

# ANNUAL HEALTH REPORT

2076/77 (2019/20)



**Bharatpur Metropolitan City  
Office of Municipal Executive  
Public Health Promotion Section  
Bharatpur, Chitwan**



# Annual Health Report

2076/77 (2019/20)



**Bharatpur Metropolitan City  
Office of Municipal Executive  
Health and Social Development Division  
Public Health Promotion Section  
Bharatpur, Chitwan  
Bagmati Province, Nepal**



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Published Date: 2078 Baishakh



**Bharatpur Metropolitan City**  
**Office of Municipal Executive**  
**Bharatpur, Chitwan**  
**Bagmati Province, Nepal**



**MESSAGE**

Bharatpur Metropolitan is committed to provide the basic health care service as a fundamental right of its citizen established by the constitution of Nepal. It has given high priority to the health sectors as one of the development agendas after the restructuring of the health system in line with the federal structure of the country. On behalf of the Bharatpur Metropolitan City, it is my immense pleasure to present the first-ever annual health report of the fiscal year 2076/77. This report records the performance and accomplishments made throughout the year in achieving its strategic objectives set in the health sector.



With the motto of “Beautiful City of Central Nepal, Prosperous and Cultured Bharatpur Mahanagar” we are emphasizing infrastructure development, education, health, tourism, and agriculture. We are working in conformity with the federal and provincial governments to deliver affordable and accessible quality health care services to the people of metropolitan. This year, the COVID-19 pandemic has presented unprecedented challenges to every sector. But the collective efforts and dedication from my fellow governors, officials, researchers, public health expertise, and health workers have strengthened us and able to manage the emergency properly. Despite several challenges, I am pleased to announce that several initiatives have been made and succeed in the health sector in the last three years.

I am grateful to the Deputy Mayor, Ward Chairpersons, executives’ members, wards members, chief administrative officers, division chiefs, section chiefs, and all the staff of Bharatpur Metropolitan City. I would like to thank Mr. Dipak Subedi, Public health section chief, and his team members for their enormous effort to prepare and publish the annual health report. I extend my sincere gratitude to respective officials of the federal government, provincial government, and local level stakeholders for their valuable contribution to the health and other sectors.

Finally, yet importantly, I would like to express my sincere appreciation and respect to all the volunteers, health workers, front-line personnel engaged in the health sector, stakeholders, and partners for their diligent work, courage, and dedication in the battle against the COVID-19 pandemic. I am very grateful to have selfless people working at the frontlines for the prevention and control of COVID-19.

Baishakh, 2077

**Renu Dahal**  
**Mayor**



**Bharatpur Metropolitan City**  
**Office of Municipal Executive**  
**Bharatpur, Chitwan**  
**Bagmati Province, Nepal**



**MESSAGE**

Bharatpur Metropolitan City ensures that all the people especially women, children, adolescents, senior citizens, vulnerable groups, underprivileged, indigenous, and marginalized populations, residing both in rural and urban areas of the metropolitan, have access to quality health care through improving and expanding services. The metropolitan is committed to materializing “Universal Health Coverage” by formulating pro-people health policies and programs.



It is a matter of great pleasure to introduce the fiscal year 2076/77 Annual Health Report for the Bharatpur Metropolitan City. I am confident that this report provides stakeholders the insights into progress on different indicators and shortcomings of public health programs conducted in the last fiscal year. The identified challenges have been rectified immediately with continuous coordination and collaboration with concerned stakeholders. On a side note, there are also a few specific areas, which must be focused on and strengthen to improve the access to equitable and quality health services to the metropolitan people.

With the prior emphasis on developmental agendas on road and infrastructure, education, health agriculture, tourism, and production sector. Metropolitan is also keenly committed to develop and mobilize local human resources, financial resources, skills, technology to understand the needs and grievances of the people. Efforts have been made to strengthen and expand the health services by mobilizing local resources to understand the real need, strategies for mobilizing these resources, and assess the value to the program.

The pandemic of COVID-19 has affected every program that Metropolitan runs. Without the dedication and effort of the health care workers and staff on the front line, the control of the COVID-19 spread would not have been possible. Henceforth, I deeply respect all for their tireless effort to make a difference in the lives of many peoples. I am thankful to the Mayor, all ward Chairpersons, Executive members, Ward Members, Chief Administrative Officer, Division Chiefs, Section Chiefs, and all the staff of Bharatpur Metropolitan City. Last but not the least, I would like to extend my sincere thanks to public health promotion section and all those who are in the preparation and publication of this report.

Baishakh, 2077

  
.....  
**Parbati Shah Thakuri**  
**Deputy- Mayor**



**Bharatpur Metropolitan City**  
**Office of Municipal Executive**  
**Bharatpur, Chitwan**  
**Bagmati Province, Nepal**



**PREFACE**

Bharatpur Metropolitan City is striving to provide quality basic health service as a fundamental right of its citizen established by the Constitution of Nepal. It has emphasized a high-quality health workforce across all health care facilities with the availability of medicines and technologies to achieve sustainable goals.



Metropolitan has an emphasis on infrastructure construction and good governance as per the requirement of people. As a part of the sustainable development goal for the metropolitan, short-term and long-term plans have been taken to achieve integrated development of all sectors. It includes formulating a comprehensive master plan for infrastructure and development, health education, cooperatives, employment, tourism, sanitation, agriculture, animal husbandry, industry, sanitation, agriculture, husbandry, industry, and business.

We are facing the pandemic of COVID-19 since last year which has changed everything around us. The COVID-19 pandemic represents a global crisis, with daunting health and socio-economic challenges. As the public health emergency for international concern has been declared, Metropolitan took the initiation in preventive measures. As the cases rose, we took the lead in prohibiting public gatherings, establishing health desks, setting up hand-washing systems, establishing quarantine areas, and allocating isolation beds for the prevention, control, and management of the disease.

I am pleased to present the first-ever Annual Health Report of Bharatpur Metropolitan City. This report is the official record of the provided services and achievements accomplished within the last year in the health sector. This report provides insight into overall achievement and challenges information of local level. The facts and figures presented in this report will be worthwhile to understand the issues in the health sector and to plan for providing high-quality services in the coming year.

To conclude, I would like to extend my appreciation and acknowledgment to the Mayor, Deputy Mayor, Ward Chairpersons, Executive members, Division Chief, Section Chief, and all staff of Bharatpur Metropolitan including the female community health volunteers. I would like to appreciate Public Health Promotion Section Chief Dipak Subedi and his team for their initiation and dedication in the preparation and publication of this report.

Baishakh, 2077

*B. R. Khatiwada*

**Bhojraj Khatiwada**  
**Chief Administrative Officer**



**Provincial Government  
Ministry of Social Development  
Health Directorate  
Health Office, Chitwan  
Bagmati Province,  
Bharatpur, Chitwan**



**FOREWORD**

I am pleased to know that Bharatpur Metropolitan City, Office of Municipal Executive, Bharatpur bringing out the annual report of FY 2076/77. This report not only presents the current facts of the health and service status of the Bharatpur Metropolitan City but also supports robust and evidence-based planning exercises. The information provided in the report will be of immense useful to Local Government, Provincial Governments, Federal Government and External Development Partners for designing and further expanding of overall public health program into the Bharatpur Metropolitan City.



This report is very comprehensive and covers all the aspects of the municipal health system, available facilities, health status of community, health services statistics, achievement of various public health programs, problem constraints in achieving the target given for FY 2076/77. From this annual health report, I am confident that a competent and efficient health care delivery system is in place and all the information provided in this report is up to date.

I would like to congratulate Bharatpur Metropolitan City, Office of Municipal Executive, Bharatpur, and Public Health Promotion Section for establishing a system to produce the annual health report covering all aspects of public health services, information regarding health workers, volunteers, outreach clinics, physical facilities and major service utilization status of the Metropolitan City. Moreover, this report can be exemplary work for other municipalities in Chitwan district and also for other local levels in the country. The comparison of major public health indicators at the health facility level, will bring a positive competition among the health facilities regarding the target versus achievement and also encourages innovations to achieve those targets in the coming days.

Also, I express my sincere gratitude to Chief, Public Health Promotion Section and team, all health workers at peripheral level, FCHV, HFOMC and I/NGO representatives in providing health services to the public of Metropolitan City, Chitwan.

Baishakh, 2077

**Dipak Prasad Tiwari  
Sr. Public Health Administrator**



**Bharatpur Metropolitan City**  
**Office of Municipal Executive**  
**Bharatpur, Chitwan**  
**Bagmati Province, Nepal**



**ACKNOWLEDGEMENT**

It is my immense pleasure to bring out the first ever official Annual Health Report of the Bharatpur Metropolitan City for the fiscal year 2076/77 (2019/20). This report contains the relevant and comprehensive information about the various program implemented at the local level. This report also covers policies, strategies, activities, achievement, and issues within the anticipated year. It presents and analyses the data in a systematic manner on the performance of public health and supportive program of the last fiscal year, along with the comparative figures from the past three fiscal years.

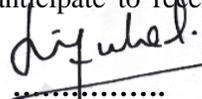


The COVID-19 pandemic had presented with an unprecedented challenge not only to public health program but also to the whole health care delivery system. Metropolitan has endeavored through its immediate response and good leadership steps to mitigate and reduce the risk, stigma, and discrimination through adoption of different public health and social schemes and measures. I am humbled by the passion, dedication and expertise of our health workers shown at the time of this emergency. Overall, the efforts and commitment shown by every individual in controlling the pandemic is astonishing.

I express my sincere gratitude to the Mayor Renu Dahal for her current leadership and commendable direction. I would also like to thank the Deputy-Mayor Parbati Shah Thakuri for her continuous guidance and support. I express my sincere gratitude to Chief Administrative Officer Bhojraj Khatiwada for his encouragement and support. I would also like to thank former Chief Administrative Officers Netra Prasad Subedi, Premraj Joshi and Mahendra Prasad Paudyal for their able leadership during their tenure at the Metropolitan. I express my sincere thanks to all Ward Chairperson, Municipal Executive Member and Ward Members and all those who continuously put efforts and perseverance in the battle against COVID-19.

I would like to express my earnest thanks to Mr. Dipak Prasad Tiwari, Chief of Health Office Chitwan for his technical guidance and support throughout the year. I gratefully acknowledge Metropolitan Health Expert Dr. Bhojraj Adhikari for bestowing valuable suggestions and directives. I am indebted to Division Chiefs, Section Chiefs and all staff of metropolitan for their kind coordination and cooperation. I am thankful to Ministry of Health and Population, Ministry of Social Development, Health Directorate Bagmati Province, Bharatpur Hospital, Health Office Chitwan and all other stakeholders.

I would like to extend my appreciation to all our health workers, FCHVs and support staffs for their untiring efforts in providing quality health services at the community level round the year especially in the COVID 19 pandemic. I also extend my thanks to my colleagues Bishnu Prasad Acharya, Surya Prasad Tiwari, Keshav Prasad Bhatta, Rupmati Ale, Shiva Paudel, Haridatta Koirala, Binay Shrestha and Mangal Gurung for their hard and dedicated work throughout the year. I would like to thank Sushila Shreesh, LMN and Sabina K.C., MPH for their kind help in drafting the report. Finally, I anticipate to receive valuable suggestions for further improvement in the coming years report.

  
.....  
**Dipak Subedi**  
**Public Health Officer**

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## Abbreviation and Acronym

AEFI	Adverse Event Following Immunization
AFP	Acute Flaccid Paralysis
AIDS	Acquired Immuno-Deficiency Syndrome
ANC	Antenatal Care
API	Annual Parasite Incidence
ARI	Acute Respiratory Infection
ART	Antiretroviral Therapy
BHC	Basic Health Center
BMC	Bharatpur Metropolitan City
CBIMNCI	Community Based Integrated Management of Neonatal And Childhood Illness
CBS	Central Bureau of Statistics
CDD	Control of Diarrheal Disease
CEONC	Comprehensive Emergency Obstetric and Neonatal Care
CHU	Community Health Unit
COVID	Corona Virus Disease
CPR	Contraceptive Prevalence Rate
DHF	Dengue Hemorrhagic Fever
DHIS	District Health Information System
DOTS	Directly Observed Treatment Short Course
DPT	Diphtheria, Pertussis, Tetanus
EPI	Expanded Program on Immunization
EWARS	Early Warning and Reporting System
FCHV	Female Community Health Volunteer
FCTC	Framework Convention on Tobacco Control
fIPV	Fractional Inactivated Polio Vaccine
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HP	Health Post
IDA	Iron Deficiency Anaemia
IDD	Iodine Deficiency Disorder
IEC	Information, Education and Communication
IFA	Iron Folic Acid
IUCD	Intrauterine Contraceptive Device
JE	Japanese Encephalitis
LAPM	Long Acting and Permanent Methods
LARC	Long Acting Reversible Contraceptive
LLIN	Long Lasting Insecticidal (Bed) Nets
LMIS	Logistics Management Information System

MB	Multibacillary Leprosy
MCH	Maternal and Child Health
MDA	Mass Drug Administration
MDR	Multi-Drug Resistant
MDT	Multi-Drug Therapy
MoHP	Ministry of Health and Population
MoSD	Ministry of Social Development
MR	Measles Rubella
NCD	Non-Communicable Disease
NDHS	Nepal Demographic and Health Survey
NIP	National Immunization Program
NTP	National Tuberculosis Program
OPD	Outpatient
OPV	Oral Polio Vaccine
ORS	Oral Rehydration Solution
PB	Paucibacillary Leprosy
PBC	Pulmonary Bacteriological Confirmed
PCD	Pulmonary Clinically Diagnosed
PCR	Polymerase Chain Reaction
PCV	Pneumococcal Conjugate Vaccine
PEM	Protein Energy Malnutrition
PEN	Package of Essential Non-Communicable Diseases
Pf	Plasmodium falciparum
PHC	Primary Health Center
PHC-ORC	Primary Health Care Outreach Clinics
PMTCT	Prevention of Mother to Child Transmission
PNC	Postnatal Care
PPE	Personal Protective Equipment
PSBI	Possible Severe Bacterial Infection
PWID	People Who Inject Drugs
RDT	Rapid Diagnostic Tests
RT-PCR	Reverse-Transcriptase Polymerase Chain Reaction
SBA	Skilled Birth Attendant
STI	Sexually Transmitted Infections
Td	Tetanus and Diphtheria
TT	Tetanus Toxoid
UHC	Urban Health Center
UHPC	Urban Health Promotion Center
VSC	Voluntary Surgical Contraception

## Health Service Coverage Fact Sheet (FY 2074/075 to 2076/077)

Program Indicator	Bharatpur Metropolitan City			Chitwan District 076/77	National Target	
	074/75	076/77	076/77		2020	2030
<b>Number of health facilities</b>						
Public hospital	2	2	2	3		
PHC	1	1	1	3		
HP	13	13	13	36		
UHPC	0	1	2	2		
BHC/UHC/CHU	9	9	10			
<b>Reporting Status (%)</b>						
Public hospitals	100	100	100	100	100	100
PHC,HP,UHPC,BHC,UHC,CHU	100	100	100	100	100	100
FCHVs	75	78	90	90	100	100
<b>Immunization Status (%)</b>						
BCG coverage	123	120	132	98		
DPT-HepB -Hib3 coverage	79	75	72	74	90	95
MR2 coverage ( 12 -23 months)	80	81	93	77		
Fully immunized children				85	90	95
Dropout rate DPT-Hep B- Hib 1 vs 3	16	2	4	6	<10	<5
Pregnant women who received TD2 and TD2+	47	47	44	19		
<b>Nutrition Status (%)</b>						
Children aged 0-11 months registered for growth monitoring	85	104	107	88	100	100
Underweight children among new growth monitoring visits (0-11 months)				1.3		
Children aged 12-23 months registered for growth monitoring	42	30	36	37	100	100
Underweight children among new growth monitoring visits (12-23months)				3.6		
Pregnant women who received 180 tablets of Iron	47	33	32	35		
Postpartum mothers who received vitamin A supplements	23	22	30	38		
<b>IMNCI status</b>						
Incidence of ARI among under 5 years children per 1000	267	262	252	212		
Incidence of pneumonia among under 5 years children (per 1000) (HF and PHC/ORC only)	45	44	27	32		
% of under 5 years children with Pneumonia treated with antibiotics	69	64	93	100	100	100
Incidence of diarrhea per 1000 under five years children	134	111	109	110		

Program Indicator	Bharatpur Metropolitan City			Chitwan District 076/77	National Target	
	074/75	076/77	076/77		2020	2030
% of under 5 years children with diarrhea treated with ORS and zinc	81	79	100	100	100	100
<b>Safe Motherhood (%)</b>						
Pregnant women who attended first ANC visit (any time)	184	279	238	157		
Pregnant women who attended four ANC visits as per protocol	55	94	74	56	70	90
Institutional deliveries	48	217	225	123	70	90
Deliveries conducted by skilled birth attendant	48	217	225	123	70	90
Mothers who had three PNC check-ups as per protocol*	7	39	59	38	50	90
<b>Family Planning (%)</b>						
Contraceptive prevalence rate (CPR - unadjusted)*	47	44	44	40	56	60
CPR (Spacing methods)						
<b>Female Community Health Volunteers (FCHV)</b>						
Number of FCHVs	207	207	207			
% of mothers' group meeting held	90	90	90	85	100	100
<b>Malaria and Kala-azar</b>						
Annual blood slide examination rate (ABER) per 100	0.9	1.8	1.3		4.0	
Annual parasite incidence (API) per 1,000 population at risk					0.05	
% of PF among Malaria positive case				11		
Number of new Kala-azar cases	0	0	0	0		
<b>Tuberculosis</b>						
Case notification rate (all forms of TB)/100,000 pop	157	153	133	118		
Cure rate	82	84	81	85	>90	>90
<b>Leprosy</b>						
New case detection rate (NCDR) per 100,000 population	13.8	9	7.4	7	10	7
Prevalence rate (PR) per 10,000 0	1.4	0.9	0.74	0.72	0.1	0.04
<b>HIV/AIDS and STI</b>						
Number of new positive cases				950		
<b>Curative Services</b>						
% of population utilizing outpatient (OPD) services	196	161	155	122		

## Executive Summary

### Introduction

The constitution of Nepal has established basic health care as a fundamental right of its citizens. The Government of Nepal is committed to improving access to and using quality health care by embracing universal health coverage. The current federal structure of the country assigns rights related to basic health care services to local governments. Under them, the public health section has been managing and monitoring activities related to the delivery of basic healthcare services.

Bharatpur Metropolitan City is located in Chitwan District, Bagmati Province, Nepal. Bharatpur is the district headquarter of Chitwan situated in the central-southern part of Nepal. It was established in 2035 as Bharatpur Municipality, which was later upgraded to Metropolitan City in 2073 Falgun 17. Metropolitan, also known as the medical city of Nepal, is divided into 29 wards and occupies a total area of 427.35 square kilometers.

This report is the first-ever official annual report of the Public health Promotion Section, Bharatpur Metropolitan City. This report highlights the comparative analysis of important public health indicators from the last three fiscal years. In FY 2076/77, the institutions that delivered basic health services were 1 Primary Health Care Center (PHCC), 13 Health Posts (HP), 6 Ayurveda Ausadhalaya, 8 Basic Health Centers (BHC), 2 Urban Health Centers (UHC), 1 Community Health Unit (CHU), 1 Maternal and Child Health Clinic and 1 Health Clinic. Primary health care services were further provided by 37 Primary Health Care Outreach Clinic (PHC-ORC) sites. Similarly, 80 Immunization clinics provided immunization services. These services were supported by 207 Female Community Health Volunteers (FCHVs).

Furthermore, the specific services were provided through 5 birthing centers, 10 IUCD sites, 9 implant sites, 2 safe abortion service sites, 9 laboratories, 29 DOTS centers, 13 TB microscopy centers, 2 Gene Xpert centers, 2 TB-MDR sub-centers, 3 vaccine sub-centers in Bharatpur. Besides, Bharatpur Hospital, BP Koirala Memorial Cancer Hospital, 2 medical colleges, 22 private hospitals, and more than 100 clinics and polyclinics provided different level health services.

### Public Health Program

#### Immunization

The National Immunization Program (NIP), formerly known as Expanded Program on Immunization (EPI), started in FY 2034/35 as a priority one program. It is one of the successful public health interventions in Nepal. National Immunization Program has included several underused and new vaccines in the program. Currently, twelve antigens – BCG, DPT-HepB-Hib (penta), Rota, PCV, OPV (bOPV), Measles and Rubella (MR), and Japanese Encephalitis are provided as per the schedule during the vaccination program.

The coverage of BCG, MR 1, and MR2 has increased in 076/77 compared to 075/076. The highest coverage was of BCG with 132%. However, the fIPV2 coverage was lowest among antigen for

children with 70% in FY 2076/77, which has increased by 18% compared to the previous year's coverage with 52%.

### **Integrated management of Childhood Illness**

This integrated package of child-survival intervention addresses the major problems of sick newborns such as birth asphyxia, bacterial infection, Jaundice, hypothermia, low birth weight, counseling of breastfeeding. It also addresses major childhood illnesses like Pneumonia, Diarrhea, Malaria, Measles, and Malnutrition among under five years children in a holistic way.

The incidence of ARI and diarrhea among under 5 children was 258/1000 and 109/1000 respectively. Similarly, the incidence of Pneumonia was 27/1000 among under 5 children and the proportion of children with diarrhea treated by ORS and Zinc was 100 percent.

### **Nutrition**

The national nutrition program is a priority program of the government of Nepal. It aims to achieve the nutritional well-being of all people to maintain a healthy life and contribute to the country's socio-economic development. A high-level commitment from the provincial government was ensured to improve the nutritional status, especially of women and young children.

In 2076/77, three-fourths (75%) children were registered for a new growth monitoring visit; however, the average number of growth monitoring visits among 0-23 month children was three. About 1 percent of children aged 0-23 months registered for growth monitoring were found underweight, which was the same as the previous year (1%).

### **Safe Motherhood**

The goal of the National Safe Motherhood Program is to reduce maternal and neonatal morbidity and mortality and improve maternal and neonatal health through preventive and promotive activities and by addressing avoidable factors that cause death during pregnancy, childbirth, and the postpartum period.

Pregnant women attending at least 4 ANC visits as per protocol were 74 percent in FY 2076/77, which decreased significantly by 20 percent compared to the previous fiscal year. Whereas institutional delivery as a percentage of expected live births and PNC visits continuously increased from the last two fiscal years. In FY 2076/77, 4119 women received safe abortion services.

### **Family planning**

The main aim of the National Family Planning program is to ensure that individuals and couples can fulfill their reproductive needs by using appropriate family planning (FP) methods voluntarily based on informed choices. The government of Nepal (GoN) is committed to equitable and right

based access to voluntary, quality FP services based on informed choice for all individuals and couples, including adolescents and youth, those living in rural areas, migrants, and other vulnerable or marginalized groups, ensuring no one is left behind.

The Contraceptive Prevalence Rate (CPR) is one of the main indicators for monitoring and evaluating the Family Planning Program. The contraceptive prevalence rate (CPR) for the modern family planning method was 44% in the fiscal year 2076/77, the same as FY 2075/76. Depo and pills remained the two most common modern methods preferred by new acceptors.

### **Primary Health Care Outreach Clinics**

Based on the local needs, Primary health care outreach clinics (PHC/ORCs) are conducted every month at fixed locations in a specific time frame. The clinics are conducted within half an hour's walking distance for the population residing in that area. PHC/ORCs extend basic health care services to the community level. The total number of clinics expected to run in a year was 456 (37 PHC/ORC clinics x 12 times). However, only 68% of clinics were conducted in FY 2075/76 due to unavoidable circumstances. On average, 16 clients were served per clinic during the FY 2076/77.

### **Malaria**

The government of Nepal has set a vision of Malaria free Nepal in 2025. The current National Malaria Strategic Plan (NMSP) 2014- 2025 was developed based on the epidemiology of malaria derived from 2012 micro-stratification. Nepal has achieved a significant reduction in its malaria burden in recent years. The total positive malaria cases have decreased from 10 in 20765/76 to 6 in 2076/77. All were imported cases, and no single case of Plasmodium falciparum was reported during the year.

### **Lymphatic Filariasis**

Lymphatic Filariasis (LF) is one of the public health problems in Nepal. The goal of the national Lymphatic Filariasis program is the people of Nepal no longer suffer from lymphatic filariasis. The government of Nepal has adopted MDA as an important strategy to eliminate Lymphatic filariasis. Chitwan completed six rounds of intensive mass drug administration in 2016.

### **Dengue**

Dengue, a mosquito-borne disease, emerged in Nepal in 2005. 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). Frequent outbreaks were reported in the periodic duration. In Chitwan, the metropolitan experienced the major epidemic in FY 2076/ where the cases drastically increased from 23 in FY 2075/76 to 4803 in 2076/77. Extensive activities were carried out to prevent, control, and manage the dengue epidemic in FY 2076/77.

## **Leprosy**

Leprosy has been a major public health problem for many years and has been a priority of the government of Nepal. The National Leprosy Control Program started in 1966, and Multi-Drug Therapy (MDT) was introduced in 1982. In FY 2076/77, a total number of 33 new leprosy cases were detected and put under Multi-Drug Therapy (MDT). The registered prevalence rate was 0.74 per 10,000 population, which was in the elimination stage. No grade 2 disability was reported in the year.

## **Tuberculosis**

Tuberculosis (TB) is a major public health problem in Nepal. Directly Observed Treatment Short-course (DOTS) has successfully been implemented throughout the country since April 2001, and a total of 29 DOTS treatment centers are providing TB treatment service in Bharatpur.

In FY 2076/77, a total of 459 cases were registered in the National TB program. Out of total cases, 94.1 percent of incident TB cases registered (New and Relapse) among all TB cases. Among the notified TB cases, 76.2 % of all TB cases were pulmonary cases, and out of notified pulmonary TB cases, 74.6 percent were bacteriologically confirmed. The case notification rate decreased to 133/100000 in FY 2076/77 compared to the 153/100000 population in the previous fiscal year. The treatment success rate was 95 percent in FY 2076/77, increased from 89 percent in FY 2075/76.

## **HIV/AIDS and STI**

With the first case of HIV identification in 1988, Nepal started its policy response to the epidemic of HIV through its first national policy in 1995. National HIV Strategic Plan 2016-2021 aims to achieve ambitious global goal 90-90-90. By July 2021, 90% of all people living with HIV (PLHIV) will know their HIV status, 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy, and 90% of all people receiving antiretroviral therapy will have viral suppression. In FY 2076/77, a total of 13645 women during the ANC and labor stage were tested HIV status for prevention of mother-to-child transmission, and 15 pregnant women were found positive.

## **Social Health Security**

Social Health Security program aims to provide free treatment and management facilities of eight selected diseases to disadvantaged Nepali citizens. The “Bipanna Nagarik Aushadhi Upachar Program” provides the funding for disadvantaged Nepali citizens to treat severe health conditions. The provisions includes the treatment of diseases like Cancer, Heart disease, Kidney disease, traumatic head injury, traumatic spinal Injury, Alzheimer's disease, Parkinson’s disease, and sickle cell anemia. In FY 2076/77, a total 353 disadvantage citizens were recommended for the provision

of free treatment services scheme. The top most received services was treatment for Cancer with 176 patients, followed by 109 Heart disease and 50 Kidney.

### **Female Community Health Volunteers**

The female Community Health Volunteers (FCHVs) major role in the promotion of safe motherhood, child health, family planning, and other community-based health services to promote health and healthy behavior of mothers and community people with support from health workers and health facilities. FCHVs contributed significantly to distribute oral contraceptive Pills, Condoms, and Oral Rehydration Solution (ORS) packets and counseling and referring to mothers in the health facilities for the service utilization. Total 207 FCHVs in Metropolitan provide health services to community people.

### **Curative Services**

Curative health services were provided to outpatients, including emergency patients and inpatients. Outpatient services were provided through OPD of Health Post, PHCC, public Hospitals, Medical Colleges, NGO/INGO-led hospitals, and private hospitals. Similarly, inpatient services were provided by public hospitals, medical colleges, and private hospitals. The percentage of new OPD visits was 155 percent in FY 2076/77.

## **Supportive Program**

### **Health Service Management**

A health management information system (HMIS) is a system whereby health data are recorded, stored, retrieved, and processed to improve decision-making. District Health Information System (DHIS2), a customizable free open source software, was used for data entry, analysis, and presentation of information recorded by HMIS. In Bharatpur, 25 public health institutions and more than 100 private institutions submitted monthly reports entered through DHIS2.

### **Logistics Management**

The primary role of Logistics Management (LM) is to support in delivering quality health care services through logistics supply of essential equipment, vaccines, family planning commodities, and free drugs to all health facilities. The quarterly LMIS has facilitated evidence-based logistics decision-making and initiatives in annual logistics planning and forecasting health commodities. In FY 2076/77, all health institutions of Metropolitan submitted quarterly LMIS report.

### **Health Laboratory**

Laboratory medicine is a vital component of health care services. Nepal's healthcare system consists of various laboratories involved in diagnostic services and those involved in public health

activities like surveillance, research, etc. Bharatpur Metropolitan City has established and operated eight health laboratories in 7 health posts, and 1 basic health center.

### **Human Resource for Health**

Human resources are the pivotal resource for health care delivery. Human resource management involves the planning, motivation, training, development, promotion, transfer, and training of employees. The proper placement and use of human resources are crucial for effective quality health care delivery. In FY 2076/77, all the sanctioned posts were fulfilled.

### **Ayurveda and Alternative Health Services**

Ayurveda health system is considered the oldest health system in the world with scientific pieces of evidence. In recent years, the importance of Ayurveda and Alternative medicine have been recognized and prioritized as a part of the national health system, despite the low priority in past years. A range of Ayurveda health institutions is providing outpatient and inpatient health services. More than 12 thousand population were served by Ayurveda health institutions in FY 2076/77.

### **Initiatives from Bharatpur Metropolitan**

Several initiatives were taken by Bharatpur Metropolitan to improve the health status of people during the last three fiscal years. Free ambulance/transportation incentives schemes were provided to women who had institutional delivery. Free OPD grants were given to Bharatpur hospital to assure free OPD tickets to women, elderly and people having disabilities. Emphasis has been given to health infrastructure development and maintenance of health facility buildings. In addition, essential medicines and equipment were procured and distributed to health institutions. The establishment and operation of health institutions have been carried out in the ward level and human resource for health were recruited on a contract basis for the smooth functioning of health services. With the slogan “Clean and Healthy City” Bharatpur Metropolitan is committed to making the city livable and healthy. Efforts have been made to make Bharatpur a tobacco-free Metropolitan. Monthly transportation costs were provided to FCHV to motivate them and achieve a higher standard of services.

In 2076/77 Dengue outbreaks were reported in Chitwan. Different activities like search and destroy, multisectoral coordination, school health education, awareness program, and training were carried out for the prevention and control of Dengue. Similarly, the pandemic of COVID 19 heavily influenced every sector of society. Activities like quarantine management, case investigation and contact tracing, monitoring of patients in home isolation, awareness and preparation, establishment and operation of health desk, the establishment of fever clinic, PPE and medical equipment procurement, and supply were implemented to prevent, control, and manage the COVID-19 pandemic in Bharatpur.

## Chapter I: Introduction

### General Information

The constitution of Nepal has established basic health care as a fundamental right of its citizens. The Government of Nepal is committed to improving access to and use of quality health care by embracing the concept of universal health coverage. For this, policies, strategies and plans including long-term health plans, national health policy and Nepal Health Sector Program have been prepared and implemented keeping in view the guidelines, goals and strategies given by international conferences and declarations including Millennium Development Goals, Sustainable Development Goals.

The Constitution of Nepal broadly defines exclusive and concurrent mandates of the three levels of government, including for health policies and services. These constitutional provisions identify the functions to be carried out by federal, provincial, and local governments. Ministry of Health and Population (MoHP) developed the National Health Policy, 2076, in light of the new constitution of the country. The Public Health Service Act and Safe Motherhood and Reproductive Health Rights Act have also been enacted by the federal parliament to operationalize the constitutional rights of citizens for health service provision. Moreover, the MoHP has defined the package of basic health services as an integrated part of the public health services regulations.

In order to fulfill the objective of the health sector, the management of the entire health care program and the provision of quality health care needs to be done effectively. Health information plays an important role in the various stages of implementation, monitoring and evaluation of programs, policies or plans implemented at all levels and improve the quality health care. The information system provides the evidenced-based decision making in all level of the health system.

Health information is an integral part of the national health system. It is a basic tool of management and a key input for the improvement of health status in the country. The primary objective of the information system is to provide reliable, relevant, up-to-date, adequate, timely and reasonably complete information for health managers at local, provincial and national levels.

This is the first ever annual report of the Bharatpur Metropolitan City, Public health Promotion Section. This report highlights the comparative analysis of important public health indicators. In Bharatpur, health services have been delivered to the people of the Metropolitan through various levels of health institutions. There are 2 central level hospitals (Bharatpur Hospital and B.P. Koirala Memorial Cancer Hospital) in Bharatpur. Under Bharatpur Metropolitan there are 1 PHC, 6 Ayurveda Ausadhalaya, 13 Health Posts, 8 Basic Health Center (BHC), 2 Urban Health Center (UHC), 1 Community Health Unit (CHU), 1 Maternal and Child Health Clinic and 1 Health Clinic which all are governed by Bharatpur Metropolitan City.

In addition, basic health service is providing through 80 Expanded Program on Immunization (EPI) clinics, 37 Primary Health Care Outreach Clinics (PHC/ORCs) and 207 Female Community Health Volunteers (FCHVs). As the policy of the federal government is to establish one health institutions in each wards of newly created wards of Metropolitan city, 6 wards in the Bharatpur have no any health facility out of total 29 wards.

This report analyses the performance and achievements of Bharatpur Metropolitan City in fiscal year 2076/77 (2019/2020). It focuses on performance in 2076/77 and the following areas that provide the basis for improving performance in subsequent years:

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

Health Management Information System (HMIS) is the main source of information for this report. The report also uses information from other Management Information Systems (MISs), disease surveillance systems. The main health sector MISs includes the DHIS 2, the Logistics Management Information System (LMIS), and the Ayurveda Reporting System (ARS).

## **Bharatpur Metropolitan Profile**

### **Introduction**

Bharatpur Metropolitan City is located in Chitwan District, Bagmati Province, Nepal. Bharatpur is the district headquarter of Chitwan situated in the central southern part of Nepal. The city is located at latitude of 27<sup>0</sup>32'58'' to 27<sup>0</sup>45'40'' and 84<sup>0</sup>9'5'' to 84<sup>0</sup>29'5'' longitude. It is surrounded by Ratnanagar Municipality, Kalika Municipality and Ichhyakamana Rural Municipality in the East, Chitwan National Park and Nawalparasi (Bardaghat Susta West) District in the West, Tanahu District in the North, Chitwan National Park in the South. Bharatpur, the fourth largest city of Nepal, is a commercial and service center of central south Nepal and major destination for higher education, health care and transportation in the region.

Bharatpur Metropolitan city is situated at an altitude of about 251 meters from the sea level with latitude of 27<sup>0</sup>32'58'' to 27<sup>0</sup>45'40'' and 84<sup>0</sup>9'5'' to 84<sup>0</sup>29'5'' longitude. The Bharatpur Metropolitan city is the local government of Nepal where 29 ward are cumulated to form whole metropolitan city. According to population census 2011 the population of Bharatpur Metropolitan city is 280,502.

Bharatpur was established in 2035 as Bharatpur Municipality and later upgraded to Metropolitan City since 2073 Falgun 17. It is divided into 29 wards and occupies a total area of 427.35 square kilometer. Organized settlement started in the city since the establishment of Rapti Dun Project in 2013 BS and inhabited by migrants from all districts of Nepal. It is renowned for historical, social,

economic, cultural and religious perspectives with the presences of various ethnic groups, most of the people except some indigenous group like Tharus, Darai, Kumals and Chepangs are emigrated from different parts of the country. The principal language in the city is Nepali and the major religions are Hinduism.

Bharatpur is also known as the medical city of Nepal. There are many top rated medical institutions in the city where Central hospital like BPKMCH Cancer hospital, Government Bharatpur hospital, Chitwan of Medical Science (CMS), Chitwan Medical College (CMC) with others private hospitals, Primary health Post, Urban Health Centers, are providing health services regularly. People from all over Nepal and also from North India come here for treatment. The district is especially famous for the cancer hospital named after B.P. Koirala.

The historical and religious place Devghat, Deepest River - Narayani River, Bishajari Tal (Twenty thousand lake), Rapti River are some of the important places in Bharatpur. Ranging from Golaghat, the confluence of Narayani and Rapti rivers, to high hilly are Chowkidanda, Bharatpur has immense possibility of social, economic and cultural advancement.

### Map of Bharatpur Metropolitan City

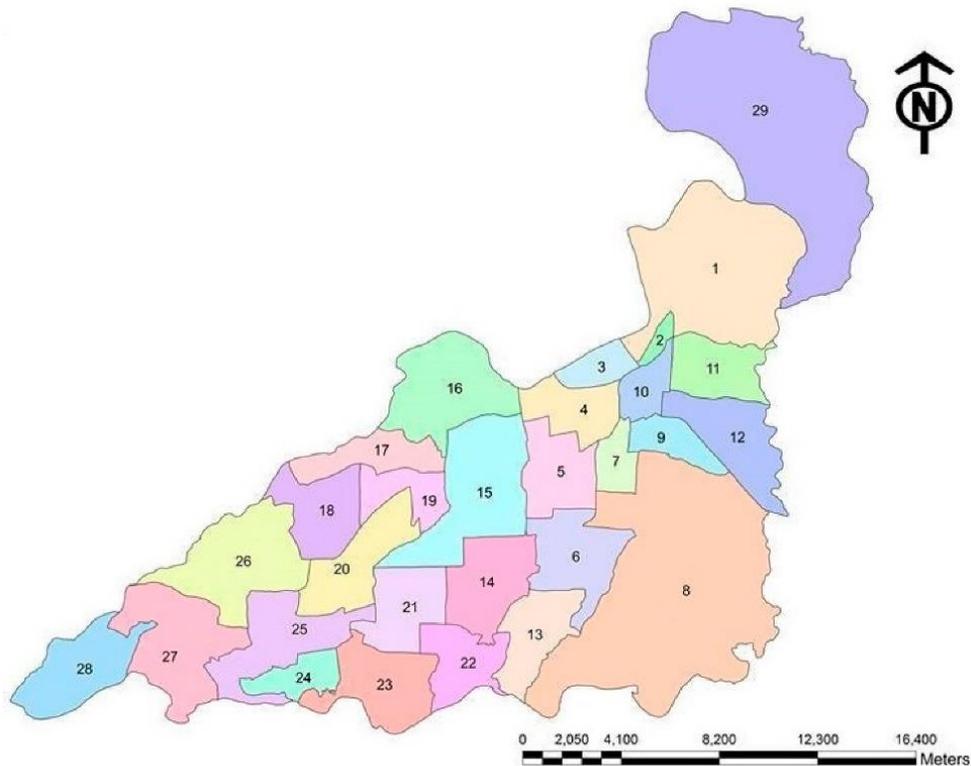


Figure: Map of Bharatpur Metropolitan City

## Bharatpur Metropolitan at a Glance

Country	Nepal
Province	Bagmati
District	Chitwan
Longitude	84 <sup>0</sup> 9'5" to 84 <sup>0</sup> 29'5" East
Latitude	27 <sup>0</sup> 32'58" to 27 <sup>0</sup> 45'40" North
Elevation	140 to 390 meters above sea level
Area	432.95 sq. km.
Average rainfall	1500 mm
Average temperature	25 °C (Lowest: 10°C, Highest: 40°C)
Number of wards	29
Population	280,502 (CBS 2001)
Annual Growth Rate	2.06%
Population Density	665/ sq.km.
Number of household	69035 (CBS 2001)
Average family size	4.06
Male Female ratio	91.46
Major religions	Hindu
Principal Language	Nepali, Tharu

## Health Profile of Bharatpur Metropolitan City

### Number of Health Service Unit

Hospital (Government)	2	IUCD site	10
Primary Health Center (PHC)	1	Implant site	9
Health Post (HP)	13	Safe abortion service site	2
Basic Health Center (BHC)	8	Laboratory	9
Urban Health Center (UHC)	2	DOTS center	29
Community Health Unit (CHU)	1	TB microscopy center	13
Ayurved Aushadhalaya	6	Gene xpert center	2
MCH Clinic	1	MDR sub center	2
Health Clinic	1	Vaccine sub-center	3
Immunization clinic	80	Medical college	2
PHC-ORC	37	Private Hospital / Nursing Home	24
FCHV	207	Polyclinic/Clinic/Others	151
Birthing center	5	Ambulance	57

## Type of Health Institution

S.N.	Health Institution Type	Name of Health Institution	Ward No	Established Year
1	Primary Health Center (PHC)	Shivanagar PHC	14	
2	Health Post (HP)	Shahid Ganesh HP	6	
3		Bharatpur HP	8	
4		Fulbari HP	15	
5		Mangalpur HP	16	
6		Gunjanagar HP	17	
7		Sharadanagar HP	19	
8		Parvatipur HP	21	
9		Patihani HP	22	
10		Jagatpur HP	23	
11		Shukranagar HP	25	
12		Divyanagar HP	26	
13		Meghauli HP	27	
14		Kabilas HP	29	
15	Basic Health Center (BHC)	Thimura BHC	1	
16		Aaptari BHC	2	
17		Durgachowk BHC	4	
18		Kailashnagar BHC	5	
19		Sharadpur BHC	9	
20		Jaldevi BHC	11	
21		13 No BHC	13	
22		Shashinagar BHC	18	
23	Urban Health Center (UHC)	Torikhet UHC	5	
24		Kasara UHC	23	
25	Community Health Unit (CHU)	Chaukidada CHU	29	
26	MCH Clinic	MCH Clinic		
27	Health Clinic	Devghat Clinic	10	
28	Ayurveda Aushadhalaya (AA)	Devghat AA	1	
29		Shivaghat AA	4	
30		Gunjanagar AA	18	
31		Patihani AA	22	
32		Meghauli AA	27	
33		Daletar AA	29	

## Description of Immunization Clinic, PHC-ORC and FCHVs

S.N.	Health Institution	Immunization Clinic	PHC-ORC	FCHVs
1	Thimura BHC	1	0	11
2	Aaptari BHC	1	0	5
3	Durgachowk BHC	5	0	16
4	Kailashnagar BHC	1	0	5
5	Torikheth UHC	1	0	6
6	Shahid Ganesh HP	5	3	6
7	Bharatpur HP	4	0	12
8	Sharadpur BHC	1	0	20
9	MCH Clinic	1	0	0
10	Jaldevi BHC	3	0	15
11	13 No BHC	2	0	5
12	Shivanagar PHC	4	3	7
13	Fulbari HP	5	2	16
14	Mangalpur HP	4	2	6
15	Gunjanagar HP	3	2	5
16	Shashinagar BHC	2	1	4
17	Sharadanagar HP	5	3	9
18	Parvatipur HP	5	2	9
19	Patihani HP	3	2	5
20	Jagatpur HP	3	2	7
21	Kasara UHC	1	1	2
22	Shukranagar HP	5	4	9
23	Divyanagar HP	5	3	9
24	Meghauri HP	5	4	9
25	Kabilas HP	3	2	6
26	Chaukidada CHU	2	1	3
	<b>Total</b>	<b>80</b>	<b>37</b>	<b>207</b>

## Infrastructure of Health Institution

S.N.	Health Institution	Land	Land Area	Building	Building status	Standard Building
1	Thimura BHC	Yes	0-1-10-0	Yes	New	Yes
2	Aaptari BHC	No		No	Rent	
3	Durgachowk BHC	Yes	0-1-10-0	No	Rent	
4	Kailashnagar BHC	Yes	0-1-10-0	No	School	
5	Torikhet UHC	Yes		No	Rent	
6	Shahid Ganesh HP	Yes	0-5-0-0	Yes	Old	No
7	Bharatpur HP	Yes		Yes	New	Yes
8	Sharadpur BHC	No		No	Rent	
9	MCH Clinic	No		No	HO	
10	Jaldevi BHC	Yes	0-1-8-0	Yes	New	Yes
11	13 No BHC	No		No	Rent	
12	Shivanagar PHC	Yes		Yes	New	Yes
13	Fulbari HP	Yes	0-5-0-0	Yes	New	Yes
14	Mangalpur HP	Yes	0-5-0-0	Yes	Old	No
15	Gunjanagar HP	Yes	0-5-0-0	Yes	New	Yes
16	Shashinagar BHC	Yes	0-1-10-0	Yes	Process	No
17	Sharadanagar HP	Yes	5-0-0-0	Yes	New	Yes
18	Parvatipur HP	Yes	0-5-0-0	Yes	Process	
19	Patihani HP	Yes		Yes	New	No
20	Jagatpur HP	Yes	0-5-0-0	Yes	New	Yes
21	Kasara UHC	Yes		Yes	New	Yes
22	Shukranagar HP	Yes	0-5-0-0	Yes	Process	
23	Divyanagar HP	Yes	0-10-0-0	Yes	Process	
24	Meghauli HP	Yes	0-10-0-0	Yes	Process	
25	Kabilas HP	Yes	0-6-10-0	No	Community	
26	Chaukidada CHU	Yes		No	Community	
27	Devghat AA	Yes		Yes	Old	No
28	Shivaghat AA	Yes		Yes	New	Yes
29	Gunjanagar AA	Yes		Yes	Old	No
30	Patihani AA	Yes		Yes	New	Yes
31	Meghauli AA	No		No		
32	Daletar AA	No		No	Rent	

## Health Service Centers

### Laboratory Service

- |                     |                    |
|---------------------|--------------------|
| 1. Shahid Ganesh HP | 6. Sharadanagar HP |
| 2. Sharadpur BHC    | 7. Patihani HP     |
| 3. Shivanagar PHC   | 8. Divyanagar HP   |
| 4. Fulbari HP       | 9. Meghauri HP     |
| 5. Mangalpur HP     |                    |

### Birth Center

- |                    |                |
|--------------------|----------------|
| 1. Shivanagar PHC  | 4. Jagatpur HP |
| 2. Gunjanagar HP   | 5. Meghauri HP |
| 3. Sharadanagar HP |                |

### IUCD Service

- |                     |                    |
|---------------------|--------------------|
| 1. Aaptari BHC      | 6. Sharadanagar HP |
| 2. Shahid Ganesh HP | 7. Patihani HP     |
| 3. Shivanagar PHC   | 8. Jagatpur HP     |
| 4. Fulbari HP       | 9. Divyanagar HP   |
| 5. Mangalpur HP     | 10. Kabilas HP     |

### Implant Service

- |                     |                    |
|---------------------|--------------------|
| 1. Aaptari BHC      | 6. Sharadanagar HP |
| 2. Shahid Ganesh HP | 7. Patihani HP     |
| 3. Shivanagar PHC   | 8. Divyanagar HP   |
| 4. Fulbari HP       | 9. Kabilas HP      |
| 5. Mangalpur HP     |                    |

### TB Gene Xpert Center

- |                          |                   |
|--------------------------|-------------------|
| 1. Health Office Chitwan | 2. Shivanagar PHC |
|--------------------------|-------------------|

### DR-TB Sub-center

- |                    |         |
|--------------------|---------|
| 1. Sharadanagar HP | 2. NATA |
|--------------------|---------|

## TB Microscopy Center

- |                     |                           |
|---------------------|---------------------------|
| 1. Shahid Ganesh HP | 7. Patihani HP            |
| 2. Sharadpur BHC    | 8. Divyanagar HP          |
| 3. Shivanagar PHC   | 9. Meghauli HP            |
| 4. Fulbari HP       | 10. Health Office Chitwan |
| 5. Mangalpur HP     | 11. NATA                  |
| 6. Sharadanagar HP  | 12. Nirmayak Diagnostic   |

## TB DOTS Center

- |                     |                                 |
|---------------------|---------------------------------|
| 1. Thimura BHC      | 16. Sharadanagar HP             |
| 2. Aaptari BHC      | 17. Parvatipur HP               |
| 3. Durgachowk BHC   | 18. Patihani HP                 |
| 4. Kailashnagar BHC | 19. Jagatpur HP                 |
| 5. Torikhet UHC     | 20. Kasara UHC                  |
| 6. Shahid Ganesh HP | 21. Shukranagar HP              |
| 7. Bharatpur HP     | 22. Divyanagar HP               |
| 8. Sharadpur BHC    | 23. Meghauli HP                 |
| 9. Jaldevi BHC      | 24. Kabilas HP                  |
| 10. 13 No BHC       | 25. Health Office Chitwan       |
| 11. Shivanagar PHC  | 26. College of Medical Sciences |
| 12. Fulbari HP      | 27. NATA                        |
| 13. Mangalpur HP    | 28. Karagar Office              |
| 14. Gunjanagar HP   | 29. Adarsha Nari Clinic         |
| 15. Shashinagar BHC |                                 |

## Vaccine Sub-center

- |                    |                |
|--------------------|----------------|
| 1. Shivanagar PHC  | 3. Meghauli HP |
| 2. Sharadanagar HP |                |

## Service Availability in Health Institution

Description	No of HI
Office telephone	6
Electricity	33
Solar backup	11
Computer	14
Internet	17
Ambulance	3

### Ward-wise Number of Female Community Health Volunteer

Ward No	Health Institution	No of FCHVs	Ward No	Health Institution	No of FCHVs
1	Thimura BHC	11	16	Mangalpur HP	6
2	Aaptari BHC	5	17	Gunjanagar HP	5
3	Durgachowk BHC	6	18	Shashinagar BHC	4
4		11	19	Sharadanagar HP	4
5	Kailashnagar BHC Torikhet UHC	1	20		5
6	Shahid Ganesh HP	6	21	Parvatipur HP	9
7	Bharatpur HP	6	22	Patihani HP	5
8		6	23	Jagatpur HP Kasara UHC	6
9	Sharadpur BHC	7	24	Jagatpur HP	3
10		13	25	Shukranagar HP	9
11	Jaldevi BHC	8	26	Divyanagar HP	9
12		7	27	Meghauri HP	5
13	13 No BHC	5	28		4
14	Shivanagar PHC	7	29	Kabilas HP Chaukidada CHU	9
15	Fulbari HP	16	Total		<b>207</b>

## Government Hospitals, Medical College and Private Hospitals in Bharatpur

S.N.	Institution	Bed Capacity	Address	Office Phone
1	Bharatpur Hospital	600	BMC-10	056-520111
2	B.P. Koirala Memorial Cancer Hospital	450	BMC-07	056-524501
3	Chitwan Medical College Teaching Hospital	750	BMC-10	056-532933
4	College of Medical Sciences Teaching Hospital	750	BMC-10	056-524203
5	NPI Narayani Samudayik Hospital	150	BMC-10	056-525517
6	Manakamana Hospital	100	BMC-10	056-595280
7	Asha Hospital	55	BMC-10	056-525356
8	Bharatpur Central Hospital	55	BMC-10	056-59532
9	Bharatpur Samudayik Hospital	55	BMC-10	056- 595200
10	Chitwan Hospital	55	BMC-10	056-527101
11	Maula Kalika Hospital	55	BMC-10	056-526738
12	National City Hospital	55	BMC-10	056-523421
13	Pushpanjali Hospital	55	BMC-10	056-528480
14	Shanti Hospital	55	BMC-10	056- 525578
15	Chitwan Model Hospital	51	BMC-10	056-594460
16	Oasis Medical College Hospital	50	BMC-11	056-530577
17	Alive Hospital	25	BMC-10	056-525428
18	Chitwan Everest Hospital	25	BMC-10	056- 524162
19	Chitwan Heart Hospital	25	BMC-10	056-523349
20	Deva Hospital	25	BMC-10	056-520266
21	Saptagandaki Hospital	25	BMC-10	056- 524162
22	Chitwan Om Hospital	24	BMC-10	056- 521066
23	Niko Children Hospital	24	BMC-10	056- 528053
24	Jay Buddha Hospital	15	BMC-10	056-521371
25	Rakshya Hospital	15	BMC-10	056-525000

## Chapter II: Public Health Program

### National Immunization Program

#### Background

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

NIP works in coordination with other divisions of Department of Health Services and national centres of Ministry of Health and Population, and different partners, including WHO and UNICEF, supporting the National Immunization Program. NIP has introduced several new and underutilized vaccines from the time of 2011-2020, contributing towards achievement of Global Vaccine Action Plan targets of introducing new and underutilized vaccines in routine immunization. Currently, the program provides vaccination against 12 vaccine preventable diseases. In the year 2020 oral rotavirus vaccine was added in the routine immunization schedule.

NIP has been successful for meeting the targets of eradication, elimination and control of vaccine preventable diseases. Smallpox being the first vaccine preventable disease to be eradicated in 2034 BS (1977 AD) created a history. The elimination status has been sustained since maternal and neonatal tetanus (MNT) was eliminated in 2005. In Nepal the last case of polio was in 2010 and along with other countries of South East Asia Region, Nepal was certified polio free in 2014, which has been maintained up to now.

Nepal is one of the first country in the world to introduce JE vaccine in routine immunization. Nepal was also certified as having achieved control of rubella and congenital rubella syndrome in august, 2018. Overall, the National Immunization Program is considered as the main contributor towards the decline of infant and child mortality and to achieve the Sustainable Development Goal 3. Ensure healthy lives and promote well-being for all at all ages, target 3.2 End preventable deaths of newborns and children under 5 years of age by 2030.

Nepal is the first country in the South East Asia Region to have 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 also has Immunization Regulation 2074, which was published in the Official Gazette on 6 August 2018 and have recognized immunization as a right of all children.

Since FY 2069/70 (2012/13), Nepal has initiated and implemented a unique initiative known as 'full immunization program'. It addresses the issues of social inequality and discrimination in immunization as every child regardless of any geographical or social aspect within an administrative boundary are meant to be fully immunized under this program. Chitwan was declared fully immunized district in July, 2018.

National Immunization program helps in the evidence generation on burden of vaccine preventable diseases and impact of vaccine introduction. Nation-wide surveillance of acute flaccid paralysis (for polio), measles and rubella, neonatal tetanus, and Japanese encephalitis is conducted through WHO supported surveillance.

## National Immunization Schedule

Table: National immunization schedule

S.N.	Type of vaccine	Number of Doses	Schedule
1	BCG	1	At birth or on first contact with health institution
2	OPV	3	6, 10, and 14 weeks of age
3	DPT-HepB-Hib	3	6, 10, and 14 weeks of age
4	Rota	2	6 and 10 weeks of age
5	fIPV	2	6 and 14 weeks of age
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	Td	2	Pregnant women: 2 doses of Td one month apart in first pregnancy, and 1 dose in each subsequent pregnancy

## Major Activities

- Delivery of routine immunization service from health institution and immunization outreach clinics
- Successful conduction of Measles Rubella campaign
- Initiation of new vaccine Rota in routine immunization program
- Training about Rota immunization and hygiene promotion to health workers.

## Achievements

### Vaccine coverage

The chart presented below show the routine immunization vaccination coverage of Bharatpur Metropolitan City in FY 2074/75 to 2076/77. Identification of non-immunized children and micro planning is needed to reach those children.

**Table: Immunization coverage by antigen doses in 2076/077**

S.N.	Antigens	Target	Achievement	% achieved
1	BCG	7146	9416	132
2	DPT-Hep B-Hib 1	7146	5375	75
3	DPT-Hep B-Hib 2	7146	5246	73
4	DPT-Hep B-Hib 3	7146	5157	72
5	OPV 1	7146	5375	75
6	OPV 2	7146	5241	73
7	OPV 3	7146	5157	72
8	fIPV 1	7146	5301	74
9	fIPV 2	7146	4979	70
10	PCV 1	7146	5367	75
11	PCV 2	7146	5271	74
12	PCV 3	7146	5196	73
13	MR 1	7146	5557	78
14	MR 2	6086	5649	93
15	JE	6086	5103	84
16	TD 2 and 2+	8687	3786	44

**Trend of immunization coverage**

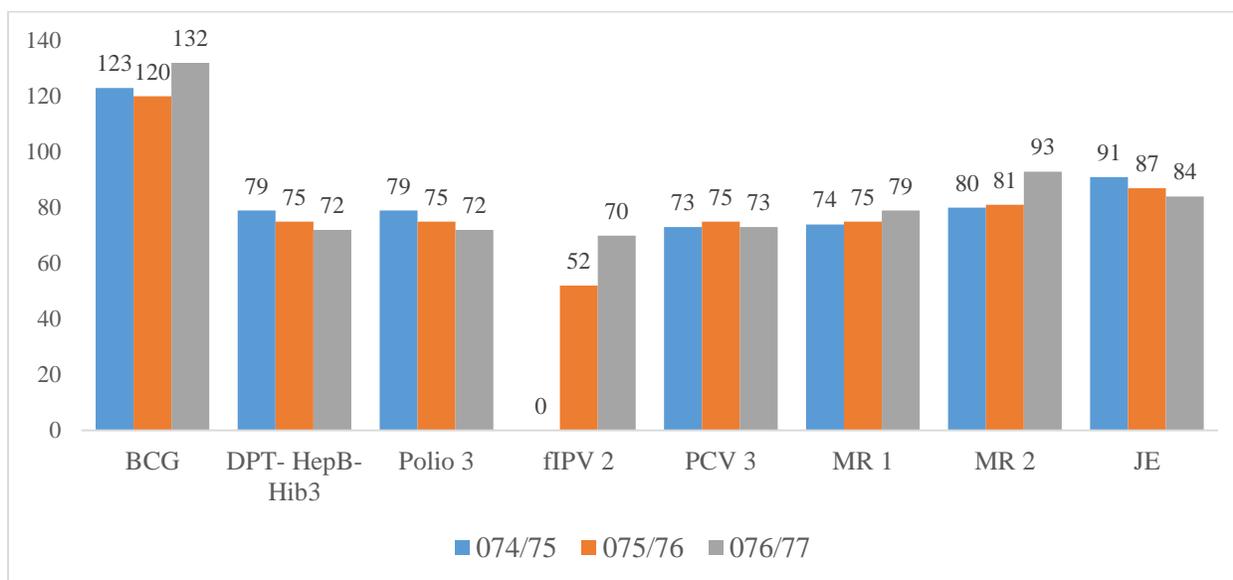


Figure: Trend of immunization coverage in percentage

The figure above shows vaccine wise coverage of Bharatpur Metropolitan City for three years, from FY 2074/75 to FY 2076/77. Coverage of BCG, FIPV, MR1 and MR2 are in increasing trend in FY 2076/77 compared to past two fiscal years, while coverage of DPT-HepB-Hib 3, OPV 3, PCV 3 and JE vaccines are in decreasing trends. BCG coverage has increased by 12% point in FY 2076/77. However, the coverage of DPT-HepB-Hib 3 and OPV 3 both has decreased by 3% points compared to previous year. The coverage of fIPV2 is 70% in FY 2076/77. PCV 3 coverage has decreased by 2% from the FY 2076/77 to FY 2076/77. The coverage of MR 1 and MR 2 has also increased by 4% and 12% respectively in the FY 2076/77. In FY 2076/77, the coverage of JE vaccine has decreased by 3% in comparison to the FY 2076/77.

### Dropout rates of vaccination:

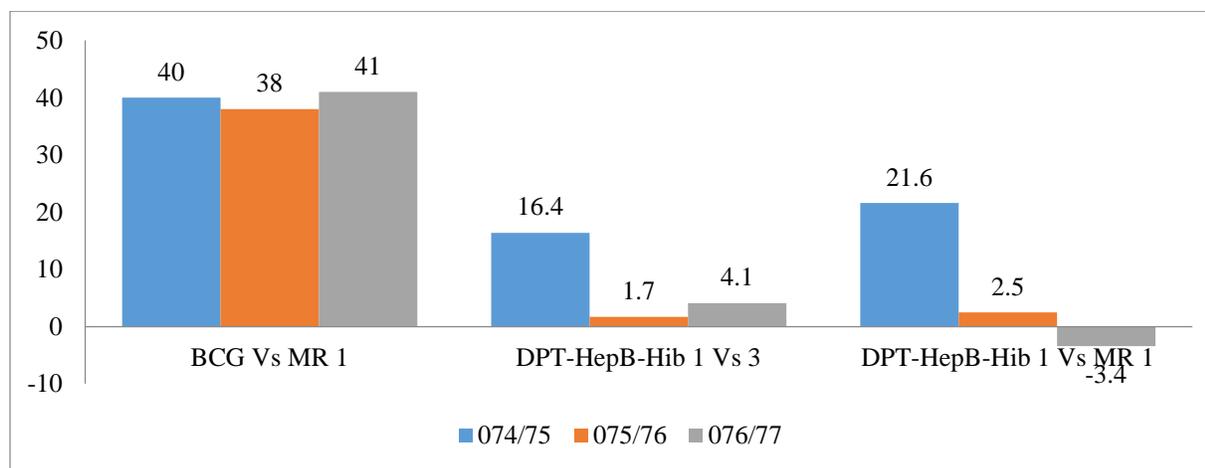


Figure: Dropout rates (%) of different vaccinations

The figure shows dropout rate for BCG Vs MR1, DPT-HepB-Hib1 Vs 3 and MR1. Though there is slight increase in dropout rate of BCG Vs MR1 in FY 2076/77, the dropout rate of DPT-HepB-Hib1 Vs 3 and DPT-HepB-Hib1 Vs 1 has reduced significantly in FY 2076/77 compared to FY 2074/75. BCG Vs M 1 increased from 40% in FY 074/75 to 41% in FY 2076/77. Dropout rate of DPT-HepB-Hib1 Vs MR1 has decreased by 5.9% in FY 2076/77.

### Vaccine wastage rates

Indicative wastage rates of BCG vaccine is 50%, JE vaccine is 10%, MR vaccine is 50%, DPT - HepB-Hib vaccine and OPV is 25%, PCV is 10% and that of FIPV should be lower than 25%. The wastage rate of BCG and JE vaccine has remained above the indicative wastage rate i.e. above 60%. This is because BCG, MR (it has remained below indicative wastage rate) and JE needs to be discarded within 6 hours (1 hour only for JE) or at the end of immunization session whichever

comes first. There is at least ‘one vial per session’ policy used in Nepal for BCG, MR and JE vaccines. Though, wastage rate of DPT-Hep-Hib, OPV, PCV and FIPV has remained below indicative wastage, past three years data of these vaccines shows increasing trend which needs to be monitored closely.

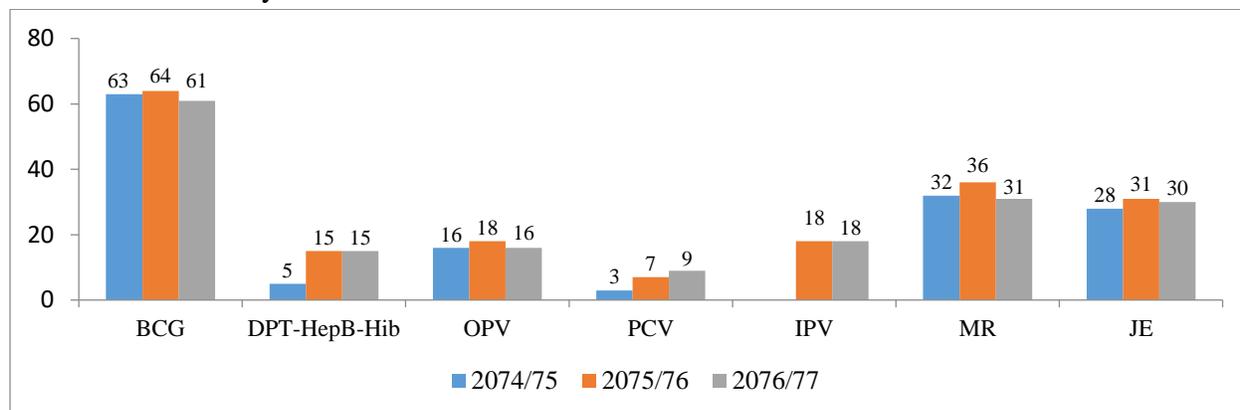


Figure: Vaccine wastage rates (%), FY 2074/75 to FY 2076/77

### Access and Utilization of Immunization Services

National Immunization Program evaluates status of the districts by accessibility and utilization of immunization services. Districts are categorized in category 1 to 4 on basis of DPT-HepB-Hib 1 coverage and dropout rate of DPT-HepB-Hib1 vs DPT-HepB-Hib 3 to know the accessibility and utilization of immunization services respectively.

Table: Health institution categorization based on access (DPT-HepB-Hib 1 coverage) and utilization (DPT-HepB-Hib 1 vs. DPT-HepB-Hib 3 drop-out)

<b>Category 1 (less Problem)</b> High Coverage (≥80%) Low Drop-Out (<10%)	<b>Category 2 (Problem)</b> High Coverage (≥80%) High Drop-out (≥10%)	<b>Category 3 (Problem)</b> Low Coverage (<80%) Low Drop-out (<10%)	<b>Category 4 (Problem)</b> Low Coverage (<80%) High Drop-out (≥10%)
Thimura BHC Bharatpur HP Mangalpur HP Gunjanagar HP Sharadanagar HP Patihani HP Divyanagar HP Meghauli HP	MCH Clinic Jagatpur HP Kabilas HP	Aaptari BHC Durgachowk BHC Shahid Ganesh Jaldevi BHC 13 No BHC Shivanagar PHC Fulbari HP Shukranagar HP	Kailashnagar BHC Torikhet BHC Sharadpur BHC Parvatipur HP

Health facilities performances are recognized as Category 1 (coverage of DPT-HepB-Hib 1 is more than 80% and dropout of DPT-HepB-Hib 1 Vs. DPT-HepB-Hib 3 is less than 10%), Category 2 (coverage of DPT-HepB Hib 1 is more than 80% and dropout of DPT-HepB-Hib 1 Vs. DPT-HepB-Hib 3 is also more than 10%), Category 3 (coverage of DPT-HepB Hib 1 is less than 80% and dropout of DPT-HepB-Hib 1 VS DPT-HepB-Hib 3 is also less than 10%) and Category 4 (coverage of DPT-HepB-Hib1 is less than 80% and dropout of DPT-HepB-Hib 1 VS DPT-HepB-Hib 3 is more than 10%).

The table shows that eight health facilities are in category 1 which indicates good access and good utilization, and the other 8 health facilities are in category 3 (poor access, good utilization). Likewise, three health facilities are in category 2 (good access, poor utilization), and the remaining 3 health facilities are in category 4 (poor access, poor utilization).

### Monthly Distribution of Vaccinated Child in Number in FY 2076/77

**Table: Number of vaccinated child month-wise**

Antigen	Shravan	Bhadra	Ashwin	Kartik	Mangsir	Poush	Magh	Falgun	Chaitra	Baisakh	Jestha	Ashadh
BCG	1025	1042	864	934	942	1086	853	749	172	661	539	549
DPT-HepB-Hib 1	338	457	513	508	598	537	569	523	128	491	384	329
DPT-HepB-Hib 2	333	310	413	434	474	692	545	575	145	441	485	399
DPT-HepB-Hib 3	264	351	304	390	433	608	682	548	128	464	450	535
MR1	551	493	496	428	410	365	314	359	350	608	603	580
MR 2	286	298	346	304	539	550	504	507	996	537	455	327
JE	435	444	519	422	615	587	476	413	59	380	372	381

### Storage of vaccine:

Vaccines are distributed through one district cold room located in Health Office Chitwan, and three vaccination sub-centers that are located in Meghauli HP, Shivanagar PHC, and Sharadanagar HP. Cold chain has been maintained up to immunization clinic.

### Measles Rubella Immunization Campaign 2076/077

Measles Rubella Immunization Campaign (MR Campaign) for children from 9 months to 59 months has conducted to achieve the objectives of Government of Nepal to reduce mortality and morbidity due to measles and rubella by developing high immunity against the disease. To eliminate measles and rubella immunization coverage should be above 95 percent at all levels. The campaign has covered all children from 9 months to 5 years of age across the country.

Overall achievement of the MR campaign was 91% in Bharatpur Metropolitan City. Wardwise coverage of campaign was as follows:

Table: Achievement of MR campaign

Ward No	No of Vaccination Center	Achievement				No of AEFI
		9 months to 2 years	2 to 5 years	Total	Percentage	
1	8	254	660	914	95	0
2	12	210	865	1075	67	0
3	10	196	610	806	50	1
4	9	328	1060	1388	112	0
5	8	211	633	844	111	0
6	9	230	741	971	104	0
7	7	247	677	924	99	0
8	8	210	606	816	139	0
9	8	216	620	836	109	0
10	14	385	971	1356	79	0
11	15	430	1425	1855	87	0
12	9	212	642	854	96	0
13	7	109	290	399	74	0
14	9	190	541	731	98	0
15	10	247	772	1019	100	0
16	9	341	905	1246	85	0
17	9	195	642	837	128	0
18	6	136	484	620	96	0

Ward No	No of Vaccination Center	Achievement				No of AEFI
		9 months to 2 years	2 to 5 years	Total	Percentage	
19	8	125	344	469	83	0
20	6	154	435	589	97	0
21	9	154	504	658	110	0
22	9	130	346	476	107	0
23	9	135	429	564	76	0
24	5	106	249	355	67	0
25	9	170	493	663	85	0
26	9	223	707	930	118	0
27	8	135	517	652	88	0
28	6	156	475	631	84	0
29	9	113	340	453	72	0
<b>Total</b>	<b>254</b>	<b>5948</b>	<b>17959</b>	<b>23931</b>	<b>91</b>	<b>1</b>

### Vaccine preventable disease surveillance

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 was integrated in the AFP/polio surveillance network. In 2004, surveillance of acute encephalitis syndrome for Japanese encephalitis was integrated in the AFP/polio surveillance network. Supported by WHO-IPD, surveillance for these diseases are conducted throughout the country through routine weekly zero reporting sites, case-based measles surveillance sites and informers.

### Issues

- Dropout of children (due to frequent movement of population)
- Wastage of vaccine in scattered population
- Poor infrastructure of outreach clinic
- Inadequate HRH in urban area/MCH clinic
- Poor cold chain equipment repair, maintenance and replacement
- Micro planning program limited to PHC and Health post only
- Overcrowding in some immunization clinics

## **Integrated Management of Neonatal and Childhood Illnesses**

### **Background**

IMNCI is an integrated approach to child health that focuses on the wellbeing of the whole child. IMNCI aims to reduce death, illness and disability, and to promote improved growth and development among children under five years of age. IMNCI includes both preventive and curative elements that are implemented by families and communities as well as by health facilities.

Integrated Management of Neonatal and Childhood Illness (CBIMNCI) is integrated program of Integrated Management of Childhood Illness (CB-IMCI) and New-born Care Practices (CBNCP) Program which is being implemented in phase wise model. The goal of this program is to improve neonatal and child health as well as contribute in their health improvement and reduce illness and mortality among under five children. IMNCI Program is the integration package of child-survival addressing five major killer diseases namely diarrhea, pneumonia, malnutrition, measles, and malaria at community and health facility level focusing on under-five children throughout the country which is focused to reduce mortality and morbidity of new born, addresses the main causes of neonatal mortality - infection, low birth weight, prematurity, hypothermia, and asphyxia.

In CB-IMNCI program, the health promotional activities are carried out by FCHVs for maternal, newborn and child health. They distribute the essential commodities which do not require assessment and diagnostic skill such as distribution of iron, zinc, ORS, chlorhexidine and referral in case of any danger sign appears among sick newborn and child, to nearby Health facilities. The program has also provisioned the post-natal visits by trained health workers through primary health care outreach clinic. National wide implementation of CB-IMNCI was completed in 2009 and revised in 2012 including important new interventions. CB-IMNCI program is now implemented in all 77 district of Nepal.

There are different indicators for monitoring CB-IMNCI Program which are listed below:

- Percentage of infants (0-2months) with Possible Severe Bacterial Infection receiving complete dose of Injection Gentamicin.
- Percentage of under 5 children with pneumonia treated with antibiotics
- Percentage 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/Cotrim, CHX)

### **Major Activities**

- Procurement and supply of equipment and medicines for IMNCI program (ORS, Zinc, Amoxicillin, Gentamycin, Chlorohexidine gel)

## Achievements

Table: Status of CB-IMNCI program indicators

Program indicators	2074/75	2075/76	2076/77
% of PSBI among registered 0-2 months infant (sick baby)	5.7	5.3	12.5
% of PSBI cases among expected live births	0.21	0.12	0.99
Incidence of ARI among children U5 years (per 1000)	269	262	258
Incidence of pneumonia among children U5 years (per 1000) (*HF and PHC/ORC only)	45	44	27
% of severe Pneumonia among new cases	0.34	0.43	0.34
% of children U5 years with Pneumonia treated with antibiotics	69	64	93
Diarrhoea incidence rate among children under five years	135	111	109
Diarrhoea mortality rate among children under five years (per 1000)	0	0.8	1.3
Percentage of children under five years with diarrhoea suffering from Severe dehydration	2.1	1.5	1.1
Percentage of children under five years with diarrhea treated with zinc and ORS	82	79	100
Percentage of children under five years with diarrhoea treated with IV fluid	0.07	0.05	0.11

The data obtained for FY 2076/77 indicate an increase in the percentage of PSBI cases, displaying an increasing trend. In the case of registered Infants who are 0-2 months old, the identified percentage of PSBI is 12.5% which is more than double in proportion when compared to figure from past FY. In general, the percentage of PSBI cases among expected live birth is 0.99%.

However, among the U5 children, the incidence of ARI was 258 and that of pneumonia was 27 in the FY 2076/77, which helps us conclude that the ARI cases have been managed at its early phase before leading to any complication. The incidence of diarrhoea among U5 children has decreased by 26% in FY 2076/77 as compared to that of 2074/75 and has increased slightly by 2% when compared with the data of FY 2075/76. There is increase in percentage of U5 children treated with zinc and ORS and also IV fluid.

## Issues

- High incidence of ARI among children under five
- Indistinct service from FCHV in urban area
- Less priority has given to integrated care
- Limited engagement of private sectors

## Nutrition

### Background

National Nutrition Program is mostly targeted for improving the nutritional status of children, pregnant women and adolescents in the country. The main goal of the national nutrition program is to achieve nutritional well-being as well as to maintain healthy life of all people to contribute in the socio-economic development of the country, through improved nutrition program implementation in collaboration with relevant sectors. There are different nutrition interventions which are cost-effective for attaining the Sustainable Development Goals. The Government of Nepal in alignment with different international and national declarations including the national health policies is committed in ensuring that its citizens have adequate food, health and nutrition. The 2015 Constitution of the country have also ensured the right to food, health and nutrition to all citizens. The main reason of the vicious cycle of malnutrition and infections is hunger and under-nutrition which results in poor intellectual development, less productivity and compromised socio-economic development of the children.

Nutrition is one of the development agenda set by the countries worldwide. There have been several global movements since 2000 that have advocated nutrition for development. As a multi-sectoral action the Scaling-Up-Nutrition (SUN) initiative calls for improved nutrition during the first 1,000 days of life. Government of Nepal adopted the Multi-Sector Nutrition Plan (MSNP) in 2012 to reduce chronic malnutrition.

Child under-nutrition is in decline phase but it is still unacceptable in Nepal. The national Vitamin A program which is Nepal's one of the micronutrient supplementation programs have been globally recognized as a successful program but still nutritional anaemia remains a public health threat among adolescents, children and women.

There are several programs implemented to counter malnutrition. Growth monitoring and breastfeeding promotion began with this followed by community-based micronutrient supplementation. Food-based approach among vulnerable groups has been followed by the most recent national nutrition programs to promote improved dietary behavior. There are different programs implemented for the improvement of nutrition status as mentioned below:

Nationwide programs:

- Growth monitoring and counseling
- Prevention and control of iron deficiency anaemia (IDA)
- Prevention, control and treatment of vitamin A deficiency (VAD)
- Prevention of iodine deficiency disorders (IDD)
- Control of parasitic infestation by deworming
- Mandatory flour fortification in larger roller mills

## Major Activities

### Control of protein energy malnutrition

- Promotion of breastfeeding within 1 hour of birth and avoid pre-lacteal feeding.
- Promotion of exclusive breastfeeding for first six months and the timely introduction of complementary food.
- Ensure continuation of breastfeeding for at least 2 years and the introduction of appropriate complementary feeding after

### Control of iron deficiency anaemia (IDA)

- Iron folic acid supplementation for pregnant and post-partum mothers.
- Iron folic acid supplementation program to adolescents

### Control of iodine deficiency disorders

- The universal iodization of salt
- Create awareness about the importance of using iodized salt to control iodine deficiency disorder (IDD)

### Control of vitamin A deficiency

- The biannual distribution of vitamin A capsules to 6 to 59 -month olds through FCHVs.
- Post-partum vitamin A supplementation for mothers within 42 days of delivery.
- Strengthen implementation of vitamin A treatment protocol for severe malnutrition, persistent diarrhoea, measles and xerophthalmia.
- Nutrition education to promote dietary diversification and consumption of vitamin A rich foods.
- Ensuring the availability of vitamin A capsules at health facilities.
- Increase awareness of importance of vitamin A supplementation.

## Achievements

### Growth monitoring and promotion

Growth monitoring helps to prevent and control protein-energy malnutrition of children less than two years of age and provides the opportunity for taking preventive and curative actions. All public health facilities using the growth monitoring card run growth monitoring once a month based on WHO's new growth standards.

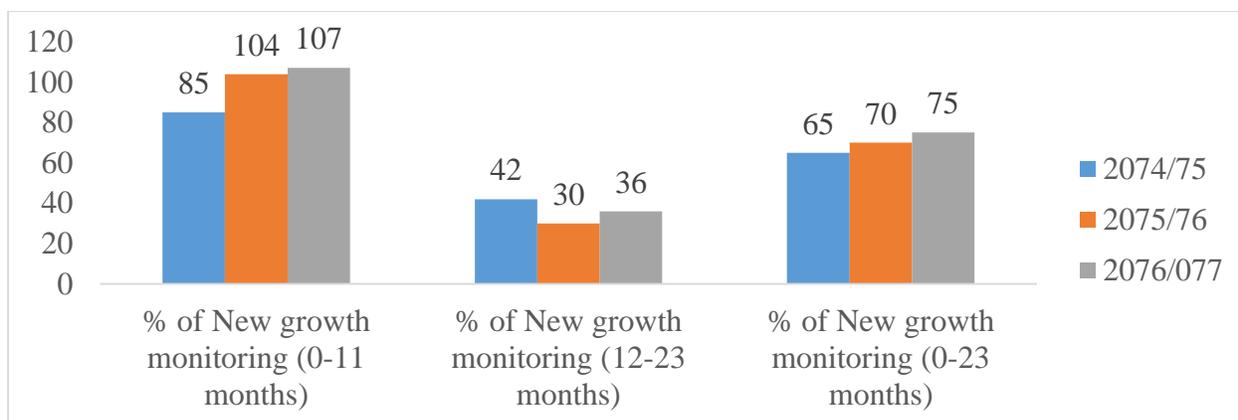


Figure: Percentage of children registered for growth monitoring

Growth monitoring among 0-11 months children and 0-23 months children is in increasing trend whereas among 12-23 months children, data shows fluctuating pattern. Growth monitoring among 12-23 months children in FY 2074/75 has decreased by 12% in FY 2075/76 from 42% in FY 2074/75 which has then increased by 6% in FY 2076/77.

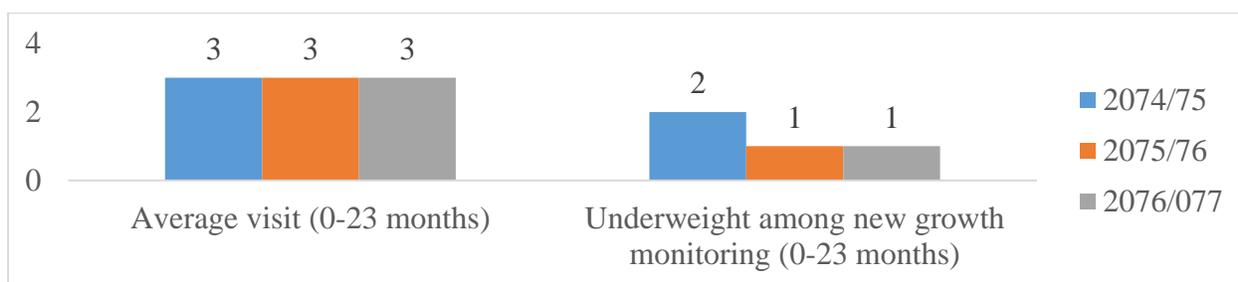


Figure: Average no. of growth monitoring visits per child (0-23 months)

The average growth monitoring among (0-20) months has remained stagnant to 3% since last three years. Underweight among them was 2% in FY 2074/75 which was then reduced to 1% in FY 2075/76 and remained the same in 2076/77 as well.

Table: Number of new growth monitoring

Children Registered for growth monitoring	Nutritional status of children registered for growth monitoring (New and follow up visit)					
	0-11 months			12-23 months		
	Normal	Moderate	Severe	Normal	Moderate	Severe
New visit	12	29	13	2151	39	20
Follow up visit	10	32	2	4617	75	3

## Infant and young child feeding

To enhance the nutrition, survival, growth and development of infants and young children appropriate feeding practices are essential. This includes exclusive breastfeeding for six months, providing nutritionally adequate and complementary feeding starting from six months along with continued breastfeeding up to two years of age or beyond.

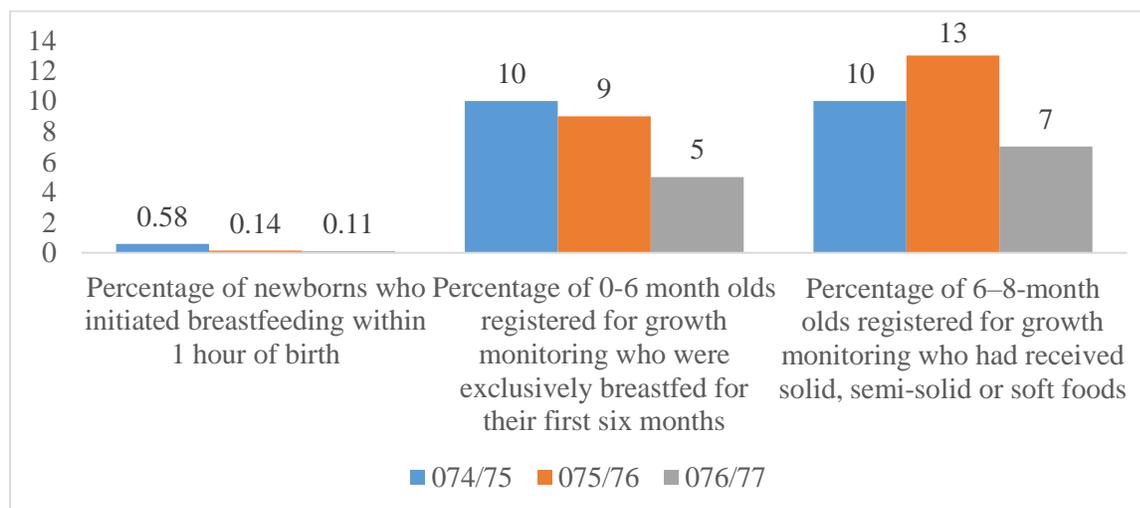


Figure: Early and exclusive breastfeeding and complementary feeding

Past three years trends shows that the percentage of new born who were breastfed within 1 hour is in decreasing trend and has remained very low (less than 1%). Among 0 - 6 months old children registered for growth monitoring, exclusive breastfeeding percentage has decreased from 10% in FY 2075/76 to 5% in FY 2076/77. Past three years data on complementary feeding among 6-8 months children initially increased by 3% in FY 2075/76 when compared to data (10%) of 2074/75 but in 2076/77, there is significant decrease (by 6%).

## Prevention and control of iron deficiency anaemia

MoHP has been providing Iron Folic Acid (IFA) supplement to pregnant and postpartum women since 1998 to reduce maternal anaemia. The protocol is to provide 60mg elemental iron and 400 microgram folic acid to pregnant women for 225 days from their second trimester. To improve access and utilization of IFA supplements, the Intensification of Maternal and Neonatal Micronutrient Program (IMNMP) started IFA supplementation through Female Community Health Volunteers (FCHVs) in 2003. The intensification program improved coverage, although compliance with taking 180 tablets during pregnancy and 45 tablets post-partum remains an issue

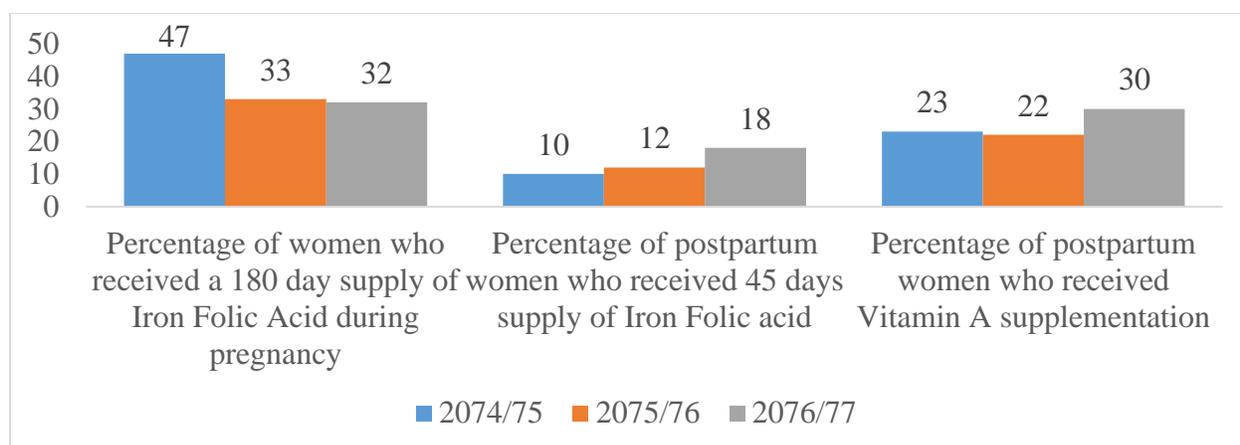


Figure: Percentage of pregnant and lactating women receiving IFA tablets and Vitamin A

In FY 2076/77, only 32% of women received 180 day supply of Iron folic acid during pregnancy which has decreased by 15% when compared to data of FY 2074/75. Percentage of women receiving vitamin A supplementation has increased from 23% in FY 2074/75 to 30% in FY 2076/77.

Table: Pregnant and lactating women receiving IFA, deworming tablet and Vitamin A

Pregnant women receiving			PP mother receiving	
Iron tablets at first time	180 iron tablets	Deworming tablets	45 Iron tablets	Vitamin A
3757	2381	4175	1339	1326

### Prevention and control of iodine deficiency disorder

MoHP adopted a policy to fortify all edible salt in 1973 to address iodine deficiency disorders (IDD) through universal salt iodization. The Salt Trading Corporation is responsible for the iodine fortification of all edible salt and its distribution, while Ministry of Health and Population (MoHP) is responsible for policy drive and promoting iodized salt to increase consumption.

### Control of Vitamin A deficiency disorders

The government initiated the National Vitamin A Program in 1993 to prevent and control of vitamin A deficiency disorders of the children aged 6-59 months and reduce child mortality associated with vitamin A deficiency disorders. Vitamin A supplementation in Nepal has been ongoing as bi-annual supplementation targeting to all 6-59 months children and coverage of supplementation is more than 80 per cent every time for last five plus years. FCHVs distribute the

capsules of vitamin A to the targeted children twice a year through a campaign as vitamin A campaign in Kartik (October) and Baisakh (April) every year. Due to COVID 19 Vitamin A campaign of Baishakh was postponed and conducted in Ashadh 22 and 23.

### Biannual Deworming Tablet distribution to the children aged 12-59 months

Biannual deworming tablets distribution to the children aged 12-59 months aiming to reduce childhood anaemia with control of parasitic infestation through public health measures. Deworming to the target children was initiated in few districts during the year 2000 integrating with biannual Vitamin A supplementation and with gradual scaling-up, the program was successfully implemented nationwide by the year 2010 integrating with Vitamin A as Vitamin A campaign.

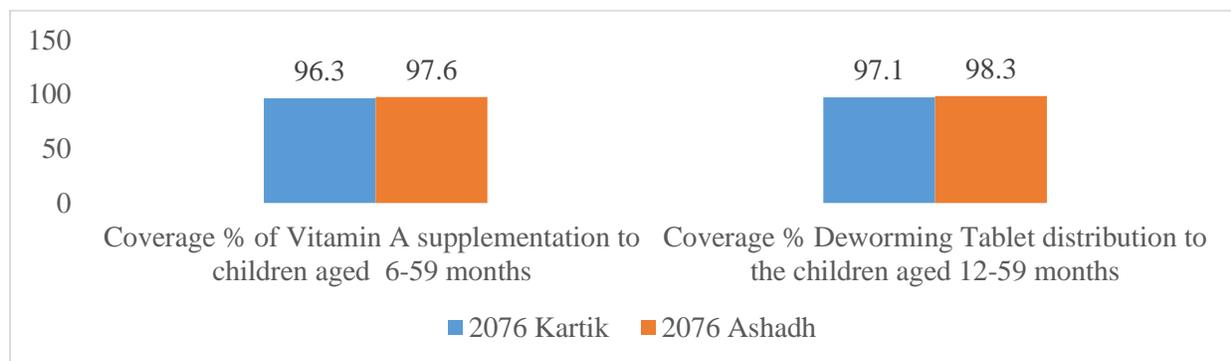


Figure: Coverage of Vitamin A mass campaign

The data of Kartik and Ashadh on Vitamin A supplementation and deworming tablet distribution campaign has remained sustained in FY 2076/77 and is above 95%.

### Issues

- No proper nutrition corner in health facilities
- Error in recording and reporting
- Inadequate recording and reporting of growth monitoring

## Safe Motherhood and Newborn Care

### Background

Safe motherhood is considered an important part of reproductive health, it encompasses a series of initiatives, practices, protocols and service delivery guidelines designed to ensure that women receive high-quality gynecological, family planning, prenatal, delivery and postpartum care, in order to achieve optimal health for the mother, fetus and infant during pregnancy, childbirth and postpartum.

The goal of the National Safe Motherhood Program is to reduce maternal and neonatal morbidity and mortality and to improve the maternal and neonatal health through preventive and promotive activities as well as by addressing avoidable factors that cause death during pregnancy, childbirth and postpartum period.

Safe Motherhood Program, initiated in 1997 has made significant progress with formulation of safe motherhood policy in 1998. The policy on skilled birth attendants (2006) highlights the importance of skilled birth attendants (SBA) at all births and embodies the government's commitment to train and deploy doctors, nurses and ANMs with the required skills across the country. Safe Motherhood Program introduced Aama Program to provide free service and encourage women for institutional delivery has improved access to institutional deliveries and emergency obstetric care services.

Maternal death has dropped significantly since the adoption of the Millennium Development Goals (MDGs). At present the maternal mortality rate is 239 as per (NDHS 2016) data. Maternal mortality reduction remains a priority under Sustainable Development Goals (SDGs) "Goal 3: Ensure healthy lives and promote well-being for all at all ages" The targets under Sustainable Development Goals to reduce maternal mortality rate to 75 for every 100,000 births by 2030.

### Main strategies of the Safe Motherhood Program

1. Promoting inter-sectoral coordination and collaboration at Federal, Provincial, districts and local levels to ensure commitment and action for promoting safe motherhood with a focus on poor and excluded groups.
2. Strengthening and expanding delivery by skilled birth attendants and providing basic and comprehensive obstetric care services at all levels.
3. Strengthening community-based awareness on birth preparedness and complication readiness through FCHVs and increasing access to maternal health information and services.
4. Supporting activities that raise the status of women in society.
5. Promoting research on safe motherhood to contribute to improved planning, higher quality services and more cost-effective interventions.

## Major activities

- Antenatal and postnatal service from all health institutions and PHC outreach clinics
- Provision of 24 hours delivery services from 5 birthing centers
- Contract continuation of recruited ANM for 24 hour delivery services
- Onsite clinical coaching and mentoring
- Safe abortion services
- Nyano Jhola Program
- Aama and Free Newborn Program

### Aama and Free Newborn Program

The government has introduced demand-side interventions to encourage women for institutional delivery. The Maternity Incentive Scheme, 2005 provided transport incentives to women who deliver their babies in health facilities. In 2006, user fees were removed from all types of delivery care in 25 low HDI districts and expanded to nationwide under the Aama Program in 2009. In 2012, the separate 4 ANC incentives Program was merged with the Aama Program. In 2013/14, the Free Newborn Care Program (introduced in FY 2012/13) was merged with the Aama Program which was again separated in FY 2014/15 as two different Programs Provisions of the Aama Program and New born Program with following provision:

For women delivering their babies in health institutions:

- a. Transport incentive for institutional delivery: Cash payment to women immediately after institutional delivery (NPR 3,000 in mountains, NPR 2,000 in hills and NPR 1000 in Tarai districts).
- b. Incentive for 4 ANC visits: A cash payment of NPR 800 to women on completion of four ANC visits at 4, 6, 8 and 9 months of pregnancy, institutional delivery and postnatal care.
- c. Free institutional delivery services: A payment to health facilities for providing free delivery care. For a normal delivery health facility with less than 25 beds receive NPR 1,000 and health facilities with 25 or more beds receive NPR 1,500. For complicated deliveries health facilities receive NPR 3,000 and for C- sections (surgery) NPR 7,000. Anti-D administration for RH negative is reimbursed NPR 5,000. Laparotomies for perforation due to abortion, elective or emergency C-sections, laparotomy for ectopic pregnancies and ruptured uterus are reimbursed NPR 7,000 to both public and private facilities.

Incentives to health service provider:

For deliveries: A payment of NPR 300 to health workers for attending all types of deliveries to be arranged from health facility reimbursement amounts.

## Newborn Care Program Provision

- a. For sick newborns: There are four different types of package (Package 0, Package A, B, and Package C) for sick newborns case management. Sick newborn care management cost is reimbursed to health facility. The cost of package of care include 0 Cost for Packages 0, and NPR 1000, NPR 2000 and NPR 5000 for package A, B and C respectively. Health facilities can claim a maximum of NPR 8,000 (packages A+B+C), depending on medicines, diagnostic and treatment services provided.
- b. Incentives to health service provider: A payment of NPR 300 to health workers for providing all forms of packaged services to be arranged from health facility reimbursement amounts.

## Achievements

### Antenatal care

WHO recommended a minimum of four antenatal check-ups at regular intervals to all pregnant women (at the fourth, sixth, eighth and ninth months of pregnancy). During these visits women should receive the following services and general health check-ups:

- Blood pressure, eight and fetal heart rate monitoring.
- IEC and Behavior change communication on pregnancy, childbirth and early newborn care and family planning.
- Information on danger signs during pregnancy, childbirth and in the postpartum period and timely referral to appropriate health facilities.
- Early detection and management of complications during pregnancy.
- Provision of tetanus toxoid and diphtheria (Td) immunization, iron folic acid tablets and deworming tablets to all pregnant women, and malaria prophylaxis where necessary.

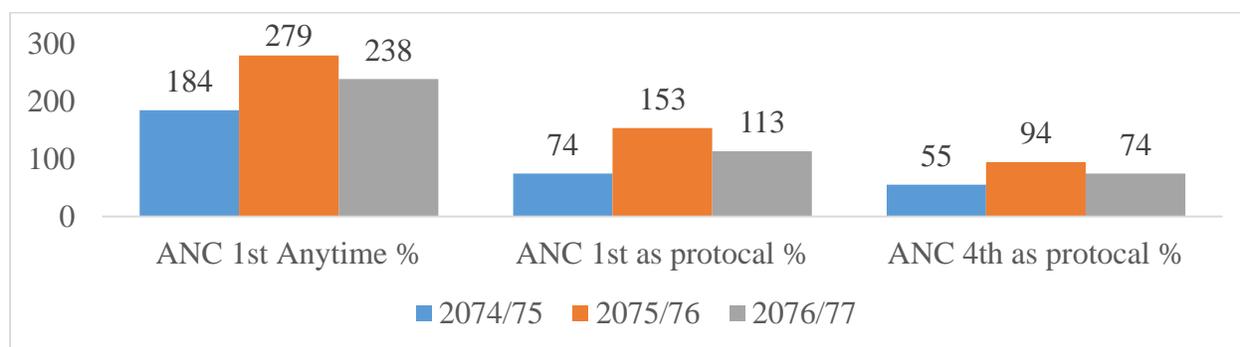


Figure: Percentage of pregnant women having ANC visits

Three years Data on ANC visit shows the fluctuating pattern. It has initially increased in 2075/76 and then decreased in 2076/77. When compared to data of 2075/76, ANC visit at anytime

throughout the pregnancy has decreased from 279 to 238, first ANC visit has decreased from 153 to 113 and 4th ANC visit has decreased from 94 to 74 in FY 2076/77.

## Delivery care

Delivery care services include:

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

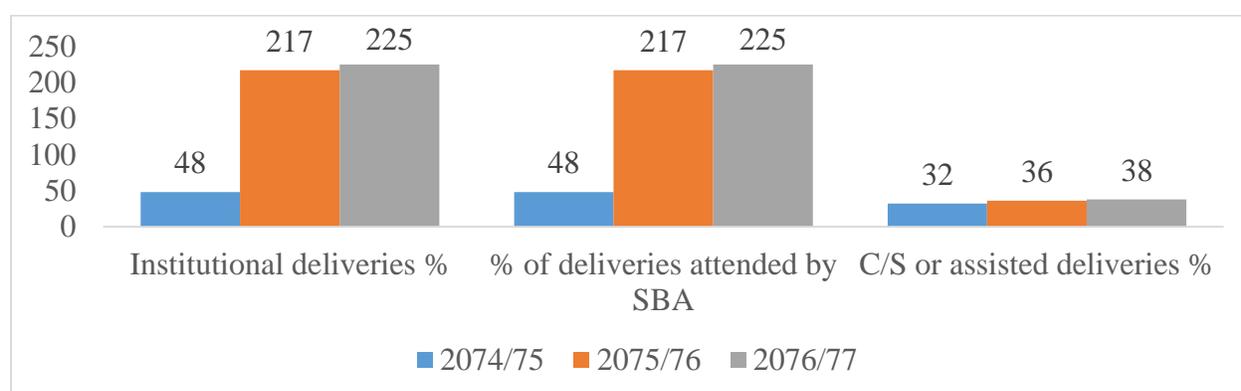


Figure: Percentage of births attended by Skilled Birth Attendant (SBA)

Institutional delivery and deliveries attended by skilled manpower has significantly increased from 48% in FY 2074/75 to 217 in FY 2075/76 and then increased slowly to 225 in FY 2076/77.

## Postnatal care

Postnatal care services include the following:

- Three postnatal check-ups, the first in 24hours of delivery, the second on the third day and the third on the seventh day after delivery.
- The identification and management of complications of mothers and newborns and referrals to appropriate health facilities.
- The promotion of exclusive breastfeeding.
- Personal hygiene and nutrition education, and postnatal vitamin A and iron supplementation for mothers.
- The immunization of newborns.
- Postnatal family planning counseling and services.

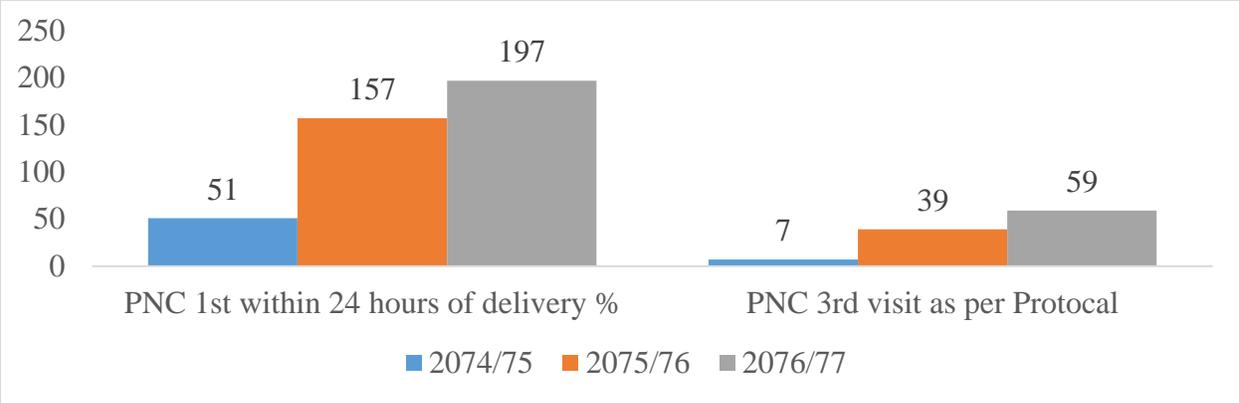


Figure: Percentage of pregnant women having PNC visits

Compared to first PNC, third PNC visit has remained very low. 1st PNC checkup has increased to 197 in FY 2076/77 which might be due to increase in institution delivery or delivery attended by skilled birth attendant. Likewise, for 3<sup>rd</sup> PNC there is increase in percentage point from 7% in 2074/75 to 59% in FY 2076/77 (increased by 52%).

**Newborn care**

Newborn care includes:

- Delivery by a skilled birth attendant at home and facility births with immediate newborn care(warmth, cleanliness, immediate breast feeding, cord care, eye care and immunization) for all newborns and the resuscitation of newborns with asphyxia;
- Health education and behavior change communication for mothers on early newborn care at home;
- The identification of neonatal danger signs and timely referral to an appropriate health facility; and
- Community based newborn care.

**Safe abortions**

Women of reproductive age have been receiving safe abortion services (SAS) from certified sites since the service began in Nepal from 2060/61.

Table: Safe abortion service indicator

Program indicators	2074/75	2074/75	2076/77
Proportion of <20 yrs women receiving abortion service	8.2	10.5	17.3
Total CAC Services	3733	3974	4119

The proportion of <20 years women receiving abortion services has increased from 8.2 % in 2074/75 to 10.5 % in 2075/76 which then increased by 6.8% point FY 2076/77. Likewise, the number of CAC (comprehensive Abortion Care) is 4119 in FY 2076/77 and shows the increasing trends when compared to past three years data.

### Safe motherhood services coverage in numbers

Table: ANC service

Antenatal Checkups	<20 Years	≥ 20 years	Total
First ANC Visit (any time)	3903	13632	17535
First ANC visit as per protocol	1946	6394	8340
Four ANC visits as per protocol	957	4510	5467
<b>Total</b>	<b>6806</b>	<b>24536</b>	<b>31342</b>

Table: Delivery by SBA and others

Delivery service	Facility	Home	Total
Skilled birth attendant	17292	22	17314
Other health workers	4	3	7
<b>Total</b>	<b>17296</b>	<b>25</b>	<b>17321</b>

Table: Type of delivery

Type of delivery	Presentation		
	Cephalic	Shoulder	Breech
Normal	10769	26	77
Vacuum/Forceps	364	0	0
C/S	6009	23	323

Table: Delivery outcome

Gestation and delivery outcome		Single	Multiple	
			Twins	≥ Triplets
No of mothers		17315	148	0
No of live births	Female	8066	121	0
	Male	9236	150	0

Table: Aama Program

Aama program		No of women	
		Eligible	Received
Incentives	Transport	10207	10121
	ANC	2784	660

Table: PNC services

PNC visit	Within 24 hours	15246
	3 PNC visit as per protocol	4656

Table: Safe abortion services

Safe abortion services		Medical	Surgical
No of women	<20 years	168	546
	≥ 20 years	1625	1780
Post abortion FP methods	Short term	901	1085
	LARC	286	410
Complication after abortion		22	27
Post Abortion Care (PAC)		290	

## Issues

- Fourth ANC as per protocol was lower as compared to first ANC checkup.
- Low PNC coverage
- Inadequate SBA Training to nursing staff

## Family Planning

### Background

Family Planning is the practice of controlling the number of children one has and the intervals between their births, particularly by means of contraception or voluntary sterilization. It can reduce maternal mortality by preventing unwanted pregnancy and unsafe abortion and by promoting healthy pregnancies. Family planning is one of the most basic and essential health care services that can promote and ensure reproductive health.

Reproductive health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to functions and processes.

The main aim of National family Planning program is to ensure that individuals and couples can fulfill their reproductive needs by using appropriate FP methods voluntarily based on informed choices. To achieve this, the government of Nepal (GoN) is committed to equitable and right based access to voluntary, quality FP services based on informed choice for all individuals and couples, including adolescents and youth, those living in rural areas, migrants and other vulnerable or marginalized groups ensuring no one is left behind..

Family planning is one of the priority programs of Government of Nepal, Ministry of Health. It is also considered as a component of reproductive health package and essential health care services of Nepal Health sector program II (2010-2015), National Family Planning Costed Implementation Plan 2015-2021, Nepal Health Sector strategy 2015-2020(NHSS) and the Government of Nepal's commitments to FP2020.

Quality Family Planning services are also provided through private and commercial outlets such as NGO run clinic/ Centre, private clinics, pharmacies, drug stores, hospitals including academic hospitals. FP services and commodities are made available by some social marketing (and limited social franchising) agencies.

Family planning and reproductive health (FP/RH) is one of the best investments a country can make. FP/RH can improve women and children's overall health, reduce maternal and child mortality, and help prevent HIV.

### Objectives, policies and strategies

The overall objective of Nepal's FP Program is to improve the health status of all people through informed choice on accessing and using 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 and to poor, Dalit and other marginalized people with high unmet needs and to postpartum and post abortion women, the wives of labour migrants and adolescents.

- To increase and sustain contraceptive use, and reduce unmet need for FP, unintended pregnancies and contraception 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.

### Major Activities

- Provision of regular comprehensive FP service
- Provision of long acting reversible services(LARCs)
- Family planning counseling and service provision

### Achievements

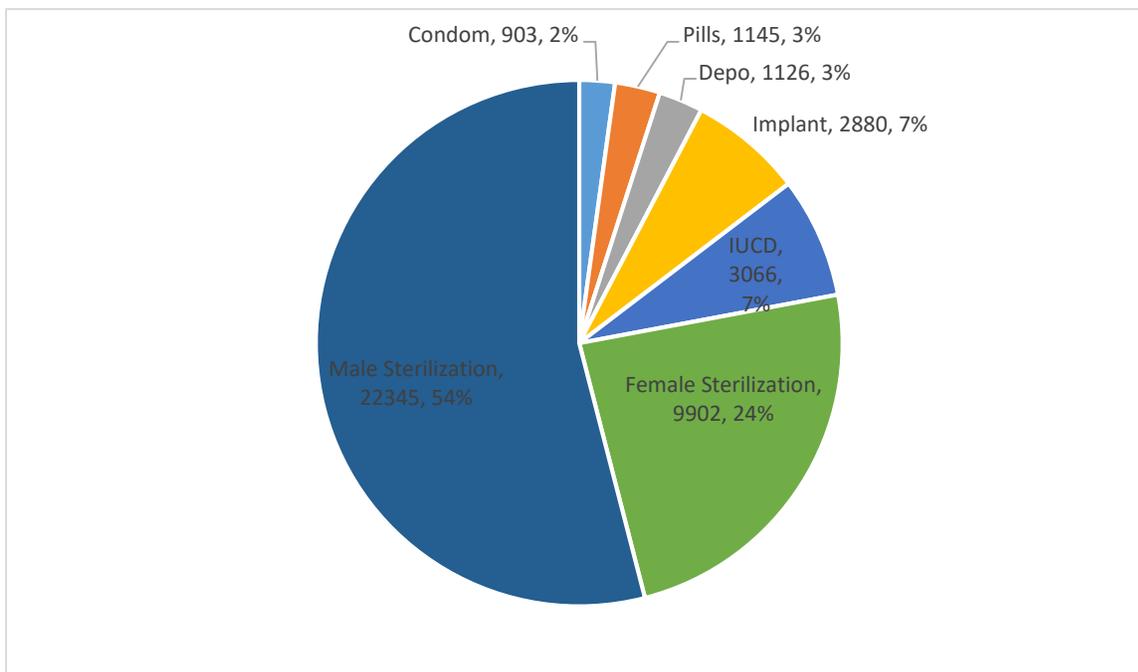


Figure: Proportion of FP current users (method mix)

Among current users, male sterilization is the most commonly used (54%) method of family planning, followed by female sterilization (24%), implants and IUCD (7% each), depo and pills (3% each) and condom (2%).

## Family planning new acceptors and Contraceptive Prevalence Rate

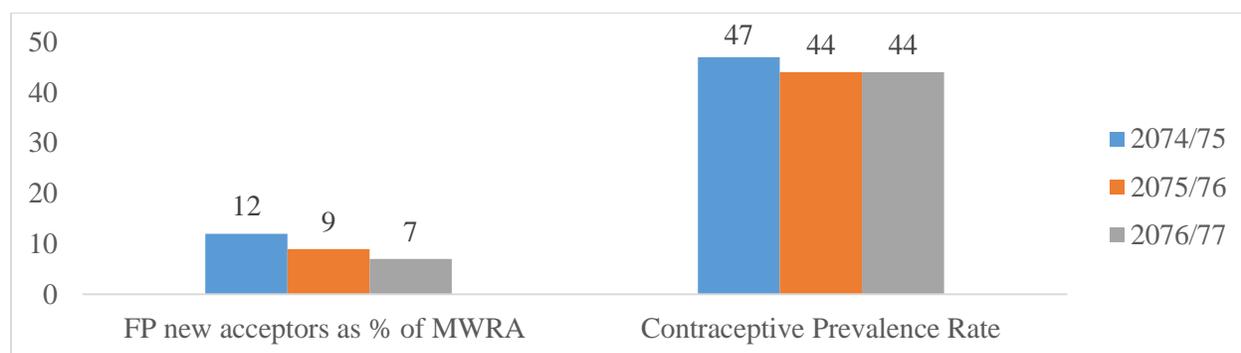


Figure: FP new acceptors as % of MWRA and CPR

## Trend of Family Planning New acceptors

Table: Number of FP new acceptors

Contraceptives	Family Planning New Acceptor (number)			New acceptor percentage as compared to MWRA		
	2074/75	2075/76	2076/77	2074/75	2075/76	2076/77
Condom (qty/150)	1389	1092	903	1.9	1.4	1.2
Pills	3534	2093	1497	4.8	2.8	1.9
Depo	1676	1639	1653	2.3	2.2	2.1
Implant	740	836	763	1.0	1.1	1.0
IUCD	1280	848	459	1.7	1.1	0.6

Past three years data shows that the new acceptor percentage of temporary methods of FP when compared to MWRA is in decreasing trends.

## Number of family planning service users

Table: Number of temporary family planning users

Temporary FP methods	New users		Current users	Discontinue / Removal	Distribution	
	< 20 years	≥ 20 years			Unit	Quantity
Condom					Piece	135373
Pills	122	1375	1145	1854	Cycle	11959
Depo	121	1532	1126	2038	Dose	5223
IUCD	9	450	3066	184	Set	468
Implant	13	732	2880	342	Set	916

Table: Number of permanent family planning users

Permanent FP methods	New users				Current users	
	Health Facility		Camp		Female	Male
	Female	Male	Female	Male		
Government	0	104	15	66	9902	22345
Non-government	11	79	1	2		
Postpartum FP users (within 48 hours of delivery)			IUCD	Implant	Tubectomy	
			68	0	76	

### FP method mix among all new acceptors

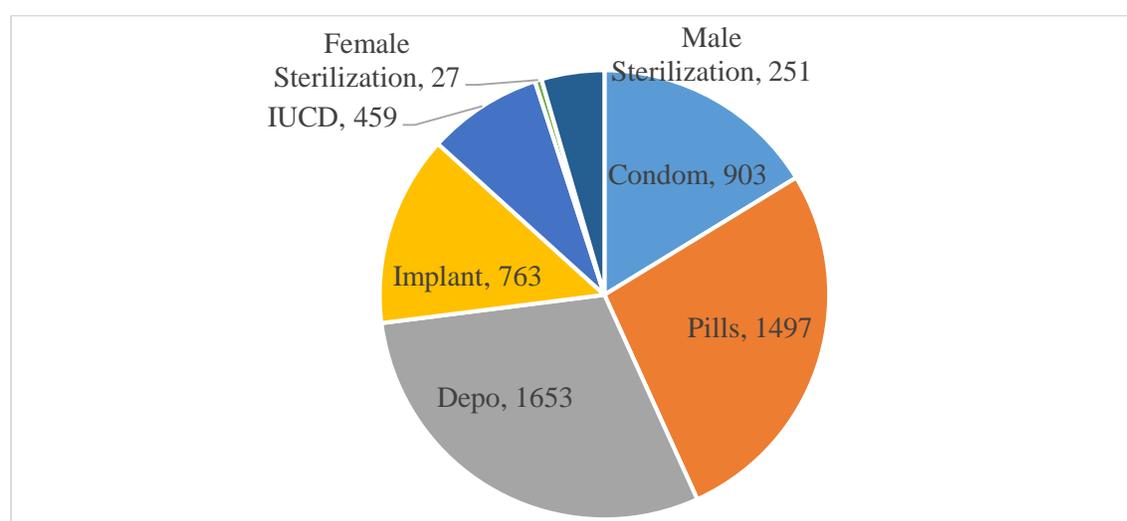


Figure: FP method mix among all new acceptors

### Issues

- New acceptors of all temporary methods have decreased
- Limited health facilities providing all 5 temporary FP services
- Long Acting Permanent Method (LAPM) not available
- Frequent stock out of family planning commodities

## Primary Health Care Outreach Program

### Background

Health facilities were extended to the village level under the National Health Policy (1991). However, the use of services provided by these facilities, especially preventive and promotive services, was limited due to accessibility factors. Primary health care outreach clinics (PHC-ORC) were therefore 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 of ANM and paramedics. FCHVs and local NGOs and community based organisations (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 as:

Services to be provided by PHC-ORCs according to PHC-ORC strategy

Safe motherhood and newborn care:

- Antenatal, postnatal, and newborn 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 newborn care
- Child health
- STI, HIV/AIDS
- Adolescent sexual and reproductive health.

First aid:

- Minor treatment and referral of complicated cases.

## Major Activities

- PHC service provided from 37 outreach clinics

## Achievements

### Service coverage

There are 37 PHC Outreach clinic in Bharatpur. In 2076/77, 4687 people were served by those outreach clinics. About 68% of the outreach clinics were conducted in a year which may be due to COVID 19 epidemic. Average people served per clinic was 16 person.

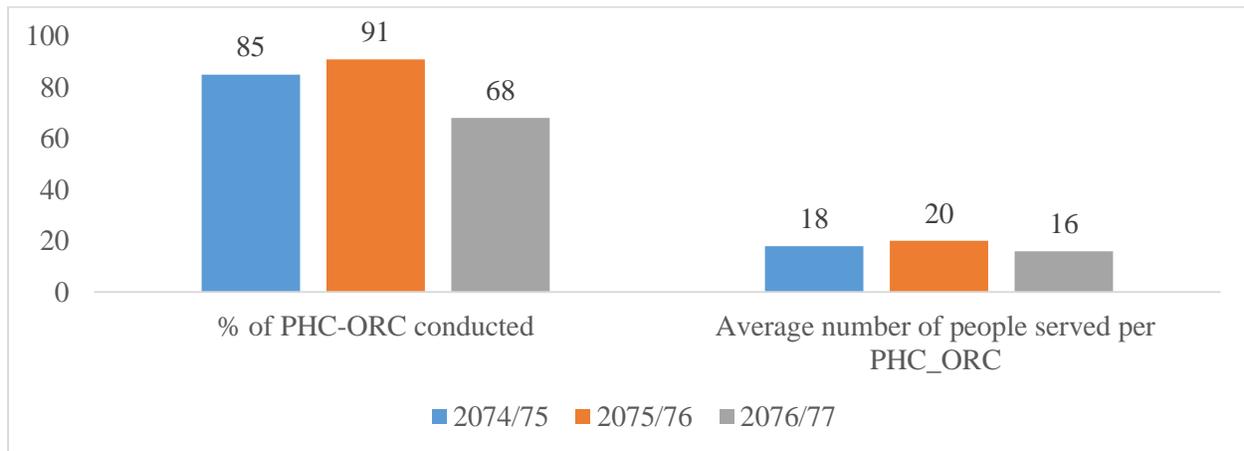


Figure: PHC-ORC reporting status and people served

## Issues

- Limited service provided from PHC-ORC
- Poor infrastructure of outreach clinic

## Malaria

### Background

Malaria control Program in Nepal has begun in year 1954, mainly in Tarai belt of central Nepal with support from the United States. In 1958, the National Malaria Eradication Program was initiated and in 1978 the concept reverted to a control program. Malaria is a priority public health problem of Nepal where approximately 50% of the population is at risk of malaria.

Malaria risk stratification 2019 was tailored to suit the changing epidemiology of malaria in the country and to ensure appropriate weightage is allotted to key determinants of malaria transmission as recommended by external malaria program review. In order, to refine the risk stratification at the community level and there by defined the total population at risk of malaria; malaria risk micro stratification was conducted at the wards level of Rural Municipality or Municipalities. According to the micro stratification report all wards of Bharatpur Metropolitan City falls under low risk wards.

Nepal has achieved and exceeded the malaria target of the Millennium Development Goals (MDGs) and universal coverage of malaria control interventions, and the Roll Back Malaria (RBM) targets of 2010. Nepal has achieved a significant reduction in its malaria burden in recent years.

### National Malaria Strategic Plan (2014-2025)

Current National Malaria strategic Plan (NMSP) 2014-2025 was developed based on the epidemiology of malaria derived from 2021 micro stratification, 2013 mid- term Malaria Program Review, and the updated WHO guidelines, particularly for elimination in low endemic country. The aim of NMSP is to attain “Malaria Free Nepal by 2025”. The goals of the National Malaria Strategic Plan 2014 – 2025 are (i) achieve Malaria Elimination (zero indigenous cases) throughout the country by 2022; and (ii) sustain malaria – free status and prevent re-introduction of malaria.

The specific objectives of NMSP (2014 -2025, Revised) are as follows:

- Strengthen surveillance and strategic information on malaria for effective decision making.
- Ensure effective coverage of vector control intervention in the targeted malaria risk areas.
- Ensure universal access to quality assured diagnosis and effective treatment for malaria.
- Develop and sustain support from leadership and communities towards malaria elimination.
- Strengthen programmatic technical and managerial capacities towards malaria elimination.

## Major Activities

- LLIN was distributed to pregnant women at their first ANC visits.
- Continuation of case-based surveillance system
- Orientated health workers from private sectors on case based surveillance and response.

## Achievements

Table: Malaria epidemiological information

<b>Program indicators</b>	<b>2074/75</b>	<b>2075/76</b>	<b>2076/77</b>
Annual blood examination rate (ABER) of malaria in high risk district	0.92	NA	NA
Malaria annual parasite incidence(per 1000 population in high risk district)	0.04	NA	NA
Percentage of Plasmodium falciparum(PF) cases in high risk districts	50	30	0
Percentage of imported cases among positive cases of malaria	92	90	100
Total Malaria indigenous cases	1	1	0
Total Malaria PF cases	6	3	0
Total Malaria PF indigenous	0	0	0
Total Malaria positive cases	12	10	6
Total Malaria PF imported	6	3	0
Total malaria slide collection	2934	5910	4341
Slide positivity rate of Malaria	0.41	0.17	0.14

## Issues

- Discontinuation of supply of LLIN through EDCCD
- Refresher training needed to HWs on Malaria case reporting and investigation
- Limited use of malaria testing kit for case finding

## Lymphatic Filariasis

### Background

Lymphatic Filariasis (LF) is a public health problem in Nepal. Mapping of the disease in 2001 using ICT (immune-chromatography test card) revealed 13 percent average prevalence of lymphatic filariasis infection in Nepal's districts, ranging from <1 percent to 39 percent. Based on the ICT survey, morbidity reporting and geo-ecological comparability, 61(63) districts were identified as endemic for the disease. The disease has been detected from 300 feet above sea level in the Terai to 5,800 feet above sea level in the mid hills. Comparatively more cases are seen in the Terai than the hills, but hill valleys and river basins also have high disease burdens. The disease is more prevalent in rural areas, predominantly affecting poorer people. *Wuchereria bancrofti* is the only recorded parasite in Nepal, The mosquito *Culex quinquefasciatus*, an efficient vector of the disease, has been recorded in all endemic areas of the country.

The EDCD initiated mass drug administration (MDA) from Parsa district in 2003, which was scaled up to all endemic districts by 2069/70 (2013). As of 2076/77, MDA has been stopped (phased out) in more than 50 districts, post-MDA surveillance and morbidity management initiated in all endemic districts. All endemic districts have completed the recommended six rounds of MDA by 2018 including Chitwan district.

### Goal, objectives and strategies of Lymphatic Filariasis elimination program

Goal: The people of Nepal no longer suffer from lymphatic filariasis

Objectives:

- To eliminate lymphatic filariasis as a public health problem by 2020
- To interrupt the transmission of lymphatic filariasis
- To reduce and prevent morbidity
- To provide deworming through albendazole to endemic communities especially to children
- To reduce mosquito vectors by the application of suitable available vector control measures (integrated vector management).

Strategies:

- Interrupt transmission by yearly mass drug administration using two drug regimens (diethylcarbamazine citrate and albendazole) for six years
- Morbidity management by self-care and support using intensive simple, effective and local hygienic techniques.

# Dengue

## Background

Dengue is a mosquito-borne disease that is transmitted by mosquitoes (*Aedes aegypti* and *Aedes albopictus*) and occurs in most of the districts of Nepal. WHO (2009) classified dengue as: i) Dengue without warning signs, ii) Dengue with warning signs, iii) Severe Dengue. The first dengue case was reported from Chitwan district in a foreigner. The earliest cases were detected in 2004. Since 2010, dengue epidemics have continued to affect lowland districts as well as mid-hill areas. This trend of increased magnitude has since continued with number of outbreaks reported each year in many districts- Chitwan, Jhapa, Parsa (2012-2013), Jhapa, Chitwan (2015-2016), Rupandehi, Jhapa, Mahottari (2017), Kaski (2018) and Sunsari, Kaski, Chitwan (2019). The mostly affected districts are Chitwan, Kanchanpur, Kailali, Banke, Bardiya, Dang, Kapilbastu, Parsa, Rupandehi, Rautahat, Sarlahi, Saptari and Jhapa, reflecting the spread of the disease throughout the Tarai plains from west to east.

In 2011, 79 confirmed cases were reported from 15 districts with the highest number in Chitwan (55). During 2012 -15, the dengue cases still continued to be reported from several districts but the number fluctuated between the years. In 2019, we experienced the outbreak at Sunsari (Dharan), Chitwan (Bharatpur) and Kaski (Pokhara).

*Aedes aegypti* (the mosquito-vector) was identified in five peri-urban areas of the Terai (Kailali, Dang, Chitwan, Parsa and Jhapa) during entomological surveillance by EDCD during 2006-2010, indicating the local transmission of dengue. However, recent study carried out by VBDRTC has shown that both the mosquitoes have found to be transmitting the disease in Nepal. Studies carried out 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.

## Nepal's 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

## Major Activities

- High level coordination meeting conducted with MoHP, EDCD, HD Bagmati province, and Provincial health logistics center
- Orientated ward and community level stakeholders
- Supplied rapid diagnostic test kits (IgM).
- Dengue case monitoring and vector surveillance
- Search and destruction of dengue vector larvae
- Developed IEC materials and disseminated health education messages
- Conducted orientation program by international experts on dengue

## Achievements

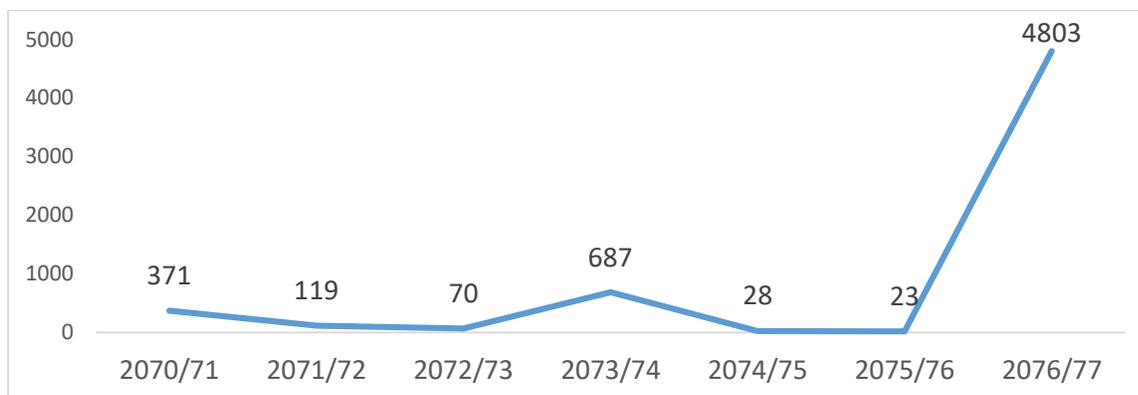


Figure: Dengue Cases in Chitwan (FY 2070/71 to FY 2076/077)

The number of reported dengue cases has significantly increased from 28 in FY 2074/75, 23 in FY 2075/76 to 4803 in FY 2076/77. The major cause of increasing the reported case is the impact of global dengue outbreak. In 2076/77 Chitwan experienced a severe Dengue outbreak along with many other district. Among the total cases 4803 in district, 3545 cases were from Bharatpur Metropolitan including 4 deaths in the district.

## Issues

- Dengue outbreak in periodic duration
- Poor environmental sanitation especially in urban area
- Inadequate community participation on search and destroy program

## Leprosy

### Background

For ages, leprosy has been a disease causing public health problem and has been a priority of the government of Nepal. Thousands of people have been affected by this disease and many of them had to live with physical deformities and disabilities. Activities to control leprosy in an organized and planned manner were initiated only from 1960. According to a survey conducted in 1966, an estimated 100,000 leprosy cases were present in Nepal. Nepal Leprosy Control Program was started in the country in 1966. Multi Drug Therapy (MDT) was introduced in 1982 in few selected areas and hospitals of the country.

### Goal, objectives, strategies and targets of the leprosy control program

Vision- Leprosy free Nepal

Goal- End the consequences of leprosy including disability and stigma

Guiding principles

- Stewardship and system strengthening
- Expedite the elimination process in high prevalence districts
- Collaboration, coordination and partnership
- Community involvement
- Integration, equity and social inclusion
- Linkages with Universal Health Coverage and Sustainable Development Goals

Objectives

1. Achieve elimination status in all districts by 2020.
2. Expand services for early detection of leprosy cases at health facility, especially in high prevalence districts through Enhancing selected diverse approaches (ISDT)
3. Initiate Post-Exposure Leprosy Prophylaxis to family members and neighbors
4. Achieve the surveillance performance indicators

Strategies

1. Expand and Enhance early case detection through selected diverse approaches (ISDT)
2. Strive to achieve the surveillance performance indicators
3. Modernize and intensify the service delivery pathways for ensuring quality services
4. Heighten the collaboration and partnership for Leprosy-Free Nepal
5. Enhance support mechanism for people infected and affected by leprosy

## Major Activities

Different activities have been conducted under leprosy control and awareness which are mentioned below:

- MDT service delivery through health facilities
- Conducted quarterly review meeting
- Transport support to released-from-treatment cases
- Recording, reporting, update and leprosy case validation
- Coordination with support partners and stakeholders
- Skin camp conducted for active case finding

## Achievement

### Registered cases:

Number of registered cases at the end of the year in FY 2076/77 was 33. Among them 27 were Multibacillary (female 12, male 15) and 6 were paucibacillary (female 3, male 3).

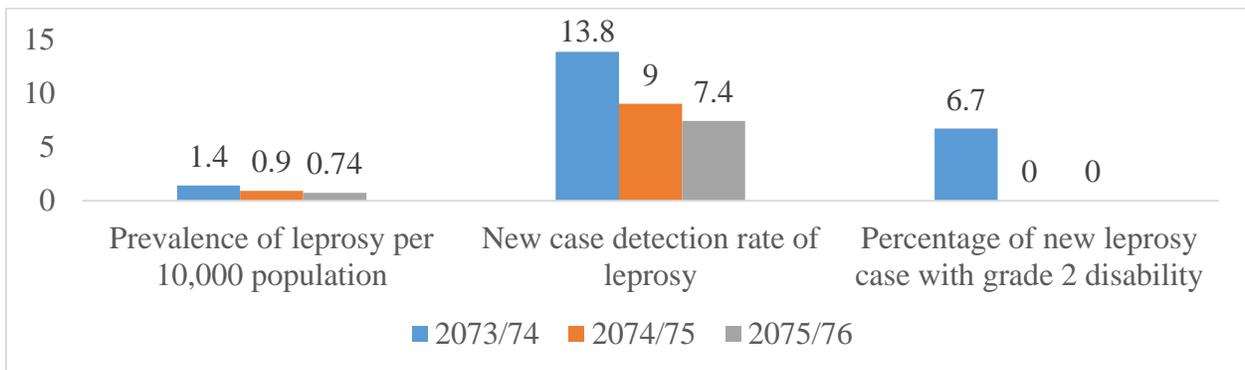


Figure: Prevalence rate, new case detection rate and percentage of grade 2 disability

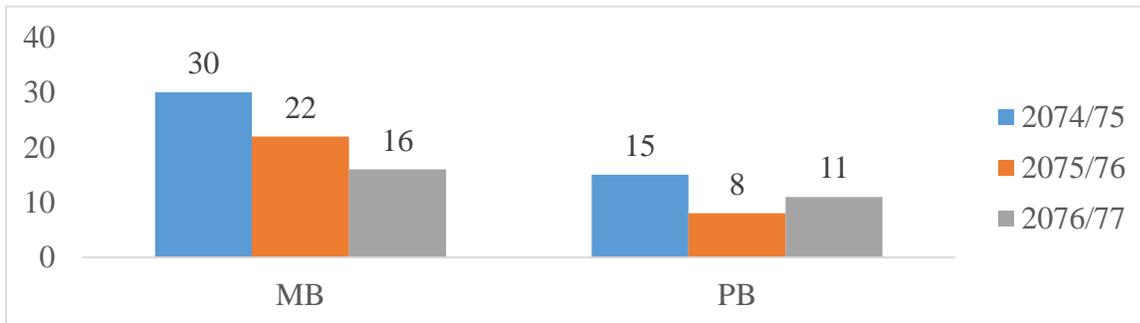


Figure: Number of New Leprosy cases

Table: Leprosy control program indicators

<b>Program indicators</b>	<b>2074/75</b>	<b>2075/76</b>	<b>2076/77</b>
Child proportion among New Leprosy cases	0	0	0
Female Proportion among New Leprosy cases	44.4	43.3	48.1
Prevalance of leprosy per 10,000 population	1.4	0.9	0.79
New case detection rate of leprosy	13.8	9	7.9
Percentage of PB and MB cases who started treatment but defaulted	2.7	5.9	1.3
Percentage of leprosy cases released from treatment (RFT)	42.9	48.2	41.8
Percentage of new leprosy cases presenting with a grade-2 disability	6.7	0	0
Percentage of new leprosy cases that are MB	66.7	73.3	59.3
Percentage of relapse cases of leprosy	0	3.5	0
Proportion of defaulted leprosy cases who started treatment	6.4	14.3	3.5

### Issues/challenges

- Further reduction of disease burden and sustain the achievement of elimination
- Maintenance of quality of services and logistics
- Stigma and discrimination against affected persons and their families.
- Integration of leprosy services in private sector, including medical colleges.
- Low priority to leprosy program at periphery.
- Inadequate training and orientation for health workers, focal persons and managers

## Tuberculosis

### Background

Tuberculosis (TB) is a public health problem in Nepal that affects thousands of people each year and is one of the leading cause of death in the country. WHO estimates that around 42,000 (incidence rate of 151 per 100000) people develop active TB every year in Nepal. Nearly fifty percentage of them are estimated to have infectious pulmonary disease.

Globally, tuberculosis is a major public health problem. Despite the long history of tuberculosis prevention efforts, tuberculosis still ranks among the top ten causes of deaths in Nepal. It is estimated that around 44,000 new infectious occurs annually and accounts for 5000-7000 life lost. Nearly fifty percentages of them are estimated to have infectious pulmonary disease and can spread the disease to others.

According to the latest WHO Global TB Report 2018, TB Mortality rate was 23 per 100,000 populations, which exclude HIV+TB. As per the Global TB report, 6000 to 7000 people are dying per year from TB disease. TB mortality is high given that most deaths are preventable if people can access tuberculosis care for the diagnosis and the correct treatment ids provided. Nepal NTP has adopted the global WHO's END TB Strategy as the TB control strategy of the country.

The Directly Observed Treatment, Short Course (DOTS) has been implemented throughout the country since April 2001. The NTP has coordinated with the public sector, private sector, local government, I/NGOs, social workers, educational institution and other sectors to expand DOTS and sustain the good progress achieved by the NTP. There are 4382 DOTS treatment centers in Nepal and the NTP has adopted the global End TB Strategy and the achievement of the SDGs as the country's TB control strategy.

### Vision, goal, objectives of the National TB Program

**Vision** TB Free Nepal

#### Goal

To reduce the TB incidence by 20% by the year 2021 compared to 2015 and increase case notification by a cumulative total of 20,000 from July 2021, compared to the year 2015.

#### Objectives

1. Increase case notification through improved health facility- based diagnosis; increase diagnosis among children (from 6% at baseline, to 10% of total cases by 2021); examination of household contacts and expanded diagnosis among vulnerable groups within the health service.
2. Maintain the treatment success rate at 90% of patients (all forms of TB) through to 2021
3. Provide DR diagnostic services for 100% of person with presumptive DR TB by 2021; successfully treat at least 75% of the diagnosed DR patients.

4. Further expand case finding by engaging providers for TB care from the public sector (beyond MoHP), medical colleges, NGO sector, and private sector to notify TB cases.
5. Strengthen community systems for management, advocacy, support and rights for TB patients in order to create an enabling environment to detect and manage TB cases
6. Contribute to health system strengthening through HR management and capacity development, financial management, infrastructures, procurements and supply management in TB.
7. Develop a comprehensive TB Surveillance, Monitoring, and Evaluation system
8. To develop a plan for continuation of NTP services in the event of natural disaster or public health emergency.

## **END TB Strategy**

Vision: A world free of TB

Zero deaths, disease and suffering due to TB

Goal: End the Global TB Epidemic

Milestones for 2025:

1. 75% reduction in TB deaths (compared with 2015)
2. 50% reduction in TB incidence rate (less than 55 TB cases per 100,000 population)
3. No affected families facing catastrophic costs due to TB

Targets for 2035:

1. 95% reduction in TB deaths (compared with 2015)
2. 90% reduction in TB incidence rate (less than 10 TB cases per 100,000 population)

No affected families facing catastrophic costs due to TB

The End TB Strategy was unanimously endorsed by the World Health Assembly in 2014. Its three overarching indicators are i) the number of TB deaths per year, ii) TB incidence rate per year, and iii) the percentage of TB-affected households that experience catastrophic costs as a result of TB. These indicators have related targets for 2030 and 2035.

The strategy's components (three pillars) are as follows:

1. Integrated, patient- entered care and prevention
2. Bold policies and supportive systems
3. Intensified research and innovation

## Major Activities

- Provided effective chemotherapy to all patients in accordance with national treatment policies.
- Promote early diagnosis of people with infectious pulmonary TB by sputum smear examination and Gene xpert.
- Implemented active case finding interventions to identify missing tuberculosis cases among high risk groups
- Provided continuous drugs supply to all treatment centers.
- Maintained a standard system for recording and reporting
- Linkage of DOTS centers to microscopic center through courier.
- Conducted quarterly cohort analysis of TB patient
- Community Based DOTS
- Nutrition support incentives for retreatment case

## Achievements

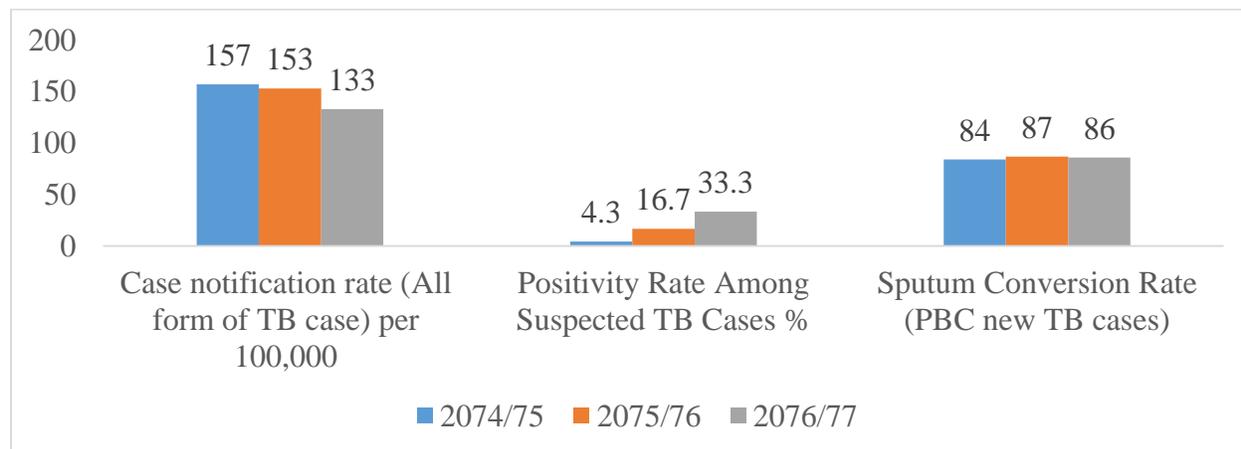


Figure: Case notification rate, positivity rate and sputum conversion rate

Case notification rate of TB was at its peak (157 per 100,000) in FY 2074/75 which then decreased gradually to 133/100,000 in FY 2076/77. However, positivity rate among suspected Tb cases shows increasing trend and was highest in FY 2076/77. Whereas, the sputum conversion rate shows no notable increase or decrease trend and has remained steady to 86% in FY 2076/77.

## Treatment outcome

Though there was slight decrease (by 6%) in treatment success rate of TB in FY 2075/76, success rate has remained stagnant at 95% in other two FY. Death rate among TB cases was highest (4.8%)

in FY 2075/76 which has then decreased to 2.3% in FY 2076/77. Whereas, the treatment failure shows increasing pattern. It has increased from 0.6% in FY 2075/76 to 1.9% in FY 2076/77.

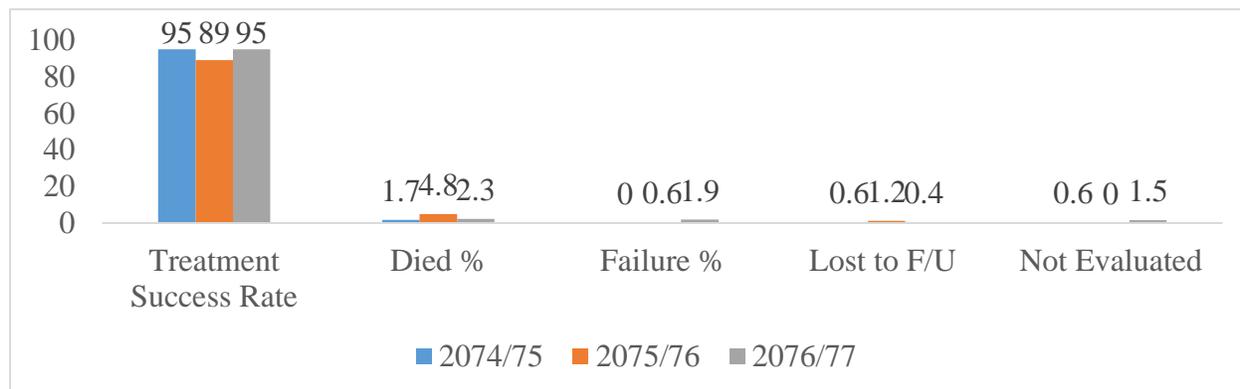


Figure: Treatment outcome of TB cases

### Notified Tuberculosis cases

In Fiscal Year 2076/77, a total of 459 cases of TB was notified and registered at NTP. There were 94.1 % incident TB cases registered (New and Relapse) among all TB cases. Among the notified TB cases, 76.2 % of all TB cases were pulmonary cases and out of notified pulmonary TB cases, 74.6% were bacteriologically confirmed.

Table: Notified TB cases

Case Registration	New		Relapse		Treatment after failure		Treatment after loss to follow-up		Other previously treated		Previous treatment history unknown		Transfer in	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Pulmonary (BC)	73	132	9	30	1	5	0	2	0	1	0	0	3	5
Pulmonary (CD)	30	43	1	10			0	0	2	1	0	0	1	1
Extra pulmonary (BC or CD)	55	47	2	0			0	0	2	1	0	0	1	1

Table: Notified TB case distribution by age and sex

Registration (BC or CD)	0-4 Years		5-14 Years		15-24 Years		25-34 Years		35-44 Years		45-54 Years		55-64 Years		≥ 65 Years	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M

All New	1	4	5	7	54	39	30	40	12	40	17	29	12	22	30	42
All Relapse	0	0	0	0	0	1	2	7	0	5	4	11	2	9	3	8

Table: Sputum smear examination result by microscopy

Sex	Presumptive TB Case Examined (Persons)		Smear Examination				Follow -Up Case (Slides)	
			Slides A		Slides B			
	+ve	-ve	+ve	-ve	+ve	-ve	+ve	-ve
Female	35	781	33	786	33	768	3	222
Male	77	968	72	966	72	954	28	459

## Issues

- No training/orientation given to health workers about new TB regimen
- Inadequate supply of recording and reporting tools
- Inadequate TB management training
- Lost to follow up due to mobility of population

## HIV/AIDs

### 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 Immunity Deficiency Syndrome (AIDS) and Sexually Transmitted Diseases (STDs) Control, 1995 (2052 BS). Taking the dynamic nature of the epidemic of HIV into consideration, Nepal revisited its first national policy on 1995 and endorsed the latest version: National Policy on Human Immunodeficiency Virus (HIV) and Sexually Transmitted Infections (STIs), 2011. A new National HIV Strategic Plan 2016-2021 is recently launched to achieve ambitious global goals of 90-90-90. By 2020, 90% of all people living with HIV (PLHIV) will know their HIV status by 2020, 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy (ART) and by 2020, 90% of all people receiving antiretroviral therapy will have viral suppression.

Starting from a ‘low-level epidemic’ over the period of time HIV infection in Nepal evolved itself to become a ‘concentrated epidemic’ among key populations (KPs), notably with People who Inject Drugs (PWID), Female sex workers (FSW), Men who have Sex with Men (MSM) and Transgender (TG) People in Nepal. A review of the latest epidemiological data, however, indicates that the epidemic transmission of HIV has halted in Nepal. The trend of new infections is taking a descending trajectory, reaching its peak during 2002-2003.

### Major Activities

- Prevention of Mother to Child Transmission for elimination of vertical transmission
- Coordination with different stakeholders

### Achievements

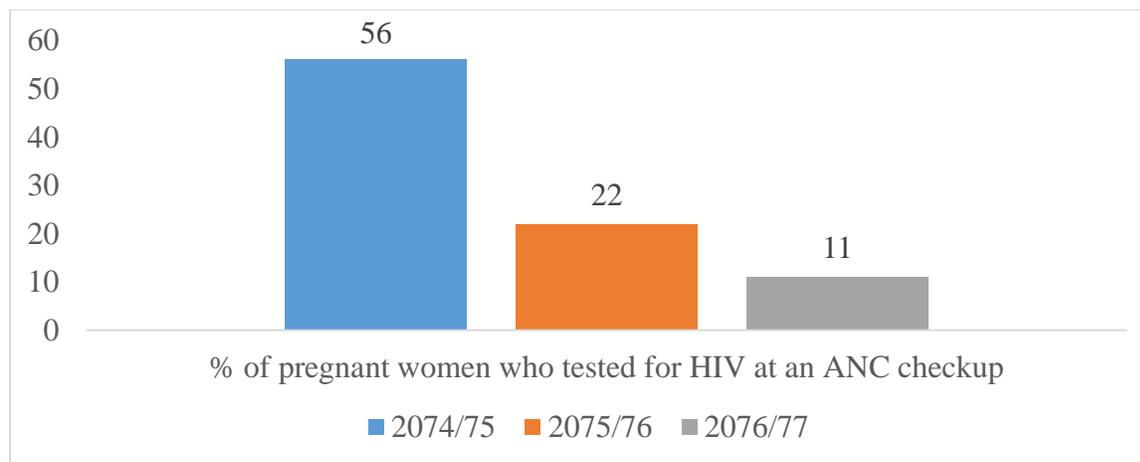


Figure: Pregnant women tested for HIV

The figure shows the percentage of pregnant women who tested for HIV during ANC visit. Percentage of pregnant women tested for HIV has significantly decreased from 56% in 2074/75 to 11% in 2076/77.

Table: Prevention of Mother-To-Child Transmission (PMTCT) of HIV

<b>Indicators</b>	<b>Counseled</b>	<b>Tested</b>	<b>Positive</b>
Antenatal (ANC)	21707	1889	12
Labor & delivery	14385	11756	3
Postnatal	0	2	0

Table: Service statistics HIV testing and counseling for the period of FY 2074 /075-2076/077

<b>Indicators</b>	<b>2074/75</b>	<b>2075/76</b>	<b>2076/77</b>
Total tested for HIV	11231	4776	2163
Total HIV positive reported	151	104	136

### Issues

- Limited coverage of prevention program
- Availability of HIV test kits with the limited expiry date.
- Limited coverage of HIV testing and counseling
- Stigma and discrimination

## Non Communicable Diseases

### Background

In Nepal, there has been an epidemiological transition from communicable diseases to Non Communicable Disease (NCDs) as the major cause of illness/disease, disability and death including impoverishment from long-term treatment, care costs leading to loss of productivity that threatens household income and leads to productivity loss for individuals and their families and to the economy of the nation.

The deaths due to NCDs (Cardio-Vascular Disease, diabetes, cancer and respiratory disease) have increased from 60% of all deaths in 2014 to 66% in 2018 (WHO Nepal Country profile 2018). These NCDs impose substantial costs on health services leading to poverty and hunger, which may have a direct impact on the achievement of the internationally-agreed Sustainable Development Goals 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 wellbeing”.

Better health outcomes from NCDs can be achieved much more readily by work across different sectors and levels of government influencing public policies in sectors like agriculture, communication, education, employment, energy, environment, finance, industry, labor, sports, trade, transport, urban planning, and social and economic development than by making changes in health policy alone.

Thus PEN Implementation Plan (2016-2020) has been developed in line with the Multi-Sectoral Action Plan for prevention and control of NCDs (2014-2020).

### **Multisectoral Action Plan (MSAP) for the Prevention and Control of NCD**

Vision: All people of Nepal enjoy the highest attainable status of health, well-being and quality of life at every age, free of preventable NCDs, avoidable disability and premature death.

Goal: The goal of the multisectoral action plan is to reduce preventable morbidity, avoidable disability and premature mortality due to NCDs in Nepal.

Strategic objectives for MSAP

- Raise the priority accorded to the prevention and control of non-communicable diseases in the national agendas and policies
- Strengthen national capacity, leadership, governance, multispectral action and partnership to accelerate country response for the prevention and control of NCDs
- Reduce modifiable risk factors for NCDs and underlying social determinants through creation of health-promoting environment
- Strengthen and orient health systems to address the prevention and control of NCDs and underlying social determinants through people centered PHC and UHC

- Promote and support national capacity for high quality research and development for the prevention and control of NCDs and mental health
- Monitor the trends and determinants of NCDs and evaluate progress in their prevention and control
- Improving basic minimum care of mental health services at the community and improving competency for case identification and initiating referral at primary care level

Targets (at the end of 2025 AD)

1. 25% relative reduction in overall mortality from CVD, cancers, diabetes, or COPD
2. 10% relative reduction in the harmful use of alcohol
3. 30% relative reduction in prevalence of current tobacco use in persons aged over 15 years
4. 50% relative reduction in the proportion of households using solid fuels as the primary
5. source of cooking
6. 30% relative reduction in mean population intake of salt/sodium
7. 25% reduction in prevalence of raised blood pressure
8. Halt the rise in obesity and diabetes
9. 10% relative reduction in prevalence of insufficient physical activity
10. 50% of eligible people receive drug therapy and counseling (including glycemic control) to prevent heart attacks and strokes
11. 80% availability of affordable basic technologies and essential medicines, including generics, required to treat major NCDs in both public and private facilities

### **Nepal PEN program**

The WHO PEN Protocol was developed on risk based approach. Those people who are under high risk with high symptoms will get medicine but those people who are under low risk even symptoms present will go through life style modification and follow up. This PEN program is feasible for low cost and resource setting and is public health (mass) based approach of NCD treatment and management.

The PEN intervention has four protocols:

Protocol I: Prevention of heart attack, stroke and kidney disease through integrated management of diabetes and hypertension.

Protocol II: Health education and Counseling on Healthy Behavior (For All)

Protocol III: Management of chronic obstructive pulmonary disease (COPD) and Asthma

Protocol IV: Assessment and referral of women with suspected cancer (Breast & Cervix)

## Goals

- Achieve universal access to high quality diagnosis & patient-centred care
- Reduce suffering & socio-economic burden of major NCDs
- Protect poor & vulnerable populations from major NCDs
- Provide effective & affordable prevention & treatment through PHC approach
- Support early detection, community engagement and self-care

## Objectives

- To timely diagnose, treat and management of NCDs.
- To prevent and control risk factors of NCDs.
- To bring uniformity in treatment of NCDs.
- To increase coordination between health facility and community.
- To increase accessibility for Universal Health Coverage (UHC).

The Nepal PEN protocol I, II and concept note was developed and endorsed in June, 2016 and the program started in two pilot districts (Ilam and Kailali) on October, 2016. In addition, Nepal PEN protocol III and IV was endorsed and the program was scaled-up in the 8 districts (Palpa, Myagdi, Baglung, Achham, Bardiya, Surkhet, Makwanpur and Rautahat) for Fiscal Year 2073/74. For the Fiscal Year 2074/75 PEN program was scaled up in additional 6 districts (**Chitwan**, Jumla, Jajarkot, Dhading, Nuwakot, and Gorkha). For Fiscal Year 2075/76 PEN program was scaled up in additional 14 districts.

## Mental Health

Mental health and substance abuse is recognize as one of health priorities and also addressed unsustainable 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, including narcotic drug abuse and harmful use of alcohol.” Nepal has high burden of mental illness but there are limited interventions to address the epidemic of mental diseases.

There are various activities to be conducted to address the burden of mental health related issues and to raise awareness about them. The activities were focused on awareness raising, capacity building of health workers, and use of information technology to get proper information regarding mental health and rehabilitation services.

## Epidemiology and Disease Outbreak Management

### Introduction

Epidemiology and Outbreak Management Section in EDCD works in the area of preparedness and response to outbreaks, 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.

### Rapid Response Team (RRT)

The concept of Rapid Response Team (RRT) was developed in the year 2057 B.S. for the development of epidemic preparedness and response system throughout the country in order to strengthen the information management and surveillance of communicable diseases, preparedness and early identification of potential outbreaks and investigation and prompt response during the outbreaks. RRT had been formed at central, regional, district and community levels and their mobilization during outbreaks and epidemics was done accordingly.

### Roles and responsibilities of RRTs are as follows

- Preparedness plan for disease outbreaks.
- Investigation of disease outbreaks.
- Responding to disease outbreaks through awareness and IEC activities, case management, community mobilization and the coordination of stakeholders.
- The monitoring of potential diseases outbreak (malaria, kala-azar, dengue, scrub typhus, acute gastroenteritis, cholera, severe acute respiratory infections, influenza, etc.) at sentinel sites.
- The active surveillance of diseases outbreak situation.
- Risk communication, dynamic listening and rumours management.
- Coordinate with the province and local authorities for diseases outbreak management. Along with back up with human resources and logistics as per need.
- Identify the risk factors leading to the public health emergency events and recommend measures that would need to be put in place to prevent the recurrence of the disease/syndrome in future.

### Major activities

- Stock piling of emergency drugs and health logistics
- Established Health desk at major Point of Entries (PoE) i.e. Bharatpur Airport

- Multisectoral interaction program conducted for preparedness of outbreaks, epidemics and unusual health events.
- Identification of disease outbreaks and epidemic prone areas and communities
- Different level of RRTs mobilized for investigation of outbreaks and response activities.

## **Achievements**

- Formation of local level Rapid Response Team
- District level multisectoral coordination committee was formed chaired by Mayor of Bharatpur Metropolitan for the prevention, control and management of COVID 19 (then Novel coronavirus)

## **Major Outbreaks in 2076/077**

Since the beginning of 2020, the world is experiencing an once-in-a-lifetime pandemic, COVID 19 which has claimed millions of lives and changed the ways in which each of us relates to and navigates the world. Bharatpur being one among the biggest city in terms of population, movement and hospital facilities experienced a shattering pandemic of COVID 19.

In Nepal, a range of strategies has been adopted by federal, provincial and local level government based on the health care system for the prevention and control of the disease. Detail about the COVID 29 prevention and control are described in Chapter VI.

## **Issues**

- The threat of emerging and reemerging diseases

## 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 Nepali citizens at listed hospitals under this scheme. The section is also answerable for development and revision of FCHVs and other health related volunteer's policy, strategy, standard, protocol and guideline.

The specific functions of this section are given below:

1. Develop the policy, strategy, standard, protocol and guideline etc. regarding easy access and provision of hospital based services to the target population.
2. Overall management of “Bipanna Nagrik Aushadi Program”, treatment of serious health conditions of citizens, SSU and OCMC; and
3. Develop, revise and update the policy, standard for FCHVs and other health related volunteers.

### Bipanna Nagarik Aushadhi Upachar Program

The goal of the program is to manage the provision of free treatment to impoverished citizens. The objectives includes i) notify the different types of hospitals for free medication and treatment and ii) develop, revise and update the policy, standard, guideline and protocol for “Bipanna Nagrik Aushadi Program”.

Major ongoing activities

The Impoverished Citizens Service Scheme of Social Health Security Section provides the following funding for impoverished Nepali citizens to treat serious health conditions:

1. 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, Alzheimers disease, Parkinson's and sickle cell anaemia diseases
2. Medication costs up to NPR 100,000 for post-renal transplant cases
3. Free dialysis services
4. Pre transplant (HLA & cross match) test support upto 50,000 and
5. Renal transplantation costs up to NPR 400,000 per patient and
6. Free medical treatment for certain severe kidney disease upto 100,000.

### Major Activities

- 153 meeting was conducted in 2076/077 to recommend impoverished citizen, who had listed 8 diseases, for free treatment

## Achievements

### Achievement of recommendation to impoverished citizens for free treatment

S.N.	Name of the disease	Number of recommendation		
		Female	Male	Total
1	Heart Disease	56	53	109
2	Cancer	94	82	176
3	Kidney Disease	22	28	50
4	Head Injury	1	6	7
5	Spinal Injury	4	5	9
6	Alzheimer's Disease	0	1	1
7	Parkinson's Disease	1	0	1
8	Sickle Cell Anaemia	0	0	0
	<b>Total</b>	<b>178</b>	<b>175</b>	<b>353</b>

### Recommendation to Hospital/Institution

Table: Heart Disease, Cancer, Kidney Disease and Head Injury

S. N.	Name of the hospital / institution	Heart Disease		Cancer		Kidney Disease		Head Injury	
		F	M	F	M	F	M	F	M
1	BP Koirala Memorial Cancer Hospital			83	69				
2	Bharatpur Hospital					10	9		
3	Chitwan Medical College	33	38	1	3	4	8	0	2
4	College of Medical Sciences	5	2			2	3	0	4
5	Shahid Gangalal National Heart Center	10	10						
6	Manamohan Cardiothoracic Center	5	3						
7	Bir Hospital						1		
8	Bhaktapur Cancer Hospital			1	1				
9	Nepal Army Hospital				1	1			
10	Patan Hospital	1							
11	Kanti Children Hospital				1		1		
12	TU Teaching Hospital					2	2	1	
13	Civil Hospital			1					
14	Nepal Cancer Hospital			3	4				
15	Kathmandu Cancer Center			1	2				
16	Grandee Hospital					1			
17	Crimson Hospital	1							
18	National City Hospital			3	1				

S. N.	Name of the hospital / institution	Heart Disease		Cancer		Kidney Disease		Head Injury	
		F	M	F	M	F	M	F	M
19	National Kidney Center						1		
20	Dhulikhel Hospital			1					
21	Sumeru Community Hospital					2	2		
22	BPKIHS	1							
23	Department of Health Services						1		
	<b>Total</b>	<b>56</b>	<b>53</b>	<b>94</b>	<b>82</b>	<b>22</b>	<b>28</b>	<b>1</b>	<b>6</b>

Table: Spinal injury, Parkinson's disease, Alzheimer's disease, Sickle cell anemia

S. N.	Name of the hospital / institution	Spinal injury		Parkinson's Disease		Alzheimer's Disease		Sickle cell anemia	
		M	F	M	F	M	F	M	F
1	Bharatpur Hospital	2	1						
2	Chitwan Medical College	2	2		1	1			
3	College of Medical Sciences		1						
4	National Trauma Center		1						
	<b>Total</b>	<b>4</b>	<b>5</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>

### Ward-wise Distribution of Impoverished Citizen under Bipanna Program

Table: Ward-wise distribution of impoverished citizen in FY 2076/077

Ward No	Heart Disease	Cancer	Kidney Disease	Head Injury	Spinal Injury	Alzheimer's Disease	Parkinson's Disease	Sickle Cell Anemia	Total
1	2	3	2	0	0	0	0	0	7
2	6	7	2					0	15
3	6	4	2					0	12
4	5	8	2					0	15
5	5	8	1			1		0	15
6	13	13	1					0	27
7	3	3	4					0	10
8	4	2	1	1				0	8
9	5	5	2	1				0	13
10	5	3	3					0	11
11	9	8	4	1	1			0	23
12	2	12	1					0	15

Ward No	Heart Disease	Cancer	Kidney Disease	Head Injury	Spinal Injury	Alzheimer's Disease	Parkinson's Disease	Sickle Cell Anemia	Total
13	4	2	0					0	6
14	1	4	5	1				0	11
15	6	15	4	1				0	26
16	5	12	6	1	1			0	25
17	2	5	0		3			0	10
18	3	11	0					0	14
19	1	5	1					0	7
20	4	5	1					0	10
21	2	1	1					0	4
22	2	11	2					0	15
23	2	6	2		1			0	11
24	0	0	0					0	0
25	1	2	0					0	3
26	4	8	1		2			0	15
27	4	3	1	1				0	9
28	1	6	0				1	0	8
29	2	4	1		1			0	8
<b>Total</b>	<b>109</b>	<b>176</b>	<b>50</b>	<b>7</b>	<b>9</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>353</b>

## Issues

- Troublesome procedure for impoverished citizen for the recommendation
- No budget for the program in local level
- Inadequate awareness among beneficiaries

## **FCHV Program**

### **Background**

The government initiated the Female Community Health Volunteer (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). There are currently 51,420 FCHVs working in Nepal.

### **Goal and objectives of the FCHV Program**

**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:**

1. Mobilize a pool of motivated volunteers to connect health programs with communities and to provide community-based health services,
2. Activate women to tackle common health problems by imparting relevant knowledge and skills,
3. Increase community participation in improving health,
4. Develop FCHVs as health motivators and
5. Increase the demand of health care services among community people.

FCHVs are selected by health mothers' groups. FCHVs are provided with 9 days basic training and 9 days refresher training following which they receive medicine kit boxes, manuals, Flipcharts, ward registers, IEC materials, and an FCHV bag, sign board 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. FCHVs distribute condoms and pills, ORS packets and vitamin A capsules, treat pneumonia cases, refer serious cases to health institution and motivate and educate local people on healthy behaviour related activities. They also distribute iron tablets to pregnant women.

The Government of Nepal is committed to increase the morale and participation of FCHVs for community health. Policies, strategies and guidelines have been developed and updated accordingly to strengthen the program. The FCHV program strategy was revised in 2067 and in 2076 to promote a strengthened national program. In Fiscal year 2064/65 MoH established FCHV funds of NPR 50,000 in each VDC mainly to promote income generation activities. FCHVs are recognized for having played a major role in reducing maternal and child mortality and general fertility through community-based health programs.

## Major activities

There are 207 Female Community Health Volunteers (FCHVs) working in Bharatpur Metropolitan City. Major activities related to FCHVs in FY 2076/77 as follows:

- Different allowance and travel cost provided to FCHVs
- Implementation of biannual Vitamin A program
- Support to Measles Rubella campaign
- Involvement in maternal and child health program and activities
- FCHV Day celebrated on 5th December

## Incentives provided to FCHV

- Dress allowance of Rs.10000 per FCHV from Health Office, Chitwan
- Travel cost Rs.3000 from Health Office, Chitwan
- Communication cost Rs.2500 from provincial conditional budget
- Travel cost Rs.9600 per year from Bharatpur Metropolitan
- Travel cost in Vitamin A program Rs.1600 from federal conditional budget
- Travel cost if participated in national public health program

## Achievements

### Reporting status and average people served per FCHV

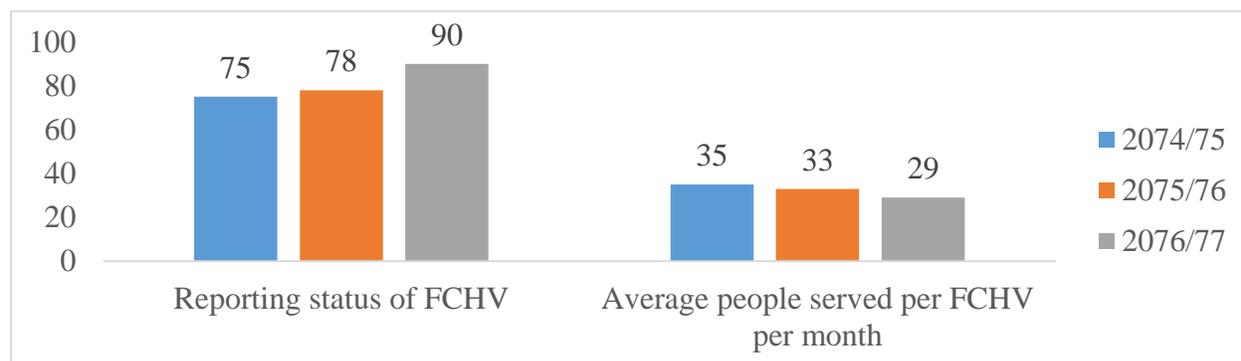


Figure: Reporting status and average people served per FCHV

## Issues

- Inadequate budget for FCHV day, FCHV biannual review meeting
- Decreasing work performance of FCHVs
- Low utilization of FCHV fund

## Chapter III: Curative Services

### Curative Services

#### Background

According to the institutional framework of the MoHP, the health post (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 HP to PHCC, on to District, zonal and sub-regional, regional hospitals and finally to specialized tertiary hospitals. This referral hierarchy has been designed to ensure that the majority of 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 supporting mechanism for lower levels by providing logistic, financial, supervisory and technical support from the center to the periphery. The major responsibility of CSD is to provide the basic health service free of cost guaranteed by constitution of Nepal.

The Government of Nepal is committed to improving the health status of rural and urban people by delivering high-quality health services. The policy aims to provide prompt diagnosis and treatment, and to refer cases from PHCCs and health posts to hospitals. Diagnostic services and referral mechanisms have been established at different levels to support early diagnosis of health problems.

In December 2006 the government began providing essential health care services (emergency and inpatient services) free of charge to destitute, poor, disabled, senior citizens, FCHVs, victims of gender violence and others in up to 25-bed district hospitals and PHCCs and for all citizens at health posts in October 2007. The overall objective is to reduce morbidity, mortality by ensuring the early diagnosis of diseases and providing appropriate and prompt treatment.

In Bharatpur, all public health institution provide curative services except MCH clinic as part of their services. Government hospitals, medical college and private hospitals as well as health clinic and polyclinic provide mostly curative services.

#### Major Activities

- Curative health services were provided at all health facilities including outpatient and emergency care
- Inpatient services were provided at all levels of hospitals including private medical college hospitals, nursing homes and private hospitals.

## Achievements

Table: Coverage of curative service

Indicators	Unit	2074/75	2075/76	2076/77
Outpatient (OPD) new visits	No.	639090	536915	527695
% of outpatient (OPD) new visits among total population	%	196	161	155
Proportion of female patients among total new OPD visits	%	54	53	53
Proportion of elder population ( $\geq 60$ years) among total new OPD visit	%	19	19	20

## OPD Top Ten Diseases

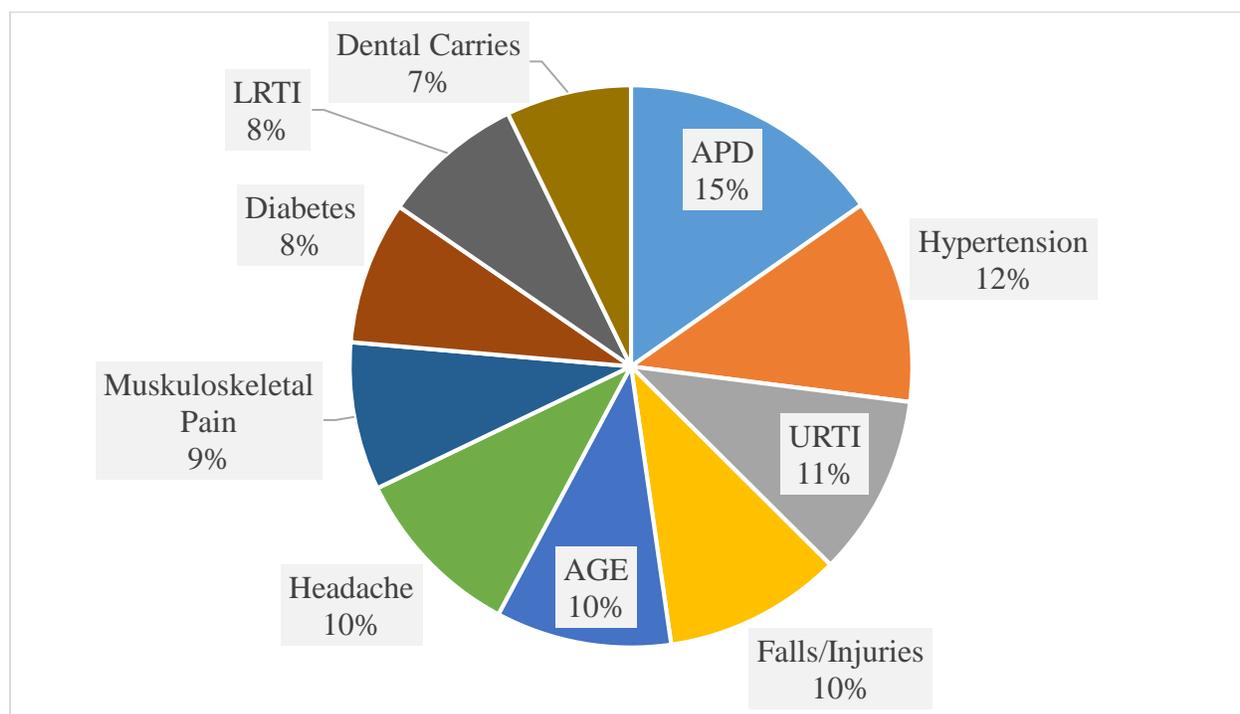


Figure: OPD top ten diseases

## Issues

- No local level (palika) hospital in Bharatpur.
- Error in recording and reporting from private hospitals

## Chapter IV: Supportive Program

### Health Training

#### Background

National Health Training Centre (NHTC) was established in 1993 AD as the national body for coordinating and conducting all training activities under MoHP. It plans and conducts its training activities in line with the National Health Training Strategy, 2004 and according to the need of the different divisions and centers. The goal of NHTC is to build the technical and managerial capacity of health service providers at all levels to deliver quality health care services to attain the highest level of health status of Nepali citizens.

There are seven provincial training centers (Dhankuta, Pathaliya, Kathmandu, Pokhara, Butwal, Surkhet and Dhangadi) and 49 clinical training sites. It caters to training needs of all departments, divisions, and centers of the Ministry of Health and Population (MoHP), and coordinate and supports to provincial health training centers, thus contributing to meet the targets envisioned in the National Health Policy 2076 BS, National Health Sector Strategy (2015- 2020) and Sustainable Development Goals 2030 AD.

Goal: The overall goal of NHTC is to build a technical and managerial capacity of health service providers at all levels to deliver quality health care services towards attainment of the optimum level of health status.

#### Objectives

- To standardize the training Learning Resource Packages (LRP) i.e. Trainer's Guide, Participant's Handbook and Reference Manual of different trainings
- To organize and conduct 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 ensure the quality of training activities by different mechanisms in adherence to national standards and to enhance the capacity of different training sites
- To adopt and promote innovative training approaches
- To strengthen mechanism and capacity for post training follow up and support

#### Strategies

- Assessing, standardizing and accrediting training activities and clinical training sites
- Developing and standardizing training packages
- Institutional capacity development of training sites
- Conducting trainings as per national requirements
- Integrating and institutionalizing training activities
- Developing links with professional career development organizations
- Strengthening trainer's pool at federal, provincial and local level

## Vector Borne Disease Research

### Background

Vector Borne Disease Research and Training Center (VBDRTC) was established in the year 1979 AD with the name of Malaria Research and Training Centre under the Nepal Malaria Eradication Organization which was renamed as VBDRTC in 16 May 1997 with extending its working areas. This center is responsible for research and training of VBDS including Malaria, Kala-azar, Dengue, Chikungunya, Lymphatic filariasis, Scrub typhus and Japanese encephalitis.

### Major Activities

#### Entomological survey of dengue vectors in Bharatpur

In Nepal, dengue outbreak occurs every year with alarming impact on both human health and the national economies. The objective of the entomological survey was to determine the breeding habitats and prevalence of Aedes mosquito species. Knowledge of vector will be helpful for managing severe cases, preparedness and response of the forthcoming outbreaks by applying appropriate vector control methods.

A survey of Aedes mosquitoes was carried out in different localities of Ward no. 1, 2 and 3 of Bharatpur Metropolitan city during the post monsoon period (2076 Bhadara 30 to 2076 Ashwin 7) by Vector Borne Disease Research and Training Center (VBDRTC) in coordination with Health Office Chitwan and Bharatpur Metropolitan City. Overall, 267 water-holding containers were inspected in 100 houses to detect the presence of Aedes mosquito breeding habitats. Among these surveyed houses, 60 (60%) houses were found positive for Aedes larvae and pupae. Among these 267 water-holding containers inspected, 126 (47.19%) were found infested with Aedes mosquito larvae and pupae. The overall Household Index, Container Index, and Breteau Indices were 60.00, 47.19, and 126.00 respectively.

Total 129 number of pupae were collected among those 98 (76%) emerged Aedes aegypti and 31 (24%) emerged Aedes albopictus.

The ward-wise distribution of vector was given as follows:

Indicator	Ward 1	Ward 2	Ward 3	Overall
Household Index	62.16	60.71	57.14	60.00
Container Index	38.94	46.42	56.81	47.19
Breteau Index	100	139.28	142.85	126.00

Number of pupae collected and Aedes species emerged

Indicator	Ward 1	Ward 2	Ward 3	Overall
Aedes aegypti	51%	57%	100%	76%
Aedes albopictus	49%	43%	0%	24%

## Health Education Information and Communication

### Background

The National Health Education, Information and Communication Centre (NHEICC) is the apex body under the Ministry of Health and Population for planning, implementing, monitoring and evaluating Nepal's health promotion, education and communication programs including periodic surveys and research. The Scope of the centre is guided by the National Health Communication Policy 2012 and the National Health Policy 2019, communication strategies and other health related plans and policies. The centre functions to support health programs and services to achieve national health goals and SDGs through health promotion, education, information and communication approach.

The center is the lead for all health promotion, education and communication programs including multi-sectoral health initiatives. The centre uses advocacy, social mobilization and marketing, behaviour change and community lead social change strategies to implement its programs.

**Vision:** Every Nepali is healthy and lives a long and productive life.

**Goal:** The goal of NHEICC is to contribute to the attainment of the highest level of health of the people of the nation.

### Objectives

The general objective of education, information and communication for health is to raise health awareness of the people as a means to promote improved health status and to prevent disease through the efforts of the people themselves and through full utilization of available resources.

### Specific objectives

- To mobilize and use communication multimedia and methods to raise health awareness, knowledge and promote healthy behaviour among the general public.
- To strengthen, expand and implement health communication programs at all levels.
- To generate, collect and mobilize resources to implement health communication programs.
- To prevent the unauthorized dissemination and duplication of health related messages or information and materials on different issues.
- To enhance capacity on health communication to develop, produce and disseminate quality, correct, authorized, uniform and appropriate messages and information.
- To provide quality health messages and information through appropriate media and methods to the citizens who otherwise have little access to such messages and information

### Strategies

Advocacy, social mobilization and behaviour change communication are the major strategies for health promotion, education and communication. The specific strategies are as follows:

- Advocating with all levels of stockholders for building healthy public policy and health in all policies.

- Implementing a one-door integrated approach for all health communication programs under MoHP.
- Coordinating and collaborating with all levels of stakeholders through technical committees and other means.
- Ensuring implementation of health communication programs through health infrastructure at all tiers of government i.e. federal, provincial and local levels in a decentralized manner.
- Mobilizing communication media, methods and materials for the prevention of diseases and promotion of health.
- Standardizing health messages and information for uniformity and appropriateness.
- Using edutainment approach with an education format for disseminating health messages and information.
- Ensuring that all stakeholders disseminate health messages and information after taking consent from concerned health authorities.
- Encouraging the media to disseminate messages and information on health issues.
- Encouraging the dissemination of health messages and information through public private partnerships.
- Discouraging messages and information that is harmful to health.
- Prioritizing lifestyle diseases prevention messages and information dissemination.
- Building the capacity of health workers to plan and implement health communication programs.
- Ensuring the quality, uniformity and standardization of health messages and materials through technical committees.
- Introducing new communication technologies for health promotion and communication.
- Coordinating with academia for building the capacity of health workers on health promotion and health communication.
- Strengthening monitoring and supervision activities to determine the gaps in knowledge, attitudes and practices among target audiences and service providers.

### **Major activities and achievements**

- Publication of health messages in print media
- Production of need-based IEC materials
- Community interaction programs for promoting health services
- Distribution of IEC materials to health facilities
- Communication program on tobacco control and regulation
- Communication program on IMNCI, immunization, nutrition
- Communication program on communicable disease and epidemic prevention
- Health promotion program on safe motherhood and family planning
- Communication program on risk factors of non-communicable
- Hygiene and sanitation programs for preventing and controlling epidemics

## Health Service Management

### Background

Health service management includes information management, planning, coordination, supervision, forecasting, quantification, procurement and distribution of health commodities for the health facilities and the monitoring and evaluation of health programs. It comprises monitoring the quality of air, environment health, health care waste management, water and sanitation. It also monitors the construction and maintenance of public health institution buildings and supports the maintenance of medical equipment. More activities assigned include including policy and planning related to health infrastructure and logistics management.

### Health Management Information System (HMIS)

Health management information system (HMIS) is a system whereby health data are recorded, stored, retrieved and processed to improve decision-making. HMIS data quality should be monitored routinely as production of high quality statistics depends on assessment of data quality and actions taken to improve it.

HMIS in DHIS2 platform:

DHIS2 (District Health Information System), customizable free open source software, was used for the submission of monthly report recording in HMIS. DHIS2 is developed by the Health Information Systems Program (HISP) as an open and globally distributed process with developers and is coordinated by the University of Oslo with support from NORAD and other. Nepal implemented this software Nationally for HMIS online reporting system from FY 2073/74. Initially, the report was collected from health facilities to District Public Health/Health Office. From FY 2075/76, report was submitted by 753 palika's health section. In Bharatpur more than 25 public health institution and more than 100 private health institution monthly submit report which was submitted to higher authority through DHIS2.

### Major Activities

- Annual palika level performance review meeting conducted participating health institution, health office and other stakeholders
- Monthly meeting conducted among health facility in-charge and public health promotion section
- Data entry on DHIS 2 platform of 25 public institutions and more than 50 private health institutions
- HMIS tools and monthly monitoring sheet distributed to health institutions
- Supervision and monitoring for data quality and to improve recording and reporting from health institution

## Achievements

### Reporting status

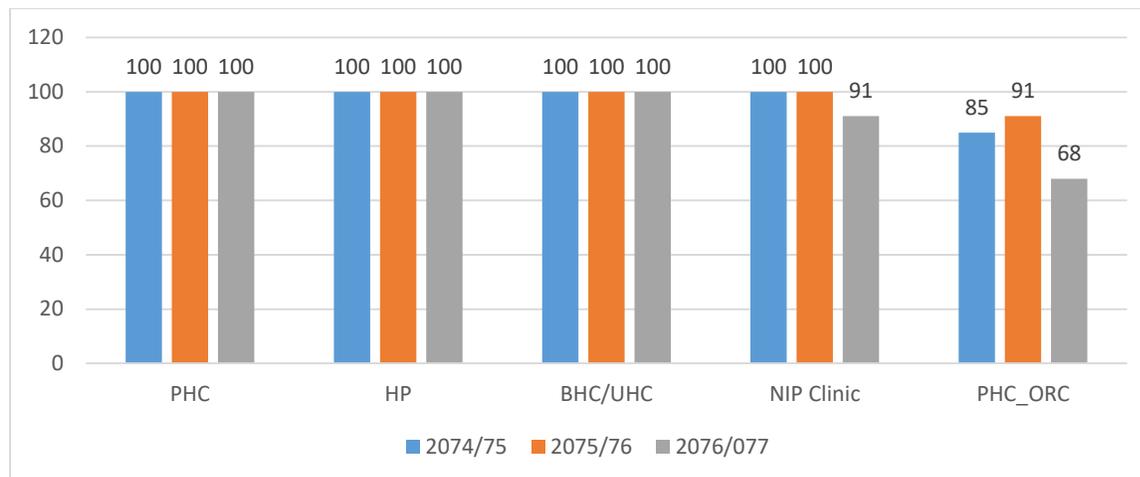


Figure: Reporting status of health institutions

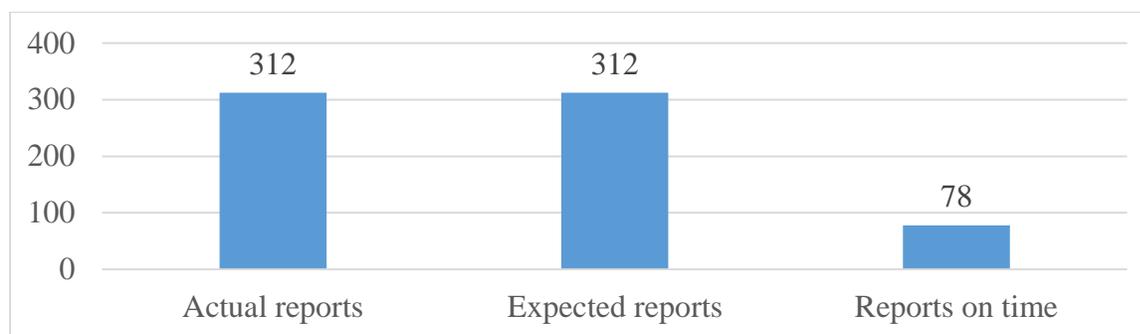


Figure: Expected Vs actual report received by health institutions under Bharatpur

### Number of service users and report received

Table: Number of client served by health institutions

Age Group	New Clients Served		Total Clients Served		Referred	
	Female	Male	Female	Male	Female	Male
0 - 9 Years	52518	57122	64214	71206	786	700
10 - 19 Years	49700	51373	65108	68139	269	208
20 - 59 Years	227092	204631	302946	268920	1365	1726
≥ 60 Years	83618	76733	115946	116792	767	698

Table: Number of report received and client served by EPI clinic, PHC-ORC and FCHVs

Health Facilities Within Catchment Area	Planned (No)	Conducted (No)	People Served (No)
Outreach Clinics	423	286	4687
EPI Clinics	927	843	42730
EPI Sessions	1143	778	
FCHVs	2379	2147	61464

## DHIS 2 Entry

Bharatpur Metropolitan City has been using DHIS 2 platform for submission of HMIS report. A total of 112 health public and private health institutions including medical college has been registered in DHIS 2 system under Bharatpur Metropolitan. Every month about 100 health institutions submit report to public health section. Summary of data entry in FY 2076/77 was as below:

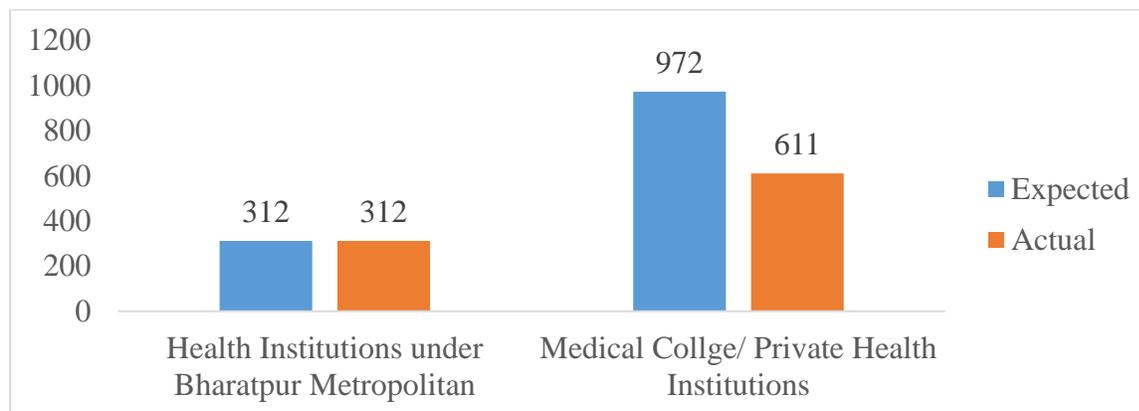


Figure: Expected Vs actual report submitted

## Issues

- Information flow from lower level health facilities and data quality issues
- The monitoring of private health care
- Management of Expired, Wastage and unused materials
- Inadequate of HMIS/LMIS tools and late supply

## Logistics Management

### Background

An efficient management of logistics is crucial for an effective and efficient delivery of health services as well as ensuring rights of citizen of having quality of health care services. Logistics Management Division was established under the Department of Health Services in 2050/51 (1993), with a network of central and five regional medical stores as well as district level stores. The major function of LMD was to forecast, quantify, procure, store and distribute health commodities for the health facilities of government of Nepal. It also involved repair and maintenance of bio-medical equipment, instruments and the transportation vehicles.

In order to systematize the management of logistics, the Logistics Management Information System (LMIS) unit was established in LMD in 1994. LMIS unit started Online Inventory Management from 2073/2074. After the restructure of Nepal's governance in federal structure, the logistics management division was demolished, and its functions are being carried out through logistic management section under Management Division.

Major Functions of Logistic Management section are collection and analysis of quarterly (three monthly) LMIS reports from all the health facilities across the country; 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
- Help to 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.

Goal: Quality health commodities available at health facilities and community level round the year.

### Objectives

To plan and carry out the logistics activities for the uninterrupted supply of essential medicines, vaccines, contraceptives, equipment, HMIS/LMIS forms and allied commodities (including repair and maintenance of bio-medical equipment) for the efficient delivery of healthcare services from the health institutions of government of Nepal in the country.

### Strategies

- 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 through data visibility in electronic logistics management information system (eLMIS).
- Strengthen physical facilities at the central, regional, sub-regional and district level for the storage and distribution of health commodities.

- Promote Online Inventory Management System
- Implement effective Pull System for year-round availability of Essential Drugs and other health commodities at all levels.
- Improvement in procurement and supply chain of health commodities

### Activities

- Plan for the efficient management on forecasting/quantification, procurement, storage, distribution and transportation of health commodities to all health facilities for the delivery of healthcare services based on LMIS.
- Develop tender documents as per public procurement rules and regulations and procure essential medicines, equipment,
- Store, re-pack and distribute medicines, contraceptives equipment and allied commodities.
- Print and distribute HMIS/LMIS forms, stock books and different forms required for all health institutions.
- Implement and monitor Pull System for contraceptives, and essential drugs.
- Supervise and monitor the logistics activities of all health institutions.

### Major logistics activities to strengthen health care services

- Procurement of health commodities
- Forecasting and supply planning
- Strengthen storage capacity
- Improving inventory management and warehouse best practices

### Achievements

#### Reporting status of LMIS

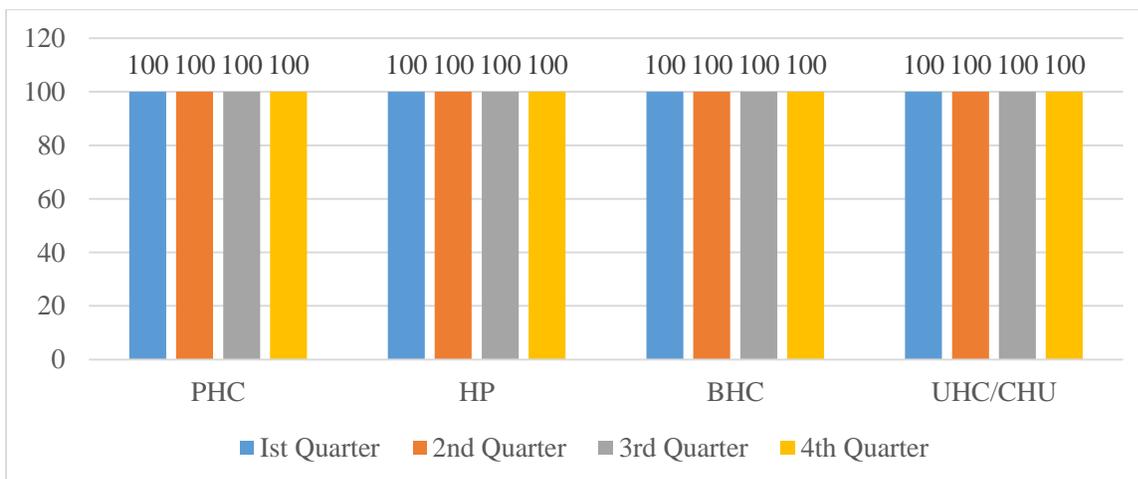


Figure: Reporting status of LMIS

## Health Laboratory

### Background

Laboratory medicine is a vital component of health care services. Nepal's healthcare system consists various levels of laboratories involved in diagnostic services as well as those involved in public health activities (surveillance, research etc.). National Public Health Laboratory (NPHL) is a center under the Ministry of Health and Population (MoHP) and Division of Health Service (DoHS) that serves as national level referral lab which regulates the laboratory services in the country. It was established in 2024B.S. as Central Health Laboratory and began its function as National Public Health Laboratory (NPHL) since 2047B.S.

National Health Policy- 2071, National Health Laboratory Policy, 2069 and the Guideline for Health Laboratory Establishment & Operations- 2073 identify the National Public Health Laboratory (NPHL) as the central specialized national referral public health laboratory for the country and the regulatory body to license public and private labs. NPHL monitors laboratories within the country through its external quality assurance of lab services and the quality control testing of samples and periodic supervision of both government and non-government laboratories.

Bharatpur Metropolitan City have established and operate 8 health laboratory in health post and basic health center in addition to 1 Primary Health care center.

### Laboratory service in Bharatpur Metropolitan City

S.N.	Health Institution	Type of HI	Established by
1	Shivanagar PHC	PHC	MoHP
2	Shahid Ganesh HP	HP	BMC
3	Fulbari HP	HP	BMC
4	Mangalpur HP	HP	BMC
5	Sharadanagar HP	HP	BMC
6	Patihani HP	HP	BMC
7	Divyanagar HP	HP	BMC
8	Meghauri HP	HP	BMC
9	Sharadpur BHC	HP	BMC

## Human Resource for Health

### 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.

### Status of sanctioned and fulfilled posts in health institution of Bharatpur Metropolitan City

Table: Permanent staff (sanctioned position in Public Health Promotion Section, Primary Health Care Center and Health Post)

S.N.	Position	Level	Sanctioned	Fulfilled	Remarks
1	Medical Officer	8	1	2	Study leave
2	Public Health Officer	7/8	1	1	
3	Staff Nurse	5/6/7	1	2	
3	Health Inspection 6 <sup>th</sup>	6	16	19	
4	Health Inspection 5 <sup>th</sup>	5	28	30	
5	Health Inspection 4 <sup>th</sup>	4	14	14	
6	S/ANM	4/5/6	29	31	
7	Lab Assistant	4/5/6	1	0	
8	Office Assistant		14	8	

Table: Permanent Staff (sanctioned position in Ayurveda Aushadhalaya)

S.N.	Position	Level	Sanctioned	Fulfilled	Remarks
1	Senior/Kabiraj	5/6/7	6	8	
2	Senior/Baidhya	4/5/6	6	9	
3	Office Assistant		12	5	

Table: Contracted staff (sanctioned position in Public Health Promotion Section, Primary Health Care Center, Health Post, Basic Health Care Center, Urban Health Center, Community Health Unit, MCH Clinic, Health Clinic and Ayurveda Aushadhalaya)

S.N.	Position	Level	Fulfilled	Remarks
1	Medical Officer	8	4	
2	Public Health Officer	7	2	
3	HA/AHW	5/4	11	
4	SN/ANM	5/4	11	
5	Lab Technician	5	1	
6	School Nurse	5	2	
7	Lab Assistant	4	10	
8	Immunization Assistant	4	4	
9	Computer Assistant	4	2	
10	Office Assistant		25	

### Issues

- Inconsistent distribution of human resource within health institutions
- Complicated procedure of employee adjustment

## Chapter V: Ayurveda and Alternative Medicine

### Background

Ayurveda is an ancient medical system and indigenous to Nepal with deep roots. The sources of Ayurvedic medicine are medicinal herbs, minerals and animal products. The system works through simple and therapeutic measures along with promotive, preventive, curative and rehabilitative health of people. Ayurveda health services are being delivered through one Central Ayurveda Hospital (Nardevi), one Provincial Hospital (Dang), 14 Zonal Ayurveda Dispensaries, 61 District Ayurveda Health Centers and 305 Ayurveda dispensaries across the country.

The Ayurveda and Alternative Medicine unit in the Ministry of Health & population (MoHP) is responsible for formulating policies and guidelines for Ayurveda and other traditional medical system. Department of Ayurveda and Alternative Medicine (DoAA) primarily manages the delivery of Ayurveda & Alternative Medicine Services and promotes healthy lifestyles through its network facilities all across the country. The Department of Ayurveda & Alternative Medicine, one of the three departments of the Ministry of Health & Population (MoHP) is responsible for programming, management of information, and supervision, monitoring and evaluation of the Ayurveda Service programs.

Various national and international policies have highlighted the importance of Ayurveda services in primary health care and for prevention of NCDs. The Constitution of Nepal has called for the protection and promotion of traditional Ayurveda medicines along with naturopathy and homeopathy. The National Health Policy (2014) has called for expansion of Ayurvedic services as have the National Ayurveda Health Policy (1995) and National Urban Health policy (2015). The objectives and strategies of Ayurveda and alternative medicine are as follows:

### Objectives

- To expand and develop functional, physical Ayurveda health infrastructure
- To improve quality control mechanism for Ayurveda health services throughout the country
- To develop and manage the required human resources
- To mobilize the adequate resources for medicinal plants
- To promote community participation in the management of the health facility & utilization of local herbs
- 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

### 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 co-ordination 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

### Major Activities

- Procurement and distribution of medicines
- Yoga and lifestyle management training program
- Promotive program for senior citizens (distribution of ayurvedic tonic like Ashwagandha)
- Awareness program on medicinal plants
- Program for lactating mother (distribution of galactagogue medicine).
- Procurement and distribution of medical equipment
- Regular supply of medicines to Ayurveda Aushadhalaya from health section

### Achievements

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

1. Amlapitta (Gastritis)
2. Udarrog (Abdominal diseases)
3. Swasan Bikar (Respiratory diseases)
4. VataVyadhi (Osteoarthritis, Rheumatoid Arthritis & other neuromuscular Diseases)
5. Jwar (Pyrexia)
6. BalRoga (Pediatric diseases)
7. Karna, Nasa, Mukha, Danta & Kantharog (ENT, Oral, Dental diseases)
8. Strirog (Gynecological diseases)
9. Brana (Wound, Abscess & Other Skin Diseases)
10. Atisar/Grahani (Diarrheal diseases)

Table: Service Statistics for fiscal year 2075/2076

S. N.	Diseases	Daletar	Devghat	Patihani	Gunja-nagar	Shivaghat	Meghauli	Grand Total
1	Jwar (Fever)	34	68	15	80	32	7	236
2	Swas/Kash (Respiratory disease)	45	116	186	129	187	166	829
3	Amlapitta (Gastritis)	280	330	443	136	242	633	2064
4	Atisar/Grahani (Diarrhea)	39	54	53	78	59	25	308
5	Udar Rog (Abdominal Disease)	276	245	425	198	736	202	2082
6	Prameha/madhumeha (Diabetes)	4	32	58	42	15	6	157
7	Kamala (Jaundice)	16	0	30	17	3	0	66
8	Pandu (Anaemia)	19	0	102	7	4	3	135
9	Hridaya Rog (Cardiac disease)	0	0	0	23	11	5	39
10	Raktachap (Hypertension)	59	111	136	92	264	34	696
11	Soth (Oedema)	6	30	14	1	23	0	74
12	Krimi (Worms)	0	32	35	0	0	8	75
13	Twak Bikar (Skin disease)	32	88	61	37	61	23	302
14	Brana (Wound Abscess)	19	32	65	37	88	1	242
15	Aaghat (Traumatic Disease)	13	11	95	3	41	15	178
16	Baatbyadhi (Vataha Disease)	225	268	292	243	259	277	1564
17	Aambat (Rh. Arthritis)	93	92	57	92	60	21	415
18	Baatrakta (Gout)	78	0	35	77	45	15	250
19	Raktabikar (Blood Disorder)	16	40	56	25	89	5	231
20	Mutrabikar (Urinary Disorder)	28	81	24	48	49	5	235
21	Prasutibikar (Obstetric Disease)	79	27	60	0	14	7	187
22	Strirog (Gynecological Disease)	89	0	65	61	93	20	328
23	Gud Bikar (Ano-rectal Disease)	32	0	29	4	99	23	187
24	Netra Rog (Ophthalmic Disease)	8	22	54	0	7	6	97
25	Karna Rog (ENT Disease)	9	39	54	36	134	8	280
26	Sheer Rog (Headache)	10	60	12	51	153	5	291
27	Manas Bikar (Mental Disease)	0	0	0	0	3	18	21
28	Balrog (Pediatric Disease)	72	76	4	121	39	20	332
29	Jarajanya (Geriatric Disease)	293	10	57	131	88	83	662
30	Others	31	14	118	144	72	0	379
	<b>Total</b>	<b>1905</b>	<b>1878</b>	<b>2635</b>	<b>1913</b>	<b>2970</b>	<b>1641</b>	<b>12942</b>

Table: Age-wise service statistics

S. N.	Health Institution	0-5 years		6-14 years		>15 years		All age group		
		M	F	M	F	M	F	M	F	Total
1	Devghat AA	18	15	21	22	862	929	901	966	1867
2	Shivaghat AA	7	6	16	10	1161	1621	1184	1637	2821
3	Gunjanagar AA	5	4	53	62	784	996	842	1062	1904
4	Patihani AA	3	2	16	20	1074	1560	1093	1582	2675
5	Meghauri AA	1	1	13	9	567	787	581	797	1378
6	Daletar AA	41	57	99	146	686	881	826	1084	1910
	<b>Total</b>	<b>75</b>	<b>85</b>	<b>218</b>	<b>269</b>	<b>5134</b>	<b>6774</b>	<b>5427</b>	<b>7128</b>	<b>12555</b>

## Issues

- Lack of community based program for publicity of Ayurveda
- Lack of appropriate recording & reporting system
- Limited budget for medicine and equipment

## **Chapter VI: Programs Carried Out by Bharatpur Metropolitan City in FY 2076/77**

### **Initiative from Bharatpur Metropolitan City in 2076/077**

#### **Free ambulance/transportation incentives for women having institutional delivery**

Bharatpur Metropolitan City executive has approved a guideline named “Free Ambulance / Transportation Incentives for Women Attending Health Institution for Delivery” in 7 Poush 2076. This guideline supports the safe motherhood program which main objective is to reduce the maternal morbidity and mortality by increasing the access to the health care services.

The objectives of providing ambulance and transportation incentives:

1. To make the health services accessible to those pregnant women who don't have access to health facilities for receiving delivery services in order to prevent home delivery
2. To minimize the risk of maternal death arising due to home delivery

#### **Basis for providing ambulance/transportation expenses**

Based on following criteria, the expected mothers are provided with ambulance services and travel expenses:

1. Pregnant woman who have delivered in birthing centers of Bharatpur metropolitan city or other government authorized health institutions through skilled birth attendants.
2. Beneficiary should give the application following Annex 1
3. Applicants should be the permanent residents of Bharatpur metropolitan city

#### **Process of providing free ambulance/transportation incentives**

Free ambulance and travel incentives will be provided through respective ward offices.

1. Based on distance from health institution, women residing in ward no. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12 are provided with NPR.1000 (in words-one thousand only). Women residing in ward no. 13, 14, 15, 16, 17, 18, 19, 20, 21, and 22 are provided with NPR. 1500 (in words- fifteen hundreds only) and women residing in ward no. 23, 24, 25, 26, 27, 28 and 29 are provided with NPR. 2000 (in words- two thousand only).
2. Women benefitted from Aama program can also eligible to get the service under this guideline.

#### **Health infrastructure construction and maintenance**

Bharatpur Metropolitan City has prioritized need-based infrastructure development and maintenance. As the buildings of the health institutions were not as per standard, the quality of health services were compromised. The coordination with concerned authorities of five health facility was done at the local level and the standard procedure for construction was initiated in FY 2076/77. The status of health infrastructure construction are given below in detail:

Table: Health building construction FY 2076/77

S.N.	Health Institution	Ward No	Building Type	Status	Budget source
1	Parvatipur HP	21	HP2	Under construction	MoSD, Bagmati
2	Shukranagar HP	25	HP2	Under construction	BMC
3	Meghauli HP	27	HP2	Under construction	BMC
4	Divyanagar HP	26	BHC	Under construction	MoHP
5	Jaldevi BHC	11	BHC	Under construction	MoHP

In addition, the maintenance and upgrade of the physical infrastructure of the Shivanagar PHCC were carried out in FY 2076/77 to improve service delivery and meet the standards.

### Human resource management

Human resources are the pivotal resource for health care delivery. In those wards where no health institutions are present, health workers and support staffs were contractually hired to continue health services. In total, 74 different positions of staffs were hired in FY 2076/77 and the following table represents the staff recruitment detail.

Table: Contract staff in Bharatpur Metropolitan

S.N.	Position	Number	Program	Source
1	Medical Officer	6	Scholarship contract, UHPC	MoHP
2	Public Health Officer	2	UHPC	MoHP
3	HA	2	UHPC	MoHP
4	AHW	11	BHC, UHC, CHU	MoHP, BMC
5	SN	3	UHPC	MoHP
6	ANM	12	BHC, UHC, CHU, BC	MoHP, BMC
7	Lab Technician	3	District Clinic, UHPC	MoHP
8	School Nurse	2	School Nurse	MoSD
9	Kabiraj	2	UHPC	MoHP
10	Lab Assistant	10	Laboratory	BMC
11	Immunization Assistant	6	NIP	MoHP
12	Computer Assistant	2	UHPC	MoHP
13	Office Assistant	25	Salary, BHC, UHPC, UHC	MoHP, BMC

## **Establishment and operation of health institution**

In FY 2075/76, Sharadpur Urban Health Promotion Center (UHPC) was established in ward no. 9 of Bharatpur Metropolitan City to promote healthy behaviors and inspect meat, food, and water quality. In FY 2076/77, 13 No UHPC was established in ward no. 13 of Bharatpur. The concept of UHPC was based on integrated approach service which includes promotive, preventive, and curative services as well as Ayurveda and alternative medicine. The major activities carried out by UHPC were public health inspection, disseminating information about the non-communicable disease, adolescent and reproductive health services.

Similarly, 8 Basic Health Care Centre, 2 Urban Health Clinic, 1 Community Health Unit, 1 Maternal and Child Health Clinic, and 1 Health clinic was operated with the support from MoHP.

## **Equipment supply to health institution including birthing center and laboratory**

The successful performance of health care activities will depend on availability and use of quality medical equipment. Most of the health institutions were functioning with inadequate medical equipment. To fulfill the gap, health institution were supplied with medical equipment including birthing center and laboratory equipment in FY 2076/77. The following equipment were procured and distributed to health institutions.

## **Procurement and supply of essential medicines and Ayurvedic medicines**

Logistic is getting goods through the supply chain from the points of origin to the point of consumption. Without logistics, health programs would not have the commodities they need to provide clients with lifesaving services. “No commodities, No program” is the slogan of logistic management. Different essential medicines and Ayurvedic medicines were procured and distributed to health facilities. The stockpiling of medicine required for emergency were maintained at health section of health institutions,

## **Grant to Bharatpur Hospital to provide free OPD service to women and elderly**

Bharatpur Metropolitan has given special emphasis to the health of women and senior citizens. Under mayor's leadership, programs have been conducted to provide facilities to women and senior citizens. In FY 2076/77, Bharatpur Metropolitan provided about 6 million rupees grants to Bharatpur Hospital to provide free OPD service to women and elderly. By the end of FY 2076/077, a total of 114,348 female and 21,472 senior citizen benefited from the grants. The schemes has been expanded to people having disabilities in FY 2077/78.

## **Tobacco control and regulation**

Nepal signed the World Health Organization Framework Convention on Tobacco Control (WHO FCTC) on 3 December 2003 and ratified on 7 November 2006, and became a party to the WHO FCTC on 5 February 2007. The government has enacted laws and procedural documents aiming at tobacco control. The Tobacco Product (Control and regulation) Act 2011 is the primary law governing tobacco control in Nepal. The Tobacco product (Control and Regulatory) Regulations 2012, Tobacco Product (Control and Regulatory) Directives and the Directives for printing and labeling of warning messages and pictures in the box, pocket, wrapper, carton, parcel, and packaging of Tobacco Product, 2011 ( Amendment 2014) covers most of the articles of FCTC.

With the slogan “Clean and Healthy City” Bharatpur metropolitan is committed to make the city livable and healthy. Efforts have been made to make Bharatpur a tobacco-free Metropolitan. There is an urgent need to maximize the tobacco control initiatives by focusing more on the execution of existing policy, strategy, and national plans.

Various activities have been executed to achieve the goal of a tobacco-free metropolitan city, which are given as:

- Series of stakeholders meeting conducted in Bharatpur Metropolitan
- Distribution of “No Tobacco” signage to health institution and ward office
- Advocated tobacco-free city campaign in different setting
- Tobacco-free Bharatpur stickers promoted in Bharatpur-Lumbini Motor rally
- Monitoring and regulation for tobacco control in public places has been accomplished around Bharatpur Hospital, Chitwan Medical College, College of Medical Sciences, BP Koirala Memorial Cancer Hospital, and other private health institutions and schools

## **APCAT-Summit**

Asia Pacific Cities Alliance for Tobacco Control and NCDs Prevention (APCAT) was established in 2016 by The Union Asia Pacific Office in Singapore as a network and forum for subnational leaders working to advance tobacco control in the region. Members comprise representatives from 65 cities in 12 countries, including Bharatpur Metropolitan City.

Renu Dahal, Mayor of Bharatpur Metropolitan City, Khagaraj Adhakri, Former Minister of Health and Population, Puskar Raj Nepal, under Secretary, Law, MoPH, Mr. Anand Bahadur Chand, Director of Action Nepal, and a team of health media journalists participated in the program as representatives from Nepal. In the same program, Mayor Renu Dahal proposed to organize the 5th APCAT Summit in Nepal, and all the member countries spontaneously agreed to the proposal. Hence, the 5th APCAT Summit is going to happen in Bharatpur City, Chitwan, Nepal.

APCAT has these three objectives:

- Act to implement a comprehensive tobacco control policy with effective use of resources
- Create innovative solutions to prevent non-communicable disease
- Tackle industry's interference in policy development and implementation by establishing rules and regulations

APCAT works to achieve these objectives in the following ways:

Country to Country: Share the best practices while implementing tobacco control and NCDs prevention

City to City: Mayors visit within the country and region to motivate their peer and share lesson learned

Policy to Practice: Widen program coverage and gain the political will to translate policies into practice

Sub-national to National: Leaders work with national policymakers to improve NCD and tobacco control implementation

Mayors to Media: Mayors disseminate data and policy outcomes regularly with the media to help reiterate their efforts and showcase the policy impact in their city

The 4th Asia Pacific Cities Alliances for Tobacco Control and NCDs Prevention (APCAT) Summit was held in Bogor, Indonesia and attended by more than 200 delegates from 12 countries in the Asia Pacific Region. It provided a platform for knowledge exchange and the sharing of best practice and actions to combat the tobacco epidemic in the region.

The delegates included Mayors, Governors, Members of Parliament, high-level national and subnational government officials, a representative from civil society, academics, and the media. Likewise, from Bharatpur Metropolitan, Mayor Renu Dahal and Health Assistance Officer Surya Tiwari were representatives from Bharatpur in the 4th APCAT summit.

The 5th APCAT Summit was planned to be held 1-3 December 2020 in Bharatpur, Nepal, under the theme "Leadership and Accountability".

## **Procurement of Ambulance**

An ambulance of type "B" was procured in FY 2076/77 and handed over by Mayor Renu Dahal to Jagatpur Health Post located at ward no. 23. The objective of the ambulance purchase was to improve and increase access to ambulance service for rural and marginalized people and help in live-saving service.

## **OPD grant for health institutions**

In FY 2076/77, OPD grants were provided to health institutions. The grants were divided based on the type of facility, service availability in health institutions, and OPD service provided in the previous fiscal year. The budget was spent based on the need of health institutions, and a decision made by the Health Facility Operation and Management Committee (HFOMC).

## **Incentives to FCHVs**

FCHVs form the foundation of health care delivery systems in Nepal. FCHV program is one of the long-standing health volunteer programs that contributed to the country's health achievement. Different incentives were provided to FCHV to motivate them and achieve a higher standard of services.

In FY 2076/77, FCHVs in Bharatpur were provided monthly transportation costs. The cost was provided two times per month based on the conduction of mother group's meeting and monthly meeting of FCHVs at health institutions. An amount of 8 hundred rupees was given per FCHV per month.

## Dengue Prevention and Control

### Background

Dengue virus has spread worldwide for few decades. The past 50 years trend shows that the dengue virus infection has increased by 30 folds. More than half of the world's population are at risk of dengue virus infection; around 4 billion people of more than 128 countries reside in risk areas of dengue virus. Almost 39 hundred million people get infected, and more than 20 thousand people die every year due to dengue infection.

In Nepal, the first dengue infection case was noted among one of the foreigners in 2004 AD. In 2006 AD, dengue cases were found in a few Terai and inner Terai districts. In 2010 AD, dengue epidemic was recorded in Rupandehi, Nawalparasi, and few other districts. Since 2016 AD, it has been epidemic in Chitwan and other districts each year. For this year alone, dengue infection was first noted in Sunasari district in the month of Baisakh, 2076, which then spreaded rapidly to more than 60 districts, also including Chitwan. In 2076/77, 4,803 people had been infected with the dengue virus in Chitwan, and most of the cases were from Bharatpur Metropolitan City.

### Activities conducted for the prevention and control

#### Multi-sectoral coordination

The coordination was done with stakeholders at different levels to control and manage dengue infection within the Bharatpur Metropolitan City. In accord, coordination was done with the Department of Health Services, Epidemiology and Disease Control Division, Ministry of Social Development, Bagmati Province, Health Directorate Bagmati Province, Bharatpur Hospital, Health Office Chitwan, District Administration Office Chitwan, and other governmental and non-governmental organizations within the district.

In addition, coordination was done with all the ward offices, health facilities, health workers, and Female Community Health volunteers to control and manage dengue virus infection. In 2076 Bhadra 17, in the presence of the Mayor and Deputy Mayor of Bharatpur Metropolitan City, the coordination meeting was conducted in collaboration with the Ministry of Social Development. The delegates were ward chairperson, Chief Administration Officer, Division chiefs, chief or representatives from the Ministry of Social Development, Provincial Health Logistic Management Centre, Health Office, and Bharatpur Hospital.

#### Search and destroy campaign

With technical support from the Health Office, Bharatpur Metropolitan City organized a search and destroy the mosquito breeding and dwelling site campaign from Bhadra 1, 2076. The campaign was conducted under the active participation of health workers, FCHVs, and community members, focusing on ward no. 1, 2, 3, 4, 10, 11, and 12 as these wards were the most affected area. The

campaign was continued under the active participation of ward elected members, the local community, and health workers. Under the leadership of Bharatpur Metropolitan City Chief Administration Officer, the surrounding area of the Metropolitan office and Lions Chowk were cleaned by mobilizing community representatives and health workers.

### **Extensive mass awareness rally**

A mass awareness rally was conducted and led by Mayor Renu Dahal from BMC to Pokhara Bus Park. The objective of the rally was to raise awareness about dengue virus control and management. The program was attended by the elected members, employees, health workers, FCHVs representatives from government and private hospitals, and representatives from other organizations.

### **Health education awareness program**

An awareness program on health education was conducted by coordinating with all the stakeholders, including different organizations and private hospitals. The significant activities such as miking, brochure, and pamphlet distribution have been done regularly by mobilizing police and health workers through scrap business association.

### **School Health Education**

All schools coordinated with health facilities, conducted school health awareness programs, and motivated students to keep their home, school, and community clean. The program was carried out through health volunteers in each school.

### **Information, Education, and Communication**

The information on dengue control and management was broadcasted and shared through the mass communication media such as radio, television, newspaper, and other social media. Besides, the interviews and IEC material distribution was done regularly. Likewise, flex was kept in the metropolitan city by coordinating with various organizations.

### **Procurement and Supply of Dengue Test Kit**

BMC coordinated with different stakeholders to ensure the availability of dengue test kits free of cost. In accord, 300 test kits were provided by the department of health services to Bharatpur Hospital, 125 kits supplied by the department of Bagamati Province to BMC. In addition to this,

200 kits were provided by department of health services to BMC which were then handed over to Bharatpur Hospital. Bharatpur Metropolitan procured additional 1000 dengue test kits.

### **Community participation and mobilization**

All the Metropolitan wards were communicated through written documents. They were instructed to conduct activities for dengue management through the utilization of local resources, including local stakeholders. The objective was to actively involve community participation in dengue management and subsequently increase the effectiveness of implemented activities. The required technical support was provided through the health section. During the process, orientation and community mobilization programs were conducted headed by different ward offices.

### **High-level meeting**

The high-level meeting was conducted in Bharatpur in the presence of the secretary of MoHP Pushpa Chaudhary and higher delegates from MoHP, MoSD Bagmati province, and Bharatpur Metropolitan City. The discussion was made on policy and strategies for dengue prevention and control in Bharatpur.

### **Orientation on an awareness program**

The orientation program was carried out on search and destroy activities models in various wards and places in the presence of local leaders, health workers, teachers, students, and other community members.

### **Training program**

The training program was conducted on recent advancements in the prevention and control of dengue. Experts from WHO South East Asia Region facilitated the program. The training focused on preventing dengue and vector control during the winter season as the vector of dengue larva hits the lowest number. So, even the little efforts could drastically reduce breeding places and vectors.

### **Environmental sanitation program**

Through the environmental sanitation program conducted every Monday, management of old tires, plastics bottles, metal cans, aluminum foil, and other mosquito dwelling sites were adequately

managed. Under the leadership of the chief district officer, a cleanliness campaign was conducted where mosquito dwelling sites were identified and destroyed.

### **Some of the strategies followed for dengue prevention and control**

- Continuation of mosquito breeding site search and destroy campaign
- Coordination and interaction with stakeholders and ward level Tole committee along with orientation led by the ward office
- Awareness through health education, information, and communication activities
- Information provided through different methods and media
- Coordination and discussion among stakeholders for the sustainability of search and destroy campaign

### **Conclusion**

With the solo effort of Bharatpur Metropolitan controlling, controlling the dengue epidemic is not possible. Every individual, family, and community has to be aware of its transmission. Dengue epidemic can be managed if only an individual is protected from mosquito bites alongside destructions of breeding sites and larva of mosquito. The mosquito breeding site in the community should manage at first to control and manage dengue transmission. Thus, moving forward, Bharatpur would request all the citizens to take steps to prevent dengue transmission.

## COVID 19 Prevention, Control and Management

### Background

The first case of COVID-19 was reported from Hubei Province of China on 31 December 2019. Public Health Emergency of International Concern (PHEIC) has been declared on 30 January 2020 and pandemic on 11 March 2020. Illness caused by coronavirus was termed as COVID-19 by the WHO, which is derived from “coronavirus disease 2019.” The first name was selected to avoid stigmatizing the virus’s origin in terms of population, geography, or animal associations.

In Nepal, the first case was reported on 23 January 2020, a 32 years old Nepali man returning from Wuhan. The patient recovered, and the contacts were also asymptomatic. Immediate actions were taken to strengthen the health desks at Tribuvan International Airport and gradually at other airports. The ground crossing points of Entry (PoE) at the Nepal-China border and the Nepal-India border were strengthened with health desks. The government of Nepal announced the suspension of all international flights, followed by a country-wide complete lockdown since 23 March 2020.

In Chitwan, the first case was reported on 4 Baisakh 2076, among the mother and son of Rapti Municipality ward no. 9. Both patients recovered, and contacts were also asymptomatic. In Bharatppur Metropolitan city, the first case of COVID-19 was reported on 8 Jestha 2076, among a spouse of 74 years old husband and 73 years old wife. They were the resident of ward no. 6 Kesharbag, and had a travel history of visiting India. Furthermore, the first death case of COVID-19 infection in Nepal was reported on 1 Jestha 2076, a pregnant woman of sindhupalchowk district. In Bharatpur, the first death case reported on 27 Jestha 2076, a male of 68 years who was a resident of Bharatpur-11.

Bharatpur Metropolitan city has given high priority to the prevention and control of COVID-19 (then Novel Corona Virus). District level stakeholders meeting was called upon by Metropolitan in the first week of Magh 2076. Metropolitan has been managing and monitoring COVID-19 prevention and control activities where the standards and directives from provincial governments have been adopted for preventing and managing COVID-19 infections.

A series of coordination meetings were carried out between Bharatpur Metropolitan city, Bharatpur Hospital, District Administration office Chitwan, Health Office, Chitwan, BP Koirala Memorial Cancer Hospital, Chitwan Medical College, College of Medical Sciences, Associations of Private Health Institutions Chitwan, Private Hospitals, Chamber of Commerce and Industry Chitwan, Chitwan Association of Industries, Journalist, Nepal Medical Association, Nepal Nursing Association, and other stakeholders.

Bharatpur Metropolitan has carried out an awareness-raising program, established and operated health desks, and run fever clinics. Elected representatives, officials, and health workers have been active in establishing and managing quarantine facilities and isolation services. They also played an important role in initiating contact tracing where infections were identified and facilitated Rapid Diagnostic Test (RDT) and polymerase Chain Reaction (PCR) tests.

The initiatives taken in the process of COVID-19 control and prevention efforts are mentioned below:

### **Early sensitization, awareness and preparation**

In the early week of January, all the health facilities under BMC were informed about the spread of Novel Coronavirus in the Wuhan City of China and its possible impact in Nepal. A large-scale metropolitan level interaction program on prevention and preparedness of Novel Corona infection was organized with stakeholder's participation, including people's representatives, government and private hospitals, medical colleges, and commercial organizations. The information on the possible sign and symptoms and preventive measures of Novel Corona Virus infection was delivered at the community and school level through health institutions. Various awareness activities were conducted through ward offices and community organizations, along with the distribution of pamphlets.

### **Establishment and operation of health desk**

A health desk was established at Bharatpur Airport from Magh 22 to screen suspected persons entering Bharatpur through Bharatpur Airport. Health desk conducted preliminary health screening on citizens arriving from other locations to determine they exhibited COVID-19 symptoms like fever, cough, cold, sore throat, and muscle aches. The suspected person was counseled and referred to Bharatpur Hospital for further investigation. The operation of the health desk continued until the regular movement of people was normalized.

### **Establishment of fever clinic**

Fever clinic was established in all health institutions for the preliminary screening of people visiting health institutions. From 13 Chaitra to Ashad 31, altogether 32,386 people were screened for fever where 17,612 were female and 14,774 were male. Among them, 454 had a fever which constituted 222 female and 232 male.

### **Coordination and cooperation**

A multisectoral approach requires all level governments, non-government and private sectors, corporate organizations, and community to prevent and control diseases. So, the coordination and cooperation had done with federal and provincial institutions, district and local level stakeholders. In addition, coordination was established with sisterhood cities of China.

### **Establishment of corona specific temporary hospital**

At the meeting held on 4 Chaitra 2076, the Bharatpur Corona Control Task Force decided to set up a temporary 70-bed corona hospital within 72 hours. Then, Bharatpur Corona Specific Hospital was temporarily established in the exhibition hall of Chitwan Industries Association located at ward no. 10. It was initiated with the active participation of stakeholders of Chitwan under the leadership of Bharatpur. The hospital came into operation on 7 Chaitra 2076 and was handed over to Bharatpur Hospital from 1 Baisakh 2077.

The Bharatpur Corona Special Hospital had a general ward of 50-bed and further equipped with a 10-bed intensive care unit and a 10-bed High Dependent Unit. A total of 355 people were served till the handover period. A PCR test was performed on 140 people. During the period, one person died on 10 Chaitra 2076, although his test was negative. Later the hospital was closed as per the decision of Bharatpur Hospital.

### Quarantine management

Forty-eight quarantines were set up in 29 Metropolitan wards for the management of people who immigrated from abroad and other districts with higher infection rates. Quarantines facilities were managed by utilizing the internal resources of Metropolitan. Most of the quarantine facilities were established in schools, public buildings, government offices, and community buildings. The description of quarantine in Bharatpur was as below.

S.N.	Name of quarantine sites	Ward No	Number of beds
1	Bageswori Ashram A	1	10
2	Bageswori Ashram B	2	15
3	Narayani Polytechnic Institute	3	20
4	Shree Rastriya Adharbhut School	4	10
5	Torikhet Secondary School, Torikhet	5	20
6	Arunodaya College, Gitanagar	6	15
7	Shree Dev Jyoti Secondary School	6	10
8	Shree Shahid Smriti Secondary School	6	10
9	Shree Secondary School, Indrapuri	6	10
10	Shree Secondary School Krishnapur	7	20
11	Prembasti Higher Secondary School	7	20
12	Gauriganj Secondary School, Gauriganj	8	11
13	Sharadpur secondary School, Sharadpur	9	15
14	Educatin Development Training Centre	10	34
15	Kamalamai Temple	11	22
16	Mohan Secondary School	12	17
17	Himalaya Dandapaani Secondary School	13	10
18	Shree Basic School	13	10
19	Narayanin Bidhya Mandir Secondary School	14	26
20	Biswaprakash Secondary School	15	22

S.N.	Name of quarantine sites	Ward No	Number of beds
21	Shree Basic School 18	15	6
22	Sirpur Secondary School	15	3
23	Old building of ward no. 16	16	20
24	Red cross Building, Mangalpur	16	7
25	Charpate youth Society meeting hall	16	13
26	Laugauta Secondary School, Lagauta	17	17
27	Gunjanagar Secondary School	18	16
28	saarda Secondary School, Saardanagar	19	20
29	Bhimnagar Secondary School, Chanauli	20	17
30	Annapurna Secondary School, Parbatipur	21	18
31	Tharu welfare museum, Dhanauji	22	15
32	Laxmi secondary School, Jagatpur	23	10
33	Dhurba primary School, Dhurba	24	10
34	Gyanjyoti School	25	10
35	Shree Baaljyoti preprimary School	25	10
36	Aadarsh Higher Secondary School, Divyanagar	26	10
37	Janaki secondary School, Meghauri	27	20
38	saraswati higher secondary School, Jitpur	28	25
39	Shree aadharbhut lower secondary School	28	23
40	shree Larkhaare secondary School	28	8
41	Sajhapur higher secondary School	28	1
42	andauli primary School	28	9
43	Shree Kabilas Secondary School	29	10
44	Prabhat Secondary School	25	4
45	Soshi Secondary School	25	4
46	Bayarghari School	25	3
47	Rular Montesswori	25	2
48	Rastruya Aadharbhut School, Pragatichowk	24	13

### Rapid Diagnostic Test

Individuals under quarantines and those suspected of COVID-19 infection were tested using the RDT initially. A total of 490 RDT tests were carried out on different wards of Bharatpur. Among them, six were reactive, and the remaining 484 were non-reactive. A confirmatory test was done among six reactive cases with PCR, and all were negative.

### Health workers mobilization

Health workers were mobilized in quarantines, health desks, fever clinics and assigned to monitor home isolation patients for COVID-19 prevention and health care services delivery. Regular health

care services have been provided despite the difficult circumstances and limited human resources because most of the available health workers have been mobilized to combat the threat of COVID-19.

### **PPE and medical equipment procurement, receive and supply**

Bharatpur Metropolitan city managed personal protective equipment (PPE) by means of various sources as a preventive measure to address the risk of the COVID-19 pandemic. The medicines, PPE Gowns, surgical masks, N95 masks, gloves, face shields, sanitizer were purchased and distributed to CICTT and health institutions. Many such materials were received through the donation by national and international donors including sister city in China.

### **Commodities supply to health facilities**

All health institutions were supplied with infrared thermometer, masks, sanitizer, PPE gown, face shield, gloves, rubber boots and other necessary supplies. But the supply was very limited as per the requirement of health institutions. Medicines were regularly supplied to health institution to maintain the stock and normal functioning of health care service.

### **Procurement and supply of VTM**

Health Office Chitwan initially supplied a virus transport medium (VMT). The demand for VMT increased when the daily cases of COVID-19 increased as more samples have to be collected. For the uninterrupted supply of VMT, Bharatpur Metropolitan coordinated with different organizations. A total of 2280 VMT were received from Health Office Chitwan, 480 VTM received from Provincial Health Logistics Management Center, and 380 through donation. In addition, Bharatpur 5300 VTMs were purchased.

### **Bharatpur Corona Lab**

The mayor of Bharatpur Metropolitan has played a leading role in establishing Bharatpur Corona Laboratory for the diagnosis of COVID-19 in Bharatpur. Thousands of PCR tests are performed by the laboratory even to this day.

### **Case Investigation and Contact Tracing Team (CICTT)**

A Case Investigation and Contact Tracing teams (CICTT) of five were formed in Bharatpur as per the Ministry of Health and Population guidelines. The orientation of CICTT was carried out by Health Office Chitwan. The 5 clusters of wards were formed and assigned to each team. CICTT were assigned three major responsibilities viz. contact tracing, swab collection, and case

management. Each group consisted of one public health graduate, one paramedic, and one lab technician/assistant.

Individuals stayed under quarantine and suspected of COVID-19 infection were tested with PCR test. CICTT identified primary and secondary contacts of COVID 19 patients and then collected swabs of the suspected and primary contact and sent them to Bharatpur Corona Laboratory for further investigation. Public Health Promotion Section developed an internal guideline to prioritize the primary contact. Elected representatives and residents played an important role in identifying contacts of a confirmed COVID-19 patient. Among those contacts, swab collection was done by prioritizing them in a systematic manner i.e. close and primary contacts.

By the end of FY 2076/77, a swab of 1161 suspected people was collected and sent for diagnosis. More than 1500 people were contacted during the period. By the end of FY 2076/77, there were 52 cases of COVID-19 in Bharatpur. Among those cases, 40 people were identified from contact tracing and case investigation, and the remaining 12 cases were identified from Bharatpur Hospital.

Summary of activities by CICTT from 2077 Jetha 8 to 2077 Kartik 30 was as follows:

Table: Number of swab collection and positive patients

Month	Swab Collection (BMC only)	Positive			Diagnosis at		
		Female	Male	Total	Bharatpur Hospital Lab	CMC	BPKMCH
Jetha	318	5	16	21	21		
Ashadh	843	3	28	31	31		
Sharavan	1038	30	38	68	68		
Bhadra	1808	405	459	864	496	368	
Ashwin	1095	454	733	1187	341	704	142
Kartik	310	606	812	1418	327	855	236
<b>Total</b>	<b>5412</b>	<b>1503</b>	<b>2086</b>	<b>3589</b>	<b>1284</b>	<b>1927</b>	<b>378</b>

### Case management

The hospitals have the primary responsibility in the treatment and management of individuals with infections. At first, Bharatpur hospital was designated for the management of COVID-19 patients, which then extended the facilities to Chitwan Medical College, College of Medical Sciences. Private hospitals also allocated certain beds for the patients. The person diagnosed with COVID-19 was sent to the Bharatpur hospital by coordinating with Ambulance services. CICTT bridges between hospitals and patients in facilitating the transport of patients to hospitals. A dedicated ambulance service was provided for the commute of COVID-19 patients.

### Monitoring of patients in home isolation

The most of the patients were asymptomatic so, they were in home isolation. They were monitored regularly by health workers from respective health institutions. Counseling on food and nutrition, personal hygiene, sign, and symptoms and necessary treatment services were provided to patients and their family members. Elected representatives and other communities had equal responsibility for the monitoring of patients in home isolation.

### **District Level COVID 19 Technical Team**

A district-level COVID-19 technical team was formed as per the decision of the District COVID-19 Crisis Management Center (DCCMC) to coordinate and harmonize the effort of different stakeholders in the district. Chairperson of Bharatpur Hospital led the technical team and members represented from Bharatpur Metropolitan, BP Koirala Memorial Cancer Hospital, Chitwan Medical College, College of Medical Sciences, Association of Private Health Institutions Nepal, Nepal Medical Association, Nepal Nursing Council, Nepal Red-cross Society, and member secretary from Health Office Chitwan.

### **Establishment of Bharatpur COVID 19 Isolation Center**

Bharatpur Metropolitan established Bharatpur COVID-19 isolation center in Yogi Naraharinath Yoga and Prakritik Chikitsalaya in ward no. 1 Bageshwari. The isolation center was managed by Yogi Naraharinath Yoga and Prakritik Chikitsalaya, supported by Bharatpur Metropolitan. The major objective was to provide health care services to asymptomatic and mildly symptomatic patients. Starting from Bhadra 2077, a total of 412 persons received services from the isolation center till date. The capacity of the isolation center was 70 bed. Meanwhile, infected people were treated through regular exercise, yoga, fasting and diet.

## Chapter VII: Miscellaneous

### Functions of Public Health Promotion Section

1. To formulate, implement, promote and regulate basic health, reproductive health and nutrition policies, laws, norms and plans.
2. To operate blood transfusion service in local and urban health services.
3. To make recommendations for the treatment assistance of vulnerable citizens under health insurance and social security.
4. To manage the family planning, maternal health and child health services
5. To conduct preventive, curative and therapeutic programs related to non-communicable diseases.
6. To formulate policy arrangements, laws and standards related to communicable diseases, epidemic control and disaster management and to coordinate and facilitate the implementation with the concerned stakeholders.
7. To establish, operate, monitor and regulate hospitals and other health institutions.
8. To operate, monitor and regulate medical stores.
9. To work on Ayurvedic dispensary and naturopathy and its related sectors.
10. To work in coordination, collaboration and partnership with private and non-governmental organizations related to the health sector as well as monitoring and regulating it.
11. To operate free health camp for the marginalized, underprivileged and targeted groups.
12. To manage government and public health institutions.
13. To prepare health related data, report and submit it to the concerned authorities of provincial and federal level.
14. To execute health promotional activities by enabling capacity of health workers and female community health volunteers

## Estimated Target Population for FY 2076/077

Ward	Total Population	00 - 11 Months	12 - 23 Months	00 - 23 Months	00 - 59 Months	06 - 59 Months	12 - 59 Months
BMC 1	13442	283	219	502	1173	1032	890
BMC 2	20095	423	365	788	1915	1704	1492
BMC 3	17772	374	377	751	1904	1717	1530
BMC 4	17318	364	279	643	1512	1330	1148
BMC 5	9828	207	195	402	919	816	712
BMC 6	12882	271	207	478	1139	1004	868
BMC 7	12458	262	215	477	1130	999	868
BMC 8	8389	176	137	313	719	631	543
BMC 9	10843	228	153	381	940	826	712
BMC 10	28279	594	384	978	2158	1851	1564
BMC 11	25170	529	502	1031	2521	2257	1992
BMC 12	13041	274	204	478	1091	954	817
BMC 13	7149	150	115	265	650	575	500
BMC 14	10129	213	166	379	906	800	693
BMC 15	14231	299	240	539	1240	1091	941
BMC 16	16350	344	338	682	1723	1551	1379
BMC 17	7966	168	145	313	778	694	610
BMC 18	8335	175	143	318	780	693	605
BMC 19	7340	154	133	287	683	606	529
BMC 20	7975	168	151	319	732	648	564
BMC 21	7734	163	135	298	723	642	560
BMC 22	6248	131	105	236	545	480	414
BMC 23	8468	178	168	346	878	789	700
BMC 24	5166	109	117	226	610	556	501
BMC 25	9556	201	195	396	928	828	727
BMC 26	9978	210	183	393	945	840	735
BMC 27	9268	195	173	368	886	789	691
BMC 28	7529	158	194	352	871	792	713
BMC 29	6901	145	148	293	742	670	597
Bharatpur	339840	7146	6086	13232	31741	28165	24595
Chitwan	691674	14542	13975	28517	69894	62623	55352

Ward	Total Population	00 - 14 Years	10-19 Years	MWRA 15-49 Years	Expected Pregnancy	Exp. Live Births	60 & + Years
BMC 1	13442	3273	2302	2718	343	291	1068
BMC 2	20095	5309	3615	4515	514	436	1248
BMC 3	17772	5279	3318	3618	454	385	840
BMC 4	17318	4675	3403	4020	442	375	1512
BMC 5	9828	2662	1893	2204	251	213	914
BMC 6	12882	3395	2389	2896	329	279	1424
BMC 7	12458	3448	2477	2968	318	270	889
BMC 8	8389	2414	1677	1857	215	182	758
BMC 9	10843	3031	2206	2612	277	235	798
BMC 10	28279	5951	5085	6556	724	613	1665
BMC 11	25170	7231	5181	5838	644	546	1711
BMC 12	13041	3261	2543	3073	334	283	935
BMC 13	7149	2034	1351	1568	183	155	757
BMC 14	10129	2777	1964	2354	259	220	1103
BMC 15	14231	3742	2691	3259	363	308	1364
BMC 16	16350	4946	3156	3691	417	354	1434
BMC 17	7966	2312	1618	1940	204	173	707
BMC 18	8335	2361	1593	1936	213	181	951
BMC 19	7340	1997	1441	1744	188	159	785
BMC 20	7975	2125	1562	1875	204	173	832
BMC 21	7734	2189	1440	1736	198	168	936
BMC 22	6248	1695	1230	1476	159	135	671
BMC 23	8468	2717	1793	1896	217	184	739
BMC 24	5166	1775	1077	1034	132	112	460
BMC 25	9556	2731	1933	2294	244	207	938
BMC 26	9978	2773	1999	2336	255	216	1037
BMC 27	9268	2812	2018	2169	237	201	939
BMC 28	7529	2434	1729	1765	192	163	603
BMC 29	6901	2218	1521	1394	177	150	619
Bharatpur	339840	93567	66205	77342	8687	7367	28637
Chitwan	691674	200596	136895	153453	17684	14996	59820



**Bharatpur Metropolitan City  
Office of Municipal Executive  
Health and Social Development Division  
Public Health Promotion Section**



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