interaction and planning preparation workshop with stakeholders for update the policy and guideline related to he immunization and cold chain, AWPB preparation and routine immunization and hygiene promotion program strengthening	Time	2
36	Child Health – full immunization card 800000 and full immunization guideline 8000 pcs printing and distribution (commodities support from UNICEF)	Time	1
37	Orientation to newly elected bodies on immunization act, routine immunization and hygiene promotion strengthening in district and palika having low immunization coverage – 14 districts	Time	1
38	Two days' workshop on urban immunization service conduction strategy for national immunization program strengthening and hygiene promotion including the participation from province as well stakeholders	Time	1
39	Two days Training of Trainers to extend the cold chain for the orientation and planning of immunization and cold chain management	Tine	1
40	Immunization and hygiene promotion program monitoring and supervision, participation, and declaration of the full immunization	Time	4
41	Hygiene promotion through routine immunization package printing and transportation	Time	1

Integrated Maternal Neonatal Childhood Illness (IMNCI)

SN	Activities	Unit	Target
1	Procurement of equipment's (ARI timer, bag and mask, digital thermometer in degree centigrade, resuscitation doll, pelvic model, CHX Doll, Baby Weighing scale etc for CBIMNCI programme	Times	1
2	Procurement of equipment's for Kangaroo Mother Care (KMC) Unit and KMC Corner establishment	Times	1
3	Procurement of medicines for IMNCI programme	Times	1
4	Update and Printing of CBIMNCI and newborn related materials	Times	1
5	FBIMNCI TOT for health workers of hospital	Times	3
6	Point of Care Quality Improvement Project (POCQI) review (province 2), POCQI ToT (Karnali and Sudurpaschhim)	Times	3
7	CBIMNCI revised treatment protocol orientation	Times	2
8	Newborn care (SNCU/ NICU)/ FBIMNCI mentoring	Times	2
9	NATIONAL NEWBORN AND CHILD HEALTH CARE FRAMEWORK	Times	1
10	Capacity building on Kangaroo Mother Care Services	Times	2
11	ToT CBIMNCI TOT (6 Days) for health workers	Times	3
12	Free Newborn Care programme review	Times	1
13	National Medical Standard for Pediatric Care Services	Times	1
14	Orientation on Early Childhood Development Programme for health workers	Times	1
15	FBIMNCI recording and reporting form preparation	Times	1
16	FBIMNCI recording and reporting form orientation	times	2
17	Record management of CBIMNCI trained Health workers	Times	2
18	Mentoring/ Onsite Coaching	Times	4
20	Newborn Level II training on SNCU/NICU for medical officers	Times	2
21	Meeting of IMNCI technical and co-ordination committee and related agencies/ organization	Times	12
22	CBIMNCI onsite coaching TOT	Times	2

Nutrition section

S.N.	Name of the programme	Unit	Target
1	Procurement of and distribution of nutrition commodities (Vit A, RUTF, super-cereal plus/ RUSF, F-75, F-100, MNP, Height/weight Machine (Digital scale) Shakir's Tape (MUAC) as well as payment of old debts.	Time	1
2	National nutrition programs review workshop	Time	2
3	Nutrition Rehabilitation Center Implementation Review workshop	Time	1
4	Capacity Building Program for Inspectors appointed under the Breast Milk Substitutes (Sales and Distribution Control) Act 2049	Time	8
5	Celebration of national days/months related to nutrition (Breastfeeding Week, School Health and Nutrition Week, Iodine Month etc.)	Time	3
6	Training of trainers on Comprehensive Nutrition Specific Intervention	Time	3
7	Development of capacity building materials for health workers on malnutrition treatment	Time	1
8	Onsite coaching of nutrition programmes	Time	4
9	Nutrition in Emergencies	Time	1
10	Orientation on Mother Baby Friendly Hospital Initiative (MBFHI)	Time	1
11	Scale up of Mother Baby Friendly Hospital Initiative (MBFHI) (federal hospitals and academics).	Time	8
12	Advocacy meeting with the Honorable Parliamentarians of the Education and Health Committee of the House of Representatives.	Time	1
13	Development of nutrition related guidelines.	Time	4
14	Strengthen and conduct NUTEC meeting.	Time	4
15	Strengthening of school health and nutrition programmes.	Time	8
16	Supervision and monitoring of nutrition programme.	Time	4

Maternal and Neonatal care Health

SN	Activities	Unit	Target
1	Procurement of Equipment's for Infertility care unit establishment	times	2
2	Procurement of Thermocoagulator	set	10
3	Orientation packager fo Adolescent Friendly health services	times	1
4	High level advocacy on FPRH	times	1
5	Orientation package preparation of Sayana press	times	3
6	Post-partum family planning strengthens on Academy Teaching hospital=, Private hospital, tertioray hospital	times	2
7	National Strategy on Adolescent implement plan	times	1
8	Technical support to Adolescent friendly Health Facility	times	4
9	Technical support for cervical cancer screening through HPV DNA	times	2
10	Orientation to Local level on f cervical canser screening program through HPV DNA	times	1

11	Recanalization and complication management	person	10
12	Establishment of Inverted unit at Provincial Hospital (5)	times	2
13	Technical assistance Coordination meeting, Site assessment, monitoring and mentoring	times	2
14	NSV, Minilab training to MDGP, Obs/Gynae through blended learning method	group	2
15	FPRH and Adolescent friendly health service strengthen on Academy, Teaching hospital, Private hospital.	times	2
16	FPRH MNH Recording reporting strengthen Program	times	4
17	RHCC meeting	times	4
18	Preparation of Family planning Sustainability Roadmap 2030	times	2
19	Establishment of breastfeeding unit	times	1
20	Procurement of Contraceptive (Condom, Pill, Depo, IUCD, Implant)	times	1
21	Procurement of reagent kit and equipment for HPV DNA test	times	1

Family Planning and Reproductive Health

SN	Activities	Unit	Target
1	Procurement of Equipment's for Infertility care unit establishment	times	2
2	Procurement of Thermocoagulator	set	10
3	Orientation packager to Adolescent Friendly health services	times	1
4	High level advocacy on FPRH	times	1
5	Orientation package preparation to Sayana press	times	3
6	Postpartum family planning strengthens on Academy Teaching hospital=, Private hospital, tertioray hospital	times	2
7	National Strategy on Adolescent implement plan	times	1
8	Technical support to Adolescent friendly Health Facility	times	4
9	Technical support for cervical cancer screening through HPV DNA	times	2
10	Orientation to Local level on f cervical canser screening program through HPV DNA	times	1
11	Recanalization and complication management	person	10
12	Establishment of Inverted unit at Provincial Hospital (5)	times	2
13	Technical assistance Coordination meeting, Site assessment, monitoring and mentoring	times	2
14	NSV, Minilap training to MDGP, Obs/Gynae through blended learning method	group	2
15	FPRH and Adolescent friendly health service strengthen on Academy, Teaching hospital, Private hospital.	times	2
16	FPRH MNH Recording reporting strengthen Program	times	4
17	RHCC meeting	times	4

18	Preparation of Family planning Sustainability Roadmap 2030	times	2
19	Establishment of breastfeeding unit	times	1
20	Procurement of Contraceptive (Condom, Pill, Depo, IUCD, Implant)	times	1
21	Procurement of reagent kit and equipment for HPV DNA test	times	1

Epidemiology and Disease Control Division program activities:

S.N.	Activity	Unit	Target
1	Procurement of Laptops	set	7
2	Procurement of desktop computers	Pieces	5
3	Procurement of TV for Surveillance purpose	Pieces	1
	Programs under current expenditure		
	Without Component		
4	Salary provisioned for HR at Dedicated Call Centre-1115	Number	6
5	VAT and tax Payment of Donors of their expenses incurred.	Number	1
	Disability Prevention and Leprosy Control Program		
6	Operational research on leprosy elimination	Times	1
7	Leprosy Elimination program (active case investigation, research, skill development, etc.)	Times	1
8	National rehabilitation strategy development and dissemination	Times	1
9	Leprosy related publicity and public awareness program and orientation	Times	1
10	Different program on occasion of World Leprosy Day	Times	1
11	Transportation and management of Leprosy and Disability program related drugs and materials	Times	6
12	Workshops for the preparation and updating of manuals/ training materials/ other necessary materials related to leprosy	Times	4
13	Leprosy related training for capacity development	Times	4
14	Printing of manuals/ training materials/ other necessary materials related to leprosy	Times	2
15	Identification and mapping of leprosy patients by municipality	Times	2
16	Verification of leprosy diagnosed patient	Times	2
17	Workshops for the preparation and updating of manuals/strategy/ training materials/ other necessary materials related to disability, injury and rehabilitation	Times	4
18	Capacity development training for disability and rehabilitation	Times	4
19	Printing and distribution of necessary materials related to disability, injury and rehabilitation	Times	4
20	Awareness program on occasion of International Day of Persons with Disabilities	Times	1
21	Meeting with the director, technical and coordination committee and stakeholders related to disability management and rehabilitation	Times	4
22	National Conference on leprosy, skin disease, injuries and rehabilitation	Times	1
23	Preparation of national manual on identification of disability	Times	1
24	Development of supporting training materials, establishment of training sites and training conduction	Times	1

25	Implementation of low-cost effective interventions as per safe systems approach in 2 cities with multisectoral collaboration	Times	1
26	Orientation, review meeting, plan formulation related to leprosy control and disability management program and meeting with the director, technical and coordination committee and stakeholders.	Times	2
27	Meeting with stakeholders, workshop, system development and piloting for the development of G2D and child leprosy case-based surveillance system	Times	2
28	Technical monitoring, evaluation and onsite coaching for leprosy, disability and rehabilitation program	Times	4
	Non-Communicable Disease		
29	Programs related to Sickle cell anemia and hemoglobinopathy	Times	1
30	Training on Mental Health for prisoners	Number	1
31	Service provider's training, recruitment of behavioral health nurse with assistance of WHO on mental health	Number	1
32	With assistance of WHO on NCD: Institutionalization of Nepal Integrated NCD Care Model – 8 districts, Digital Program Monitoring Tool Piloting, Community Based Chronic Care Demonstration for Stroke and Palliative Care	Number	8
33	Provincial level reviews and workshops on NCD and Mental health	Times	1
34	ToT on Occupational Health	Times	1
35	Celebration of World Non-Communicable Diseases Day and World Mental Health Day	Times	1
36	Program on Child and Adolescent Mental Health (CAMH) with assistance of UNICEF	Times	2
37	Onsite Coaching, Mentoring, Monitoring and supportive supervision on PEN in 77 districts	Times	1
38	Orientation on Cancer Control and Strategy	Times	1
39	Orientation on Injury Prevention Strategy and 5-year action plan development	Times	2
40	Onsite Coaching, Mentoring, Monitoring and supportive supervision on community mental health program	Times	1
	Surveillance and Disease Control		
41	Collaboration with World Health Organization for monitoring of different diseases caused by climate change and climate informed early warnings	Times	2
42	EWARS Technical Working Group (TWG) Meeting Operations, Processing, Analysis, Publication and Dissemination of Annual Data from Sentinel Site	Times	4
43	Surveillance System Strengthening, Interaction with Stakeholders on Surveillance of Various Infectious Diseases and Surveillance Work	Times	4
44	Mapping, Development of Information System for various Infectious diseases and water quality monitoring, as well as Sample Collection Testing and Monitoring from water safety plans	Times	4
45	Onsite coaching of sentinel sites	Times	1
46	Training on R programming for EWARS and Surveillance System Strengthening	Times	4
47	Development, Implementation and strengthen Integrated Surveillance System	Times	1
48	Orientation on Infectious Diseases, Data Verification Program for Physicians, Healthcare, Medical Recorder at the New and Non-Operating Sentinel Site	Times	1
49	On-site coaching for sentinel sites (central hospital, medical college, missionary hospital, private hospital) and necessary activities conduction on National disease surveillance system in Point of entry at border and airport.	Times	1
50	Investigation and other essential activities for Epidemic situation and regular disease surveillance	Times	4

51	National workshop on National Surveillance System of Nepal based on EWARS and Development of SoP and guideline for EWARS	Times	1
52	Operational research of Infectious and Communicable diseases	Times	1
53	Distribution, interaction and provincial level field program of National guidelines for monitoring of quality drinking water, 2076 (Sudurpaschim, Karnali, Madhesh and Koshi Province)	Number	1
54	Provincial level dissemination/sharing program after prioritization of communicable disease	Times	1
55	EWARS review and necessary programs on central and provincial level sentinel sites	Times	1
56	Operation and management of call centers for epidemic information	regular	1
	Epidemic Division		
57	Monthly payment of internet connection and mobile recharge to staffs working in the case management of epidemic	Times	1
58	Make arrangements according to the situation for the preparedness, monitoring and emergency management of epidemic diseases	Times	4
59	Mobilization of experts and health workers for the management of spread of COVID 19, Influenza and other epidemic prone diseases (help in disease identification, research, treatment, contact tracing and other activities)	Times	1
60	Continuation and new recruitment of human resources in contract in TIA and ground crossing point of entry	Number	1
61	FETP Frontline training	Times	1
62	Onsite Assessment of PoE health desks	Times	2
63	Simulation exercises for management of epidemic and health related catastrophic events (in health desks of PoE, hospital and community)	Times	2
64	Installing internet, Monthly communication fee, Monthly communication fee for staffs working in epidemic management	Times	4
65	Procurement of vaccines for Haj pilgrims	Times	1
66	Prepare and approve Epidemic / Disaster Management Plan to prepare hospitals during time of Epidemics / Disasters (hub and satellite hospitals)	Times	2
67	Perform research on activities done for effective management of epidemics	Times	1
68	Evaluate the capability of the country based on IHR criteria and also helping JEE for management of epidemics and disasters	Times	3
69	As per the RRT guidelines, formation of Provincial RRT and its capacity building for prevention and management of epidemics and other health related events (Facilitation of formation of provincial RRT)	Times	2
70	Formation of provincial RCCE committee and orient its members for effective dissemination of news and information during outbreak management (5 provinces)	Times	2
71	Regular discussions with public health experts about the management of epidemics and other public health problems with central level experts and professional organizations and interaction programs and expert intern deployment expenses (to get the support for epidemic/disaster management from medical colleges and universities)	Times	4
72	Review and necessary revision of NPPRP (National Pandemic Preparedness and Response Plan) at the central level to formulate future plans based on epidemic management in the provinces.	Times	1
73	Prepare IMAI (Integrated Management of Adolescent and Adult Illnesses) training materials for patient management in health institutions during epidemics and disasters and increase the capacity of health workers based on that (hub and satellite hospitals).	Times	2
74	Based on the location and geography within the province, identification of skilled human resources for Multi-Hazard Emergency Risk Assessment and conduct program to enhance their skill and knowledge.	Times	3

75	Operating Expenses for Tribhuvan International Airport Health Desk Office	Times	4
	NTD/VBD Section		
76	Conducting national annual review meetings on NTD/VBD (malaria, kala-azar, dengue, elephantiasis, etc.)	Times	1
77	Medicines and kits for diagnosis, treatment, and control of Insect-borne diseases (Test kits, Dengue, Scrub typhus, mRDT, rk-39, Cap Miltefosin, Inj. Liposomal Amphotericin B and Inj. Paromomycin) Procurement and sale (Procurement of medicine)	Times	1
78	Procurement and delivery of pesticides for control of malaria in the affected area	Times	1
79	Procurement and delivery of pesticides for the control of Kala-azar in the affected area	Times	1
80	Orientation of National Treatment Guidelines to health workers in public and private sectors on Malaria, Dengue, Kala-azar, Scrub typhus, Chikungunya, Zika, and emerging diseases.	Times	1
181	Preparation and printing of annual progress report on insect-borne diseases (national elephantiasis disease control program, Malaria, Kala-azar, etc.) (Publicity and material production and publication and distribution)	Times	1
82	State-level kala-azar disease-related planning formulation and interaction, capacity development of medical recorder working in insect-borne diseases.	Times	1
83	Discussion with subject matter expert for Cutaneous, Nucco-cutaneous, and PKDL Kala-azar by adopting guide to the clinical treatment protocol for Kala-azar disease	Times	1
84	Training of trainers for the National Filariasis Disease Prevention Program, follow-up, patients' management, and disability control program	Times	1
85	National Filariasis Disease Control Program, follow up of an antigen-positive person, treatment and monitoring, identification of hotspot (National Filariasis Disease Control Program)	Times	1
86	The meeting of the national coordination committee of the national filariasis disease prevention program, general drug intake campaign, journalist interaction, morbidity mapping activities, free hydrocephalus surgery, technical support from the center for the confirmatory mapping program in Himalayan districts.	Times	1
87	To publicize protocol development of essential care package of filariasis patient management, preparation, and creation of national guidelines for the Pre-Tas or Tas survey to be done after taking general medicine of filariasis	Times	1
88	Technical and financial support from the World Health Organization for the prevention of NTD/VBDs	Times	1
89	Behavioral studies and dissemination of results of vectors causing insect-borne diseases	Times	1
90	Vector-borne disease-related implementing research, the study of drug resistance in VL, and factors involved in the relapse cases of kala-azar in Nepal.	Times	1
91	TWG and interaction program with non-governmental organizations, universities, and academic institutions related to vector-borne diseases.	Times	1
92	Procurement of RDT kit for the Malaria elimination program	Times	1

93	Procurement of drugs for the malaria	Times	1
94	Assessment survey Kala-azar endemic areas and financial and technical support from Crown Agent for ACD	Times	1
95	Orientation program to the health workers working at the point of entry of the health desk and stakeholders related to country borders regarding vector-borne disease	Times	1
96	Interaction with the stakeholders at the central level for the prevention and control of dengue	Times	1
97	VAT and tax Payment of Donors expenses incurred.	Times	1
98	An emergency program for the Malaria and Kala-azar epidemic response	Times	1
99	Financial and technical support from the USAID for the National Filariasis Prevention Program, transmission Assessment Survey (pre-TAS/TAS), financial and mass drug administration campaign,	Times	1
100	To celebrate world NTD day and World Malaria Day	Times	1
101	Sensitizing meetings at the provincial and district level on vector-borne disease, Onsight coaching, quality control, and assurance of Malaria	Times	1
102	Onsite coaching of diseases at the governmental and nongovernmental hospital (Malaria, Kala-azar, dengue, Scrub typhus, Chikungunya, and emerging disease) and quality control and assurance of Malaria.	Times	1
103	Procurement of insecticide bed nets for the pregnant and other groups in Malaria and other vector-borne diseases affected district	Times	1
	Zoonotic and Other communicable Disease Seciton		
104	Procurement and transportation of ASV (anti-venom) for people suffering from venomous snake bites.	Times	1
105	Procurement and transportation of the Immunoglobin against rabies	Times	1
106	Purchasing of Diphtheria Antitoxin, Oseltamivir phosphate, and tetanus gamma globulin and vaccines. Also, essential test kits and reagents syringe for the prioritized vector-borne disease	Times	1
107	Purchasing and transportation of cell culture ARV vaccine for people at risk of rabies.	Times	1
108	Monitoring and operating permit of snake bite treatment center, outbreak investigation at the site of rabies outbreak, manpower mobilization, Onsight Coaching, Certificate, flex, and information material printing	Times	4
109	Printing and distribution of IEC material related to Rabies and Snakebites disease.	Times	2
110	According to one health strategy, the coordination and cooperation of various agencies will be carried out through workshops and meetings on challenges and solutions.	Times	2

111	Development, revision, and publication of guidelines, standards, and protocols related to zoonotic diseases	Times	1
112	Different activities related to strategy, action plan, and road map for the Elimination of dog-mediated Rabies by 2030	Times	4
113	Orientation, meeting, monitoring, review, and planning seminar with snakebite treatment centers and medical stores, and organization using rabies vaccine.	Times	4
114	Regular meetings of zoonotic disease by the National Technical working group.	Times	4
115	Operational expenditure and development program of rabies and snakebite referral center, development of appropriate information system for zoonotic diseases and structural development and physical capacity strengthening program for human resource contract for real-time web-based data system	Times	3
116	SPAR-related workshop interaction meetings at National and provincial levels.	Times	2
117	Conducting public awareness programs regarding the adverse public health impact that can be caused by animals, animal products, and AMR, food-borne zoonotic diseases.	Times	2
118	The study, monitoring, and public awareness program of zoonotic diseases requires an emergency response by preparing integrated disease surveillance	Times	2
119	TOT training program for Rabies and Snakebite diseases	Times	2
120	Monitoring of Snakebite treatment centers, certificate of operational permission, flex, IEC, material printing, and Onsite Coaching.	Times	4
121	Established health desk office operating expenses, for example, stationery, communication expenses, manpower contract continuation, and office operating expenses.	Times	4
122	Conducting simultaneous exclusion and training at international airports to include arrangements such as pandemic preparedness	Times	2
123	Research on the current state of emerging and re-emerging zoonotic diseases and identify their interaction in human, animal, and the environment and prevention studies and research	Times	1
124	Organizational and state-level orientation program on zoonotic diseases	Times	3
125	Prioritized zoonotic disease-related programs (risk assessment, joint outbreak investigation, interaction program)	Times	2
126	KAP analysis and interaction of rabies disease in government and private organizations that provide veterinary and medicine services (medical stores, veterinary stores, educational institutions, and welfare organizations)	Times	3
127	Conducting regular meetings of IHR implementation in Nepal	Times	4
128	Rabies and snakebite disease control, elimination, at the location of the outbreak, manpower mobilization for the outbreak investigation, monitoring, Onsite Coaching, and preparation of public awareness materials	Times	3
129	Celebrating days related to zoonotic diseases (Rabies Day, One Health Day, Zoonoses day, AMR Day, etc.)	Times	4

130	Development of institutional structure establishment of the secretariat and operational expenses, Procurement of laptop, printer, and software according to One Health Strategy.	Times	2
131	Liaison with the animal services department as well as capacity development program according to the One Health concept	Times	2
132	coordination, cooperation workshop of various program on IHR-PVS bridging.	Times	1
133	coordination, cooperation workshop of various program on IHR-PVS bridging.	Times	1
134	The emergency meeting, outbreak investigation joint surveillance, and activities related to monitoring program manpower deployment during Zoonotic disease outbreak	Times	4

Leprosy Control and Disability Management Section program activities:

S N	Activity	Unit	Target
1	Workshop on preparation of guidelines and strategies related to Leprosy	Times	4
2	Leprosy Control Program (Active case detection)	Times	1
3	Leprosy Related Capacity Building Training	Times	4
4	Orientation, Review and planning meeting regarding Leprosy Control and Disability Management Program	Times	2
5	Meeting with stakeholders and TWG regarding Leprosy Control and Disability Management Program	Times	4
6	Transportation and management of medicines and logistics related to leprosy and disability programs	Times	4
7	Awareness and orientation program regarding Leprosy Event for leprosy day celebration	Times	3
8	Leprosy day celebration	Times	1
9	Case validation of leprosy cases	Times	2
10	Data verification and mapping of leprosy cases according to municipality	Times	2
11	Operational research on leprosy	Times	1
12	G2D and Leprosy Case based surveillance	Times	1
13	Printing of guidelines and other materials related to leprosy	Times	2
14	Technical monitoring and evaluation of Leprosy, Disability and Rehabilitation program	Times	4
15	Workshop on preparation of guidelines and strategies related to Disability, Injuries and Rehab	Times	4
16	Capacity building training related to Disability & Rehab	Times	4
17	Printing and distribution of necessary materials related to Disability, Injuries and Rehabilitation	Times	4
18	Awareness program on International Day of People living with Disability	Times	1
19	Meeting with stakeholders and TWG regarding Disability Management and Rehabilitation	Times	4
20	National Conference on Leprosy, Skin disease, Disability and Rehabilitation	Times	3
21	Development of dissemination of National Disability Strategies	Times	1
22	Establishment of training sites and conduct training, development of training materials	Times	1
23	Preparation of National Guidelines regarding identification of disability	Times	1

S N	Activity	Unit	Target
24	Implementation of low ost effective interventions as per safe systems approach in 2 cities with multi sectoral collaboration	Times	1

Nursing and Social Security Division program activities:

S.N.	Activities	Unit	Targets
1.	Provision of free treatment to “Jaan Andolan Gaite” citizens, release of budget as per quarterly	Times	4
2.	Acid attack reimbursement	Times	4
3.	Provision of free treatment to impoverished citizens “Bipana Nagarik Anushadi programme” release of budget as per quarterly	Times	3
4.	“Bipana Nagarik Anushadi programme” reimbursement meeting	Times	4
5.	Print the documents developed by NSSD		5
6.	Development of national infection prevention and control guideline	Number	1
7.	Update of software of Nursing and midwifery human resources	Times	1
8.	Continue support and update of software of Infection prevention and control training package, Bipanna Nagarik Ausadhi Upchar , GOLS, FCHV.	Number	4
9.	Conduct community health nursing programme for maintenance of geriatric health, reproductive health, and control of communicable and non-communicable disease and mental health	Times	2
10	National review of school heath and nursing programme	Times	1
11	Conduct leadership and management training in blended modality	Number	60
12	IPC training for nurses	Number	40
13	Develop capacity development training of medical officer to care geriatric citizens	Number	20
14	Clinical mentoring for nurses	Number	6
15	Review of geriatric services	Times	1
16	Conduct policy dialogue in geriatric health care services	Times	1
17	Review of OCMCs services with care centers hospitals	Times	7
18	Conduct interaction programme related to OCMC with local level	Times	3
19	Orientation of GBV clinical protocol	Times	5
20	Orientation of SSU services.	Times	3
21	Orientation of national documents for teachers working in nursing college	Times	10
22	Develop protocol for nursing procedure	Number	3
23	Conduct a training in blended modality for health care providers for care of geriatric population	Times	4
24	Review of Bippanna Nagarik Program	Times	6
25	Geriatric, FCHV and nursing day celebration	Times	3
26	Integrated supervision of health institutions that providing SSU, OCMC, Geriatric care services.	Times	20

Curative Service Division: (1) Hospital Services monitoring and strengthening program activities:

SN	Activities	Unit	Targets
1	Patient Safety Road Map	Times	1
2	Clinical Update Program for Doctors	Times	5
3	Orientation on Palliative Care	Times	4
4	EHR System for Federal and Provincial Hospitals	Times	7
5	Private Hospital Monitoring for Registration, Renewal and Upgrading	Times	20
6	Clinical Audit Program Implementation	Times	5
7	Telemedicine Service Strengthening	Times	1
8	Patient satisfaction survey in federal hospitals	times	1
9	Preparing national occupational health manual	times	1
10.	Spinal care guideline and orientation package	times	1
11.	Orientation package for pharmacists and hospital pharmacy monitoring	times	10

Curative Service Division: (2) Basic & Emergency Management Section program activities:

SN	Activities	Unit	Targets
1	UHC Advocacy Program	Times	3
2	Orientation of EHS and STP	Times	4
3	Orientation of BHS and STP	Times	2
4	Monitoring of Basic Hospital Pharmacy	Times	15
5	MTOT of Social Audit Guideline	Times	1

Curative Services Division: (3) IENT and Oral Health Section program activities:

SN	Activities	Unit	Targets
1	Baseline Survey on Oral Health	Times	1
2	Oral Health Strategy Development	Times	1
3	Orientation of Health Workers on EYE, ENT and Oral Health	Times	2
4	ENT Camp and Hearing Aid Distribution	Times	1

National Tuberculosis Control Center program activities:

SN	**Activities**	**Unit**	**Target**
1	Procurement of Digital Xray Film	Pieces	12000
2	Procurement of Microscope	pices	25
2	Procurement of First Line Drug TB	Times	1
3	Procurement of Second Line Drug TB	Times	1
4	TB Training (Medical Officer, Logistic lab etc.)	Times	7
5	Procurement of Cartridge for GeneXpert Machine	Pieces	186220
6	Courier service for Culture /DST test	Times	5000
7	Supervision to TB Treatment Center	Times	45

8	Procurement of Digital Xray Film	Pieces	12000
9	Procurement of Consumable for sputum Microscopy	Times	1
10	Procurement of Consumable for LPA	Times	1
11	TB Trainings (ToT to prepare provincial team)	Times	7
12	Procurement of Ancilary TB drugs	Times	1
13	Courier service for Culture /DST test	Times	5000
14	Supervision to TB Treatment Center	Times	45
15	Conduction of TB free related activities	Times	4
16	Conduction of DR survey related activities	Times	4
17	HMIS and eTB Training	Times	4
18	Procurement of N95 Mask and personal protection equipment	Times	2
19	Measurement of MSS of TB treatment centres, sub centers etc	Times	1
20	Expansion of NTPMIS	Times	4
22	Commemoration of World TBday	Times	1
23	Conditional grant to Kalimati Chest hospital and NATA Bhaktapur	Times	1
24	CME at Medical college and Hospitals	Times	15
25	Procurement of centrifuse tubes for Xene-Xpert	Times	2
26	Workshop for TB free initiatives	times	7

National AIDS and STI Control Center program activities:

SN	Activities	Unit	Target
1	Procurement of ARV Medicine	Times	1
2	Procurement of STI, Hepatitis C Medicine	Times	1
3	Procurement of reagent including CD4, Viral load & HCV Viral load	Times	1
4	Procurement of Hepatitis C Diagnostic test kit	Times	1
5	Procurement of Determine test kit	Times	1
6	ToT on HIV counselling & testing	Times	1
7	Logistic Training for Health workers	Times	7
8	ToT on CMT	Times	1
9	Orientation to health journalist on HIV, Hepatitis & STI	Times	1
10	ToT on STI	Times	1
11	ToT on Hepatitis C	Times	2

12	One day interaction with private hospital on PMTCT reporting	Times	3
13	Celebration of World AIDS Day	Times	1
14	Communication program on prevention of HIV/AIDS, Hepatitis & STI (Production & Broadcast)	Times	2
15	Printing of PMTCT Manual	Times	1
16	Printing of Logistic Tool	Times	1
17	Printing of Recording & Reporting Tool	Times	1
18	National level review of HIV & PMTCT program	Times	1
19	Integrated Biological & Behavioral Survey (IBBS) among MSM/TG	Times	1
20	Training of health workers on HIV recording & reporting	Times	1
21	Onsite coaching	Month	10

National Health Training Center program activities:

S.N.	Activities	Unit	Target
	Training Material Development Section		
1	Orientation regarding the use of training materials available at training sites	Times	4
2	Workshop seminar to identify the need for updating/revising various training materials	Times	1
3	Workshop seminar on training material development method criteria with Province Health Training Centers	Times	1
4	Development, transmission and distribution of video for NSV/Minilap training	Number	1
5	Training material development and field test related to Basic research methodology for health workers	Number	1
6	Interaction seminar on new methods, techniques and practices and learning of training	Times	1
7	Program on integration of training materials in regular educational programs with health educational institutions	Times	1
8	Development and field testing of various new training materials	Times	4
9	Revise / update and publicizing training materials as required (as demanded by the Centers and the Divisions).	Number	3
10	Content development and field testing in coordination and collaboration with various partner organizations	Number	3
11	Identifying health training needs (including local level and province)	Times	1
	Training Accreditation and Regulation Section		
1	FEP, MLP, OTTM, BLS, SBA and other training follow up enhancement (FEP) programs	District	7
2	Site monitoring program to allow, renew and regulate the operation of sites conducting health related training.	Number	7
3	To prepare Follow up and Enhancement (FEP) tool for various training programs	Number	1

4	Programs to support students coming for study work including internship / orientation	Number	4
5	Various clinical training site development and refinement (materials required for the site, hall, furniture, laptop, anatomical model and other support)	Number	4
6	Quality observation and support of ongoing training activities	Times	4
7	Seminar on review, action plan with various clinical training sites of the all provinces	Times	6
8	Development of monitoring and evaluation tool	Times	1
9	Development of FEP analysis and reporting software	Times	1
10	A study on utilization and its effectiveness of Primary Emergency care (PEC) training program in Nepal	Times	1
11	Update and improve the TIMS information system and receive the SSL certificate	Number	1
12	A study on situation, characteristics and gaps on the health training programs at federal, provincial and local level besides accredited training networks	Number	1
13	Preparation and printing of annual report	Times	1
	Skill Development Section		
1	ASBA Training to physician	Person	4
2	Pediatric Nursing Training	Person	10
3	Diploma in Biomechanical Training to 24 students with continuation of FY 2077/78	Times	1
4	Service entry training for health officers appointed through the Public Service Commission	Group	2
5	Medico-Legal Training on Post Mortem Examination and Clinical Forensic Medicine to physician	Times	2
6	Operation Theater Technology Management Training (OTTM) for Nursing Staff	Times	1
7	Comprehensive New Born Care Training for Physician / Nursing Staff (CNBC-II & III)	Times	2
8	Critical Care Training for Nursing Staff (ICU / CCU)	Times	2
9	ToT on Occupational Health and Safety for Physicians / Health Workers / Nursing Staff	Times	1
10	ToT on Antimicrobial Resistance Prevention for Physicians / Health Workers	Times	1
11	Minilap / Vasectomy training for Physicians / Nurses	Times	4
12	Anesthesia Assistant Training (HA / Staff Nurse)	Person	2
13	ToT on Primary Emergency Care for Physicians / Health Workers / Nursing Staff	Times	3
14	ToT on Cervical Cancer Screening and Treatment (VIA/Thermal Coagulation) to Physicians and Nursing Staff	Times	2
15	Refresher Training to trainers of various trainings	Times	2
16	Second Trimester Abortion Care Training for Physician (ObsGyn / MDPG)	Number	5
17	Essential Critical Care Management Training	Times	2

18	Pre-Hospital Care (Emergency Medical Technician/Dispatcher) training for Health Workers/ Ambulance Workers	Times	2
19	TOT on Package of Essential Non Communicable Diseases	Times	2
20	CTS/GTS Training to Instructors of Various Trainings (5 days)	Times	3
21	Environmental health, health waste management and WASH training for health workers working in hospitals and health institutions	Times	1
22	Pediatric ECCT training (4days)	Times	2
23	Human Centered Design Training	Times	1
24	Cardiothoracic Vascular Intensive Nursing Training (CTVIN)	Times	1
25	ToT on Menstrual Hygiene	Times	1
26	Training on Integrated RH Morbidity Screening	Times	1
27	Geriatric Care Training for Medical Officers	Times	1
28	Training on Oral Health	Times	1
29	Palliative Care Training	Times	1
30	Basic psychosocial counseling training for nurses and health workers working in OCMC, mental hospitals, etc.	Times	1
BMET Unit			
1	User Maintenance of X-ray Equipment Training	Times	1
2	User maintenance of lab equipment training	Times	1

National Health Education Information and Communication Center program activities:

SN	Activities	Unit	Targets
1	Broadcasting and Airing of the messages regarding Smoking and Tobacco product control through television and FM	Times	3
2	Airing of health messages and public health radio programme through Radio Nepal.	Times	4
3	Publication of health messages, information and press release in national newspapers.	Times	44
4	Dissemination of health news, information or messages through website, Facebook, YouTube, twitter, apps including social media	Times	4
5	Communicable and epidemic disease control related communication programme and daily newspaper monitoring programme.	Times	4
6	Health awareness and communication programme for differently able people	Times	4
7	Ear/Nose/Throat related health awareness and communication programme.	Times	4
8	Communication programme on smoking and tobacco control and regulation.	Times	2
9	Communication programme on non-communicable disease prevention and control.	Times	4
10	Health promoting school programme	Times	5
11	AMR awareness and orientation health promotion programme	Times	3
12	Health awareness and communication programme on brain death, kidney and organ donation	Times	2
13	Advocacy and strategic communication on occupational, environmental health and air pollution, climate change	Times	12
14	Health awareness and communication programme on fuel emission and air pollution	Times	3

SN	Activities	Unit	Targets
15	Health education and communication programme on IMNCI, Immunization, Nutrition, Diarrheal diseases, pneumonia etc.	Times	4
16	Broadcasting of health messages, public health dialogue (Janaswasthya Bahas) and Jivan Chakra through Nepal television	Times	4
17	Health message exhibition on assembly, event, sports, health camp musical and cultural programme	Times	4
18	Health education and communication programme on accident and physical injuries	Times	4
19	Health promotion programme for Samriddha Nepal	Times	3
20	Development of digital technology for health promotion	Times	4
21	Health education and communication programme for marginalized and deprived community or group	Times	4
22	Health awareness and communication programme on mental health	Times	4
23	Health awareness and communication programme on birth defect	Times	4
24	Awareness and communication programme on family planning, safe motherhood and neonatal health.	Times	4
25	Dissemination of information and messages on online media	Times	4
26	Broadcasting of health-related messages and information through National Televisions.	Times	4
27	Airing and broadcasting of disease outbreak and epidemic-related messages.	Times	4
28	Monitoring and facilitation for effective implementation of health promotion activities at the provincial and local levels.	Times	150
29	Development of health-promoting strategies	Nos	1
30	Update last three years TV PSA with sign language	Nos	3
31	Health awareness programme for senior citizens	Times	2
32	Package development for Risk communication and community Engagement	Times	1
33	Health awareness on oral hygiene	Times	1
34	Health awareness programmes on genital hygiene	Times	1
35	HEIC programme through braille script	Times	2
36	Health and Hygiene promotion programmes	Times	4
37	Development of a handwashing strategy	Times	1
38	Communication programme related to SAFER Initiatives	Times	1
39	Communication programme on SMART couple promotion and reproductive health	Times	4
40	Workshop on Health Promotion for HEO/Managers	Nos	30
41	Capacity building training for health workers on Tobacco control and regulation representing from Waling, Nijgad, Bhim Datta, Bheri Ganga and Gulariya municipalities	Times	5
42	Workshop on HP strategy implementation	Times	1
43	Workshop on health Promotion for the Health workers from far western province	Times	1

National Public Health Laboratory program activities:

SN	Activities	Unit	Targets
1	Procurement of small and medium Machine	Number	3
2	Procurement of computer, printer, laptop and other machine and equipment.	Number	4
3	Procurement of furniture and fixtures	Times	3
4	Maintenance and upgradation of internet and networking.	Times	1
5	Software Upgrade & Update	Times	2
6	Construction of waste management block	Times	2
7	Old building maintenance, painting, maintenance of other wear and tear of sewage system	Times	1
8	Rewiring and management of BSL-3 laboratory	Times	2
9	AMC & Maintenance of Heavy Equipment machine	Times	7
10	AMC & Maintenance of BSL lab and Biosafety Cabinet	Times	2
11	Management program for BSL III lab conduction	Times	3
12	Management Program for AMR/JE/Measles/Rubella/Polio/Rota Virus	Times	3
13	Management & Expansion of Influenza Surveillance to Province Level	Times	3
14	Procurement of Kits & Chemical for Sickle Cell Anemia Thalassemia Cancer	Times	3
15	Refresher training on lab based waste management for federal & district level hospital	Times	1
16	Providing different service, integrated team mobilization during epidemic outbreak	Times	3
17	Viral load examination of Hep B & C	Times	3
18	Procurement of essential kits, chemical & reagents for HLA including regular lab examination	Times	3
19	Conduction of ISO, accreditation & quality control	Times	2
20	Establishment of Bioinformatics Unit in NPHL	Number	1
21	Procurement of Kits & Chemical for lab testing of non-communicable diseases	Times	3
22	Procurement of essential kits, chemical & reagents for molecular lab examination	Times	3
23	Research activities of NPHL for communicable & non communicable diseases	Times	3
24	Procurement of essential kits, chemical & reagents for molecular lab examination	Times	3
25	Preparation and printing of good lab practice guideline	Times	1
26	Formulation of SOP for plasma fractionation	Times	1
27	Formulation, printing and dissemination of national essential in vitro diagnostic list.	Times	1
28	Preparation of SOP for referral system management.	Times	1
29	Development of software for bioripository	Times	1
30	Piloting and orientation of BTDMS software	Times	2
31	Facilitation for federal hospital for ISO accreditation	Times	2
32	Orientation for local level regarding laboratory monitoring, supervision and licensing.	Times	3
33	Formulation of SOP for Capacity strengthening of private laboratory program	Times	1
34	Development and management of bioinformatics unit and gene sequencing.	Times	1
35	Management of bioripository for long term storage of dangerous organism.	Times	1
36	Store management	Times	1

Management Division - All Sections program activities:

SN	Activities in English	Unit	Target
1	Continious payment on construction of modern central vaccine store	Building	1
2	For the newly built central medical store, work included preparing the apron, parking, wall, and landscaping.	Building	4
3	Upkeep and renovation of the physical structures on the Department of Health Services' property	Event	4
4	Self-execution of plumbing-related tasks inside the department's premises	Event	2
5	Self-execution of electrical related works in the DoHS premises	Event	2
6	Payment on internet service used by IHIMS Section	Event	13
7	Printing of HMIS/LMIS for buffer stock as well as for federal and different hospitals.	Event	1
8	Expenses of request for proposals, quotations, advertisements and other health information activities	Event	40
9	Coninuity on waste management in the DoHS premises through third party.	Event	1
10	Finding a site and preparing the DPR for the construction of a central medical store in a place suitable for all of Western Nepal's provinces and districts	Event	1
11	Assess the functional status of PHC.ORC Clinic with the minimum sample of 100 health facility	Event	1
12	On-site coaching in hospitals to strenghten the healthcare waste management	Event	20
13	Implementation of standard operating procedure related to HCWM and on-site coordination and interaction with stakeholders at the provincial and local levels for water, sanitation and hygiene	Event	1
14	Exchange program of medical recorders for observation and sharing of learnings	Event	1
15	Forecasting and quantification workshop to determine the need of health commodities	Event	1
16	Develop integrated annual procurement plan of health commodities	Event	4
17	Update the technical specification bank	Event	4
18	Manage stickers to keep hospital equipment up-to-date across the country	Event	1
19	HIIS update and follow-up	Event	12
20	Orientation on cost estimation and tender evaluation	Event	2
21	Progress of purchase progress and status tracking platform software development	Event	1
22	Development and implementation of file tracking system with in DoHS	Event	2
23	Digitization of old and new procurement related files	Event	4
24	Preparation of annual procurement plan of health supplies	Event	1
25	PLAMAS update and operation for hospitals across the country	Event	70
26	Annual review to update hospital PLAMAS	Event	2
27	PLAMAS Software Update	Event	1
28	Develop supply chain management guidelines for equipment, medicines and health commodities	Event	1
29	Discussion and advocacy on health effects of airn, noise, and water pollution	Event	5
30	Workshop on pre-shipment and post-delivery inspection at federal and provincial level	Event	2
31	Meeting/workshops on Framework Agreement for procurement of medical equipment	Event	4
32	Public procurement training to provincial directors and procurement cadres through Public Procurement Monitoring Office	Event	2

33	A consultative meeting of all provinces and ministries at federal level to finalize the roadmap for the proper management of healthcare waste	Event	1
34	Conducting monthly, quarterly, bi-annual, annual and other regular meetings of the Department of Health Services	Event	4
35	Projection of target population for health programs up to the local level	Event	1
36	Monitoring and follow-up of state and local level programs, infrastructure development as well as planning	Event	4
37	Workshop on finalization of healthcare waste management roadmap	Event	1
38	Learning exchange on healthcare waste management between local levels	Event	4
39	Preparation of Health Information System's User Manual Policy, SOP, Data Sharing Policy	Event	2
40	Quality improvement programme of data verification and validation	Event	4
41	Print of 28th Annual Rreport of Department of Health Services	Event	1
42	Prepratation of 28th Annual Rreport of Department of Health Services	Event	1
43	Integrated review of HMIS, eLMIS and HIIS programs	Event	2
44	Conducting the ICD11 program to strengthen the medical record information system in federal and other hospitals	Event	3
45	Study of HMIS and other RHIS related activities for implementation to quality data management	Event	1
46	Material development and strengthening of medical record management system of federal hospitals and EMR as well	Event	3
47	Review of implementation plan as per IHIMS Roadmap	Event	1
48	Assessment of routine health information systems using standardized tools	Event	3
49	Orientation on HMIS, eLMRIS, HIIS and others to health workers of federal hospitals, prisons, Manav Sewa Aashram and other facilities	Event	3
50	Activities related to linking the data of federal, academia and private hospitals to DHIS through application program interface	Event	2
51	Training and onsite coaching to the health workers of academies, central hospitals, teaching hospitals and other hospitals including private ones on ICD11, HMIS, eLMIS and HIIS	Event	2
52	Federal support and coordination to organize and conduct provincial and local level reviews	Event	2
53	An interactive review of the dashboard programs achievements	Event	1
54	Federal, academia and private hositals data will be made interoerable through API	Event	1
55	Revision/orientation on standards and interoperability guidelines for health information softwares that are in existence or will be developed	Event	2
56	Implementation and follow-up of the dashboard program in 25 municipalities including Madhesh , Karnali, and other provinces also.	Event	2
57	Preparing and capacity building of hospital medical recorders regarding MCCOD	Event	2
58	PHAT orientation (data management, analysis and use) to health workers those who are working in data management of health facilities, central hospitals, teaching hospitals and other hospitals including private ones	Event	2
59	Develop a system for hospital deaths related and link with CRVs	Event	2
60	Training of data managers on electronic health information management, analysis, GIS, STATA, R	Event	2
61	Assessment of HMIS, eLMIS and HIIS for online reporting from health facilities	Event	1
62	Field work on integrated online health information management and ICD11, HMIS, eLMIS and HIIS	Event	10

63	Perform Regular data quality assessment (RDQA)	Event	2
64	ArcGIS licenced software purchase	Event	1
65	Formation of data management committee for analysis and regular presentation of analise data	Event	5
66	Program expansion for online reporting of health management information system (HMIS), electronic logistics management systems (eLMIS) and health eLMIS and HIIS	Event	10
67	Update health facility registry	Event	1
68	Preparation of catchment population mapping survey guidelines	Event	1
69	Strengthening and Development of Trauma Register	Event	1
70	Strengthening of Data Quality of Mental Health Programme	Event	1
71	Orientation of Remote Temperature Monitoring Devices connection and management	Event	10
72	ISC/Roadmap Review of annual immunization and cold chain management at national and provincial level	Event	3
73	Development and implementation of national immunization and cold chain management, multisectoral budget	Event	1
74	Orientation of health workers receiving CCEOP through Cold Chain Equipment for effective vaccine management- One Incharge and 1 cold chain handler from each health facility	Event	1
75	Technical support for development of IP and EVMA improvement plan for effective vaccine management	Event	1
76	Revision of EVM and SOP Guidelines and technical support	Event	1
77	Plan Preventive Maintenance for keeping Quality Vaccination's and Codelchain Management within On-Site Coaching by technician	Event	1
78	Technical support for timely implementation and monitoring of cold chain equipment to be procured through CCEOP	Event	1
79	Action plan on vaccination waste management (Regular and COVID 19)	Event	2
80	Public Financial Management Workshop for Reimbursement Management and Audit Clearance	Event	3
81	Payment of VAT and taxes including the funds of donor agencies	Event	4
82	Meeting of organ transplant committee, develop and update software including monitoring	Event	2
83	Management Improvement Program of Climate Adaptation, Water Supply, Sanitation, Hygiene and Health Institutional Waste management	Event	4
84	Orientation on Public Health Activities to Health worker in statistical activities for federal, private and other hospitals and health institutions	Event	1
85	Pre and Post Shipment Quality Inspection of Medicine and Equipment	Event	20
86	Re-packing, Supply and Distribution of Medicines, Vaccines and Vaccine related Supplies	Event	4

ANNEX 3: RAW Data and Indicators FY 2077-78

Total number of reporting Public and Non-public Health Facilities, Fiscal year 2078/79

Organization unit	Public Health Facilities								Total number of PHC/ Outreach Clinics conducted	Total number of EPI Clinics-Conducted	Total number of FCHVs	Total number of Non-Public Health Facility
	Hospital	PRIMARY HEALTH CENTRE	HEALTH POST	URBAN HEALTH CENTRE	COMMUNITY HEALTH UNIT	Basic Health Service Centre	OTHER HEALTH FACILITY	Total Public Health Facility				
Nepal	**192**	**188**	**3775**	**629**	**787**	**1695**	**203**	**7469**	**122325**	**199523**	**50229**	**2155**
1 Koshi Province	39	33	632	92	134	344	27	1301	22633	33818	8654	**157**
101 TAPLEJUNG	1	2	50	1	22	6	2	84	1720	2022	831	4
102 SANKHUWASABHA	2	2	35	19	25	32		115	888	2262	326	6
103 SOLUKHUMBU	3	1	30	1	9	13	1	58	635	1006	304	3
104 OKHALDHUNGA	1	1	54	3	7	15	1	82	1750	2109	665	4
105 KHOTANG	1	2	73	5	5	2	1	89	2560	2812	889	1
106 BHOJPUR	1	3	60	3	4	15	1	87	2173	2393	565	4
107 DHANKUTA	1	2	35	7	12	10	1	68	1192	1800	344	10
108 TERHATHUM	4	2	26	3	8	4	1	48	763	1439	405	1
109 PANCHTHAR	2	1	40	2	7	11	5	68	1803	2467	423	2
110 ILAM	3	3	42	3	10	27	1	89	2086	2469	980	2
111 JHAPA	4	5	41	16	13	59	6	144	1259	3165	568	54
112 MORANG	9	4	55	6	1	91	4	170	2450	4219	738	44
113 SUNSARI	4	4	48	9	8	47	1	121	1463	3046	1167	13
114 UDAYAPUR	3	1	43	14	3	12	2	78	1891	2609	449	9
2 Madhesh Province	**14**	**32**	**742**	**35**	**19**	**318**	**24**	**1184**	**21943**	**43481**	**7645**	**167**
201 SAPTARI	2	4	111	5	1	29	1	153	4627	5945	1065	8
202 SIRAHA	3	4	102	3	1	27	3	143	2550	6139	993	38

203 DHANUSA	1	5	98	6	6	53	4	173	2919	5304	925	30
204 MAHOTTARI	2	3	72	3	1	38	7	126	1704	4573	700	10
205 SARLAHI	1	5	93	2	4	70	1	176	2336	5901	1355	16
206 RAUTAHAT	2	3	93	3	1	32	4	138	2904	4997	914	6
207 BARA	1	5	94	8	3	52		163	2607	6399	898	21
208 PARSA	2	3	79	5	2	17	4	112	2296	4223	795	38
3 Bagmati Province	**56**	**40**	**642**	**196**	**180**	**184**	**47**	**1345**	**18449**	**29273**	**8959**	**1432**
301 DOLAKHA	3	2	52	6	20	8	4	95	1255	1821	1206	9
302 SINDHUPALCHOK	1	3	75	8	26	15	5	133	2140	2991	710	9
303 RASUWA	2	1	17	0	13	1	2	36	338	605	236	1
304 DHADING	5	2	49	2	21	40	5	124	1529	2672	455	15
305 NUWAKOT	2	3	63	8	13	8		97	1702	2537	1035	14
306 KATHMANDU	18	6	58	64	0	8	13	167	1167	2500	1441	944
307 BHAKTAPUR	4	2	20	13	2	1	3	45	186	633	282	51
308 LALITPUR	3	3	38	8	3	14	2	71	926	1740	502	214
309 KAVREPALANCHOK	5	4	90	18	17	29	3	166	3374	4121	957	37
310 RAMECHHAP	3	3	51	17	12	3	2	91	1589	2173	728	5
311 SINDHULI	1	4	51	13	27	5	1	102	1762	2495	505	17
312 MAKWANPUR	2	4	42	18	19	15	2	102	1810	2628	452	11
313 CHITWAN	7	3	36	21	7	37		111	671	2357	450	106
4 Gandaki Province	**23**	**25**	**485**	**95**	**100**	**151**	**15**	**894**	**13779**	**21323**	**5756**	**111**
401 GORKHA	**1**	**3**	**66**	**4**	**11**	**8**	**3**	**96**	**2202**	**2846**	**616**	**8**
402 MANANG	1	0	13	0	2	2		18	15	198	106	0
403 MUSTANG	1	1	15	0	0	2		19	175	294	143	0
404 MYAGDI	1	1	39	4	12		1	58	770	1360	373	1
405 KASKI	6	3	42	25	10	7	4	97	1573	2569	998	34

406 LAMJUNG	2	2	57	18	12	9	1	101	1817	2453	667	10
407 TANAHU	4	2	45	15	18	41	3	128	1535	2744	462	18
408 NAWALPARASI EAST	1	4	34	2	2	44		87	710	1768	354	20
409 SYANGJA	2	4	64	16	9	15	1	111	2080	2886	608	7
410 PARBAT	1	2	52	5	15	6		81	1370	2118	489	3
411 BAGLUNG	3	3	58	6	9	17	2	98	1532	2087	940	10
5 Lumbini Province	**26**	**29**	**568**	**93**	**93**	**244**	**3**	**1056**	**21214**	**34362**	**8958**	**164**
501 RUKUM EAST	1	1	15	0	3			20	403	613	143	0
502 ROLPA	2	2	48	5	12	21		90	2040	2645	459	3
503 PYUTHAN	1	2	46	3	3	16		71	1933	3252	443	1
504 GULMI	1	4	76	8	20	8	1	118	2860	3935	984	3
505 ARGHAKHANCHI	1	2	39	1	2	12		57	822	2074	849	7
506 PALPA	2	2	62	9	23	5		103	2156	2872	632	6
507 NAWALPARASI WEST	2	2	36	4	3	28		75	1422	2103	359	13
508 RUPANDEHI	2	5	64	13	5	44		133	2347	3492	1486	36
509 KAPILBASTU	4	2	72	7	4	14		103	2646	4921	1101	14
510 DANG	4	2	36	33	17	27	1	120	1089	2387	910	21
511 BANKE	5	3	44	8	1	25		86	1291	3383	757	53
512 BARDIYA	1	2	30	2	0	44	1	80	2205	2685	835	7
6 Karnali Province	**19**	**13**	**331**	**31**	**128**	**299**	**13**	**834**	**8004**	**15967**	**4272**	**59**
601 DOLPA	1	0	23	0	6	12		42	468	685	207	0
602 MUGU	1	1	24	0	15	22		63	116	1029	223	0
603 HUMLA	1	0	26	0	17	8		52	230	808	244	0
604 JUMLA	1	1	29	1	3	22		57	778	1159	547	2
605 KALIKOT	3	1	28	0	9	47	2	90	258	1301	295	0
606 DAILEKH	2	2	55	4	16	25	1	105	2334	3037	821	6

607 JAJARKOT	3	2	30	0	16	43	4	98	589	1582	272	0
608 RUKUM WEST	4	1	24	10	2	44		85	320	1204	246	6
609 SALYAN	1	2	45	5	9	32	1	95	1841	2673	428	1
610 SURKHET	2	3	47	11	35	44	5	147	1070	2489	989	44
7 Sudurpashchim Province	**15**	**16**	**375**	**87**	**133**	**155**	**74**	**855**	**16303**	**21299**	**5985**	**65**
701 BAJURA	1	1	26	10	9	22	10	79	235	1250	259	1
702 BAJHANG	1	2	45	5	22	26		101	857	1717	428	5
703 DARCHULA	2	0	40	1	4	9	20	76	1469	1613	367	1
704 BAITADI	1	2	65	9	16	9	1	103	3631	3915	831	2
705 DADELDHURA	2	0	24	4	3	19	15	67	810	1203	473	3
706 DOTI	2	2	49	7	37	7	1	105	2409	2955	657	10
707 ACHHAM	2	2	72	5	11	7		99	2749	2862	933	4
708 KAILALI	3	4	36	22	24	29	13	131	3501	3885	1242	27
709 KANCHANPUR	1	3	18	24	7	27	14	94	642	1899	795	12

Source: IHIMS/DoHS

Mapping between Nepali Fiscal Years and the Corresponding Gregorian Years

Nepali Fiscal Year	Corresponding Gregorian Years
2060/61	2003/04
2061/62	2004/05
2062/63	2005/06
2063/64	2006/07
2064/65	2007/08
2065/66	2008/09
2066/67	2009/10
2067/68	2010/11
2068/69	2011/12
2069/70	2012/13
2070/71	2013/14
2071/72	2014/15
2072/73	2015/16
2073/74	2016/17
2074/75	2017/18
2076/77	2018/19
2077/78	2020/21
2078/79	2021/22
2079/80	2022/23

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