

National Tuberculosis Program Nepal

**Annual Report
2074/75 (2018)**



**Government of Nepal
Ministry of Health & Population
Department of Health Services
National Tuberculosis Center**

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Preface

Tuberculosis (TB) is a major public health problem in Nepal. The Government of Nepal is fully committed to fight and eliminate TB from the country by mobilizing all levels of leaders and securing required resources for the TB Programme.

Nepal National Tuberculosis Programme (NTP) achieved the Global indicators and MDG targets set for the country and have already moved to Sustainable Development Goals (SDGs). The Government of Nepal is dedicated to sustain and improve these achievements and will further strengthening the service accessibility through effective coordination and collaboration with TB stakeholders and partners.

The Government of Nepal, Ministry of Health and Population (MoHP) stands united with Global TB community to end the TB epidemic in the country. The National Strategy Plan for TB (2016-2021) is guiding our NTP to finding out missing people with TB, diagnose and treat them in timely manners, which aims to make TB no longer public health problem and healthier society in the country. Basic TB prevention, treatment and care services are available free of costs throughout the country including some private health sectors as well.

It is my immense pleasures to bring out this Annual Report of National Tuberculosis Programme for the fiscal year 2017/18. This report includes the progress made during the year and it will be a useful reference document for all those committed in the fight against tuberculosis including national and international level planers, implementers, researchers and donors. The MoHP together with many partners from the public and private health care sectors are committed to further improve the tuberculosis programme in order to sustain the achieved success and to reach the TB elimination targets linked to the Sustainable Development Goals to End TB from the country by 2030.

I would also like to extend my sincere appreciations and thanks all the donors, development partners and other governmental and non-governmental sectors for their instrumental contributions for TB prevention, control and management in Nepal.

21 March 2019

Upendra Yadav

Deputy Prime Minister,

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Message

The National Tuberculosis Programme (NTP) is recognized as a priority one programme of the Ministry of Health and Population (MoHP) and has been outstandingly successful. It is focused to providing quality Tuberculosis services and to ensure universal access to health services through integrated treatment and diagnostic services within health system.

It is a matter of pride that National TB Programme has achieved most of targets of the Millennium Development Goal (MDG) set to measures the progress for tuberculosis control and now the country is moving to achieve the goals set in the Sustainable Development Goals (SDG).


Government of Nepal, Ministry of Health and Population is always committed to adopt and implement the “END TB Strategy” recommended by the WHO. NTP is a well performing programme within the country and has been recognized as a model in the South East Asia.

Ministry of Health and Population has developed the National Strategy Plan (NSP) for TB (2016-2021) which is being implemented in the country, providing strategic directions for the implementation of innovative and novel approaches for finding and treating people with Tuberculosis.

After adoption of WHO recommended STOP TB Strategy in 2006 as a country Tuberculosis control guiding principles, NTP has made remarkable progress on a new era of tuberculosis control under which several new initiatives have been launched successfully including Drug Resistant (DR) and Extensive Drug Resistant (XDR) TB management and that is now considered as a global model for ambulatory treatment for Drug Resistant Tuberculosis.

I would like to take this an opportunity to acknowledge and extend my sincere thanks to all the NTP partners for their support and hope that this crucial support will continue in the future as well.

21 March 2019


Dr. Surendra Kumar Yadav
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Message

This is my immeasurable pleasure to release annual report of Nepal National Tuberculosis Program(NTP) for the fiscal year 2017/18. NTP is recognized as a priority one and remarkably successful program of the Government of Nepal. I am very much delighted to note that NTP has been moving on the right direction by achieving the MDG goals and now aim to achieve the Sustainable Development Goals (SDGs).

This huge success achieved by the program has only been possible with supports from all stakeholders. I am very much happy to mention that the strong collaboration from the partners including the private and community sectors were instrumental behind this success, but ending TB still required further meaningful collaboration and engagement of these sectors. The Ministry of Health and Population is committed to develop the necessary policies, strategies and guideline to bring on board the private sectors in TB control initiative.

Ministry of Health and Population has already adopted the WHO recommended END TB Strategy incorporating its goals into the National Strategy Plan for TB (2016-2021). The Ministry of Health and Population is committed to achieve the vision of 'Tuberculosis Free Nepal' and confirm its full supports to TB control efforts in Nepal.

This annual report will provide sufficient information on the activities of the NTP and their partners for fiscal year 2017/18. The successes and limitations observed during the year will also help NTP to develop further action for coming years.

I would like to take this opportunity to acknowledge and extend my sincere thanks to all the stakeholders and development partners for their regular supports to prevent and control the tuberculosis and hope that this crucial support will continue future as well.

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Chandra Kumar Ghimire
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Date : March 21, 2019

Message

It is my great pleasure to publish the annual report of National Tuberculosis Program(NTP) for the year 2017/18. NTP is recognized as a priority one and extraordinarily successful program of the Government of Nepal. I am very much pleased to note that NTP has already achieved the MDG Targets set by World Health Organization (WHO) and it is moving to achieve the targets set in End TB targets inline with Sustainable Development Goals (SDGs).

Ministry of Health and Population developed the National Strategy Plan for 2016-2021. The main goal of the NSP is to reduce 20% TB incidence rate by 2021 compared to 158/1,00,000 incidence rate of 2016 by finding the missing cases and treating them successfully.

The achievements of Tuberculosis program have been possible with the supports from all stakeholders; the other government partners, non-governmental partners, donor agencies and other national and international stakeholders. NTP has also been addressing the issues of drug resistant tuberculosis (DRTB) and community system strengthening (CSS) as high priority components of NTP.

This report will provide adequate information on the activities of the NTP and their partners for fiscal year 2017/18. The successes and restraints observed during the year will also help us to develop action plan for the coming years.

I would also like to take this opportunity to recognize and extend my sincere thanks to all the staff of Ministry of Health and Population, stakeholders and development partners and hoping to their continued support to fight against TB.


Dr. Pushpa Chaudhary
Secretary



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Foreword

Date:-.....

Tuberculosis still remains a public health challenges in Nepal. Realizing the situation, the Ministry of Health and Population, Department of Health Services has developed comprehensive strategy plan (NSP for TB 2016-2021) to address the problem and is being implemented successfully. The Department of Health Services (DoHS) has been managing program through National Tuberculosis Centre (NTC) in the country.

National TB Program already has achieved global targets set in the Millennium Development Goals (MDGs) and is moving ahead to address the challenges and targets of END TB Strategy recommended by WHO inline with Sustainable Development Goals. Despite best efforts, there still lie many challenges in ending TB. The universal access to TB care in high-risk groups, delivery of TB services in hard to reach areas, collaboration with private health sectors, promotion of International Standards of TB Care and management of Community System Strengthening (CSS) and Programmatic Management of Drug Resistant (PMDT) Program are some of the areas which needs to be strategically addressed in days to come.

It is my immense pleasure to bring out this report of National TB Program for the fiscal year 2017/18. I hope, this report gives detailed information and analysis on progress of NTP, which can be helpful for future course of action for the program. The report will also help the institutions and individuals involved in TB control to design policies and programs for effective TB control initiatives in the country.

Finally, I would like to appreciate and thank the Director of National Tuberculosis Center and his entire team for their hard work in getting this valuable report published in time.

March 2019



Dr. Gunaraj Lohani
Director General



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Acknowledgment

It is my great pleasure to bring this annual report of the National Tuberculosis Programme (NTP) for the financial year 2017/18. This report was prepared by a core team at NTC led by Mr. Anil Thapa and supported by other members from NTC and partner organizations. Executive summary and Introduction chapter was written by Mr. Gokul Mishra and supported by Dr. Ashish Shrestha. Chapter 2 on National commitments were written by Dr. Lungten WANCHUK. Data, tables, and figures required for writing Chapter 3; The burden disease were prepared by Lok Joshi, Nilaramba Adhikari and further verified by Pushpa Joshi and written by Ratna Bhattarai. CHAPTER 4 on Drug Resistance Tuberculosis was written by Dr. Pramod Raj Bhattarai. CHAPTER 5 on TB diagnostics services was written by Gokarna Ghimire whereas Dr. Suvesh Kumar Shrestha wrote Chapter 6, 7 and 8 on TB treatment, prevention, and universal health coverage. Som Kumar Shrestha with inputs from Rameswor Upadhaya wrote a chapter on prevalence survey. CHAPTER 10: planning, monitoring, and evaluation were written by Pushpa Raj Joshi who also wrote a chapter on key constraints and challenges. TB financing was written by Rajesh Pokharel, Chapter 12: research and developments by Lok Joshi, Chapter 13 on capacity building and development by Chitra Jung Shahi, Chapter 14: Logistics Management by Ajudey Shrestha, Chapter 15: Human Resources Management by Deepak Rijal and Chapter 16: Partner's Contribution In TB was written by Rajendra Basnet. Naval Kishor Shrestha has compiled and formatted the overall document and Dr. Ashish Shrestha has reviewed and edited the contents of the whole documents.

In addition, I would like to extend my sincere appreciation and thank all the NTP staffs, partners, donors, health workers, and concern stakeholders for their valuable support and contribution to the TB program. Finally, I appreciate the hard work and dedication of the NTC team members, WHO, Save the Children/Global Fund team, Damien Foundation and Liverpool School of Tropical Medicine (LSTM) for their support, but a special appreciation goes to Mr. Anil Thapa for his leadership and this entire team for their efforts in preparing and producing this very important document in time and of high quality.

Dr. Bhim Singh Tinkari
Director

March 2019

Abbreviations

ACF	Active TB Case Finding
ACSM	Advocacy, Communication and Social Mobilization
AIDS	Acquired Immune Deficiency Syndrome
ARI	Acute Respiratory Infection
ART	Anti-Retro Viral
BCG	Bacille-Calmette-Guérin
CNR	Case Notification Rate
CSS	Community Support Strengthening
DLS	District Laboratory Supervisor
DM	Diabetes Mellitus
DOTS	Directly Observed Treatment Short Course
DRTB	Drug-Resistant Tuberculosis
DST	Drug Susceptibility Test
EP	Extrapulmonary
EQA	External Quality Assessment
FLD	First Line Drug
FQ	Fluoroquinolones
GDF	Global Drug Facility
GENETUP	German Nepal Tuberculosis project
GFATM	Global Fund to fight AIDS, TB and Malaria
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
IPT	Isoniazid Preventable Therapy
ISTC	International Standard for TB Care
LJ	Lowenstein-Jensen
LPA	Line Probe Assay
LQAS	Lot Quality Assurance Sampling
LTBI	Latent TB Infection
M&E	Monitoring and Evaluation
MC	Microscopy Center
MDGs	Millennium Development Goals
MDR-TB	Multidrug-Resistant TB
MGIT	Mycobacterium Growth Indicator Tube
MOHP	Ministry of Health and Population
MTB	Mycobacterium Tuberculosis
NCASC	National Centre for AIDS and STD Control
NIP	National Immunization Programme
NRL	National Reference Laboratory
NSP	National Strategic Plan

NTC	National Tuberculosis Center
NTP	National Tuberculosis Programme
PLHIV	People Living with HIV/AIDS
PMU	Programme Management Unit
PPM	Public-Private Mix
PPMO	Public Procurement Monitoring Office
PS	Prevalence Survey
QMS	Quality Management System
R/DTLO	Regional/District Tuberculosis Leprosy Officer
RAD	Return After Defaulter
RIF	Rifampicin
RR	Rifampicin Resistance
RTC	Regional Tuberculosis Centre
RTQCC	Regional TB Quality Control Center
SCC	Short Course Chemotherapy
SCI	Save the Children International
SDGs	Sustainable Development Goals
SLD	Second Line Drugs
SRL	Supranational Reference Laboratory
SS+	Sputum Smear Positive
T/STCs	Treatment /Sub-Treatment Centers
TWG	Technical Working Group
TB	Tuberculosis
TSR	Treatment Success Rate
UVGI	Ultraviolet germicidal irradiation
VCT	Voluntary Counseling and Testing
WHO	World Health Organization
XDR	Extensive Drug-Resistant Tuberculosis

Executive Summary

Tuberculosis (TB) remains a major public problem in Nepal. In 2017/18, the total of 32,474 cases of TB were notified and registered at NTP. Among these, 98% (31,723) were incident TB cases (New and Relapse). 71 % of among all TB cases were pulmonary TB, and out of them, 80% were bacteriologically confirmed. Among those bacteriologically confirmed, 30% (9,897) were confirmed using Xpert MTB/RIF testing. More than three-fifths of all TB cases (21,462, 66%) were reported from Province 2, Province 3 and Province 5. Province 3 holds the highest proportion of TB cases (24%). Kathmandu district alone holds around 41% (3,183 TB cases) of the TB cases notified from the province 3 while its contribution is around 10% in the national total. Whereas in terms of eco-terrain distribution, Terai belt reported more than half of cases (18,590, 57%). Most cases were reported in the productive age group (highest of 50 % in 15-44 year of age). The childhood TB is around 5.5% while men were nearly 1.73 times more than women among the reported TB case.

Among 32,474 cases notified during the year, 19% of cases were reported by the private sector and 20% by community referral.

Case notification rate (CNR) of all forms of TB is 112/100,000 whereas CNR for incident TB cases (new and relapse) is 109/100000 population. This year CNR of all forms of TB has increased by 1% compared to that of the previous year.

Among all New cases of drugs sensitive TB cases registered last year, 91% of them were treated successfully, with nearly 89% treatment success rates for Retreatment cases as well. TB-HIV co-infection rate in Nepal is 2.5% (HIV among TB) and 9.9% (TB among HIV) based on the sentinel survey, 2018. This year, nearly 67% of TB patients have been tested for HIV requiring additional efforts to reach the target of 100%. The prevalence of HIV among TB was 0.9% among all tested for HIV, 94.4% of TB HIV Co-infected patients enrolled for ART treatment. The annual trend of success rates at National level for incident TB cases (New and Relapse) is constantly maintained at above 91%.

In Nepal, the burden of DR TB is not as high as the regional or global burden. There are estimated around 1500 (0.84 to 2.4) cases of DR TB annually. However, 350 to 450 MDR TB cases are notified annually. This year 420 MDR TB cases were notified. The lack of availability and access to an early screening of presumptive TB cases with Rapid DST may still be the main reasons for this stagnation of DR TB cases in the country. The proportion of new cases with multidrug-resistant TB (MDR-TB) was 2.2% among new cases and 15.4% among retreatment cases based on DRS survey carried out in 2011/12.

In 2016/17, a total of 257 RR/MDR TB, 91 Pre-XDR TB and 18 XDR TB were enrolled for treatment. TSR of RR/MDR patients was 71%. However, the TSR of Pre-XDR TB is 58% and XDR TB is 61%, which were marginally lower than the RR/MDR TB cases. The routine surveillance showed a much higher proportion of drug-resistant pattern among second-line drugs used for the treatment of MDR patients in Nepal. The resistance to fluoroquinolones (FQ), SLI and both FQ and SLI were 39.3%, 3%, and 4% respectively, altogether there was 46.3% resistant to SLD among MDR patients. In other words, among all initially diagnosed as RR-MTB/MDR TB 42.3% of MDR patients may require Pre-XDR treatment similarly 4% may require XDR treatment.

TB services were provided through 4,323 treatment centers, however, only 80% of these facilities had registered and managed 1 or more cases of TB this year. There are further 96 Urban DOT centers providing DOT services in the country. Regarding diagnostic services, there are 624 Microscopic centers and 55 Genexpert centers (with 58 Genexpert machines in total) in the country. DRTB services were provided through 21 treatment centers and 86 Treatment Sub-centers. Though the DRTB services are ambulatory, facility-based services were also provided through 2 referral centers located in Nepalgunj and Kalitmati Kathmandu, 6 hostels and 1 DR home for a patient with limited access to these centers for daily DOT or needing inpatient services. Culture and DST facilities for DRTB patients were provided from rational reference laboratories at NTC and GENETUP at the central level.

In 2017/18, USD 11.16 million budget was approved for the National TB Programme from the source of Domestic, Global Funds, & LHL International. Out of the total approved amounts 70.5% budget consumed by the programme.

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CHAPTER 1: INTRODUCTION

1.1 Background

Tuberculosis (TB) still remains a public health challenge in Nepal, as it is responsible for ill health among thousands of people each year. TB also ranks as the Seventh leading cause of death in the country. During this reporting year, NTP registered 32,474 all forms of TB cases, which includes 31,723 were incident TB cases (new and relapse). Among all forms of incident TB cases (new and relapse) 18,000 (57%) were bacteriologically confirmed (PBC) incident TB cases, 4,411 (14%) were pulmonary clinically diagnosed (PCD) incident TB cases and 9,312 (29%) were extrapulmonary incident TB cases reported during the reporting year. Out of total registered cases in NTP, there were 11,889 (37%) female and 20,585 (63%) male. According to the latest WHO Global TB Report 2018, Tuberculosis 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 in Nepal. However, TB death among registered TB patients was 3% (1,023 deaths) among 31,644 registered TB cases in FY 2016/17. TB mortality is high given that most deaths are preventable if people can access tuberculosis care for diagnosis and the correct treatment is provided. Nepal NTP has adopted the global WHO's END TB Strategy as the TB control strategy of the country.

Basic facts about TB

TB is an infectious disease caused by the bacillus *Mycobacterium tuberculosis*. It particularly affects the lungs (pulmonary TB) but can affect other sites as well (extra pulmonary TB). The disease is spread in the air when people who are sick with pulmonary TB expel bacteria, for example by coughing. Overall, a relatively small proportion of people infected with *M. tuberculosis* will develop TB disease. TB is also more common among men than women, and affects mainly adults in the most economically productive age groups.

The most common method for diagnosing TB nationwide is sputum smear microscopy, in which bacteria are observed in sputum samples examined under a microscope. Following recent advances in TB diagnostics, the use of rapid molecular tests offered from 55 centers to diagnose TB and drug-resistant TB is increasing in Nepal. Likewise, 2 national reference laboratories are also offering sputum culture facilities in the country.

The currently recommended treatment for new cases of drug-susceptible TB is a six-month regimen (fixed dose combination) of four first-line drugs: isoniazid, rifampicin, Ethambutol and pyrazinamide. Cured Rates was 84% and Treatment Success Rates was 91% for new cases reported in 2016/17. Treatment for multidrug-resistant TB (MDR-TB), defined as resistance to isoniazid and rifampicin (the two most powerful anti-TB drugs) is longer, and requires more expensive and more toxic drugs. For most patients with MDR-TB, the current regimens recommended by WHO last 20-24 months, and treatment success rate of Drug Resistant Tuberculosis (MDR, Pre XDR and XDR) was 67%.

The vision of END TB Strategy-2016-35

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:

4. 95% reduction in TB deaths (compared with 2015)
5. 90% reduction in TB incidence rate (less than 10 TB cases per 100,000 population)
6. No affected families facing catastrophic costs due to TB

PRINCIPLES:

- Government stewardship and accountability, with monitoring and evaluation
- Strong coalition with civil society organizations and communities
- Protection and promotion of human rights, ethics and equity
- Adaptation of the strategy and targets at country level, with global collaboration

1.2 NTP Strategic Aim and Policies

1.2.1 Vision

TB Free Nepal

1.2.2 Goal

To reduce the TB incidence by 20% by the year 2021 compared to 2015 and increase case notifications by a cumulative total of 20,000 from July 2016 to July 2021, compared to the year 2015.

1.2.3 Objectives

Objective 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, such as PLHIV (from 179 cases at baseline to over 1,100 cases in 2020/21), and those with diabetes mellitus (DM).

Objective 2: Maintain the treatment success rate at 90% of patients (all forms of TB) through to 2021

Objective 3: Provide DR diagnostic services for 50% of persons with presumptive DR TB by 2018 and 100% by 2021; successfully treat at least 75 % of the diagnosed DR patients

Objective 4: Further expand case finding by engaging providers for TB care from the public sector (beyond MoHP), medical colleges, NGO sector, and private sector through results-based financing (PPM) schemes, with formal engagements (signed MoUs) to notify TB cases.

Objective 5: Strengthen community systems for management, advocacy, support and rights for TB patients in order to create an enabling environment to detect & manage TB cases in 60% of all districts by 2018 and 100% by 2021

Objective 6: Contribute to health system strengthening through HR management and capacity development, financial management, infrastructures, procurements and supply management in TB

Objective 7: Develop a comprehensive TB Surveillance, Monitoring, and Evaluation system

Objectives 8: To develop a plan for continuation of NTP services in the event of natural disaster or public health emergency

1.2.3.1 STRATEGIC INTERVENTIONS FOR OBJECTIVE 1

Increase case notification through improved health facility-based diagnosis; increased diagnosis among children, examination of household contacts and expanded diagnosis among vulnerable groups within the health service, such as PLHIV, and those with diabetes mellitus (DM).

- Improved and sustained public health facility-based TB case finding
- Strengthen and expand TB diagnostic services
- Enhance TB diagnosis and treatment among children
- Active TB Case Finding (ACF)
- Strengthen TB-HIV collaboration between NCASC and NTP at all levels

1.2.3.2 STRATEGIC INTERVENTIONS FOR OBJECTIVE 2

Maintain the treatment success rate at 90% of patients (all forms of TB) by 2020

- Ensure and strengthen uninterrupted supply and storage of quality assured first-line TB drugs for all TB patients
- Promote psychosocial support system for TB patients

1.2.3.3 STRATEGIC INTERVENTIONS FOR OBJECTIVE 3

Provide MDR diagnostic services for 50% of persons with suspected MDR TB by 2018 and 100% by 2021; successfully treat at least 75 % of the diagnosed MDR patients

- Establishment and operationalization of formal structures for DR TB
- Expansion of DR TB Treatment Services
- Capacity Building of Service Providers

1.2.3.4 STRATEGIC INTERVENTIONS FOR OBJECTIVE 4

Further expand case finding by engaging providers for TB care from the public sector, beyond MoHP, medical colleges, NGO sector, and private hospitals and practitioners through results-based PPM financing schemes, with formal engagements (signed MoUs) to notify TB cases. 100 municipalities by 2021

- Establishment and operationalization of formal structures for PPM
- Engagement of Medical Colleges and their hospitals

1.2.3.5 STRATEGIC INTERVENTIONS FOR OBJECTIVE 5

Strengthen community systems for management, advocacy, support and rights for TB patients in order to create an enabling environment to detect & manage TB cases in 60% of all districts by 2017 and 100% by 2020

- Mobilize local community for TB case detection, treatment delivery and patient support in districts
- Strengthen and expand advocacy and communications activities

1.2.3.6 STRATEGIC INTERVENTIONS FOR OBJECTIVE 6

Contribute to health system strengthening through HR management and capacity development, financial management, infrastructures, procurements and supply management in TB

- HR Management (including recruitment)
- Capacity building of all levels
- Infrastructure

1.2.3.7 STRATEGIC INTERVENTIONS FOR OBJECTIVE 7

Develop a comprehensive Surveillance, Monitoring, and Evaluation system, research, and innovation

1.2.3.7.1 Focused justification for some key elements of the M&E Plan

1.2.3.7.1.1 Estimates of TB burden

The Epidemiological review makes clear that there is considerable uncertainty around the estimates of TB burden, i.e. of incidence, prevalence, and mortality, in Nepal, which makes it difficult to develop national targets for TB control. Therefore, a priority of the NTP should be to work towards obtaining accurate data with which to inform future interventions. The key areas of focus are:

- 1** Provide better, timely and accurate notification of all TB cases, by improving the TB surveillance system and related activities. Strengthening of the surveillance system requires a paradigm shift from a current manual-based recording and reporting system to online and web-based recording and reporting system enhancing capacity on recording and reporting skill and knowledge of M&E related staff at service delivery points.
- 2** Developing knowledge and skill on data analysis, interpretation and use at all levels and thereby using strategic information for better planning and designing of strategic interventions and activities as well as measuring progress towards meeting the targets of sustainable goal for TB in line with End TB Strategy.
- 3** A prevalence survey, which will provide accurate data on TB prevalence in Nepal. It can also indicate whether variation exists in the TB burden between different regions and eco-terrains.

1.2.3.7.1.2 Four monthly reviews of data

Currently, NTP is dependent on four monthly program review workshop at the central, provincial and municipal level for data collection and review, which has limited its scope for timely monitoring, evaluation, and feedback to the lower level. In the context of adopting End TB Strategy, NTP further requires to increase its efforts for timely notification and monitoring of TB cases to measure the progress against the objective curving down of the current incidence rate to the level targeted in End TB Strategy by 2035. For this, NTP requires to adopt the HMIS for receiving monthly data from the service sites. Besides HMIS, online web-based and case-based recording and reporting need to be expanded at all level so that NTP be able to monitor and correct program gaps and errors in time. NTP at all level will be able to ensure the result towards achieving the targets of End TB Strategy, by preparing material beforehand, presenting the data and appropriate analyses, defining the problems and discussing solutions with the stakeholders at all level who are the ones who need to take corrective action in the field. This Plan intends to greatly improve the focus and conduct of these trimester program review meetings.

1.2.3.7.1.3 Measurement of presumed cases

The NTP should collate and analyse data on presumptive TB cases routinely in order to assess the success of the TB control programme over time. When notifications began to fall from August 2016, the examination of presumed cases should have risen, or at least had remained stable, in a well-functioning programme. A fall in the number of presumed cases examined suggests a deterioration of programme performance. Such data will also enable the NTP to determine whether any increases in Case Notification Rate (CNR) are due to increases in the number of patients tested for TB as a result of better access to health care, expansion of TB services or active case finding.

1.2.3.7.1.4 Case-based, web-based electronic recording and reporting system

Such systems are now technically feasible and affordable and can automatically generate reports that would take hours in paper-based systems. Currently, the lack of disaggregated TB data in the routine NTP surveillance system limits sub-group analysis and design of district-specific targeted interventions to reach the unreached groups. The newly introduced electronic TB register should address this.

1.2.3.7.1.5 Childhood TB

Evidence of under-reporting was found during the standards and benchmarks assessment (See Annex 9 for details). Surveillance should be strengthened around childhood TB in order to assess the level of under-reporting and to ensure accurate monitoring of the diagnosis and treatment of TB in children.

1.2.3.7.1.6 TB/HIV

New recording and reporting forms which include details on HIV are currently being rolled out across the country and therefore data should be monitored closely by concerned persons to ensure completeness and accuracy.

1.2.3.7.1.7 Treatment outcomes

The recording and reporting mechanisms for extra-pulmonary cases should be reviewed as part of activities in 7.3, in order to capture treatment outcomes accurately.

1.2.3.8 STRATEGIC INTERVENTIONS FOR OBJECTIVE 8

Management of public health emergencies. Develop a plan, based on national risk assessment, to provide rapid, prioritized, resumption of any interrupted TB services

1.3 Brief Organizational Overview of NTP

The National Tuberculosis Programme (NTP) is fully integrated within the integrated

health system of Government of Nepal. National Tuberculosis Centre (NTC) is the focal point of the NTP and responsible for formulating programme policies, strategy, and planning.

Central laboratory at the NTC is the focal point for the NTP laboratory network, which is responsible for policy and guideline development, training, quality control, and supervision. Technical support, monitoring and evaluation, training, supervision, logistics, health education, communication, and research are key functions of NTC.

Furthermore, quantification and procurement and supply of anti-tuberculosis drugs are key responsibilities of the NTC. The NTC is procuring both first and second line anti TB drugs for the TB patients from the Global Drug Facility (GDF). Drugs are distributed through the system of Logistics Management Division of the Department of Health Services. NTC has also managed Programme Management Unit (PMU) at the central level for overall management of the International grants (Including Global Fund) and provide technical inputs to formulate policies, program, implementation, monitoring and evaluation for the Programme.

At the Provincial level, NTP activities are planned and carried out in coordination and cooperation with the Provincial Health Directorate. The Regional Tuberculosis Centre (RTC) in Pokhara provides technical support to TB control activities in the previous Western Region in coordination with National Tuberculosis Center. Provincial levels are responsible for programme implementation within the regions. In addition, the Provincial Health Directorate and Ministry for Social Development is responsible for training, monitoring & evaluation and supervision of Programme activities. Provincial Health Directorate also provides logistical support, the supply of TB drugs and other requirements through Provincial Logistic Management Division

The main aim of the report is to provide a comprehensive and up-to-date assessment of the TB epidemic and progress in prevention, diagnosis, treatment and care and support of the disease at national, provincial and district levels, based on primary data that are reported by districts to NTP in annual rounds of TB data collection. This 2018 annual TB report is the twenty-two in the series of annual reports and uses data reported by a total of 77 districts.

CHAPTER 2: NATIONAL COMMITMENTS TO END TB

SDG and End TB strategy

The 17 SDGs include a broader agenda. The consolidated goal on health is SDG 3 which is defined as “Ensure healthy lives and promote well-being for all at all ages”, and 13 targets have been set for this goal. One of these targets, Target 3.3, explicitly mentions TB: “By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, waterborne diseases and other communicable diseases”. The language of “ending epidemics” is also now a prominent element of global health strategies developed by WHO and the Joint United Nations Programme on HIV/AIDS (UNAIDS) for the post-2015 era, including the End TB Strategy.

WHO's End TB Strategy: three fundamental pillars and four underlying principles



Figure 2.1: WHO's End TB Strategy

The End TB strategy envisions a world free of TB (Zero deaths, disease, and suffering due to TB) with a goal to end the global TB epidemic. The TB indicator for SDG Target 3.3 is TB incidence per 100 000 population per year. SDG 3 also includes a target (Target 3.8) related to universal health coverage (UHC) in which TB is explicitly mentioned.

Globally, the TB mortality rate is falling at about 3% per year. TB incidence is falling at about 2% per year; this needs to improve to 4–5% per year by 2020 to

reach the first milestones of the End TB Strategy.

Some key indicators for monitoring implementation of the End-TB Strategy:

Estimates for 2017	Global	SEARO	Nepal
Incidence all forms	133/100,000	226/100,000	152/100,000
TB Mortality	17/100,000	32/100,000	23/100,000
Treatment success rate	81%	75%	91%

**Source: The WHO Global TB Reports 2018*

Table 2.1: Key Indicators For Monitoring Implementation Of The End-TB Strategy

The global, regional and national commitments

The first highly successful World Health Organization's Global Ministerial Conference on Ending Tuberculosis in the Sustainable Development Era, resulted in the Moscow Declaration, with commitments to accelerate progress to end TB, from ministers and other leaders from 120 countries. The declaration outlines the importance of international action to address key areas to respond to TB: Sustainable financing, pursuing science, research, and development and the establishment of a multi-sectoral accountability framework.

Following the Moscow Ministerial meeting, the United Nations General Assembly High-Level Meeting on TB in 2018 with the Theme: "United to End Tuberculosis: An Urgent Global Response to a Global Epidemic", the Member States made vital contributions to the Political Declaration on the Fight against Tuberculosis.

At the regional level, in March 2017, each of the Region's Member States issued Delhi Call for Action, highlighting the political, technical and strategic interventions needed to rout the disease. The leaders of the region committed to Lead the implementation of the National TB response in the countries, Increase budgetary and human resource allocations by the governments, ensure national TB plans are evidence-based and fully funded, Enable using innovative communication, the engagement and literacy of the communities and individuals with TB and provide best possible care for each and every one and supplement medical care for TB patient-centered, community empowering and necessary social and financial protection in a holistic manner through collaborations across and beyond the health sector. All the leaders of the SEA region called upon leaders, policy makers, partners, civil society and the public in the region and around the world to actively support this call of action towards Ending TB. In March 2018, at the Delhi End TB Summit, Member States unanimously adopted a Statement of Action pledging to intensify efforts towards ending TB by or before 2030.

In December 2018, the SAARC TB and HIV-AIDS center meeting of Health and

Education Committee of Parliament, the parliamentarians made following commitments to end TB in the countries

- Form the SAARC level parliamentarian to achieve the goals of TB and HIV to end TB from the SAARC countries.
- Develop the action plan to execute the commitments that are already promised in National and International levels.
- Take action to develop leadership at all levels to fight against Tuberculosis in the countries.
- Take initiation to manage the required funding for the TB and HIV Programme.
- Take a positive role to manage necessary human resources in line with federal context.
- Provide support to initiate TB/HIV free Palikas and social protection programme for the TB patient and people living with HIV in the country
- Support and develop the required law and acts for controlling HIV and ending TB in the country.

The response of the Government of Nepal

The Nepal Government recognizes the responsibility of contribution towards the global efforts of ending the TB epidemic by 2030 by increasing access and availability of quality TB services in the country. The National Strategic Plan (NSP) for Tuberculosis Prevention, Care and Control (2016-2021) incorporates the sentiments of the constitution of Nepal, the current health policies, aligns to the international strategy such as the End TB Strategy and takes into consideration the rights of the people, inclusive of vulnerable population and community affected by Tuberculosis.

The implementation of this strategy by the TB Control Programme under the federal and local context through the strengthening of the health services at all levels will increased access to affordable, patient-friendly prevention, diagnosis, treatment and care with the goal of ending the TB epidemic in the country which will, in turn, contribute towards global targets.

The NSP set forth ambitious targets of reduction of TB incidence by 20% by 2021. Decrease diagnosis and treatment gap of MDR/RR-TB (Multidrug-resistant TB and rifampicin-resistant TB) and ensure treatment success rate reached and maintained above 90% including for DR/RR-TB cases. The NSP also envisages improved drug-susceptible testing coverage and improved access to newer diagnostics and newer

TB drugs where required. The estimated cost for the implementation of this NSP is USD 105 million of which more than 50% was identified.

The Government of Nepal and the partners including, The Global Fund, WHO and others have started the first national prevalence survey with the cost of USD 4.3 million to understand the actual TB disease burden in Nepal. In addition to understanding the disease burden, the information from this will be used to identify strategies to improve Programme coverage and quality in line with the Universal Health Coverage (UHC) Policy.

Quality TB services will be delivered through the existing health service delivery network consisting of hospitals, health posts, outreach clinics and several microscopy centers backed by National Reference Laboratories.

The government of Nepal has increasingly stepped up domestic financing for TB up to 45% of the total needs for 2017. The government health spending has improved over the years and total Health Expenditure (THE) as a % of Gross Domestic Product (GDP) increased from 5.78% in 2012/2013 to 6.72% in 2015/2016.

The Government of Nepal has increasingly engaged in multi-sectoral innovative approaches including community engagement, use of newer diagnostics and new drugs and shorter MDR-TB regimen in responding to the TB epidemic.

To ensure full impact of these actions, Nepal is committed to government stewardship and engagement of the wider set of collaborators across government, partners, civil societies and community in expanding the scope and reach of intervention for TB care and prevention and in perusing contextualized innovations that can dramatically change TB prevention and care in the country. Nepal is committed to playing her part in contributing to the global target to “End TB”.

CHAPTER 3: THE BURDEN OF DISEASE

KEY FACTS AND MESSAGES

Global targets and milestones for reductions in the burden of TB disease in the period 2016–2035 have been set as part of the Sustainable Development Goals (SDGs) and WHO's End TB Strategy.

The first milestones of the End TB Strategy, set for 2020, are a 35% reduction in the absolute number of TB deaths and a 20% reduction in the TB incidence rate, compared with levels in 2015. To reach these milestones, the TB incidence rate needs to be falling by 4–5% per year globally by 2020 and the proportion of people with TB who die from the disease (the case fatality ratio or CFR) needs to be reduced to 10% globally by 2020.

Globally, the absolute number of TB deaths (excluding TB deaths among HIV-positive people) and the TB incidence rate has fallen since 2000. The number of TB deaths fell from 1.8 million in 2000 to 1.3 million in 2017 and by 5% since 2015. Globally, the TB mortality rate is falling at about 3% per year. TB incidence is falling at about 2% per year; this needs to improve to 4–5% per year by 2020 to reach the first milestones of the End TB Strategy. Globally, the proportion of people who develop TB and die from the disease (the case fatality ratio, or CFR) was 16% in 2017 down from 23% in 2000. This needs to fall to 10% by 2020 to reach the first milestones of the End TB Strategy.

TB is one of the top 10 causes of death worldwide and caused more deaths than HIV in 2017. In Nepal, however, the case notification rates have not increased significantly (CNR 112 per 100000 population in 2018) since 2015, however, the estimated incidence rate has fallen from 154 in 2017 to 152 per 100,000 in 2018, meaning NTP Nepal is still to identify the missing cases in the community and bring them to treatment. It is estimated that around 13000 incident TB cases are missed to be diagnosed or notified annually. It is estimated that every day, there are 123 New TB cases, 18 Deaths because of TB and 34 cases are missed to be diagnosed in Nepal.

In 2017, 6.4 million new cases of TB were reported (up from 6.3 million in 2016), equivalent to 64% of the estimated incidence of 10.0 million globally; the latest treatment outcome data show a global treatment success rate of 82%, it has reduced by 1% from that of the previous year. There were 464,633 reported cases of HIV-positive TB (51% of the estimated incidence), of whom 84% were on antiretroviral therapy (ART). A total of 139114 people was started on treatment for drug-resistant TB, up from 129 689 in 2016 but the proportion is only the 25% of the estimated incidence; treatment success remains low at 55% globally.

Eight countries accounted for two thirds of the global total: India (27%), China (9%), Indonesia (8%), Nigeria (4%), Pakistan (5%), the Philippines (6%), Bangladesh (4%) and South Africa (3%). The rate of progress in these countries will have a major influence on whether or not the 2020 global milestones are achieved. In Nepal, Male to Female ration (M:F-1.7:1) is similar to the global figure.

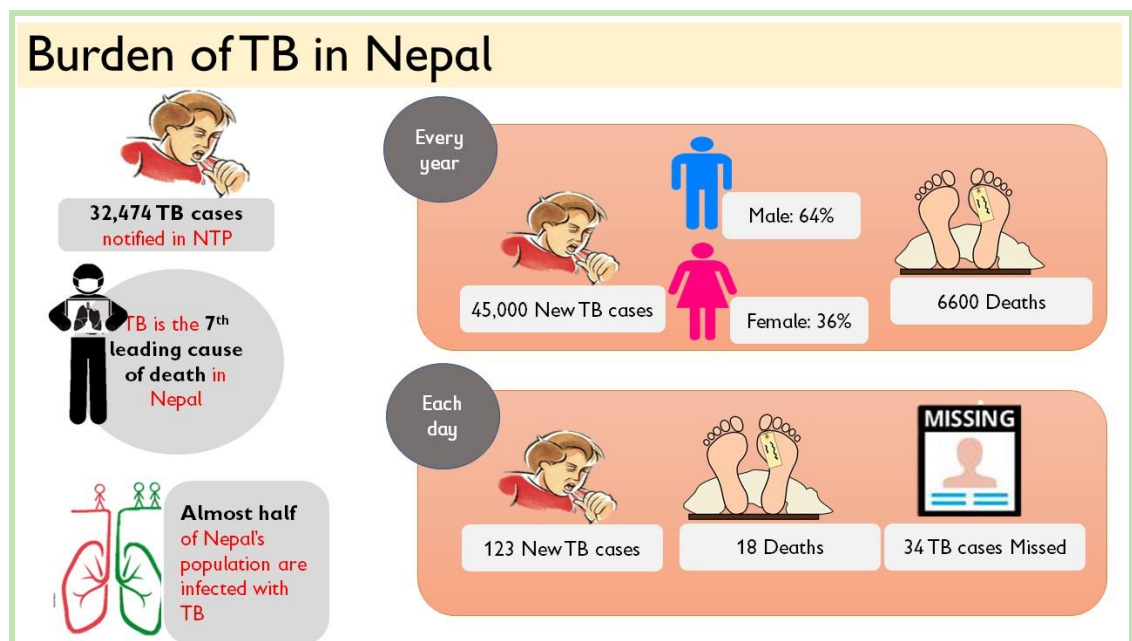
An estimated 9% of incident TB cases in 2017 were HIV-positive. The proportion was highest in countries in the WHO African Region and exceeded 50% in parts of southern Africa. However, Nepal has less burden of HIV. It is found that

around 9.9% of HIV are co-infected with TB and around 2.5% of TB with HIV in Nepal (TB HIV sentinel survey, Nepal, 2018).

Following WHO guidance issued in May 2016, all cases of rifampicin-resistant TB (RR-TB), including those with Multidrug-resistant TB (MDR-TB), should be treated with a second-line MDR-TB treatment regimen. Drug-resistant TB is a continuing threat. In 2017, there were 558 000 new cases with resistance to rifampicin (RRTB), of this 82 % had multidrug-resistant TB (MDR-TB). Almost half (47%) of these cases were in India, China, and the Russian Federation

In Nepal, the burden of DR TB is not as high as the regional or global burden. There are estimated around 1500 (0.84 to 2.4) cases of DR TB annually. However, 350 to 450 MDR TB cases are notified annually. This year 420 MDR TB cases were notified. The lack of availability and early screening of suspects with Rapid DST may still be the main reasons for this stagnation of DR TB cases in the country.

Until national notification and vital registration systems (with standard coding of causes of death) of high coverage and quality are present in all countries, national TB prevalence surveys will continue to provide the best method for directly measuring the burden of TB disease and identifying actions required to reduce that burden in an important subset of countries. Nepal's first TB prevalence survey is currently ongoing and has planned to disseminate its results by November 2019.



3.1 The burden of disease caused by TB

The burden of tuberculosis (TB) disease can be measured in terms of:

- Incidence – the number of new and relapse cases of TB arising in a given time period, usually 1 year;

- Prevalence – the number of cases of TB at a given point in time; and
- Mortality – the number of deaths caused by TB in a given time period, usually 1 year.

Global targets and milestones for reductions in the burden of TB disease have been set as part of the Sustainable Development Goals (SDGs) and WHO's End TB Strategy. SDG3 includes a target to end the global TB epidemic by 2030, with TB incidence (per 100 000 population) defined as the indicator for measurement of progress.

Table 3.1: Targets for percentage reductions in TB disease burden set in WHO's End TB Strategy

INDICATORS/MILESTONES	MILESTONES		TARGETS	
	2020	2025	2030	2035
Percentage reduction in the absolute number of TB deaths (<i>compared with 2015 baseline</i>)	35	75	90	95
Percentage reduction in the TB incidence rate (<i>compared with 2015 baseline</i>)	20	50	80	90 (~10/100 000 population)

In the context of Nepal, field operation of TB prevalence survey has started this year and aimed to finish by end of March 2019, which is the first-ever national surveys among the 12 other countries which are carrying out the PS the burden for our context will be mostly based on Case Notification Rates.

TB incidence has never been measured at the national level because this would require long- term studies among large cohorts of people (hundreds of thousands), involving high costs and challenging logistics. Notifications of TB cases provide a good proxy indication of TB incidence in countries that have both high-performance surveillance systems (for example, there is little under-reporting of diagnosed cases) and where the quality of and access to health care means that few cases are not diagnosed).

In the context of Nepal, field operation of TB prevalence survey has started this year and aimed to finish by May 2019, which is the first-ever national surveys among the 12 other countries which are carrying out the PS the burden for our context will be mostly based on Case Notification Rates. In 2017, there were an estimated of 45 thousand (39-50 thousand) annual incident cases with incidence rate of 152 (134–172) of which 31,723 incident TB cases have been notified to NTP, with annual case notification rate of 109/100,000 however the CNR of all forms of

TB cases is 112/100000,32,474 all forms of TB cases. WHO estimated 6.6 (4.7–8.9) thousand people died from TB (death Rate: 23 (16–30), where only 1023 TB deaths were reported to NTP (death rate: 3.52/100,000 population).

There were total 420 DR TB cases including MDR, Pre-XDR and XDR TB reported this year and around 15% deaths reported. TB HIV sentinel survey, Nepal, 2017/18 has revealed that 9.9% of HIV patients were co-infected with TB while around 2.5% of TB patients were coinfectd with HIV in Nepal. NTP tested around 67% (increased from 54% to 67%) of all TB patients for HIV in Nepal where 0.90% of them had HIV positive. Childhood TB is reported around 5.5% among all TB cases while men were reported nearly 1.73 times more with TB than women in the country, which is similar to the regional and global scenario.

WHO definitions of TB cases recommended for use in March 2013 and that were used by Nepal since 2015.

Bacteriologically confirmed case of TB: A patient from whom a biological specimen is positive by smear microscopy, culture or WHO-approved rapid diagnostic test (such as Xpert MTB/RIF). All such cases should be notified, regardless of whether TB treatment is started.

Clinically diagnosed case of TB: A patient who does not fulfill the criteria for bacteriologically confirmed TB but has been diagnosed with active TB by a clinician or other medical practitioner who has decided to give the patient a full course of TB treatment. This definition includes cases diagnosed on the basis of X-ray abnormalities or suggestive histology and extrapulmonary cases without laboratory confirmation. Clinically diagnosed cases subsequently found to be bacteriologically positive (before or after starting treatment) should be reclassified as bacteriologically confirmed.

Case of pulmonary TB: Any bacteriologically confirmed or clinically diagnosed case of TB involving the lung parenchyma or the tracheobronchial tree. TB is classified as pulmonary TB because there are lesions in the lungs. Tuberculous intra-thoracic lymphadenopathy (mediastinal and/or hilar) or tuberculous pleural effusion, without radiographic abnormalities in the lungs, constitute a case of extra-pulmonary TB. A patient with both pulmonary and extrapulmonary TB should be classified as a case of pulmonary TB.

Case of extrapulmonary TB: Any bacteriologically confirmed or clinically diagnosed case of TB involving organs other than the lungs, e.g. abdomen, genitourinary tract, joints and bones, lymph nodes, meninges, pleura, skin.

New case of TB: A patient who has never been treated for TB or has taken anti-TB drugs for less than one month.

Retreatment case of TB: A patient who has been treated for one month or more

with anti-TB drugs in the past. Retreatment cases are further classified by the outcome of their most recent course of treatment into four categories.

1. **Relapse** patients have previously been treated for TB, were declared cured or treatment completed at the end of their most recent course of treatment and are now diagnosed with a recurrent episode of TB (either a true relapse or a new episode of TB caused by reinfection).
2. **Treatment after failure** patients have previously been treated for TB and their most recent course of treatment failed i.e. they had a positive sputum smear or culture result at month 5 or later during treatment.
3. **Treatment after loss to follow-up** patients have previously been treated for TB and was declared 'lost to follow-up' at the end of their most recent course of treatment.
4. **Other previously treated** patients are those WHO have previously been treated for TB but whose outcome after their most recent course of treatment is unknown or undocumented.

Case of multidrug-resistant TB (MDR-TB): TB that is resistant to two first-line drugs: isoniazid and rifampicin. For most patients diagnosed with MDR-TB, WHO recommends treatment for 20 months with a regimen that includes second-line anti-TB drugs.

Case of rifampicin-resistant TB (RR-TB): A patient with TB that is resistant to rifampicin detected using phenotypic or genotypic methods, with or without resistance to other anti-TB drugs. It includes any resistance to rifampicin, whether mono-resistance, multidrug resistance, poly-drug resistance or extensive drug resistance.

TB Case Notification Rates in 2017/18:

Summary

In 2017/18, a total of 32,474 cases of TB was notified and registered at NTP. There were 97.7% incident TB cases registered (New and Relapse) among all TB cases. Among the notified TB cases, 71 % of all TB cases were pulmonary cases and out of notified pulmonary TB cases, 80% were bacteriologically confirmed. Among those bacteriologically confirmed and notified, 30% (9,897) were confirmed using Xpert MTB/RIF testing.

More than three-fifths of all TB cases (21,462, 66%) were reported from Province 2, Province 3 and Province 5. Province 3 holds the highest proportion of TB cases. Around 24% of the TB cases were reported from Province 3. Kathmandu district alone holds around 41% (3,183 TB cases) of the TB cases notified from the Province 3 while

its contribution is around 10% in the national total. Whereas in terms of eco-terrain distribution, Terai belt reported more than half of cases (18,590, 57%). Most cases were reported in the middle age group with the highest of 50 % in 15-44 year of age. The childhood TB is around 5.5% while men were nearly 1.73 times more than women among the reported TB case.

Among 32,474 cases notified during the year, 19% of it was contributed by the private sector and 20% by community referral.

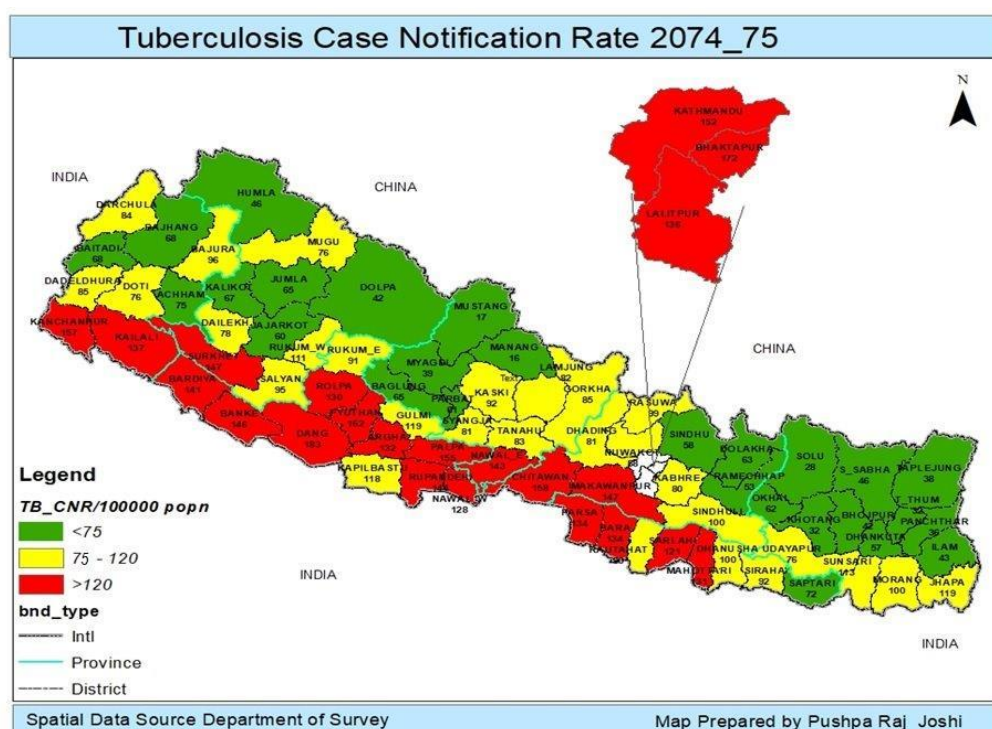
Reported case notification rate (CNR) of all forms of TB is 112/100,000 whereas CNR for incident TB cases (new and relapse) is 109/100000 population. This year CNR of all forms has increased by 1% compared to that of the previous year.

The burden of disease caused by TB can be measured in terms of, incidence, prevalence, and mortality. As Prevalence survey is currently ongoing, the true prevalence and projected incidence rates are not discussed here. This chapter discusses TB scenario in terms of Case Notifications Rates (CNR), Case Detection Rates, Cure Rates, and Death Rates. The discussion is more stratified in terms of different provinces and further analysis has been done in terms of terrains (Mountain, Hill, and Terai) as characteristics and dynamics of these different terrains are of similar characteristics.

TB case notification (2017/18) data, National Level

The definitions of TB cases recommended by WHO as part of an updated recording and reporting frame-work issued in March 2013. These updated definitions were necessary to accommodate diagnosis using Xpert MTB/RIF and other WHO-endorsed molecular tests, as well as offering an opportunity to improve aspects of the previous (2006) framework, such as the inclusion of more comprehensive reporting of TB cases among children.

Figure 3.1: Distribution of TB burden among district based on CNR (all forms of TB)



The National Case Notification Rate (All forms) is 112 / 100,000 population. Based on the CNR, there are 22 districts with CNR more than 120, while 29 districts had CNR between 75-120 and remaining 26 districts had below 75 CNR. Among 22 high burden districts, 13 districts are from the Terai belt while remaining 9 are from the Hilly region. Majority of the high burden districts (CNR > 120) are mostly concentrated in Province 5.

Notifications of TB cases in 2017/18 for all districts are summarized in Table 2.2. Out of 32,474 cases of all forms of TB notified to the country in 2017/18, 98% were incident TB cases (New and Relapse of all forms of TB). Around 71 % of all TB cases reported in the period were pulmonary cases, of which 80% were bacteriologically confirmed. Among those bacteriologically confirmed, 30% were confirmed from Xpert MTB/RIF.

Further, more than three-fifths of TB cases (66%) of the cases were reported from Province 2, Province 3, and Province 5 respectively whereas in terms of eco-terrain distribution, Terai belt held more than half of TB cases (57%) in the reporting year.

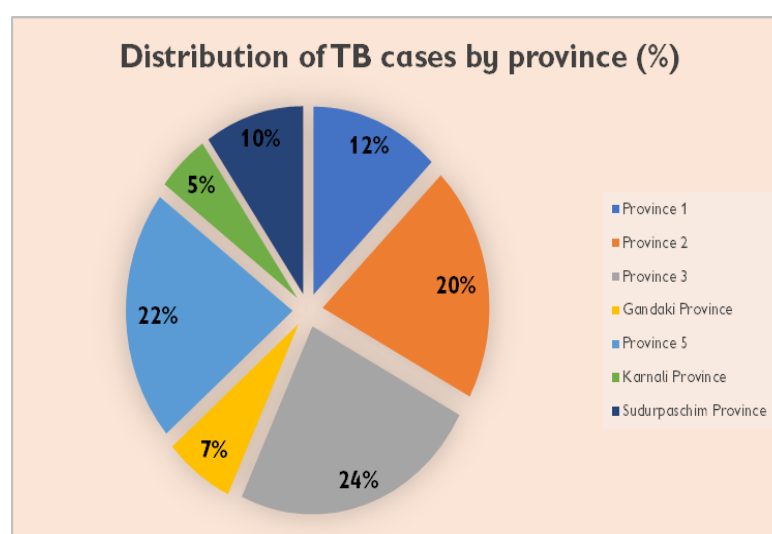
Table 3.2: Case notification, 2017/18

Burden	Districts	TB Case Notification (All forms)	Case Notification Rate (CNR-all forms) (Per 1,00,000 Pop.)	CNR-PBC TB cases (All forms)	CNR-PBC TB Cases (New & Relapse only)	New Cases Only			Relapse Cases Only			Bacteriologically confirmed, Pulmonary TB cases (%)
						PBC Cases	PCD Cases	EP Cases	PBC Cases	PCD Cases	EP Cases	
High Burden (>120)	Dang	1,141	183	109	107	579	202	242	85	5	6	60%
	Bhaktapur	603	172	83	82	242	45	250	46	1	11	48%
	Pyuthan	386	162	103	100	202	46	85	38	2	4	64%
	Chitwan	1,052	158	93	92	507	143	262	103	6	14	59%
	Kanchanpur	798	157	96	93	396	102	186	77	10	8	61%
	Palpa	392	155	84	83	184	49	125	26	2	4	54%
	Kathmandu	3,183	152	65	62	1130	208	1469	178	9	74	43%
	Surkhet	588	147	61	59	208	104	212	27	6	5	41%
	Makwanpur	663	147	93	93	357	96	142	63	3	0	63%
	Banke	840	146	95	90	457	90	190	60	0	3	65%
	Rupandehi	1,460	144	83	81	709	242	330	111	13	15	58%
	Nawal East	490	143	81	78	230	72	129	37	7	3	56%
	Bardiya	655	141	95	93	374	75	119	60	1	2	67%
	Kailali	1,237	137	80	78	614	144	338	88	7	7	59%
	Lalitpur	738	136	59	57	270	64	330	39	3	15	43%
	Bara	1,058	134	78	77	541	200	232	69	2	0	59%
	Parsa	914	134	68	67	418	179	263	42	2	4	51%
	Arghakhanchi	267	132	70	69	109	57	63	30	3	2	53%
	Mahottari	901	131	77	76	472	228	132	49	6	3	59%
	Rolpa	304	130	80	78	151	30	76	31	0	2	62%
	Nawal West	467	128	80	79	240	71	97	47	3	1	63%
	Sarlahi	1,042	121	77	76	569	184	177	85	9	3	64%
Medium Burden (75-120)	Gulmi	315	119	63	63	127	42	93	38	7	6	52%
	Jhapa	1,067	119	76	75	596	119	249	73	6	7	64%
	Kapil	757	118	82	79	458	91	134	48	1	4	69%
	Sunsari	987	113	60	59	465	87	358	49	1	0	53%
	Rukum West	184	111	60	59	82	39	38	16	1	6	54%
	Sindhuli	309	100	67	66	175	48	51	29	3	1	67%
	Dhanusha	821	100	59	59	440	147	178	39	2	1	59%
	Morang	1,054	100	57	56	525	74	350	66	0	1	58%
	Rasuwa	44	99	67	63	23	5	8	5	0	1	68%
	Bajura	144	96	62	59	68	8	40	20	0	1	65%
	Saljan	250	95	51	51	101	31	78	33	2	3	54%
	Kaski	517	92	50	50	244	45	168	35	1	10	54%
	Siraha	632	92	56	55	360	103	140	17	1	5	60%
	Rukum East	52	91	60	60	33	11	7	1	0	0	65%
	Rautahat	717	90	56	56	397	119	137	48	4	6	63%
	Nuwakot	251	88	59	58	136	20	63	29	0	1	67%
	Dadeldhura	131	85	50	49	69	14	37	6	2	0	59%
	Gorkha	216	85	51	50	105	19	67	22	1	0	60%
	Darchula	119	84	52	50	59	27	18	12	0	1	61%
	Tanahun	284	83	48	47	139	30	80	20	2	6	57%
	Lamjung	140	82	41	40	64	25	41	5	1	0	51%
	Sunja	214	81	42	42	88	25	72	22	3	2	52%
	Dhading	284	81	48	47	142	25	79	24	4	4	60%
	Kavre	317	80	44	43	156	18	115	15	2	5	55%
	Dailekh	224	78	35	35	95	23	99	6	0	1	45%
	Mugu	47	76	24	24	14	12	20	1	0	0	32%
	Udaupur	263	76	49	48	155	27	65	11	0	0	65%
	Dol	162	76	56	55	99	14	27	18	1	0	73%
	Achham	211	75	55	47	113	10	34	18	0	1	73%
Low Burden (<75)	Saptari	500	72	39	39	260	102	124	11	0	0	55%
	Bajhang	147	68	36	32	57	17	52	12	0	1	52%
	Baitadi	179	68	48	48	100	19	33	25	1	0	70%
	Kalikot	102	67	25	25	35	13	45	3	1	1	38%
	Jumla	79	65	22	22	24	20	32	3	0	0	34%
	Baglung	182	65	36	36	83	26	50	19	1	3	56%
	Dolkha	119	63	23	23	36	25	45	8	3	1	37%
	Okhaldhunga	93	62	41	38	52	5	25	5	0	1	67%
	Parbat	91	61	34	32	41	15	24	6	0	0	56%
	Jajarkot	114	60	36	36	61	26	19	7	0	0	61%
	Sindupalchok	169	58	35	33	81	19	46	16	1	1	60%
	Dhankuta	96	57	33	30	49	9	29	1	0	1	58%
	Ramechhap	109	53	31	30	56	12	30	7	0	0	59%
	Humla	26	46	21	21	11	4	10	1	0	0	46%
	Sakhuwasabha	72	46	25	25	34	11	21	6	0	0	56%
	ILLAM	133	43	30	29	86	17	25	3	0	0	68%
	Bhojpur	69	42	27	27	41	4	20	3	0	0	65%
	Dolpa	17	42	20	20	5	4	5	3	0	0	47%
	Myagdi	44	39	21	21	22	1	17	1	1	1	55%
	Taplejung	49	38	17	17	20	3	24	2	0	0	45%
	Panchthar	69	35	19	19	32	6	25	5	0	0	55%
	Khotang	59	32	17	17	31	1	25	0	0	0	54%
	Terhathum	32	32	17	17	15	4	11	2	0	0	53%
	Solukhumbu	29	28	14	14	15	5	8	0	1	0	52%
	Mustang	2	17	0	0	0	0	2	0	0	0	0%
	Manang	1	16	0	0	0	0	1	0	0	0	0%

3.2 Province Wise Case Distribution

Province-wise distribution of TB cases shows that more than three-fifths (66%) of TB cases were reported collectively from Province 2, Province 3 and Province 5 respectively. Karnali Province reported the lowest number of TB cases (1631, 5%) during this reporting period. The distribution of new and retreatment cases was also similar to the trend of province wise distribution of TB cases notification. Around 80% of all pulmonary cases were bacteriologically confirmed, while Province 5 had 23% pulmonary cases confirmed bacteriologically.

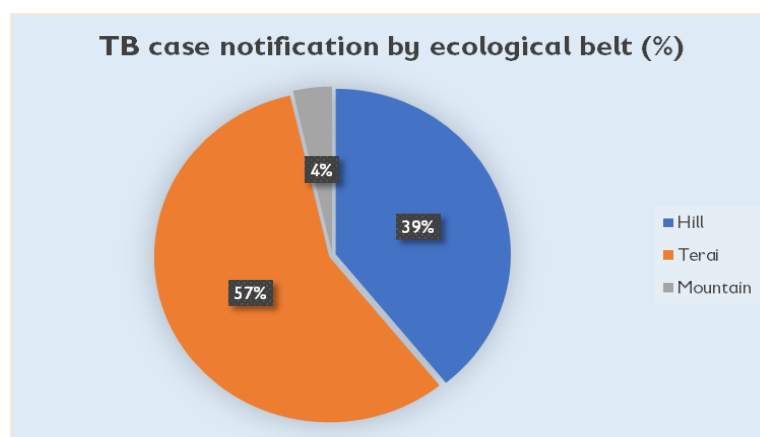
Figure 3.2: TB Case by Province



3.2.1 Percent distribution of case registration by type – Eco-Terrain wise comparison

Looking at the distribution of TB cases among the eco-terrain region, there was a huge variance of CNR among mountain, hill, and terai. Among the notified TB cases, terai held the highest number of TB case i.e 57% whereas hill held 39% while mountains had the least with 4% of all forms of TB. The distribution of new cases was almost similar, but the distribution of retreatment cases was comparatively diverse, with 53 % in terai, 43% in hill and 4 % in mountain. Similarly, the proportion of bacteriologically confirmed TB cases among the notified all forms of TB was more in terai (60%) than hill (53%) and mountains (51%) respectively.

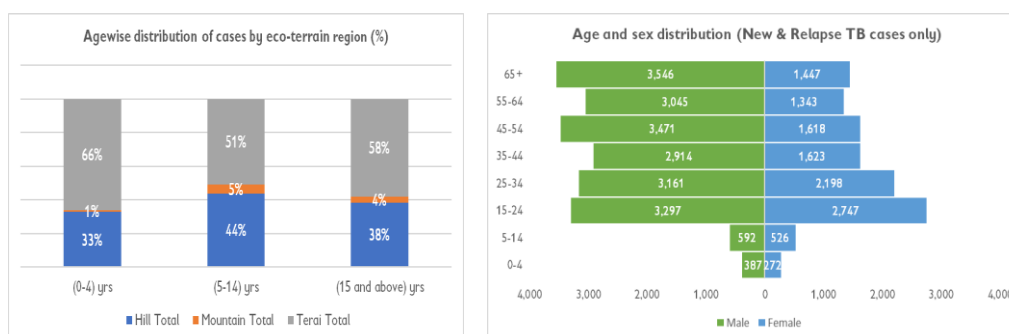
Figure 3.3: TB Case by eco-terrain



3.2.2 Percent Distribution by Age and Sex

In FY 2017/18 (2073/74), around 5.5% of cases were registered as child TB cases while the remaining 94.5% were registered as adult TB. Among them, male TB cases were reported nearly 1.73 times more than female. Among the child TB cases, most of them (63%) were between (5-14) years of age group. In-country context like Nepal, where access to health services is still a big challenge and where it is estimated that nearly 20-25% of cases are being missed to be diagnosed from the community every year, the estimated TB in children should not be less than 10-15%, hence NTP requires to focus on increasing current (5.5%) proportion of child TB among all notified TB cases. The low proportion of child TB cases suggested the high existence of TB transmission that requires measures of early diagnosis and treatment of child TB. In Nepal, men were nearly twice as more reported to have TB than women which were nearly the same in the region and global context (M/F = 1.7:1).

Figure 3.4: TB Case by age and sex



The contribution of Public-public and public-private mix initiatives and community to TB case notifications and treatment support in 2016.

Ensure proper diagnosis, standardized treatment and prompt notification of all TB cases to NTPs requires collaboration with the full range of health care providers. Engaging all

care providers in TB care and control is component four of the Stop TB Strategy and part of pillar two of the post-2015 End TB Strategy.

Despite the best efforts of health systems, about one-third of people who develop TB globally are still either not diagnosed, or their cases are not reported. Difficulty in accessing health facilities is one of the reasons why people with TB may not be diagnosed and can also have a negative impact on treatment adherence. Access to health care can be affected by social and political factors (such as stigma and discrimination, and the availability of cross-border services for migrants), and economic barriers (for example, the cost of transport).

Like many other countries, it is estimated that a major bulk of TB cases are being managed by the private sectors and most of which go unreported to the NTP. During this reporting period FY 2017/18, data shows that patients themselves reached to health facilities for diagnosis and treatment which is 55% of total registered cases. At the meantime, private sectors were involved in referring and/or registering around 19% of TB cases. Sudurpaschim Province was found to have very less contribution from private sectors (around 10%) whereas the highest contribution was reported in the Karnali Province (around 30%). Nationally the community involvement in referring the TB cases was found around 20%, with the highest referral from Province 2 (around 45%) while reported least from Sudurpaschim Province (5%). Looking at the Eco-terrain distribution; Terai and Hill had high involvement of private sectors referral to TB program. Similarly, community referrals are nearly twice more in Terai as compared to the Hill and almost negligible in the Mountainous region.

Figure 3.5: Percent distribution of private sector and community referral to TB program on a regional level.

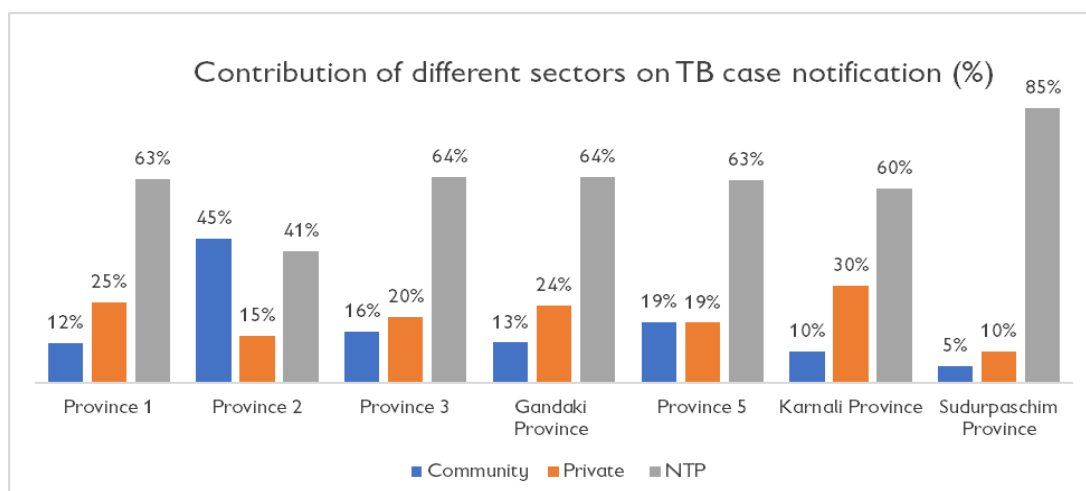
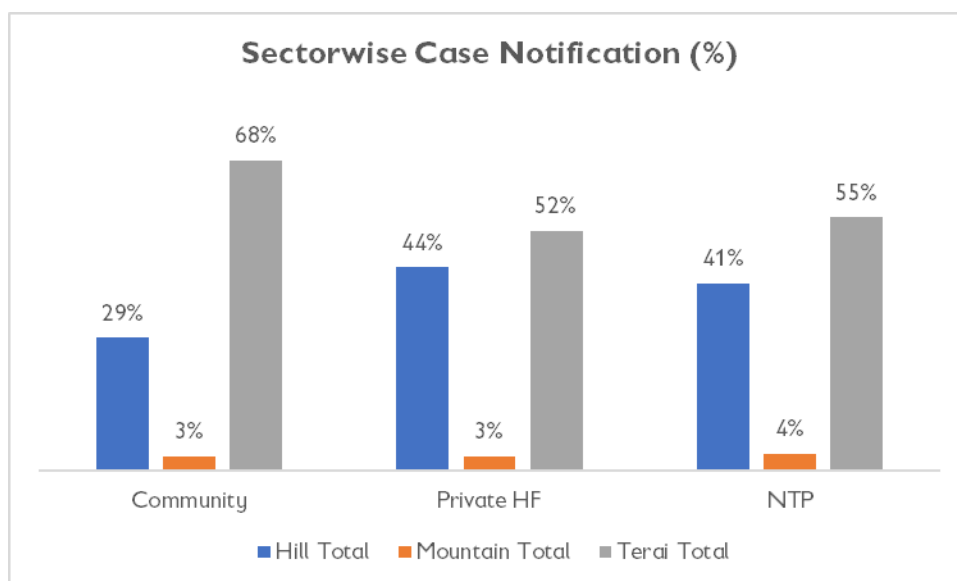


Figure 3.6: Percent distribution of private sector and community referral to TB program on the eco-terrain level.



3.3 Annual trends

The national CNR has increased slightly this year to 112 per 100,000 population. It has increased by 1% in comparison to the CNR of the previous year. The number of TB cases notified in the NTP has increased from 31,764 in 2073/74 to 32,474 in 2074/75. The TB case notification was high with CNR 136 per 100,000 populations during FY 2070/71, since then the CNR has been decreasing gradually. The decline was significant during 2015 (a drop of 9% CNR from year 2014.) However, it has started to incline from this reporting period. Looking at the provincial level, Province 5 had the highest CNR (143 per 100,000 population) followed by Province 2 (109 per 100,000 population) respectively. CNR was low at Province 1 (84 per 100,000 population). Similarly, Terai had the highest CNR (124 per 100,000 population) followed by Hill (104 per 100,000 population) and Mountain (62 per 100,000 population) respectively.

Figure 3.7: Annual Trend of TB Case Notification and CNR at National level

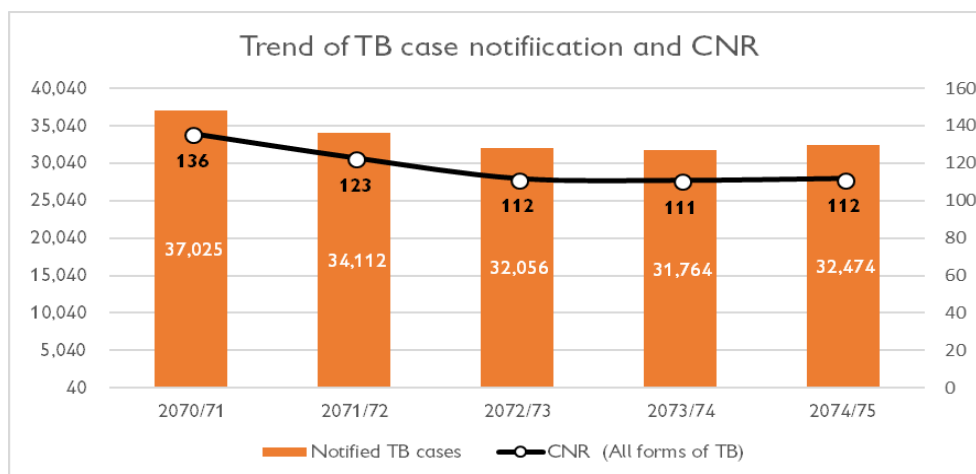


Figure 3.8: TB Case Notification and CNR at Province Level

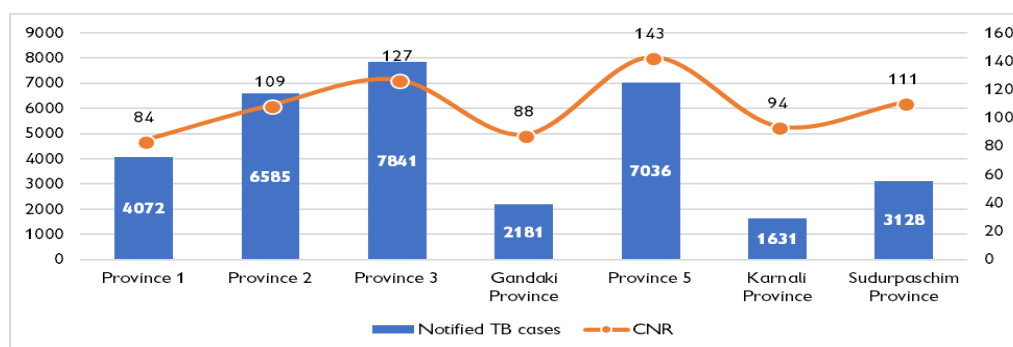
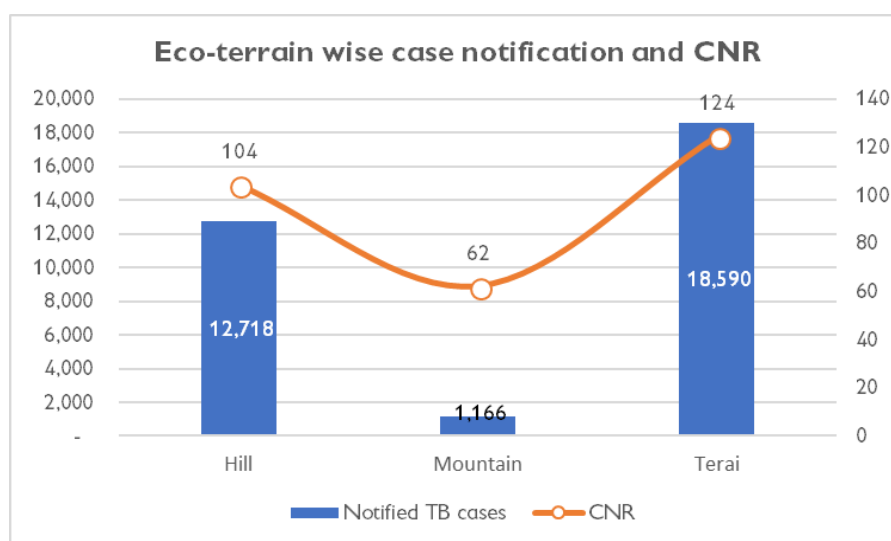


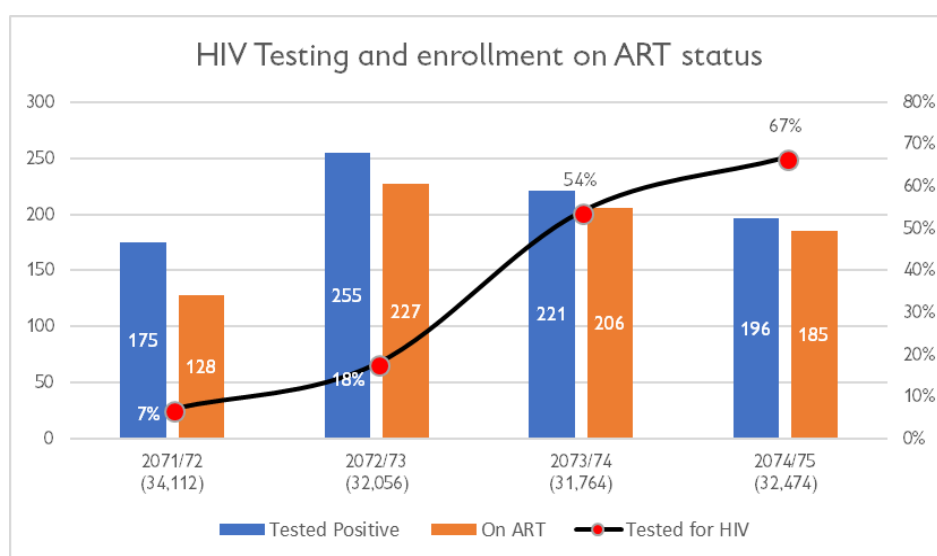
Figure 3.9: TB Case Notification and CNR at Eco-terrain Level



3.4 TB/HIV Co-infections

TB HIV Co-infection has been addressed by the National Tuberculosis program with high priority. Among the registered TB cases 67% of them have been tested for HIV, it has increased significantly than that of the previous reporting period. Among those tested for HIV, 0.90% was found HIV positive. Of them, around 94% were found to be on ART. NTP has envisioned cent percent of HIV testing of TB patient, though has not successful, but has been progressing remarkably in comparison to the achievement made on this indicator in previous years.

Figure 3.10: Percent Distribution of TB HIV testing and enrolled in ART.



3.5 Treatment outcome

Summary of Treatment Outcome

The definitions of TB treatment outcomes discussed here are for drug-susceptible TB. Newly registered cases (New and Relapse), were 91% treated successfully this year. But, the success rates for the Retreatment (Loss to Follow Up and Failure) cases had relatively poor treatment outcome with only 89% success rate.

Definitions of treatment outcomes for new and relapse cases recommended for use since March 2013 by WHO and that were used by NTP since 2014/15.

Cured: A pulmonary TB patient with bacteriologically-confirmed TB at the beginning of treatment who was smear- or culture- negative in the last month of treatment and on at least one previous occasion.

Completed treatment: A TB patient who completed treatment without evidence of failure but with no record to show that sputum smear or culture results in the last

month of treatment and on at least one previous occasion were negative, either because tests were not done or because results are unavailable.

Died: A TB patient who died from any cause during treatment.

Failed: A TB patient whose sputum smear or culture is positive at month five or later during treatment.

Lost to follow-up: A TB patient who did not start treatment or whose treatment was interrupted for two consecutive months or more.

Not-evaluated: A TB patient for whom no treatment outcome is assigned. This includes cases ‘transferred out’ to another treatment unit as well as cases for whom the treatment outcome is unknown to the reporting unit. **Successfully treated:** A patient who was cured or who completed treatment.

Cohort: A group of patients in whom TB has been diagnosed, and who were registered for treatment during a specified time period (e.g. the cohort of new cases registered in the calendar year 2012). This group forms the denominator for calculating treatment outcomes. The sum of the patients included in the above treatment outcome categories should equal the number of cases registered.

Definition of TB Treatment Outcomes

The definitions of TB treatment outcomes for new and relapse cases of TB that are recommended by WHO as part of an updated recording and reporting framework issued in March 2013 and used in the 2015 round of global TB data collection.

Nationally, the treatment success rate for 31,644 cases that were treated in the FY 2073/74 cohort was 91%. It is impressive that the NTP is able to maintain the treatment success rate consistently over 90% in recent years. It is one of the indicators where NTP was able to achieve the MDG target within 2015. Among the previously treated cases excluding relapse (Failure and Loss to follow up), the success rates were relatively lower (89%).

Figure 3.11: National Treatment Outcome (All Forms)

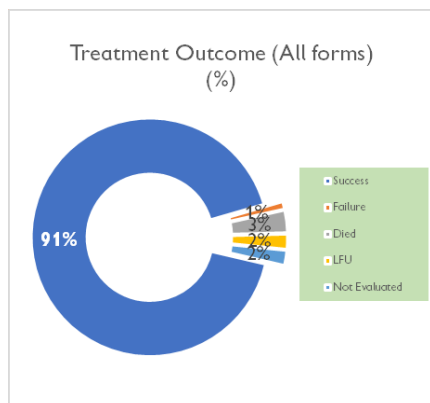
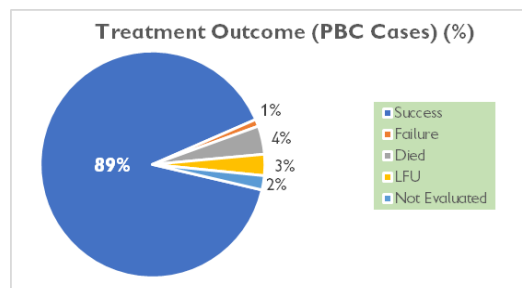


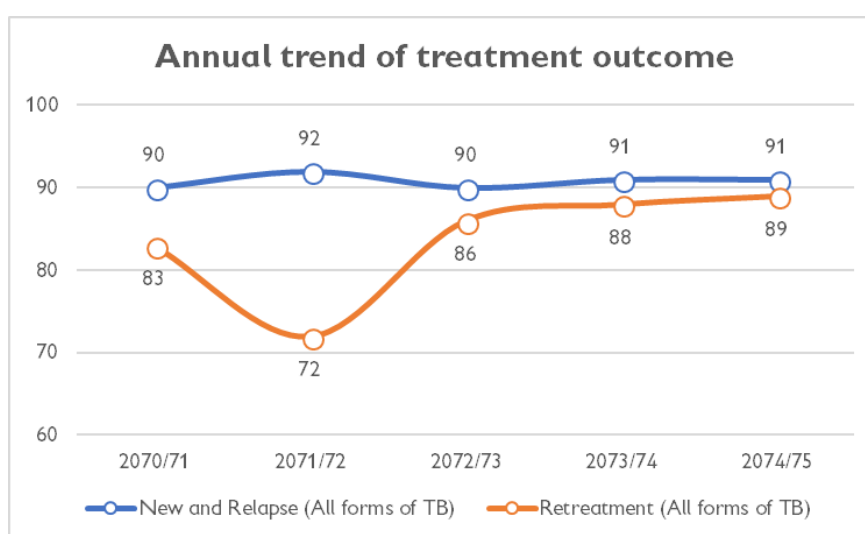
Figure 3.12: National Treatment Outcome (PBC)



3.6 Annual Trend of Treatment outcomes at National level

The trend of TB treatment success rates for TB has been consistently above 90% since the last few years. Annual trend of TB treatment success rates at national level for newer cases (New and Relapse) is constantly high at around 90%, for this FY 2074/75 it is 91%. However, the trend of success rates among the retreatment cases (Failure, Loss to Follow-up and Other previously treated) had been constantly lesser (in comparison to treatment success among newer cases) but it has slightly increased to 89% in this year.

Figure 3.13: Annual Trend of Success rates of newly diagnosed cases compared with the retreated cases. (National)

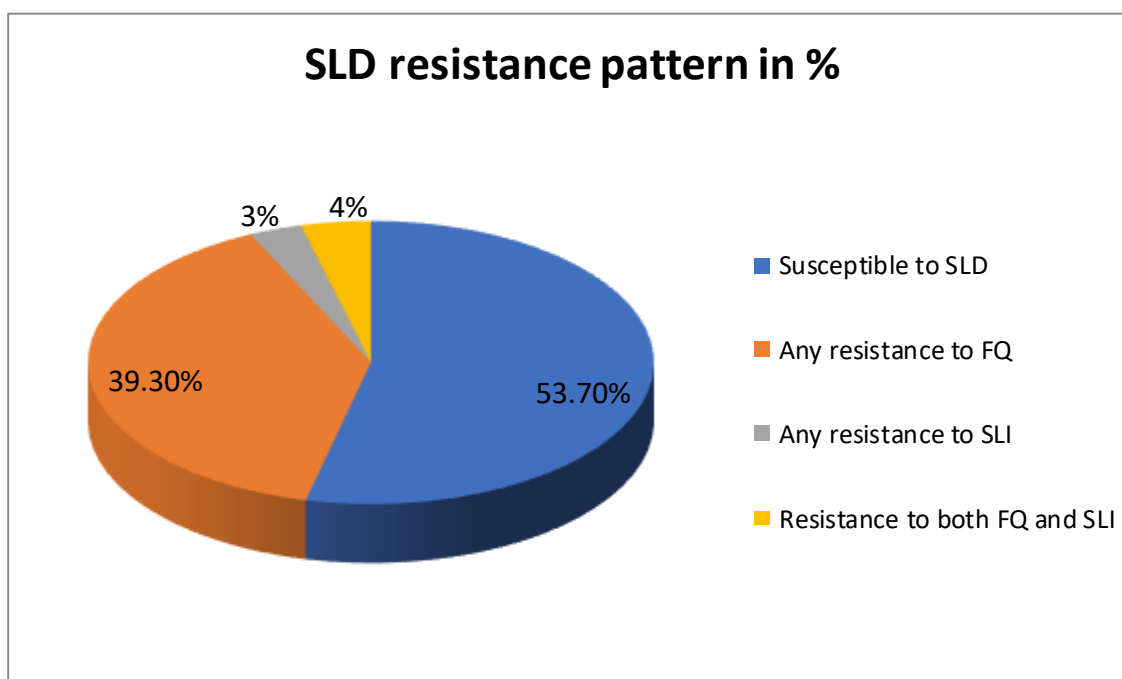


CHAPTER 4: DRUG RESISTANCE TUBERCULOSIS (DR-TB)

4.1 Burden of DR TB:

In 2014, WHO estimated that 2.2% (1.3 – 3.8%) of all new pulmonary TB cases and 15.0% (10-23%) of all pulmonary re-treatment cases had RR/MDR TB, which was similar to proportion detected in the National Drug Resistance Survey (DRS) conducted in 2011/2012 in Nepal. A survey conducted at GENETUP in 2012, further estimated prevalence of pre-XDR (with Ofloxacin resistance) to be around 28% and XDR nearly 8% amongst MDR-TB cases in Nepal. Resistance to an injectable agent (SLI) was estimated at around 2-3%. On the contrary, the result of routine surveillance of second-line drug susceptibility test (DST) suggests the increasing trend of drug resistance pattern in a second-line drug used for the treatment of MDR-TB patients which is shown in the figure below. There is a high alert situation while considering the result of DST especially for fluoroquinolone drugs used in the treatment of MDR-TB cases. Among the 335 MDR-TB cases tested for SLDST - 39.3% of cases are resistant to FQ, and 3% to SLI and 4% on both FQ and SLI. This result showed that NTP needs to prioritize the management of MDR-TB with high importance to address the challenge emerging with the high prevalence of second-line drugs (SLD) resistance among MDR-TB cases.

Figure 4.1: Result of Second Line DST in Routine Surveillance in 2073/74



Though the number of DR TB cases in Nepal is low, still there are huge gaps between the estimated number vs the registered number of DR TB cases in Nepal. This year, only 420 DR TB cases were reported to NTP. Compared to NSP projection, only 65% of estimated RR/MDR-TB cases, 42% of Pre XDR-TB and only 50% of XDR-TB cases were enrolled for treatment this year. The resulting 30-50% of missing cases may be appreciated more once the Drug Resistance survey is carried out, which is planned by the end of 2019-20, which was last carried out in 2011-12.

Figure 4.2: MDR-TB case finding by registration category in 2074/75

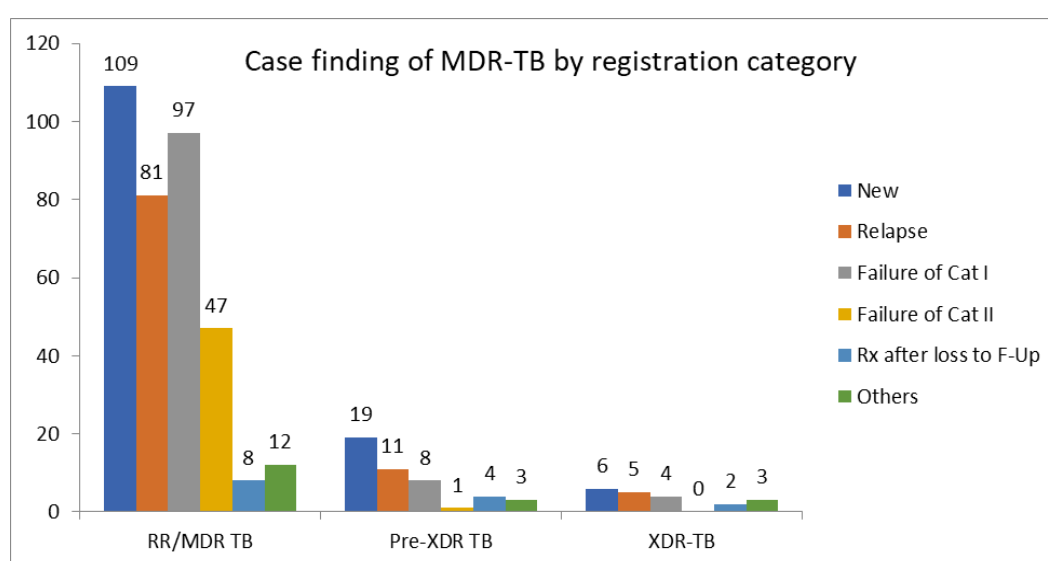


Figure 4.2 shows the case finding of MDR-TB by registration category in 2074/75. Most of the cases registered as new (31.9%) means never been treated or treated less than one month with FLD. Whereas 26% of cases are diagnosed and enrolled in treatment after "treatment after failure of Cat I" category. Likewise, 23.1% of cases are relapsed of FLD treatment and 11.4% cases are treated after "treatment after failure of Cat II treatment" means still around 1/10 of MDR-TB cases have the poor routine approach of rapid DST.

Figure 4.3: MDR-TB case finding the trend of 5 consecutive year

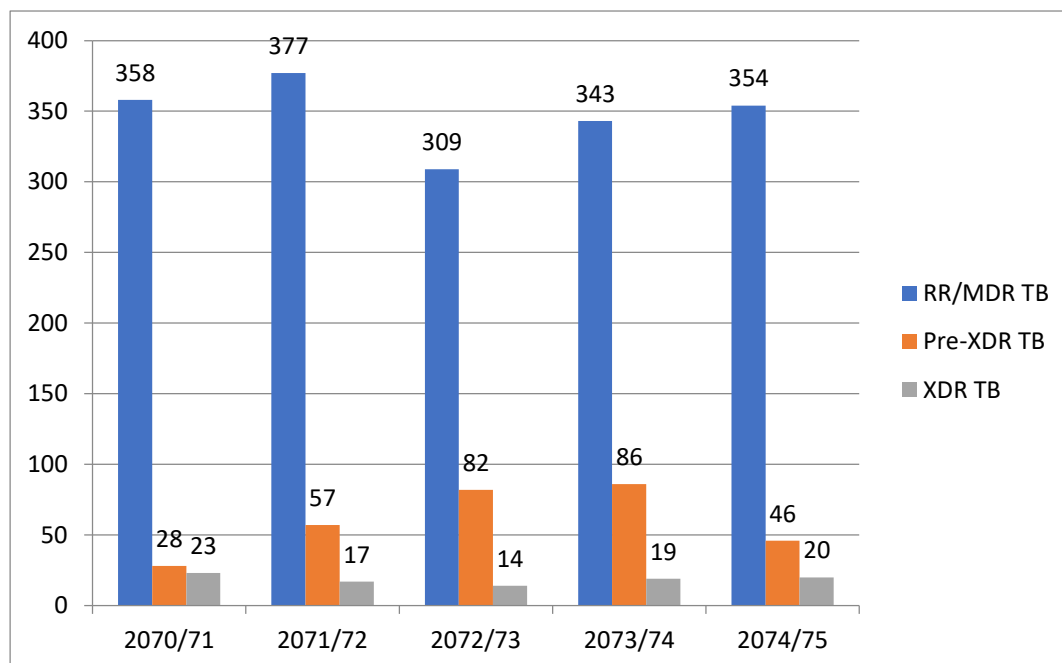
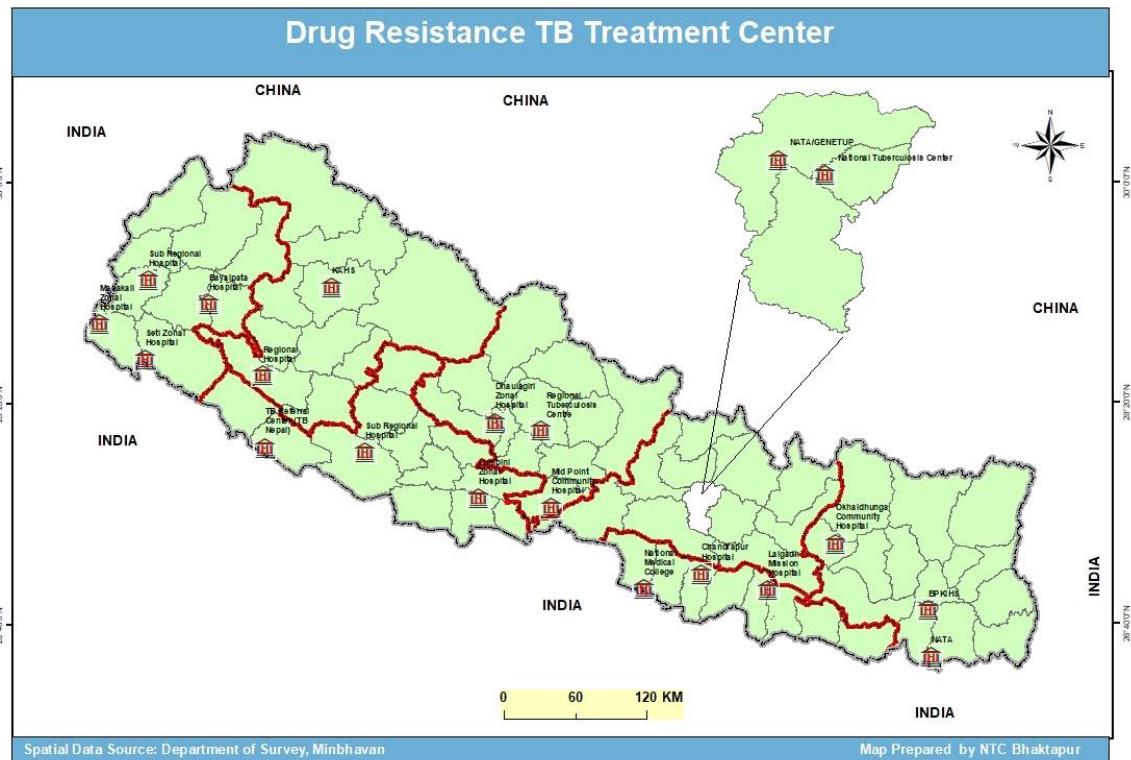


Figure 4.3 shows the annual case finding trend of all types of MDR-TB for consecutive 5 years. The trend of RR/MTB/MDR TB has remained almost constant since the last five years however the proportion of Pre-XDR and XDR TB cases had an increasing trend for 2072/73 and 2073/74. However, Pre-XDR TB has a decreasing trend for 2074/75 and trend of XDR TB cases remain constant as in previous years.

Case Holding

Drug Resistance patients were provided ambulatory treatment management from 20 DR-TB Treatment Centre and 86 DR-TB Treatment Sub-centre in the country. For those patients who needed residential care and management due to various reason, it was provided through 6 DR-TB Hostel, 1 DR-TB Home, 2 DR-TB Referral Centre, and 1 TB Hospital. Regular clinical, radiological, laboratory and instrumental follow-up were carried by Treatment Centres. Sputum culture follow-up, LPA and DST services were mainly carried by two National Reference Laboratories by using courier system in the transportation of sputum samples.

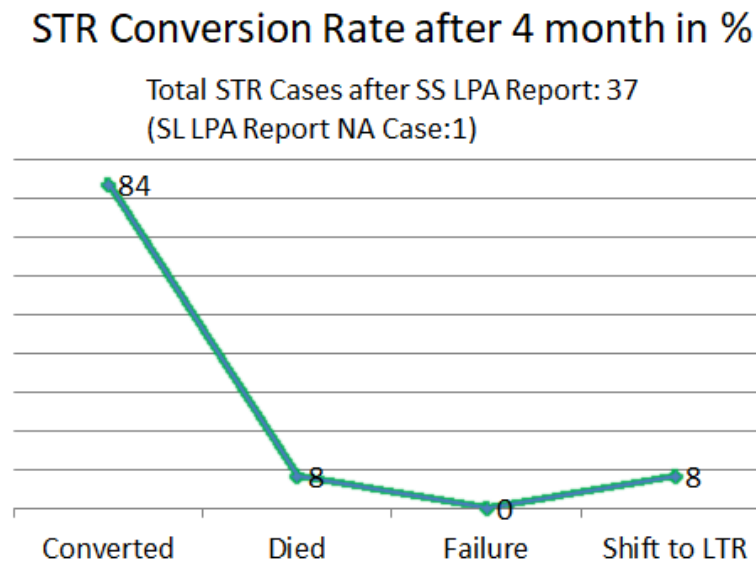
Figure 4.4:DR TB Treatment Centers



Shorter Treatment Regimen (STR)

STR was launched in Nepal from the second trimester of 2074/75 in a phase-wise manner. Initially, the treatment management of RR/MDR-TB with STR was centralized in TB Nepal, Nepalgunj; Lumbini Zonal Hospital, Butawal; GENETUP, Kathmandu and NATA, Biratnagar. The sputum conversion (method to monitor treatment progress and finalize to shift on continuation phase) at 4 months was evaluated for 37 patients till the end of 2074/75 and 84% of them had sputum conversion, and 2 cases were shifted to Longer Treatment Regimen due to hepatotoxicity.

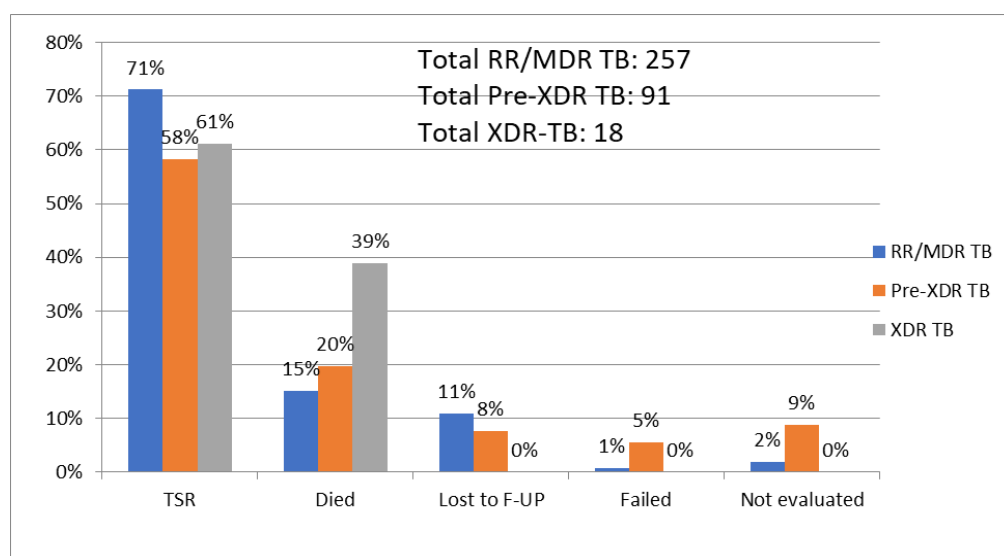
Figure 4.5: STR Conversion Rate after 4 months in %



Treatment Outcome

Figure 4.6 shows the treatment outcome of RR/MTB, Pre-XDR, and XDR TB, which is evaluated in FY 2074/75. The trend of treatment success rate almost remains the same for as previous years. The treatment success rate (TSR) of RR/MDR TB is 71%, Pre-XDR TB is 58% and XDR TB is 61%. The death rate is quite high among XDR TB cases (39%), 15% and 20% among RR/MDR TB and Pre-XDR TB respectively. Lost to follow-up among RR/MDR TB is relatively high (11%) and 8% among Pre-XDR TB but there is no lost to follow-up among XDR TB cases found.

Figure 4.6: Trend of treatment outcome of all kind of MDR-TB by cohort



CHAPTER 5: TB DIAGNOSTICS SERVICES

5.1 Diagnosis of TB and DR-TB

The microbiological diagnosis of tuberculosis (TB) is an important tool for disease control. It consists of both conventional methods (acid-fast microscopy, culture, biochemical identification, anti-tuberculosis drug-susceptibility testing; DST) and modern molecular techniques (Xpert MTB/RIF, LPA). The targets of microbiological testing include the detection and isolation of mycobacteria, species identification, detection of drug resistance, monitoring patient responses to therapy

It is proven that early diagnosis and treatment of TB cases is the ultimate way of breaking the chain of disease transmission and decreasing the mortality. For this, NTP has been adopting the latest diagnostic tools such as Xpert MTB/RIF, LPA, and MGIT. Furthermore, NTP has ensured the optimal use of the existing diagnostic tools that had been demonstrated to be efficient and effective such as sputum microscopy, conventional culture, and DST. The objectives of the TB diagnostic laboratory network are -

- I. To ensure early detection of tuberculosis
- II. To detect all cases of drug-resistant tuberculosis
- III. To implement systematic screening for tuberculosis among a selected high-risk group

5.1.1 Smear Microscopy:

In many countries, sputum smear microscopy remains the primary tool for the laboratory diagnosis of tuberculosis. It requires simple laboratory facilities, and when performed correctly, has a role in rapidly identifying infectious cases. It has been shown conclusively that good quality microscopy of two consecutive sputum specimens will identify the vast majority (95-98%) of smear-positive patients. Despite its advantages, sputum smear microscopy does fall short in test sensitivity, especially for certain patient groups such as those living with HIV/AIDS, and also in the diagnosis of childhood and extrapulmonary tuberculosis.

. It provides no information on the viability and drug susceptibility of the bacilli, and it cannot distinguish between *Mycobacterium tuberculosis* complex and Non-tubercle Mycobacteria. Ziehl Neelsen (Light Microscopy) and Auramine O (Fluorescence Microscopy) staining techniques are available to detect AFB.

5.1.1.1 Smear Microscopy Network Coverage

Currently, there are 624 microscopy centers registered as microscopy centers in Nepal. 488 Microscopic centers have participated regularly in external quality assurance (EQA) in the FY 2074/75. Majority of the microscopy centers are established within the government health facilities; some are established in non-governmental organizations as well as in the private sector. NTP is responsible for

providing laboratory consumables and other equipment to each of the microscopy centers. In addition, the NTP conducts Sputum Microscopy Basic training (Modular training) for newly recruited laboratory personnel and Lot Quality Assurance Sampling System (LQAS) training for EQA. Most of the microscopy centers are located in Terai belt, whereas Mountain belt is under-served due to difficult geographic terrains.

Table 5.1: Status of microscopic centers and their participation in EQA

Province	Province 1	Province 2	Province 3	Gandaki Province	Province 5	Province Karnali	Sudurpaschim Province	Total
Total number of Microscopy Centers	104	66	164	66	97	32	95	624
Participation in EQA	72	43	112	62	89	31	79	488
Not Functioning/Not Participation in EQA	32	23	52	4	8	1	16	136

5.1.2 External Quality Assurance (EQA)

External Quality Assessment of each level microscopy center is an important part of NTP. An EQA is needed to ensure that smear microscopy is performed and interpreted correctly and that all microscopy centers achieve an acceptable level of performance. The implementation of EQA for microscopy has the advantage of both strengthening laboratory networks and improving diagnostic quality. An EQA report of sputum microscopy is used for, supervision, training, report feedback and maintaining the quality of microscopy centers. NTP implements random blinded rechecking of slides using Lot Quality Assurance Sampling System (LQAS) for EQA.

There are well-established networks between the microscopy centers (at PHC, DHO/DPHO laboratories on government health facilities and some Health-posts and hospitals, clinics at private health facilities), 7 Province TB Quality Control Center (PTQCC) in Province level and NTC at the national level. Microscopy centers send the examined slides to their respective provincial TB quality control centers via district health office according to lot quality assurance sampling (LQAS) method. Five Province TB Quality Control Centers at Province number 1 Biratnagar, Province number 3 Hetauda, Gandaki Province Pokhara, Karnali Province Surkhet and Sudurpaschim Province Dhanghadi are functioning smoothly with the help of skilled and trained quality control assessors, and two Province TB Quality Control Center at Province 2 Janakpur and Province 5 Butwal is under process. NTC perform as a national quality control assessor and rechecks all the discordant slides sent from the

seven Provincial TB Quality Control Centres. The overall agreement rate is an indicator to monitor the quality of smear examination. Agreement rate is 98.9 % for the FY 2074/2075.

Table 5.2: Total number of (EQA) slide cross-checked in the Provincial Quality Control Center with a false result.

SN	Province	Total Slides cross checked	False Negative	False Positive
1	Province 1	3682	19	8
2	Province 2	2725	33	4
3	Province 3	5061	33	13
4	Gandaki Province	2762	5	3
5	Province 5	5279	28	12
6	Karnali Province	2006	14	5
7	Sudurpaschim Province	4270	16	10
8	Total (National)	25785	148	55

There are some issues and challenges in the microscopic centers. About 21 % are not functioning; there are several reasons behind it and the majority of them are not functioning due to lack of human resource. Among the functioning, 9% did not participate in the EQA system regularly. To build the effective EQA, NTC is planning to utilize District Lab Supervisors (DLS) for the LQAS sampling from their respective microscopic centers to the provincial quality control centers.

5.1.2 Xpert MTB/RIF

The Xpert MTB/RIF is a fully automated and cartridge-based rapid, real-time PCR that integrates sample processing, DNA extraction, and amplification, for TB and RR-TB diagnosis. It has high sensitivity and specificity and enables simultaneous detection of rifampicin resistance via *rpoB* gene. 95% of rifampicin resistance is associated with concurrent resistance to isoniazid, however, monoresistance to rifampicin is found in approximately 5% of rifampicin-resistant strains. Thus, detecting resistance to rifampicin can be used as a surrogate marker for MDR-TB with a high level of accuracy. The use of Xpert MTB/RIF started in Nepal from 2011/2012. Currently, there are 55 Xpert MTB/RIF centers, having 57 Xpert

MTB/RIF machines contain 196 modules, and are functioning in different parts of the country as listed below. 18 more machines are being planned to be installed at various sites of the country.

Table 5.3: Xpert MTB/RIF Centers Locations

S.N.	Xpert Centre	No.Machine	No.of modules
1.	NATA ,Morang, Biratnagar	1	4
2.	BPKIHS, Dharan	1	4
3.	Mangalbare PHC, Morang	1	3
4.	Ilam District Hospital, Ilam	1	2
5.	DHO/NATA, Bhadrapur, Jhapa	1	4
6.	Udayapur District Health Office	1	2
7.	Okhaldhunga Community Hospital, Okhaldhunga	1	2
Province 1			
8.	Yadukuwa PHC, Dhanusa	1	2
9.	Chandranigahpur PHC, Rautahat	1	2
10.	Narayani sub-regional hospital ,Birgunj, Parsa	1	4
11.	Mirchaiya PHC, Sirha	1	4
12.	DHO Saptari,Rajbiraj	1	4
13.	DHO/Hospital Malangawa, Sarlai	1	4
14.	DHO/Hospital Kaliya, Bara	1	4
15.	Dhanusha DHO, Janakpur	1	4
16.	Sabila PHC, Dhanusa	1	4
17.	Dhalkebar HP Dhanusa	1	4
Province 2			
18.	National TB Centre, Bhaktapur	2	8
19.	Bagauda Hospital, Chitwan	1	2
20.	TUTH, Maharjgunj, Kathmandu	1	2
21.	GENETUP, Kalimati, Kathmandu	2	8
22.	HERD laboratory, Thapathali, Kathmandu	1	4
23.	Bir Hospital (NAMS), Kathmandu	1	4
24.	Shukra Raj Infectious Disease Hospital	1	4
25.	Dhulikhel Hospital	1	4

26.	Birendra Sainik Hospital Chauni, Kathmandu	1	4
27.	DHO/Hospital, Nuwakot	1	3
28.	Civil Hospital, Kathmandu	1	2
29.	Chitwan DHO, Chitwan	1	4
30.	Shivanagar PHCC, Chitwan	1	4
31.	Ratnagar Hospital, Chitwan	1	4
Province 3			
32.	Regional TB Centre, Pokhara	1	4
33.	Dhaulagiri zonal Hospital ,Baglung	1	2
34.	DHO/Hospital Damauli, Tanahau	1	4
Gandaki Province			
35.	Lumbini Zonal Hospital, Butwal	1	4
36.	United Mission Hospital, Palpa	1	2
37.	Nepalgunj Medical College,Nepalgung	1	2
38.	Rapti sub-regional Hospital, Dang	1	4
39.	TB Nepal, Nepalgunj	1	4
40.	Prithivi Chandra Hospital, Nawalparasi	1	4
41.	Lumbini Medical College, Palpa	1	2
42.	Madhyabindu Community Hospital-Nawalparasi	1	4
43.	Gulmi DHO, Gulmi	1	4
44.	Kapilvastu DHO	1	4
45.	Pyuthan DHO	1	4
46.	Bardiya DHO	1	4
Province 5			
47.	Mid Western Regional Hospital, Surkhet	1	2
48.	Karnali Academy of Health Sciences (KAHS) Jumla	1	4
49.	DHO/Hospital, Dailekh	1	4
50.	DHO/Hospital, Salyan	1	4
Karnali Province			
51.	Seti Zonal Hospital, Dhangadhi	1	4
52.	Doti Hospital, Doti	1	2
53.	Bayalpata Community Hospital, Achham	1	2

54.	Sub Regional Hospital Dadheldhure	1	4
55.	Mahakali Zonal Hospital, Kanchanpur	1	4
Sudurpaschim Province			
	Total	57	196

WHO recommends a prioritized use of Xpert MTB/RIF for rapid TB diagnosis to vulnerable risk groups such as children, people living with HIV, congested settings, diabetic patients, and among contacts of DR-TB patients. It is also recommended for the diagnosis of Rifampicin Resistance (RR-TB) in MDR-TB presumptive cases.

Table 5.4 Xpert MTB/RIF Test Status

S N	Province	MTB Not Detecte d	MTB+ Rif Sensitiv e	MTB+ Rif Resistanc e	MTB+ Rif Indeterminat e	No result (Error/ Invalid)	Total Numbe r of Test
1	Province 1	3602	905	74	13	356	4950
2	Province 2	3904	1213	103	3	527	5750
3	Province 3	11941	2910	195	43	758	15847
4	Gandaki Province	1520	340	20	1	158	2039
5	Province 5	6392	2722	288	23	688	10113
6	Karnali Province	1206	211	9	3	105	1534
7	Sudurpaschi m Province	1946	875	91	9	244	3165
	Total	30511	9176	780	95	2836	43398

Figure 5.1 Xpert MTB/RIF Test Result FY 2074/75

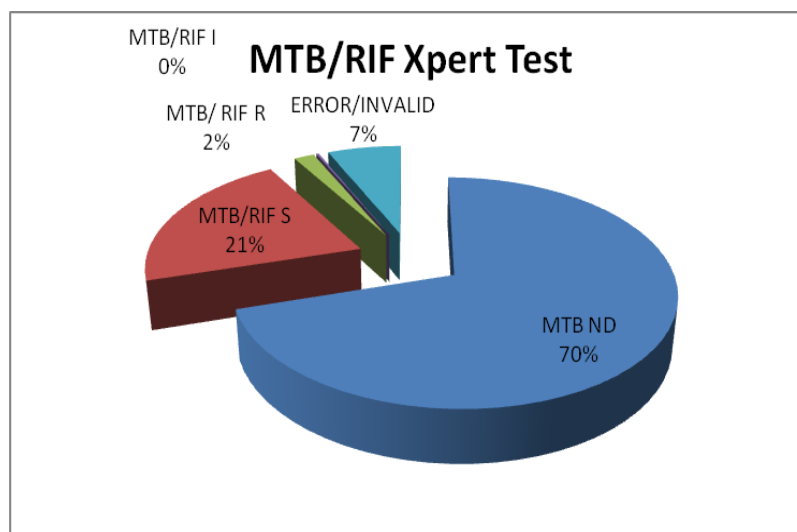
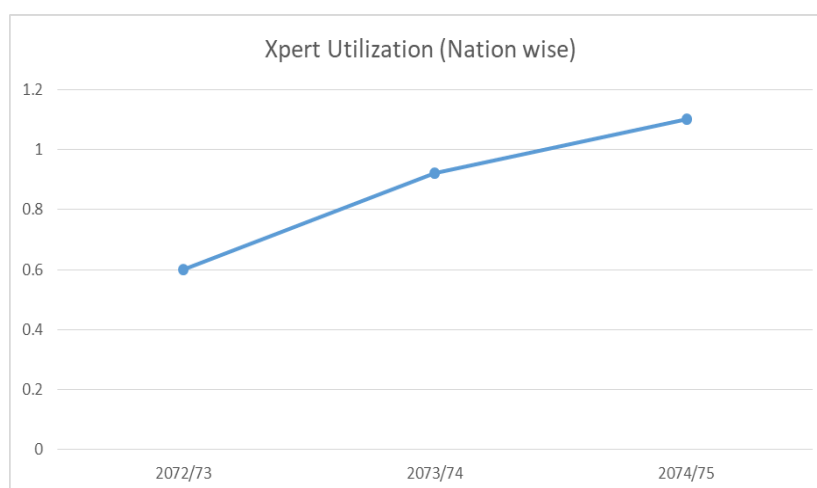


Figure 5.2: Xpert MT/RIF utilization rate (1.1%)



The utilization ratio of Xpert MTB/RIF is in an increasing trend, but still not satisfactory against the target and testing capacity in terms of number. For the optimal utilization of Xpert MTB/RIF, NTC has focused its effort on immediate maintenance, module replacement as well as expanding the scope of its coverage in terms of presumptive TB patients with the revision of its algorithm. With the revised algorithm, now all the diagnosed TB patients are eligible for DST at least through Xpert MTB/RIF, at the beginning or during the TB treatment. NTC has identified a focal person who is responsible for coordinating and supervising the optimal utilization and smooth functioning of Xpert through regular monitoring and needful support. NTC revised the Xpert MTB/RIF algorithm and planning to conduct orientation for clinical staff those who request the Xpert MTB/RIF test.

Xpert MTB/RIF centers provide a report to NTC monthly. For more effective data management, NTC is implementing an online electronic recording and reporting system.

For the capacity enhancement of laboratory staffs, data management, introducing new updates, and maintenance of Xpert MTB/RIF, NTC conducts Xpert MTB/RIF training and workshops to the respective laboratory staff from the Xpert centers.

5.1.3 Culture and Drug Susceptibility Test (DST)

The culture of *Mycobacterium tuberculosis* is the gold standard for both diagnosis and drug susceptibility testing, and also the method of choice to monitor DR-TB treatment. Conventional culture method using Lowenstein-Jensen (LJ) media, while cheap and simple, have the major disadvantage of having a long turnaround time. LJ cultures take 8 weeks for a negative result and an additional four to six weeks after initial culture for drug susceptibility testing. The National TB Reference Laboratories (NTRL), NTC and GENETUP, provide culture and DST services. They are quality assured and accredited by Supranational TB Reference Laboratory (SRL), Institute of Microbiology and Laboratory Medicine, Gauting, Germany. SRL Gauting, Germany is supervising and maintaining regular EQA of these laboratories. The NTP has established three culture laboratories – BPKIHS, Dharan: RTC, Pokhara and Regional Hospital, Surkhet. Among these BPKIHS have started a primary culture and in RTC Pokhara and Surkhet Regional Hospital, equipment has been installed and culture will start shortly. All the culture/DST laboratories are equipped with Xpert MTB/RIF.

Liquid Culture, Mycobacterium Growth Indicator Tube (MGIT) is extended to GENETUP, NTC, and BPKIHS. The MGIT system is based on a glass tube containing 7H9 broth with fluorescence quenching-based oxygen sensor. When inoculated with *Mycobacterium tuberculosis*, consumption of oxygen produces fluorescence which is illuminated by a UV lamp. MGIT takes 2 – 6 weeks for culture result.

5.1.4 Line Probe assay:

LPA is a PCR based test used for diagnosis of TB and for determining susceptibility to different anti TB drugs. 1st line LPA includes Isoniazid and Rifampicin susceptibilities and 2nd line LPA includes Fluoroquinolones and injectable anti TB drugs (aminoglycosides and polypeptides) susceptibilities. LPA needs a higher bacterial load in samples than Xpert for a positive result and hence smear positive samples and cultures are preferred. Patients eligible for LPA are

- All previously treated patients presenting with TB should be tested with LPA (1st line) at the start of treatment.
- All Rifampicin resistant TB cases should be tested with LPA (1st and 2nd line) and culture DST at the start of treatment.
- All treatment non-responders

Both TB reference laboratories, NTC and GENETUP, are performing LPA for FLD/SLDs.

1. Results of first-line drug susceptibility testing in pulmonary TB patients

	Previous anti-TB treatment status						Total
	New		Previously treated [A]		Unknown treatment history [B]		
	F	M	F	M	F	M	
i) Number of pulmonary TB patients with positive identification for M. Tuberculosis complex confirmed by culture and/or line-probe assay. (Use line (vi) below for patients confirmed by Xpert MTB/RIF only)	44	92	53	106	2	1	298
(ii) Among patients reported in (i), number of patients with available DST results for isoniazid (H) and rifampicin (R)	44	91	50	104	2	1	292
(iii) Among patients reported in (ii), number of patients with resistance to H but not R	1	6	3	15	0	0	25
(iv) Among patients reported in (ii), number of patients with resistance to R but not H	0	0	1	1	0	0	2
(v) Among patients reported in (ii), number of patients with resistance to H and R (MDR-TB)	6	3	4	16	0	0	29
(vi) Number of pulmonary TB patients with positive identification for M. Tuberculosis complex confirmed by Xpert MTB/RIF alone and who are not confirmed by culture and/or line-probe assay (these cases should be added to those reported in i)	352	392	103	177	0	0	1024
(vii) Among patients reported in (vi), the number of patients with resistance to R (these cases should be added to those reported in iv and v)	13	22	16	22	0	0	73

2. Among patients with DST results in 1 line (ii): association between MDR-TB and HIV status (number of patients)

HIV status (number of patients)	HIV status						Total
	HIV Positive		HIV Negative		Unknown		
	F	M	F	M	F	M	
(a) MDR-TB (resistant to both H and R)	0	0	6	10	6	7	29
(b) Not MDR-TB (drug susceptible plus any resistance that is not MDR-TB)	0	0	0	0	143	118	261
Grand Total	0	0	6	10	149	125	290

3. Among patients with DST results in 1 line (ii): association between MDR-TB and age (number of patients)

	Age						Total
	0–14		≥15		Unknown		
	F	M	F	M	F	M	
(a) MDR-TB (resistant to both H and R)	0	0	14	15	0	0	29
(b) Not MDR-TB (drug susceptible plus any resistance that is not MDR-TB)	1	3	91	163	3	0	261
Grand Total	1	3	105	178	3	0	290

4. Results of second-line drug susceptibility testing

	F	M	Total
(i) Total number of pulmonary MDR-TB patients with DST results for any fluoroquinolone (FQ) and any second-line injectable agent (2LI)	157	255	412
(ii) Among MDR-TB patients reported in (i), number of patients susceptible to both FQ and 2LI	84	141	225
(iii) Among MDR-TB patients reported in (i), number of patients with any resistance to FQ	72	109	181
(iv) Among MDR-TB patients reported in (i), number of patients with any resistance to 2LI	10	21	31
(v) Among MDR-TB patients reported in (i), number of patients with any resistance to both FQ and 2LI (XDR-TB)	11	18	29

Finally, laboratories are not just technologies, equipment and buildings; they are people and system that manage the processes and standards required to produce accurate and timely results. Successful implementation of any diagnostic test will still require functional networks of laboratories with trained and motivated staff, quality management systems, and safe working environments. A new focus on expanding and strengthening laboratory systems for quality-assured microscopy, culture methods, and DST will help achieve the targets for global TB control

CHAPTER 6: TB TREATMENT SERVICES

KEY FACTS AND MESSAGES

In 2017/18, 32,474 people with tuberculosis (TB) were notified to national TB programme (NTP). Of these, just over 31,723 had an incident episode (new or relapse) of TB. Despite increases in notifications of TB, progress in closing detection and treatment gaps is slow and large gaps remain. In 2017/18, there was a gap of 13,277 between notifications of new and relapse cases and the best estimate of the number of incident cases (45,000).

Gaps between the estimated number of new cases and the number actually reported are due to a mixture of underreporting of detected cases, and underdiagnosis (either because people do not access health care or because they are not diagnosed when they do).

6.1 Treatment of TB, and TB-HIV Coinfection

6.1.1 Treatment of tuberculosis

Once the decision is made to initiate treatment for tuberculosis, the patient should be classified according to the site of TB disease (Pulmonary or Extra Pulmonary), the bacteriological confirmation status (bacteriologically confirmed or clinically diagnosed), and previous TB treatment status if any (new or retreatment). The patient is then enrolled in the appropriate treatment regimens. National TB Control Program uses standardized TB treatment regimens using the drugs with a fixed-dose combination and employs directly observed treatment (DOT) strategy. There are around 4323 TB treatment centers all over the country, among them 80% of health facilities have TB patients during this reporting fiscal year.

Table 6.1: TB treatment categories and regimens.

Type of TB		Intensive phase	Continuation phase
New TB cases All forms: <ul style="list-style-type: none"> - Adult and Childhood - Bacteriological or clinically diagnosed - Pulmonary or extra-pulmonary 		2HRZE	4HR
New TB (Severe cases) All forms: E.g. CNS TB, Musculoskeletal TB, Millitary TB etc.		2HRZE	7 HRE with the possibility of 3 HRE in the end
Retreatment cases	Xpert MTB/Rif-	2HRZE	4HR

All forms: 1 st Rapid DST with Xpert MTB/Rif testing should be done to see the status of resistance to Rifampicin Followed by LPA among those having MTB+ve and Rifampicin sensitive for Isoniazid (INH) resistance status.	Rifampicin sensitive LPA – Isoniazide sensitive		
	Xpert MTB/Rif– Rifampicin sensitive LPA – Isoniazide Resistant	6 HRZE + Levofloxacin (Full Duration)	
	Xpert MTB/Rif– Rifampicin sensitive LPA – Isoniazid Not down because of no access to LPA	6 HRZE (Full duration)	

The patients with pulmonary or extra-pulmonary tuberculosis who have received TB treatment for less than one-month duration in the past will receive two months of Rifampicin, Isoniazid, Pyrazinamide, and Ethambutol followed by four months of Rifampicin and Isoniazid. Those with severe forms of extra-pulmonary TB like TB Meningitis or Osteoarticular TB or Miliary TB will receive seven months of Rifampicin, Isoniazid, and Ethambutol after the first two months. Those who have been exposed to TB treatment for more than one month anytime in the past rapid DST with Xpert MTB/Rif testing should be done to see the status of resistance to Rifampicin, followed by LPA for Isoniazid (INH) resistance status. Please follow the treatment regimen as mentioned in Table 6.1. All patients with TB meningitis and TB pericarditis will also receive steroids in addition to the TB treatment. NTP no longer recommends Category II which includes streptomycin to be used and have officially phased our Cat II regimen.

The treatment of the patients with MDR and Pre-XDR TB under the NTP protocol entails the administration of standardized regimens while that of XDR TB is largely individualized based on the drug sensitivity patterns. For the treatment of MDR regimen, NTP has also initiated a Shorter MDR treatment regimen as well as conventional longer regimen. The detail of the regimen is given in Table 6.2.

Table 6.2: DRTB treatment categories

Conventional MDR TB Treatment Regimen:

- 8 (Km,Cs,Eto,Mfx,Z) / 12 (Cs,Eto,Mfx,Z)

Shorter MDR TB Treatment Regimen (STR)

- 4-6 (Km,Mfx,Eto,Cfz,Z, H(high dose), E/ 5 (Mfx,Cfz,Z,E)

Pre- XDR TB Treatment Regimen in case of Resistant to Flq only

- 8 (Km,Lzd,Eto,Cfz,Z,Bdq(6Months) / 12 (Lzd,Eto,Cfz,Cs,Z)

Pre- XDR TB Treatment Regimen in case of Resistant to Second Line Injection

- 8 (Lfx,Lzd,Eto,Cfz,Z, Bdq(6 months)/ 12 (Lzd,Eto,Cfz,Lfx,Z)

XDR TB Treatment Regimen

- 12 (Eto,Cs,Lzd ,Bdq (6Months),Cfz ,Z) / 12 (Eto,Cs,Lzd,Cfz, Z)

Nepal will also transition into the WHO recommended regimen as published in “WHO treatment guidelines for multidrug- and rifampicin-resistant tuberculosis, 2018 Pre-final text”. The major changes in the recommendations are as follows:

- In MDR/RR-TB patients on longer regimens, all three Group A agents and at least one Group B agent should be included to ensure that treatment starts with at least four TB agents likely to be effective and that at least three agents are included for the rest of treatment after Bedaquiline is stopped. If only one or two Group A agents are used, both Group B agents are to be included. If the regimen cannot be composed with agents from Groups A and B alone, Group C agents are added to complete it.

Table 6.3: DR Drugs Grouping

GROUPS & STEPS	MEDICINE	
Group A: Include all three medicines	Levofloxacin <u>OR</u> Moxifloxacin	Lfx Mfx
	Bedaquiline ^{2,3}	Bdq
	Linezolid ⁴	Lzd
	Clofazimine	Cfz
Group B: Add one or both medicines	Cycloserine <u>OR</u> Terizidone	Cs Trd
	Ethambutol	E
Group C: Add to complete the regimen and when medicines from Groups A and B cannot be used	Delamanid ^{3,5}	Dlm
	Pyrazinamide ⁶	Z
	Imipenem-cilastatin <u>OR</u> Meropenem ⁷	Ipem-Cln Mpm
	Amikacin (<u>OR</u> Streptomycin) ⁸	Am (S)
	Ethionamide <u>OR</u> Prothionamide ⁹	Eto Pto
	p-aminosalicylic acid ⁹	PAS

- Kanamycin and capreomycin are not to be included in the treatment of MDR/RR-TB patients on longer regimens.
- Amikacin may be included in the treatment of MDR/RR-TB patients aged 18 years or more on longer regimens when susceptibility has been demonstrated and adequate measures to monitor for adverse reactions can be ensured. If amikacin is not available, streptomycin may replace amikacin under the same conditions.

To transition to the new WHO recommendation, NTP will develop a comprehensive transition plan and then transition to the new regimen by the end of this year.

One of the main objectives of the NTP Strategic Plan 2016-2021 is to diagnose 50% of the MDR TB patients by 2018 and 100% by 2021 and to successfully treat at least 75% of those diagnosed. To achieve these goals, there has been an increased emphasis in molecular methods of diagnosis of drug-resistant TB with the expansion of GeneXpert Centers to identify Rifampicin resistant cases as well as LPA Centers to identify MDR/Pre-XDR and XDR TB cases. To achieve the treatment target, NTP plans to establish and operationalize a formal DR TB management structure at various levels of healthcare and expand 14 additional MDR-TB treatment centers and 52 treatment sub-centers in the next 5 years. At present, there are 21 DR TB treatment centers and 86 DR TB treatment sub-centers across the country.

6.1.2 Treatment coverage

The Sustainable Development Goals (SDGs) include a target to “Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all”. One of the indicators for Target 3.8 of SDG 3 is the coverage of essential health services; this is a composite indicator based on 16 tracer indicators, one of which is TB treatment. Achieving UHC is a fundamental requirement for achieving the milestones and targets of the End TB Strategy; hence, priority indicators for monitoring progress in implementing the End TB Strategy include both TB treatment coverage.

TB treatment coverage is defined as the number of new and relapse cases detected and treated in a given year, divided by the estimated number of incident TB cases in the same year, expressed as a percentage. In this section, numbers of notified new and relapse cases in 2017/18 are used as the numerator for the indicator. However, there are people with TB who are treated but not notified to national authorities, and people who are notified but who may not be started on treatment.

ART is recommended for all HIV-positive TB patients, and a second-line MDR-TB treatment regimen is recommended for people with MDR/RR-TB. This section includes estimates of treatment coverage for these two interventions as well.

TB treatment coverage

Trends in notifications of new and relapse cases and estimated incidence are shown in **Fig. 6.1**. Estimates of TB treatment coverage in 2017/18 (calculated as notifications of new and relapse cases divided by estimated TB incidence) is 70.5%.

Globally, TB treatment coverage was 64% (range, 58–72%) in 2017, up from 53% (range, 46–64%) in 2010 and 35% (range, 30–43%) in 2000.

There are three main reasons for a gap between notifications and estimated incidence as per Global TB report 2018:

Underreporting of detected TB cases: In Nepal, levels of underreporting may be high; this is especially because there is lack of policies on mandatory notification and other measures to ensure reporting of detected cases by all care providers and large private health sectors.

Underdiagnosis of people with TB

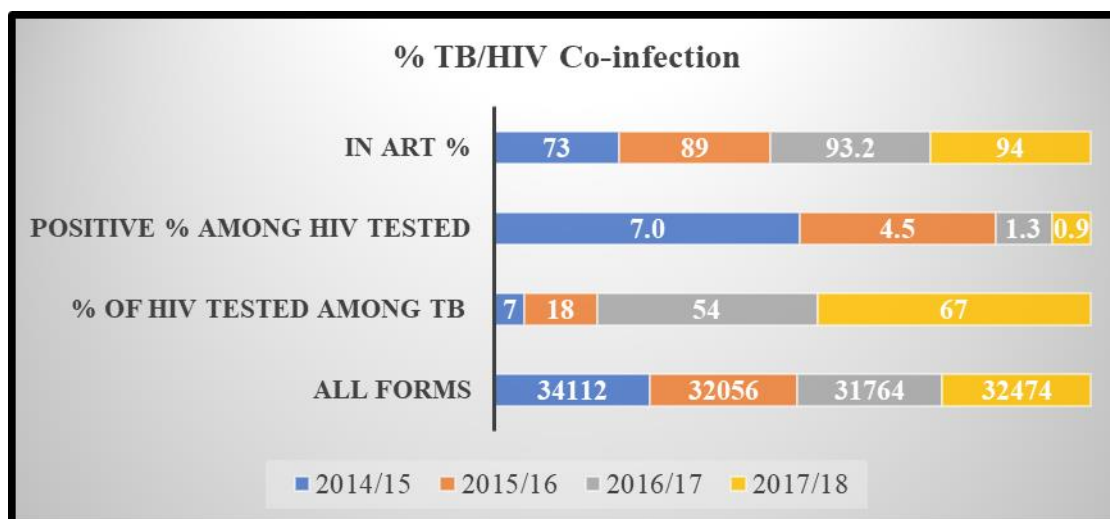
Underdiagnosis can occur for reasons such as poor geographical and financial access to health care; lack of or limited symptoms that delay seeking of health care; failure to test for TB when people do present to health facilities; and diagnostic tests that are not sufficiently sensitive or specific to ensure accurate identification of all cases.

Overestimation of the level of TB incidence. In this report, estimates of TB incidence for 44 countries with 19% of the world's estimated cases are based on expert opinion about levels of underreporting and underdiagnosis, as opposed to direct measurements from surveillance or survey data. Also, the uncertainty intervals around the best estimates of TB incidence can be wide, and gaps may be lower or higher than the best estimates quoted in this section.

6.1.3 TB/HIV coinfection

In 2017/18, 21750 TB patients with a documented HIV test result (a 26% increase from 2016/17), equivalent to 67% of notified TB cases. This represented a 9-fold increase in the number of people with TB tested for HIV since 2014.

Figure 6.1: TB/HIV Co-infection screening and treatment status.



Out of total screened for TB, 99.1% knew their result and 0.9% were diagnosed to have HIV. In those diagnosed with TB-HIV coinfection, 94.4% were enrolled in ART.

As per the data received from NCASC out of total estimated 31,020 estimated PLHIV total of 19,702 knew their status and 15,260 were under ART. Total of 15,260 PLHIV were screened for TB.

CHAPTER 7: TB PREVENTION SERVICES

KEY FACTS AND MESSAGES

Preventing new infections of *Mycobacterium tuberculosis* and its progression to active TB disease is crucial to achieving what the National TB Program of Nepal has envisioned to end by 2035.

The interventions which were implemented in 2017/18 for TB prevention are the treatment of LTBI for people living with HIV (PLHIV); infection control; and Bacille-Calmette-Guérin (BCG) vaccine.

A total of 2044 PLHIV were started on TB preventive treatment in 2017, based on data from NCASC. Despite progress in providing TB preventive treatment to people living with HIV, much more remains to be done on TB prevention for children under five years of age who are the contacts of TB cases. IPT for children under five years of age who are the contacts of TB cases was initiated last year in high burden districts of Nepal and a total of 613 children were enrolled in treatment. There is a need to improve initiation, completion reporting of TB preventive treatment for this risk group.

BCG vaccination is being provided as part of national childhood immunization programmes. The coverage of BCG vaccine was 91% in 2016/17.

Prevention of new infections of *Mycobacterium tuberculosis* and their progression to tuberculosis (TB) disease is critical to reduce the burden of disease and death caused by TB and to achieve the End TB Strategy targets set for 2030 and 2035. The targets of an 80% reduction in TB incidence from the 2015 level by 2030, and of a 90% reduction by 2035, will require a historically unprecedented acceleration in the rate at which TB incidence falls after 2025. This accelerated rate (an average of 17% per year between 2025 and 2035) is possible only if the probability of progression from latent TB infection (LTBI) to active TB disease among the approximately 13 million people already infected in Nepal is substantially reduced. Health-care interventions that could help to cut the risk of progression from LTBI to active TB disease include more effective drug treatments for LTBI and development of a vaccine to prevent reactivation of LTBI in adults.

Nepal has three major categories of health interventions that were done for TB prevention in 2017/18:

- Treatment of LTBI – Through isoniazid daily for 6 months, with particular attention to people living with HIV (PLHIV) and children under 5 who are the contacts of bacteriologically confirmed TB cases;
- Prevention of transmission of *Mycobacterium tuberculosis* through infection control; and
- Vaccination of children with the Bacille-Calmette-Guérin (BCG) vaccine.

The three main sections of this chapter present and discuss the status of progress in the provision of these services.

7.1 Treatment of latent TB infection

LTBI is defined as a state of persistent immune response to *Mycobacterium tuberculosis* without clinically-manifested evidence of active TB disease. There were one particular risk groups for whom specific efforts to diagnose and treat LTBI were done which were among PLHIV.

7.1.1 People living with HIV

There has been a considerable increase in the provision of preventive TB treatment in recent years. As shown in the table below, PLHIV started on preventive treatment has increased from 43 in the year 2014 to 2044 in the year 2017.

Table 7.1: Number of PLHIV enrolled in IPT

Year	Number of PLHIV enrolled in IPT
2017	2044
2016	1929
2015	1886
2014	43

Most of this progress has occurred following the introduction of a four-symptom algorithm for screening for TB among people living with HIV.

7.1.2 Children contacts under 5 years of age who are household contacts of TB cases

Children under 5 years of age who are in contact with TB cases are in high risk of developing TB due to a low immune system. Even though the importance of IPT among children under 5 has always been identified in NTP, IPT was only initiated in the year 2017. Initiation of IPT among children under 5 years old have been highlighted in National Strategic Plan of TB, 2016-21, and NTP has been implementing IPT among children under 5 years old, in 38 high burden districts of Nepal where contact tracing is being done (Fig. 7.1). The total number of children enrolled in IPT was 613, out of which 46% had already completed the therapy, 50% were still under the therapy and 4% of children discontinued the therapy.

Figure 7.1: District with contact tracing and IPT



NTP will now be transitioning into 3months of Isoniazid and Rifampicin (3HR) and replace 6 months of Isoniazid as a preventive therapy for the children under 5 years who are the contacts of bacteriologically confirmed pulmonary TB.

7.2 TB infection control

TB infection control is one of the key components of the End TB Strategy. The risk of TB transmission is high in health-care and other congregate settings. This puts health-care workers at greater risk of TB infection and disease, and nosocomial outbreaks of DR TB.

TB infection control as part of national infection prevention and control policy and TB infection programmes at the national and subnational level have been envisioned in NSP-TB 2016/21 as well as several interventions have been planned to achieve it.

Currently, as a part of infection control, 21 DR treatment centers were provided with exhaust fan, Ultraviolet germicidal irradiation (UVGI), N95 mask and a simple surgical mask. Beside this infection, prevention sessions are incorporated in all TB related training.

As a part of administrative infection control NTP has also initiated FAST (Finding Actively, Separate temporarily and Treat effectively) approach in 15 major hospitals of Nepal. FAST is intensified, refocused administrative approach to TB transmission control in healthcare facilities. Active case finding with cough screening followed by rapid molecular diagnostics, which enables prompt treatment of unsuspected drug-sensitive and drug-resistant TB, thereby decreasing TB transmission. The basic principle for FAST is as follows:

- TB is spread in institutions predominantly by coughing patients with unsuspected TB or unsuspected drug resistance
- Most potentially infectious patients can be identified by cough surveillance
- Coughing TB patients most likely to be infectious can be diagnosed using rapid molecular sputum tests
- By dramatically reducing the duration of institutional exposure through effective treatment, transmission among patients and to health care workers will be reduced proportionately

7.3 BCG Vaccination

BCG is the only vaccine that is currently available in Nepal. A more effective vaccine to reduce the risk of infection with *Mycobacterium tuberculosis* and the risk of progression from infection to active TB disease in adults is needed.

BCG vaccination has been shown to prevent disseminated disease; this category includes TB meningitis and miliary TB, which are associated with high mortality in infants and young children. As per the Annual Report by the Department of Health Services 2016/17, National Immunization Programme (NIP) is one of the government's highest priority programmes. It made a large contribution to Nepal's achievement of Millennium Development Goals (MDG) 4 and 5 by reducing morbidity and mortality among children and mothers from vaccine-preventable diseases.

Table 7.2: Coverage of BCG vaccine has increased in 2016/17 compared to the previous year

Immunization	2071/72 (2014/15)	2072/73 (2015/16)	2073/74 (2016/17)
% of children under one year immunized with BCG	94	87	91

Annual Report, Department of Health Services, 2016/17

CHAPTER 8: UNIVERSAL HEALTH COVERAGE, SOCIAL PROTECTION AND ADDRESSING SOCIAL DETERMINANTS

8.1 Social Protection Programme in NTP

8.1.1 Skill Development Trainings to Drug-Resistant Tuberculosis Patient (DRTB)

National Tuberculosis Programme (NTP) has been implementing skill training to DRTB patients since 2009. Around 100 DRTB patients were already trained on different vocational trainings e.g. candle making, file and folder making, tailoring, mobile phone repairing, electrical wiring, motorbike or repairing training. This training has been supporting the patients to integrate into their society and continued their skills for their livelihoods. This support also helped to motivate and encourage completing their treatment.

8.1.2 Nutritional and transpiration allowances

NTP has been providing nutritional and transportation allowance to DRTB and retreatment cases in the country. During the reporting year, 1886 DRTB patients received nutritional and transportation allowances (NPR 3,000 per patient/month). Similarly, 2,704 retreatment TB cases also received the same allowances (NPR 500 per patient/per month). This support also helped to motivate and encourage completing their treatment.

8.1.3 Hostel facilities

During the reporting year, 6 hostels and 1 Drug Resistant (DR) home located in different part of the country offered accommodation, food, treatment, and care supports to the needy DRTB patients for intensive phase of treatment. Altogether, 210 DRTB patients benefited from the hostels throughout the year. This support also helped to improve treatment adherence of the patients.

8.1.4 Diagnosis and Treatment support

NTP provided diagnosis and treatment support to presumptive TB patients, basically TB diagnostic support for malnourished or ARI children- every presumptive TB cases among malnourished get support up to 3500 for diagnosis other than free services (Gene-Xpert, culture, sputum microscopy) provided to them, similarly they also get NRs 2000 for travel and accommodation to reach to referral hospitals from Global Fund support. Likewise, there was a budgetary provision (NRs 2000) for the travel and accommodation for DST in Gene-Xpert for all presumptive DR patients through GoN source in 40 districts of Nepal, other districts are covered by sputum courier mechanism through SR from Global Fund support.

CHAPTER 9: NATIONAL TB PREVALENCE SURVEY

9.1 Introduction

The TB prevalence survey is a nationally representative survey. The cross-section study with multi-stage sampling design intends to include 57,610 participants from 99 clusters from different strata of KTM Valley, Hill, Mountain, and Terai region of Nepal. The survey aims to support a national strategy to END TB and to reduce the case incidence by 20% in 2021 compared to 2015. The survey will determine the true burden of TB that will support to formulate the national-level strategy to achieve the national target to end TB by 2030.

9.2 Objective

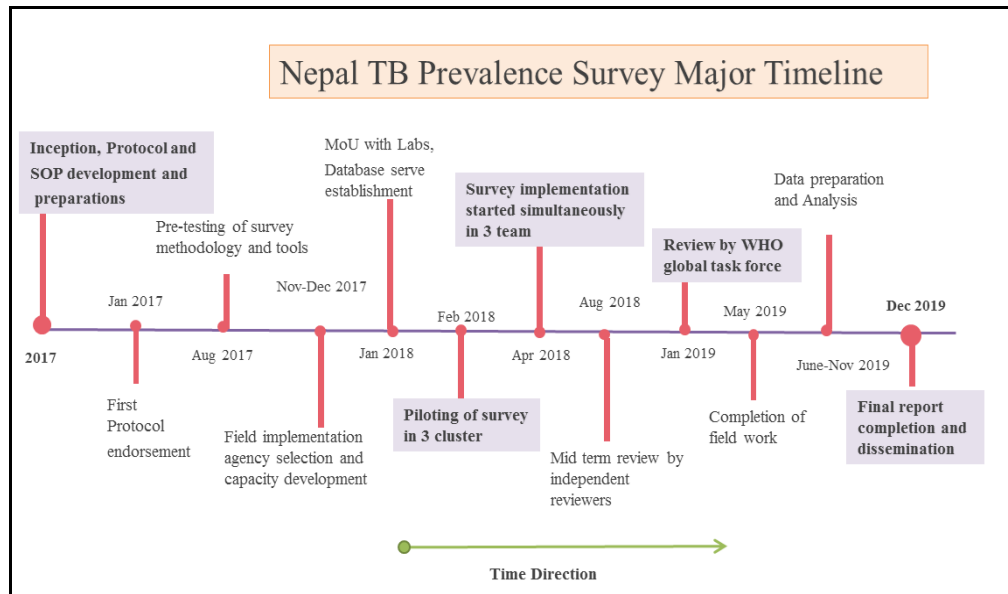
The major objectives of the Nepal TB prevalence survey are as follows:

- To measure the prevalence of overall Xpert MTB/RIF detected pulmonary TB among 15 years population in Nepal in 2018/19.
- To extrapolate the prevalence of bacteriologically confirmed TB prevalence based on the results of culture and Xpert MTB/RIF tests.
- To describe the health seeking behavior of people with TB symptoms.
- To describe the health service (TB services) utilization practices of participants who have or had TB.

9.3 Major Timeline

The first protocol was endorsed by the TB prevalence survey steering committee chaired by Health secretary on January 2017. The field testing of the survey tools and methodology was completed on August 2017, followed by piloting of the survey in Dolakha, Sindhuli and Bhaktapur districts representing three different terrains of Mountain, Hill and Urban settings respectively. After making necessary amendment in the survey protocols and standard operating procedures based on the findings from the piloting, the survey was launched in April 2018 with three different teams mobilized simultaneously across different sampled clusters.

Figure 9.1: Nepal TB prevalence Survey Major Timeline

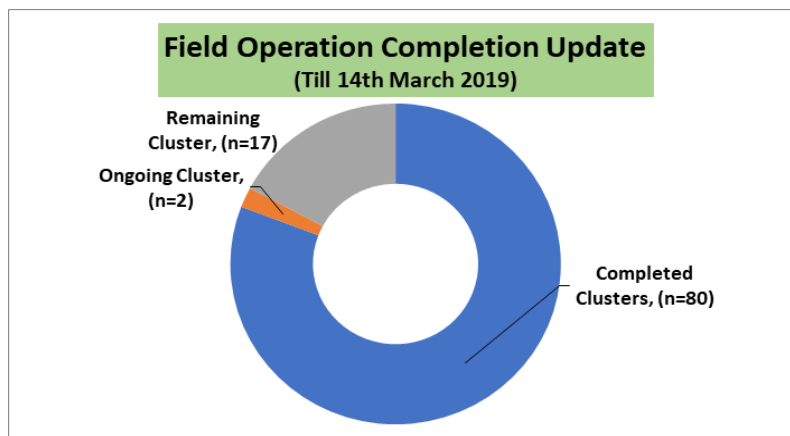


The independent consultant team completed a mid-term review on August 2018 which was followed by a visit from WHO TB global task force for post-mid-term review on January 2019 that quoted the Nepal TB prevalence survey as one the best that has been implemented till date.

9.4 Survey Status

The field operation for the Nepal TB prevalence survey is almost near to the end now where almost 80 clusters have been successfully completed among the total of 99 clusters till 14th March 2019, while the field operation is currently underway in 2 clusters. The field operation for the remaining 17 clusters will be completed by May 2019.

Figure 9.2: Field Operation Completion Update



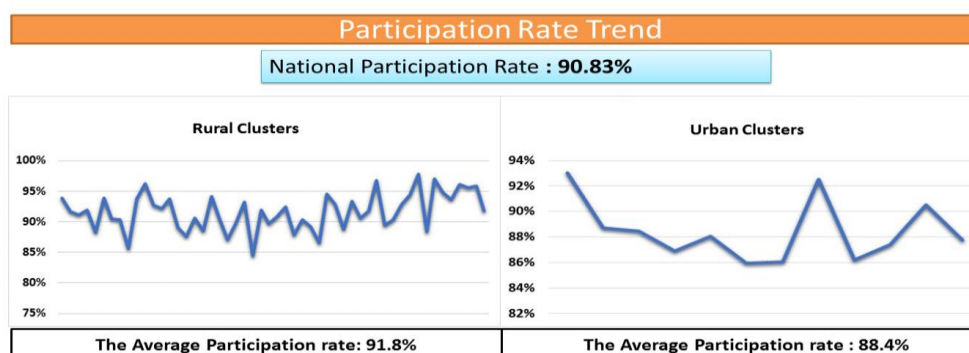
9.5 Major findings

9.5.1 Participation rate

The survey participation rate is the prime indicator for measuring the success of the national TB prevalence survey with the higher participation rate would indicate more representativeness and higher reliability of the whole procedure with a lower risk of selection bias. Internationally, a participation rate of over 85% is often considered as the benchmark for good participation rate. The national average participation rate for Nepal TB prevalence survey (based on 80 completed clusters) is nearly 90.83%, which represent major success especially considering the geographical, logistical and technical challenges posed by highly sophisticated nature of the survey.

The meticulous planning, strategies to involve local volunteers and mobilizers, engaging local stakeholders and health workers, intensive mop-up, establishing a network with supporting partners and strong leadership from National TB Center are the key factors for the overall success of the survey.

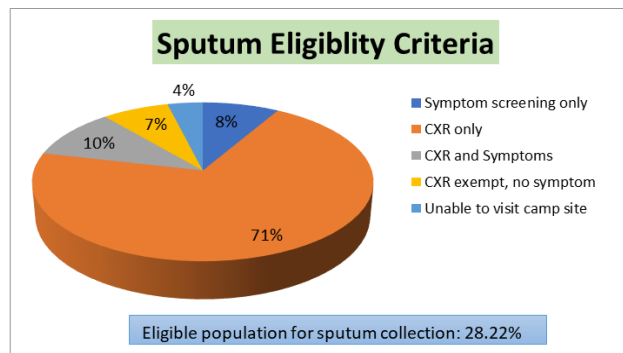
Figure 9.3: Participation Rate Trend



9.5.2 Sputum Eligibility Criteria

In general, nearly 28.22% of participants were eligible for sputum collection. The large proportion of sputum eligibility was based on “Chest X-ray only” that constitutes almost 71% of total sputum eligible participants, while about 8% of participants were eligible through “Symptom Screening only”.

Figure 9.4: Sputum Eligibility Criteria

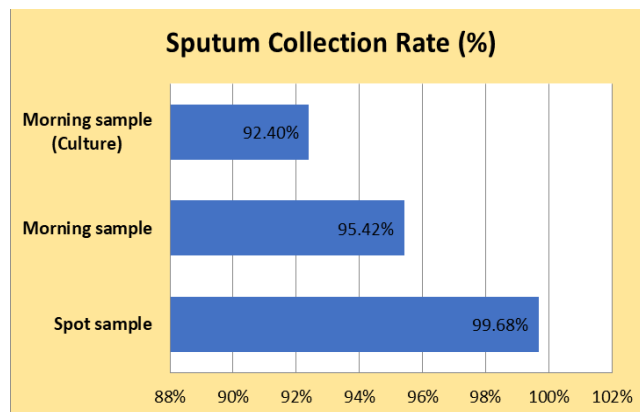


However, only 10% of participants were found to be sputum eligible by both chest X-ray and symptom screening. Likewise, around 7% and 4% of total sputum eligible participants were due to X-ray exemption without symptom and unable to visit the campsite respectively.

9.5.3 Sputum Collection Rate

The high sputum collection rate, over 90% for all types of samples that includes spot samples, morning samples and morning samples (culture), is another major highlight of the survey.

Figure 9.5: Sputum Collection Rate (%)



The sputum collection rate is vital for the TB prevalence survey since the prevalence of TB is based on Gene-Xpert confirmed TB cases in the specimen prepared from collected sputum samples

9.6 Conclusion and future strategy

The immediate priority for the national TB prevalence survey is to complete the field operation within the set timeframe. The next step after successful completion of the field operation is to make necessary preparation for data validation (verification/editing/coding) and data analysis. The central team lead by NTC and RIT

Japan is planning to take an active role in data analysis and final report writing. Therefore, the capacity building plan of the central PS data analysis team will be explored and the team will be fully trained before the initiation of the data analysis.

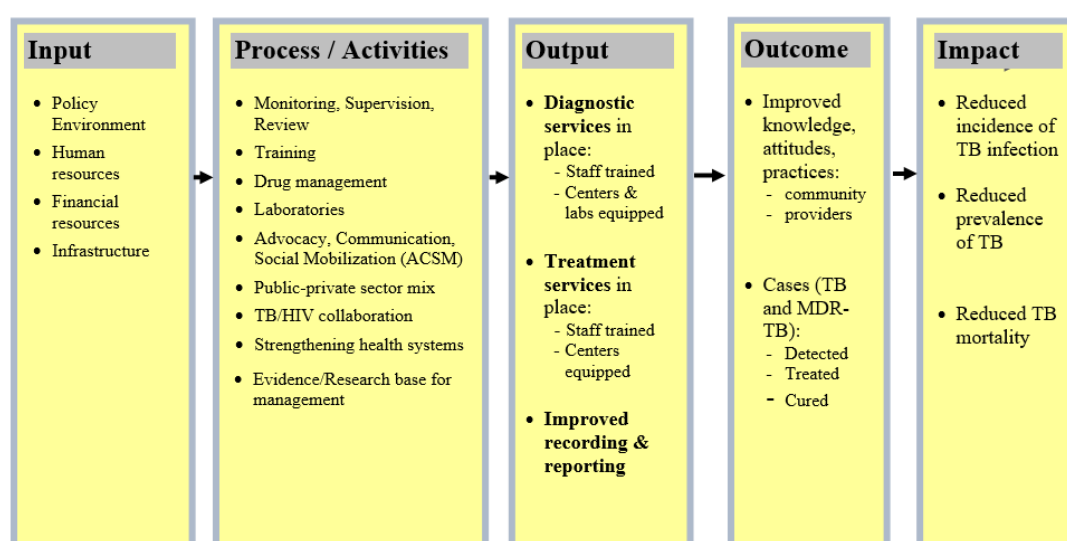
Finally, after completion of Nepal TB prevalence survey, there would be an abundance of data (evidence) that could potentially guide national level policy to eliminate TB as a major public health burden by 2030. Therefore, the strategy to utilize the available data and conceptualizing major activities/interventions for strengthening national TB program has to be the major future priorities and way forward in the post-prevalence survey era, beyond 2019.

CHAPTER 10: PLANNING, MONITORING, AND EVALUATION

10.1 Planning, Monitoring & Evaluation

National Tuberculosis Centre is responsible for formulating long and short terms strategy and plans to fight against Tuberculosis throughout the country Planning and implementation of National Tuberculosis Programme (NTP) is guided by National Strategy Plan (NSP). Currently, NTP is implementing its activities as per the strategy, objectives, and targets of NSP 2016-21. NTC also develops and revise its annual work plan based on strategic information and recommendations of Palika and Province.

M&E Framework of NTP



10.1.1 NTP Monitoring System

Current characteristics of the TB surveillance and vital registration systems

The Nepal NTC oversees a traditional, paper-based system that aggregates data as it moves from Palika, Province to center. The paper-based system relies on health facility staff to compile aggregate 4-monthly data reports for health coordinators at Palika office. These are reviewed for timeliness, completeness, and accuracy at the Palika level before being collated and brought to the Province and national levels for further review. Health facility staff also compiles aggregate data on a monthly basis for the Data Section at Palika which is then entered into the web-based Health Management and Information System (HMIS). Currently, these two systems are running in parallel. However, HMIS data entry is running several months behind and is currently reporting 25% fewer cases than the TB recording system. HMIS has upgraded its online reporting system into DHIS 2 from 2016 which also incorporates

the NTP R&R system. On the other hand, NTC has developed web-based and case-based recording and reporting system.

Although NTP has already rolled out a web-based eTB register at all districts for case-based reporting of TB cases. But at the federal context, NTP has identified Palikas as its reporting unit. Hence NTP has planned to roll out eTB at Palika level by the end of next fiscal year. The system will generate graphs and figures, cross tabulation and feedback for them. Similarly, NTP has also developed online web-based, case-based recording and reporting system for MDR TB, GX-Services, C/DST laboratory and sputum microscopy which has been rollout at all service sites.

Supervisory visits to the health facility are carried out by the health coordinators of respective Palika, and data are monitored using a supervisory checklist. Staff at the central level collect the aggregate data in numerous Excel spreadsheets and there is currently no central database. The paper-based surveillance system is well established in the field. All service delivery points systematically use standardized TB collection forms and tools to ensure uniformity. These have recently been updated for 2013 WHO definitions and have been rolled out with training at the health facility, Palika and Province level.

There are clearly defined goals for the surveillance system in the National M&E Plan, including national guidelines for recording and reporting TB cases, which exist in manuals, training materials and in recording and reporting tools.

Data are mostly reliably transmitted on a 4-monthly basis from lower to higher administrative levels (health facility -> Palika-> Province > national) and are checked along the way by the health coordinator at Palika, focal person for TB at Palika and national-level staff. A large proportion of time spent at the 4-monthly meeting from Province to Palika involves collating data, epidemiological analyses, providing systematic feedback on data quality, and discussing issues or problems that have arisen in the field. A year's data is usually ready for analysis by August of the following fiscal year; detailed annual reports are produced, mainly reporting last year's data. In some Palikas, there is good integration of the private sector where cases are notified to the NTC but in other Palikas, the private sector is not reporting to the NTP, the number of cases treated by the private sector and nursing homes is unknown. These cases are not reported.

The MDR surveillance system is efficient and strong with one central national MDR-TB register which is updated on a monthly basis and regular review meetings are carried out in which data quality is examined and patients are discussed. Timeliness of data collation at the national level could be improved with the introduction of online web-based and cased based reporting system based on DHIS-2.

Treatment Centers located in health institutions from tertiary hospitals down to community-level health posts. The DOTS centers provide the TB diagnosis; observed treatment (DOTS); monitoring of treatment outcomes; reporting of TB cases; and maintains a TB register.

Since the main strategy for TB control is to identify and cure infectious patients, NTP's key targets and indicators relate to case finding of new infectious (Pulmonary Bacteriologically Confirmed TB) patients and to treatment outcomes. Monitoring of treatment outcomes relies on a cohort analysis of patients registered during defined periods of time (every four months in Nepal). These cohorts are followed throughout the duration of treatment, their outcomes are recorded, and the proportion achieving treatment success (sum of those cured and completed treatment) is calculated.

The NTP monitoring and evaluation system has at its core the following documents and tools, copies of which are kept in the NTC:

- Four-monthly (trimester) reporting forms detailing the following data
 - Patient data for basic DOTS and MDR TB management:
 - Case finding [gender for all types, but age-groups by all new and relapse cases (bacteriologically confirmed or clinically diagnosed)]
 - Sputum conversion of sputum positive (bacteriologically confirmed) TB cases by type
 - Treatment outcome by type
 - Drug utilization and requirements
 - Program activities:
 - DOTS clinics and coverage expansion, participating laboratories,
 - Target vs. achievements (based on Palika level work plan) of smear examination, training, and advocacy, supervision, etc.
- Laboratory: Sputum smear examination report for quality control forms
- Supervision & Monitoring Checklist
- Sub-Recipient (SR) Reporting Template
- MDR TB central register

Documents kept at treatment Center level include:

- TB patient register,
- Tuberculosis patient treatment card
- Laboratory register
- Store register

The forms and procedures generating these reports are described in Section 5, Data Collection and Reporting.

10.1.2 M&E Management

The NTP has a well-established monitoring and evaluation system with the central unit, Statistics, and Planning Section, at the National Tuberculosis Center (NTC). However, there might be changes in the structure of the health management system in the context of the federal system. M&E structure and management of NTP are

dependent on what and how the structure of the health system is set at local, provincial and central government.

Currently, the routine monitoring and reporting activities within the NTP are managed by staff at four levels:

- **National:** The statistical officer-undersecretary (under the overall supervision of NTC Director) is in charge of the Planning, Monitoring, and Statistical Section, assisted by a statistical officer and a computer officer. An M&E team (including M&E Specialist, M&E Coordinator, Data Management Coordinator, Data and IT Officer) is added in the unit as M&E staff (temporary government employee) at central level with GF support. The team supervises M&E activities associated with the GF grants as well as provides support for budgeting and planning of annual NTP activities and in the preparation of annual and other periodic reports. With the establishment of a Program Management Unit (PMU) to support NTC's management of GF grants, the M&E staff funded by the GF are administratively located in the PMU, while their activities are directly coordinated with the Planning, Monitoring, and Statistical Section.
- **Province:** In each Provincial Health Directorate (PHD), there is a focal person to coordinate with Palikas on the planning, implementation, monitoring, evaluation, and reporting of TB activities in their respective Province to the NTC. Focal person for TB at Provinces report to NTC, coordinate with the respective health coordinators at Palika. At present, there are seven provincial TB coordinators funded through GF to assist with supervision, monitoring, and reporting in all seven Provinces of Nepal. Utilizing local funds, NTC employs an additional seven provincial TB supervisors to assist with supervision, monitoring and reporting in all Provinces.
- **Palika:** Within each Province, there are Palikas, local governing bodies, to look after the planning, implementation, monitoring, evaluation and reporting of TB activities at/from the health facilities within the Palika. Health coordinator at each Palika office looks after the activities implemented by NTP. The responsibility of health coordinator is to coordinate and report on the NTP from their respective Palika, to Province and thereby, to NTC.
- **DOTS Center:** The DOTS Center in-charge completes the TB register and relevant NTP forms

All these staffs have defined responsibilities and work according to fixed timelines and targets.

Data Collection Sources

Data sources primarily come from the routine reporting based on health services statistics which originate in the TB Register, patient TB cards, laboratory registers, etc. Outside of the routine reporting are two surveillance systems: TB/HIV co-infection and MDR TB.

Data from the patient TB cards are recorded in the TB register at the DOTS Center level. The DOTS Center staff aggregate the patient data to complete the monthly forms. These forms are submitted to the health coordinator at Palikas and are entered into web-based online software by the 20th of the following month. TB focal person at Province reviews and validates the summarized data of his/her respective Palikas at the time of trimester PME workshop in coordination with the Statistical Officer, and which later submits to NTC. Apart from this, from FY 2016/17 onwards, districts used to feed the individual data of TB patients in eTB register. At the federal context, Palika will be responsible for reporting in eTB register. NTP has planned to roll out eTB register at each Palikas by the end of 2019. Reported information has been used by NTC to triangulate reported TB cases in HMIS for assurance of data quality.

Table 10.1: Summary of Data Sources

Data Source	Type of Data	Frequency of Collection	Institutional Responsibility
TB Registers	<ul style="list-style-type: none"> Case Detection Sputum Conversion Treatment Outcome 	Monthly Four Monthly	HMIS Trimester Review
Laboratory register, etc.	Slides examined <ul style="list-style-type: none"> Positivity Quality 	Every 4 months	NTC
Gene-Xpert Register	TB cases tested <ul style="list-style-type: none"> MTB with RIF Resistant MTB with RIF Sensitive 	Every 4 months	NTC
C/DST Register	TB cases tested TB Cases Detected Susceptible TB Cases with first-line TB drug resistance/sensitive MDR TB Cases with second-line TB drug resistance/sensitive		
MDR TB Register	<ul style="list-style-type: none"> Case Detection Sputum Conversion Treatment Outcome 	Every 4 months	NTC
National MDR-TB Survey	TB Information on TB cases resistant to first-line TB drugs (rifampicin and isoniazid)	Regular, and every 2-3 years from sentinel sites	NTC / GENETUP
Surveillance of HIV among TB patients	Information on HIV burden on TB Information on TB burden on HIV	Regular, and every 2-3 years from sentinel sites	NTC
Trimester SR Report (non-government data)	Achievements against agreed work plan	Every 4 months	NTC PMU

Data Quality Assurance

The quality of M&E data is assured through several independent approaches or methods:

- assigning M&E activities to staff and training them on the activities;
- verifying the accuracy of reported data;

- examining the consistency among data from several sources (“triangulation”).

In addition, data quality is supported through the use of unique patient identifiers (to ensure patient tracking for cohort analysis and to reduce the risk of double counting) and through training reports.

Data Review

The review of data is conducted in two ways:

- internal checking (paper-based) for consistency, and
- Direct observation during supervisory visits.

Internal checking for consistency

The heart of the NTP’s M&E system is the DOTS workshop, where DOTS Centers meet at Palikas to review their data before submitting it to the Provinces. During the provincial trimester Planning, M&E workshops, the focal person present their Palika wise data for the previous four months, review each other’s data, identify problems, and plan how to resolve problems.

Current data are discussed in the context of data from previous reporting periods. Examples of problems identified during these reviews are: case findings are lower or higher than expected or compared to the previous reporting periods; fatality or default rates are higher than expected. Findings and discussions lead directly to plans for the following trimester (including planning needed follow-up visits and changes).

At the national level, the Planning and Statistics Section staff review data submitted by the GoN and INGO health facilities. When data appear inaccurate or insufficient, NTC staff contact the relevant Province or Palika to solve the problem.

Direct observation

When a problem is identified by an individual or the group, the health coordinator at Palika, Province, and Provincial TB Coordinator lead the process for resolving the problem. Normally, they visit the DOTS treatment center that is the source of the data, where original records and logistic stocks will be examined. In the meantime, the questionable data are entered into the system, with a note that these are pending till final resolution or confirmation is reached.

Observation, using a supervision checklist, of data records, supplies, and services occurs during NTP’s routine supervision system.

Re-checking a sample of sputum smear slides

A sample of slides, based on lot quality assurance system (LQAS) is re-checked by the Provincial Quality Control Assessor, and feedback is provided to the sending laboratory. Slides on which the assessor disagrees with the sending laboratory are sent to the National QC Assessor, who makes the final decision and determines the need for supervision and training. Laboratory procedures are described in the TB Laboratory Training Module and the TB Laboratory Manual.

Triangulation

Triangulation examines the relationship and consistency among data from different sources to determine the level agreement among them; greater agreement of results

from these sources increases confidence in the data. These cross-checking activities (Table 10.2) are carried out at various levels.

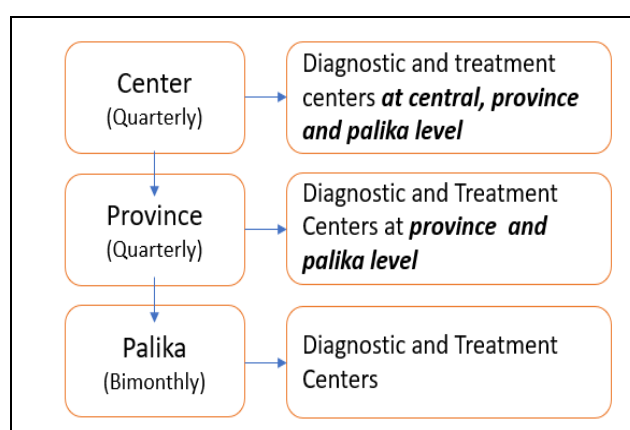
Table 10.2: Data Quality Assessment Using Triangulation

Triangulation Activity	Frequency	Who
Checking the TB patient treatment card against the TB register, and the laboratory register	During supervision visits	Health Coordinator at Palika and Province, provincial TB coordinator, NTC staff
Analyzing the number of patients, amount of drugs needed, drug stock movement, analyzing consistency between reporting periods	Every 4 months (DOTS Workshop)	Health Coordinator at Palika and Province, provincial TB coordinator, NTC PSM Coordinator
Comparing trends in HMIS reports with trends in NTP reports generated from e TB register	Every 4 months	Health Coordinator at Palika and Province, provincial TB coordinator, NTC M&E Staff
Data Quality Review (DQR) with the standard tool in selected service sites	Every Year	DTLO/A, NTC M&E Staff

Supervision System

Supervision and monitoring are carried out through regular visits to all levels of the service delivery points as per NTP policy. In addition to supervision and monitoring, quarterly reporting of activities is carried out at the trimester Planning, Monitoring and Evaluation (PME) workshop at all levels.

Figure 10.1: Supervision system & Schedule



10.1.3 NTP Data Review System

The NTP maintains a regular monitoring system, which includes case finding, smear conversion, treatment outcome, and programme management reports from all levels. Data is initially analyzed by the Palika level; during the Palika level Planning, Monitoring and Evaluation workshops. Health coordinator of Palika report on treatment center-level data during the Provincial Planning, Monitoring, and

Evaluation workshops. Finally, focal person for TB at Provinces report at national PME workshops. Planning, Monitoring and Evaluation workshops take place every four months each level.

Figure 10.2: Monitoring & Evaluation

International	International Review	Annual
National	National Reporting & Planning Workshop	Biannual
Provincial	Provincial Reporting & Planning Workshop	Biannual
Palika level (Local body)	Palika Level Reporting & Planning Workshop	4 monthly
Treatment Centre	Treatment Center Reporting & Planning Workshop	4 monthly

CHAPTER 11: TB FINANCING

11.1 Financial Status of NTP

The responsibility for the NTP resides with NTC, Ministry of Health & Population (MoHP), which sets its annual budget each fiscal year. The total budget of Nepal for FY 2017/18, comprising the figure of NPR 1278.99 billion, out of which NPR 56.53 billion was allocated to the health sector under MOHP. The percentage of the health budget against the total government budget has decreased by 0.66 % from 5.08% in FY 2015/16 to 4.42% in FY 2017/18 including the health budget allocated to the Local level. In FY 207/18, NPR 15.08 billion budget has been allocated to LG in the form of conditional grants for health. The share of the conditional health budget accounts for 6.7% of the total centrally allocated budget to the LGs.

Out of NPR 56.53 billion budget allocated to the health sector, MOHP has provided NPR 1.29 billion budget to the NTP for FY 2017/18 through Red book inclusive of GoN & Global Fund source. This is also inclusive of budget allocated to the LB of NPR 0.12 billion. The percentage of the National TB program budget against the total health budget has been increased by 1.30 % from 2.25 % in FY 2016/17 to 3.55 % in FY 2017/18 though there is the reduction in the health budget as compared to the National Budget. This significantly resembles that MOHP is also very keen on providing all sorts of resources in controlling the TB program, which is expected to grow as the year passes and this demonstrates commendable political commitment to fight TB in Nepal. Besides this, there is also substantial increment on the part of funding through government sources as provided in below table 11.1

Table 11.1: Funding Trend

FY	Budget in NPR	Budget in USD	% Increment
2015/16	694,179,000	7,083,459.18	
2016/17	856,611,000	8,014,098.87	13%
2017/18	1,045,672,000	9,782,875.53	22%

Next, to the government contribution, the NTP has a longstanding history of external financial support from international sources. The grant relating to the Global Fund from F/Y 2015/16 was operated through the costed extension plan of NSA phase with the Save the Children International as PR & NTC as a main implementing partner. The signing of a tripartite agreement between the MOH, Save the Children & the GFATM was executed on the 6th of November 2015 followed by the MOU between DOHS & Save the Children on dated 24th November 2015 to implement the Global Fund 12 month's costed extension of TB program with the approved budget of USD 8.6 million. After completion of the 1st phase of costed extension plan for the period FY 2015/16 again there was signing of tripartite agreement between the MOH, Save the Children & the GFATM as executed on the 17th of October 2016 followed by the MOU between DOHS & Save The Children on dated 25th October, 2016 to successfully implement the 20 months costed extension (16th July 2016 to 15th

March 2018) of TB program in Nepal with the approved budget of USD 11.16 million.

Along with the Global Fund, LHLI was also the major contributor to the national TB program until December 2017.

The funding for TB control program is channeled through the Red book & Non red book activities where budget reflected at Red book is operated through the central treasury system and for Non red book-related activities, financial management is made by the EDPs in close collaboration with NTC and NTC acting as the main implementer of both Red book as well as Non red book activities.

The table below provides the details of financial contribution made on the various period for the National TB Program including both Red book as well as Nonred book activities.

11.2 Statement of Contribution

Table 11.2: Source - Budget

Period	Source-Budget (USD)				
	GON	Global Fund	LHL	WHO	Total
FY 2014/15	4,386,044	11,619,608	191,022	25,883	16,222,557
FY 2015/16	7,083,459	8,612,289	113,020	-	15,808,768
FY 2016/17	8,014,099	3,139,632	166,576	-	11,320,307
FY 2017/18	9,782,876	7,996,909	51,902	-	17,831,687

Above table 11.2 shows the significant growth in the domestic resources as compared to the EDPs contribution where from FY 2017/18 onwards NTP has exercised the federal system by allocating the budget to the LBs.

Below table 11.3 reflects the financial performance made on the FY 2017/18 under various intervention.

Table 11.3: Financial Performance on the FY 2017/18

Intervention	GoN		Global Fund		LHL		Total		Utilization
	Budget	Exp	Budget	Exp	Budget	Exp	Budget	Exp	
Improving Case detection & diagnosis	2,868,170	1,783,635	2,745,970	2,551,929	-	-	5,614,141	4,335,564	24.31%
Treatment, care & Patient Support	668,139	319,546	440,226	344,396	21,129	20,214	1,129,494	684,156	3.84%
Collaborative TB/HIV activities	84,200	47,474	77,921	71,934	-	-	162,121	119,408	0.67%
First-line drugs procurement and management	753,125	66,066	222,457	-	-	-	975,582	66,066	0.37%
MDR-TB drugs and management	421,001	12,103	536,828	920,011	-	-	957,829	932,114	5.23%

Other Drugs, Consumables and Management	479,624	367,881	129,875	37,635	-	-	609,499	405,516	2.27%
Involving all care providers: PPM/ISTC	60,624	20,994	47,229	38,511	-	-	107,854	59,505	0.33%
Community involvement	215,104	69,390	197,828	62,024	18,848	19,548	431,779	150,962	0.85%
HRD: Staff	641,045	431,390	589,331	619,396	10,630	10,630	1,241,006	1,061,416	5.95%
HRD: International technical assistance	-	-	346,779	325,943	-	-	346,779	325,943	1.83%
HRD: Training, Workshops & capacity development program	497,624	361,174	415,069	353,273	-	-	912,693	714,447	4.01%
Infection control	-	-	65,963	41,911	-	-	65,963	41,911	0.24%
M&E & Supervision	860,564	700,837	613,597	602,631	-	-	1,474,162	1,303,468	7.31%
Survey	1,057,181	877,515	671,659	414,774	-	-	1,728,840	1,292,289	7.25%
Programme management	1,176,474	369,545	896,177	709,635	1,296	1,357	2,073,948	1,080,536	6.06%
Total	9,782,876	5,427,551	7,996,910	7,094,005	51,902	51,748	17,831,687	12,573,303	70.51%

11.3 Statement of Financial Performances for the period FY 2017/18

As we can observe that in FY 2017/18 the budget consumption/absorption capacity of National Tuberculous Program has been significantly increased from 62 % which was of last year to 70.5%. This clearly spells out that National Tuberculosis program is fully dedicated for the betterment of TB patients making the optimum utilization of financial resources available. But only financial allocation to the LBs through domestic sources have been taken into consideration whereas its expenses record could not be tracked due to the unclarity reporting mechanism in the changing federal context. Regarding the Global Fund grant period ending in March 2018, the period from July 2017 to March 2018 has been taken into consideration on the annual report.

CHAPTER 12: RESEARCH AND DEVELOPMENT

12.1 Background

The research activities are spearheaded by the chest physician at the National TB Center. One research officer and one Public Health Nurse also constitute as the members of this team. NTC carried out the following research activities in the fiscal year 2017/18.

12.2 TB Prevalence Survey

The TB prevalence survey is currently being rolled out across 55 districts of Nepal. The cross-section study with multi-stage sampling design intends to include 57,610 participants from 99 clusters from different strata of Kathmandu valley, Hill, Mountain, and Terai region of Nepal. The survey aims to support a national strategy to END TB and to reduce the case incidence by 20% in 2021 compared to 2015. The survey will determine the true burden of TB that will support to formulate a national-level strategy to achieve the national target to end TB by 2030.

The field operation for the Nepal TB prevalence survey is started while the field operation will be completed by May 2019.

12.3 Tuberculosis infection control measures at health facilities providing tuberculosis services in Nepal

Globally there were an estimated 10.6 million new tuberculosis patients and 1.7 million deaths from TB in 2016. There is evidence of tuberculosis transmission at health care settings where health care workers and patients come in contact with people having tuberculosis. this study aims to explore infection control measures at health facilities in terms of administrative, environmental and personal protective measures needed for infection control.

All the selected health facilities participated in the study. Around 44% of health facilities have infection prevention plan, but very few of them have budgeted for tuberculosis infection control activities. Less than one-third of health facilities (24 out of 79 HFs) have provision to separate presumptive tuberculosis patients, however, only 50% (12 HFs) have turned such provision into action. Only 15 HFs (38%) out of 40 HFs having mask had N95 or FFP2 mask for health workers. Around half of the HFs (44%, 35 out of 79) were found to have cross ventilation.

The survey concludes Tuberculosis infection plan needs to be developed and implemented by all the health facilities to strengthen administrative, managerial, environmental and personal protective measures of inaction control to minimize the risk of TB transmission at health facilities.

12.4 Sentinel Surveillance

1. HIV Infection among Patients with Tuberculosis in Nepal

This sentinel seroprevalence survey was conducted for measuring HIV prevalence among TB patients. The survey was conducted at six sentinel sites namely NATA Biratnagar, Morang; National TB Centre, Thimi, Bhaktapur; WRH Pokhara, Kaski; UMN Hospital, Palpa; TB Nepal, Nepalgunj, Banke; Mahakali Zonal Hospital, Kanchanpur. These centers have a high caseload of TB patients and serve as referral treatment centers. The determined and required sample size for the survey was 1672. It is found that 2.5% of newly TB patients had HIV. Also, this study lineout a significantly higher percentage of the TB patients who belonged to Madhesi/Muslim caste were HIV positive. HIV was higher among those who believe Islam/Kiratism/Christian than other religion. HIV incidence was significantly higher among those TB patients who had been involved in labor and housewife than those who had a job. The study concluded Progress towards universal access to prevention, treatment, and care for people living with HIV will not be met if they are dying from TB. Therefore, collaborative approaches to TB-HIV co-infection could, quite simply reduce long-term health care costs and most importantly, ensure that more lives are saved.

2. Tuberculosis among HIV Positives in Nepal

An institutional based prospective survey (sentinel surveillance) was conducted for measuring the prevalence of TB among people living with HIV (PLHIV). The survey was conducted at six sentinel sites namely BP Koirala Institute of Health Sciences, Dharan, Sunsari ,Sukraraj Tropical and Infectious Diseases Hospital (STIDH),Teku , Kathmandu, Tribhuvan University Teaching Hospital (TUTH), Maharajgunj, Kathmandu, Western Regional Hospital, Pokhara, Kaski, Bheri Zonal Hospital , Nepalgunj, Banke and Seti Zonal Hospital, Dhangadhi, Kailali. These sites were supposed to have a high caseload of PLHIV and serve as a referral hospital. The survey revealed that almost a tenth (9.9%) of the HIV positive patients had TB. TB incidence among HIV patients varied with background characteristics. It is notable that TB incidence was higher among HIV patients who were FSWs (14.3%) followed by Client of FSW/MLM (12.7%) and PWID (11.4%) compared to general population (8.7%). The study suggested that Compulsory TB screening among HIV-positive patients is mandatory for early detection and treatment which helps to reduce morbidity and mortality.

12.5 Prevalence and risk factors for mental illnesses in patients with drug-resistant tuberculosis in Nepal

A study was done among the patients with drug-resistant forms of tuberculosis and undergoing its treatment. The total sample size was 130 patients. For the inclusion of

patients from treatment centers, 2 treatment centers from each of the 5 development regions were selected with the maximum caseloads. Because the Central Development Region had the highest caseload of all the 5 development regions a total of 3 treatment centers were selected.

The study has shown that the patients with drug-resistant forms of tuberculosis have a high rate of depression in comparison to the general population and it was significantly associated with the duration of illness.

12.6 CHALLENGES IN THE DIAGNOSIS OF DRUG-RESISTANT TUBERCULOSIS BY GENEXPERT MTB/RIF ASSAY IN NEPAL

A total of 48 technical manpower participated in the study. The mean age was 39.95 years and the majority of them (77.3%) were male. The major challenges identified were inadequate training, frequent power failure, difficulty in maintaining an appropriate steady temperature, module failure which is often not replaced in time, issues with calibration and timely availability of cartridges as well as appropriate ways to store the new cartridges and safe disposal of the used cartridges.

Areas for research in Nepal NTP for future

1. Surveillance of HIV MDR-TB & TB Burden
2. GeneXpert Challenges
3. CB-DOTS assessment.
4. Situation analysis of microscopic centers on Nepal.
5. Study on the effectiveness of IPT among risk population
6. Study on Contact Tracing (Early Diagnosis for treatment Adherence)
7. Surveillance of resistance to anti-TB drugs
8. Regular surveillance of XDR TB among MDR TB patients
9. Study on the relationship between Acute Respiratory Infection (ARI) and Tuberculosis on case detection.
10. Impact measurement of the programme through the prevalence survey in the representative sample of the population.
11. Analysis of the issues regarding cross border migration to develop strategies for their diagnosis and treatment.
12. Review of access, acceptability and utilization of NTP services by vulnerable population including women, poor, HIV positive population, slum dwellers etc.
13. Prospective long-term cohort studies among patients registered in the Programme to identify risk factors for failure, death, and default during treatment.
14. Review of NTP progress and impact on the achievement of Millennium Development Goals.
15. Health seeking behavior of the community including delay in TB diagnosis and treatment
16. Diagnostic delay in women and its impact on children
17. Review and analysis of treatment supervision and patient support approaches and mechanism for policy development.
18. The study on the incidence of relapse among cured patients of CAT I using six and eight-month treatment regimens

19. Review of treatment compliance in general population ecological region and ethnic groups.
20. Effects of nutritional status of patients on TB treatment outcomes
21. The burden of TB on the basis of DALYs can be analyzed to see the economic burden on the nation due to TB.
22. Correlation of alcohol and tobacco use with TB relapse
23. Evaluation of the first generation isothermal nucleic acid amplification.
24. Evaluation of fast based DST
25. Assess the impact of training (TB modular and Refresher) conducting for health worker
26. Investment Vs Cases Notification in 30 high burden districts of Nepal

CHAPTER 13: CAPACITY BUILDING AND DEVELOPMENT

Capacity building and development is one of the essential components and core functions of the National Tuberculosis Programme. NTP has defined roles, responsibilities and functions, of the health workforce at all levels of the GoN health system for the National Tuberculosis Programme (NTP). NTP follows a standardized approach and tools for human resource development including the use of standard training schedule and material. Basic TB Modular, Lab Modular, Gene Xpert and Basic TB Management Training for newly recruited staffs and Medical Officer, refresher training and on-the-job training during the supervision, monitoring and review meetings are key ongoing functions of NTP.

Training on Programmatic Management of Drug-Resistant (PMDT)

NTP on PMDT was organized in different District in Nepal. Many participants participated from Different District Health Office, Health Post, PHC and different Hospitals. This training helped to enhance the capacity of participants to manage PMDT training in the health institutions effectively.

Basic Clinical Management training of DRTB

The clinical management of DRTB training was organized by NTC from different health institutions in Nepal. Medical professionals from all over the country participated in the training. This training helped to enhance the capacity of the participants for managing DRTB patients clinically effectively in their work setting.

Clinical Management TB training for Medical Doctors

The clinical management basic training for medical doctors was organized in the National Tuberculosis Center by National Tuberculosis Programme. Twenty medical Doctors in each group from all over the country participated in the training. The training was conducted, 9 groups. The total participants were 175. This training helped to enhance the capacity of the TB Management for managing TB diagnosis and management clinically effectively in their work setting in the hospital and health institutions.

Childhood TB Management training for Pediatricians

Childhood TB management training for pediatricians was organized in Regional level by National Tuberculosis Programme. This training was conducted 3 groups and 25 Pediatrician in each group. The total participants were 70. This training helped to enhance the capacity of Childhood TB diagnosis and management clinically effectively in their work setting in the hospital and health institutions.

Participated in International Conference on TB and Lung Disease

Senior staffs from NTP and DoHS participated in an international conference (Mexico) on TB and Lung's disease organized by the International Union Against Tuberculosis and Lung Disease (IUATLD). The participants got the wonderful opportunity to update and learned about recent changes policies on TB and Lung health, research findings, newer diagnostic tools, drugs, and approaches.

Revised TB training manuals and national TB guidelines

The training manuals for basic TB modular, refresher, DRTB Management, and national programme implementation guidelines were revised based on changed indicators of the World Health Organization. The participants from all over the country engaged to revise the documents, which ensured all levels of participation in the process and incorporated every level experience in the documents.

Following are the details of the training, orientations workshop, and meetings organized by NTP at Central and Regional and District levels during the reporting year.

Table 13.1: National/Regional/District Level Training Activities

SN	Activity	Measurement Unit	Trained Health Workers
1	Basic TB Management training for Medical Officer	Person	175
2	Initial MDR - TB training for newly established MDR - TB center or sub-center, or new staff joining center's (5 days)	Person	195
3	Interaction Programme with NEPAS (Child TB Diagnosis and Treatment Management)	Person	150
4	Data Analysis training (Capacity Building)	Person	20
5	Culture DST training for lab staffs	Person	16
6	Childhood TB Management Training for Doctors	Person	70
7	Software Training for OPD, Store and Lab staffs	Person	45
8	TB Modular Training	Person	2955
9	LQAS Training	Person	385
10	Gene Xpert Training	Person	325
11	Lab Modular Training	Person	120
14	Online eTB Register Training for district level staff	Person	150

CHAPTER 14: LOGISTICS MANAGEMENT

The process of Quantification, Procurement, Distribution, and Storage of drugs

14.1 Quantification

Quantification of TB drugs is done on the basis of:

- Estimated number of cases of different categories of TB
- Annual consumption of medicines and commodities
- Allocated budget
- Pipeline stock
- Stock in hand

14.2 Procurement

- All Procurement from GoN Budget is done as per provisions in Public Procurement Monitoring Office (PPMO) Act and Regulations
- Procurement is done on the basis of quantification as mentioned above
- Both NTC and SCI, Nepal is involved in the procurement process as per budget allocated from GON Sources and GFATM Sources respectively
- Both NCB and ICB methods including e-bidding processes are followed in case of GoN Budget but in case of GFATM Budget, Pooled Procurement Mechanism (PPM) method is used for procurement
- All types of laboratory Chemicals, Commodities, and Equipment; First Line Drugs (FLDs); Second Line Drugs (SLDs) and other Consultancy Services are procured

14.3 Distribution

- Distribution is made on the basis of orders generated from Trimesterly Workshop
- NTC supplies all kinds of logistics including FLDs to Five Regional Medical Stores and Regional Tuberculosis Center to supply in turn to its respective districts but NTC supplies directly to following districts (due to proximity reason):
 - Ramechhap, Dolakha, Sindhupalchowk, Kavrepalanchok, Bhaktapur, Kathmandu, Lalitpur, Dhading, Nuwakot, Rasuwa and Solukhumbu
- In the case of Second Line drugs NTC supplies directly to the DR Treatment Centers and to some Sub –Centers
- Distribution is done on the basis of the FEFO Principle
- In the case of FLDs, a buffer stock of 4 months is given to Districts but no buffer is given in case of DR Drugs due to short Shelf Life

14.4 Storage

- All the drugs and commodities are stored in the NTC Store based on different categories
- There is a provision of an Air Conditioner for the appropriate temperature of storage
- Cold Room has been constructed to store heat sensitive products

Figure 14.1: PSM Activities

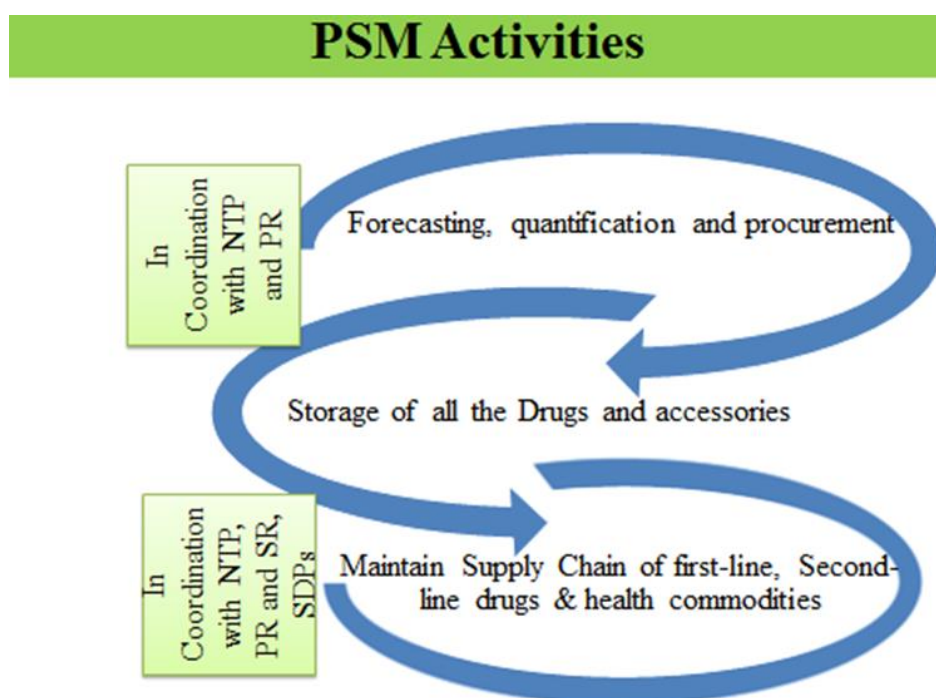
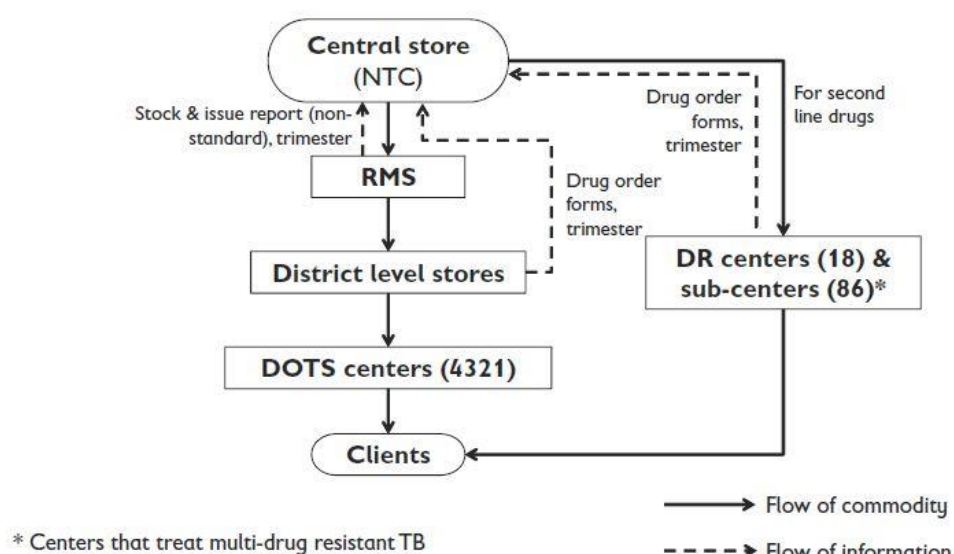


Figure 14.1: Flow of Logistics related Commodity and Information



CHAPTER 15: HUMAN RESOURCES MANAGEMENT

Human resource is the key resource of any service delivery system. The performance of the health care system is directly related to the numbers, distribution, knowledge, skills, and motivation of its workforce, particularly of those individuals delivering the services. Similarly, promotion, transfers of staffs, and special training provisions are also the important activities of human resource management in the health care system. Likewise, improvements in global health are greatly dependent on how well health systems can meet the demands placed on them by governments, programmes, communities, and ultimately individuals. Human resource management is all about proper human placement and utilization of employees is crucial for effective implementation of the program and quality of health service delivery of people. Human resources for the National Tuberculosis Programme in Nepal consist of all categories of clinical and non-clinical staffs that make each individual and public health intervention happen. These workforces have been deployed at the different levels i.e community, Districts, Province and Central. In the District and Provincial levels, there are DTLO and PTLO health staffs who are performing the NTP activities. To support the National Tuberculosis Program addition workforce has been from external development partners such as WHO, Save The Children (Global Fund), LHFI, KNCV and Damien Foundation.

The detail list of NTC staffs and organogram is available in Annex 8

CHAPTER 16: PARTNER'S CONTRIBUTION IN TB

16.1 Save the Children

Save the Children is the world's leading independent children's rights organization with members in 30 countries and programs in more than 120 countries. Save the Children fights for children's rights and delivers lasting improvements to children's lives in Bhutan, Nepal and around the world. Save the Children has been working in Nepal since 1976 focusing on programs on Child Rights, Governance and Protection, Education, Health and Nutrition, Livelihood and Humanitarian response and preparedness in all 77 districts of the country through four offices in Bardibas, Kathmandu, Butwal, and Surkhet. Through its various programs, Save the Children aims to create an environment which enables a child to reach his/ her full potential.

Global Fund programs of Save the Children, in brief, Save the Children is the Principal Recipient for all three Global Fund grants (HIV, Malaria, and Tuberculosis) in Nepal since 16 July 2015. Save the Children has been managing the HIV component of Global Fund grant in Nepal since 16 November 2008. Effective from 16 July 2015, Save the Children has also been awarded the PRship for Malaria and Tuberculosis grants to be implemented through Epidemiology and Disease Control Division (EDCD) and National Tuberculosis Center (NTC) under the Ministry of Health, Nepal respectively, as main implementing agencies. Tuberculosis grant effective from 16 July 2015; Save the Children has been managing the Tuberculosis program all over the country through a main implementing agency (NTC). Save the Children works together with National Tuberculosis Center and its sub-recipients; Nepal Anti-Tuberculosis Association (NATA), TB Nepal, National Partnership for Integrated Development-Nepal (NAPID Nepal), Health Research and Social Development Forum (HERD), Japan-Nepal Health and Tuberculosis Research Association (JANTRA), Kapilvastu Integrated Development Services (KIDS), Bagmati Welfare Society Nepal (BWSN), Birat Nepal Medical Trust (BNMT Nepal) and National Association of PLWHA in Nepal (NAP+N).

Major activities under Tuberculosis grant are: National TB Prevalence Survey, early diagnosis of people with infectious pulmonary TB by sputum smear examination, strengthening network of microscopic centers, strengthen quality control measures, treatment of MDR and XDR cases, strengthening culture and drug susceptibility tests (DST), expansion of microscopic camps in hard to reach areas, etc. The key activities of SRs are contact tracing, transportation of sputum transportation, diagnosis, and management of childhood TB, Public-Private Management (PPM), Community System Strengthening, implementation of IPT, etc.

The total budget of the Global Fund for tuberculosis for FY 2017/18 is 7.9 million USD. A Programme Management Unit is based at National Tuberculosis Centre, Bhaktapur to provide technical support, implement GF funded activities and system strengthens of NTC. SCI is supporting to implement and monitoring and evaluation of

the Tuberculosis Programme at provincial and district level. A Provincial Program Coordinator is deputed in each Province to support implementation, supervision, and monitoring of TB program at provincial and below level.

16.2 SAARC Tuberculosis and HIV/AIDS Centre (STAC)

Background

SAARC TB and HIV/AIDS Centre (STAC) is one of the Regional Centers of South Asian Association for Regional Cooperation (SAARC). The Centre supports the National TB Control Programmes (NTPs) and National HIV/AIDS Control Programme (NACPs) of the SAARC Member States (Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka). The Centre coordinates the progress and new findings of NTPs and NACPs among the SAARC Members States and supports for implementation of SAARC Regional Strategies on controlling /elimination of tuberculosis as well as prevention of HIV/AIDS in the Region.

Summary of activities in 2018:

As per the approved calendar of activities by the Programming Committee for the year 2018, the Centre has completed most of the activities for the year 2018. Some the activities conducted by the Centre was the SAARC Seminar on Management of TB Control Programme in Urban/Slum in the SAARC Member States was organized in Bangladesh from 12-14th March 2018. Similarly, SAARC Regional Training of Trainers on Diagnosis, Treatment and Programmatic Management of Pediatric TB was organized in Sri Lanka from 23-27th April 2018 with the objective strengthen participants' capacity in the clinical management of Pediatric TB.

A SAARC Meeting of Programme Managers on TB and HIV/AIDS Control Programmes and Cross Border Issues was held in the Maldives from 13-15th May 2018 with the objective to adopt the Provisional Agenda. Likewise, SAARC Training of Trainers on Infection Control on TB and HIV/AIDS was organized by STAC in Nepal from 1-5th October 2018 with the objective to enhance the knowledge and skills in prevention and transmission of TB and HIV/AIDS in health care facilities. The SAARC Regional 4th Meeting of Heads/Chief of Identified National TB and HIV/AIDS Laboratories in SAARC Region was held in Bangalore from 28-30th Nov 2018. Finally, SAARC Regional Workshop on Structured Operational Research (SOR) in TB and HIV/AIDS in Region was organized in Pakistan from 19-21st December with the objective of to increase the capacity of program manager of TB and HIV/AIDS and relevant staff of member countries on concept, approaches, and methodologies of operational research.

A Joint SAARC Monitoring Missions for appraisal of TB and HIV/AIDS Control Programs was conducted in Afghanistan, Bangladesh, Bhutan, India, Maldives, Pakistan, and Sri Lanka. Along with the regular activities, the Centre has also

developed important SAARC Regional Strategy on TB and HIV/AIDS which are SAARC Regional Strategy for Elimination of Tuberculosis 2018-23, SAARC Regional Strategy on HIV/AIDS 2018-23, SAARC Regional Strategy on Advocacy, Communication and Social Mobilization (ACSM) for TB and HIV/AIDS 2018-2023, SAARC Regional Strategy on Migration Health 2018, and Vision Document of STAC which have been approved by the 28th Governing Board and the 56th Session of the Programming Committee of SAARC for implementation in the SAARC Member States.

Research:

Research has been an important activity carried out by STAC every year. The researches successfully conducted in different Member Countries in the year 2018 are:

- Study on Tuberculosis and Diabetes Mellitus in Nepal
- Study to determine causality of EPTB in Bhutan
- Additional yield of activities case finding through house survey in the selected district of Afghanistan with lower case notification rate in Afghanistan
- Comparative evaluation of treatment for MRD TB with and without co-morbidity a retrospective analysis in Bangladesh

Participation of STAC in Regional/International Meetings/Conferences:

Director, STAC participated in different meeting/conference organized in different places this year. He participated in the

- 17th World Conference on Tobacco or Health, Cape Town, South Africa 7-9 March 2018
- 22nd International AIDS Conference”, Amsterdam, Netherlands, 23-27 July 2018
- 49th UNION World Conference organized in Amsterdam, Netherlands 24-27th October 2018
- High-level Leadership Meeting on Ending TB in South-East Asia Region - One Year of Delhi Call for Action, 13-14 March 2018, New Delhi, India
- HIV Congress-2018, organized by HIV welfare society we can in Mumbai, India on 6-8 April’18
- Meeting for discussion of issue related to SAARC- National Reference Laboratory for TB and HIV/AIDS on 30th April-4th May 2018 in New Delhi, India
- Inter provincials Review meeting for TB in Pakistan, 25-28 June 2018
- 56th Session of the Programming Committee of SAARC, 11-12th Kathmandu, December 2018
- “Transition Plan for Implementation to update guidance for the management of Drug-Resistant TB and Latent TB infection”, 12-14th December 2018, New Delhi organized by WHO and GF.

Awareness and Advocacy Programs:

Commemoration of World TB Day/SAARC TB Day-2018, World AIDS Day-2018 and Celebration of SAARC Charter Day-2018. SAARC TB & HIV/AIDS Centre (STAC) celebrated SAARC Charter Day by organizing the programme **“Interaction Program with Parliamentarian, Members of Education and Health Committee, House of Representatives, Federal Parliament of Nepal”** on 34th SAARC Charter Day on 9th December 2018 in Kathmandu.

STAC publications:

STAC published STAC Newsletters, SAARC Journal of TB, Lung Diseases Epidemiological early reports on TB and HIV/AIDS and activity reports. These reports are regularly published and uploaded in the STAC homepage www.saarctb.org.

Inauguration of Digital Library:

H.E. Mr. Amjad Hussain B. Sial, Secretary General of South Asian Association for Regional Co-operation (SAARC) inaugurated the STAC Digital Library on 12th April 2018 at SAARC TB & HIV/AIDS Centre (STAC). His Excellency expressed that the STAC Digital Library could be used as “state of –the art” facility and could be the center of learning by the students and scholars of the Member States in the pursuit of their academic studies.

Inauguration of Video Conferencing Facility:

The Video Conferencing facility at STAC was inaugurated by H.E. Amjad Hussian B. Sial, Secretary General of South Asian Association for Region Co-operation (SAARC) on 12th April 2018. The Secretary-General expressed the hope that the facility will enable the Centre to carry out its functions more efficiently in a cost-effective manner, particularly through regular contact with the members of its Governing Boards and National Focal points.

Key Achievements in 2018:

- i. Development and approval of SAARC Regional Strategies on TB and HIV/AIDS (2018-2023) for the elimination of TB and HIV/AIDS from the SAARC Region.
- ii. Development and approval of SAARC Regional Strategy on Migration Health on TB HIV/AIDS (2018-2023).
- iii. Meeting/Consultation with Parliamentarians of Nepal (Health and Education Committee) and its recommendation for SAARC Regional Level Parliamentarian’s Committee/Forum for political commitment and support for elimination of TB and HIV/AIDS from the countries before the global target.

- iv. Development of SAARC Guideline and SOPs for Health Response on natural and epidemic Disasters in the SAARC Member States.

16.3 World Health Organization (WHO)

WHO is the key technical partner to the National TB Programme and provides technical leadership and coordination in matters related to TB prevention, care, and control. WHO also provides overall technical guidance and support in the development of policy and strategic framework for TB control in the country with the vision of Ending TB by 2030.

Major interventions/activities

In 2018, the WHO had taken a crucial partnership in supporting the first TB prevalence survey in the country. WHO supported the country starting from protocol development to planning to implementation of the survey and take up the critical role of assuring the quality of the survey. The quality assurance of the survey was supported through the deployment of a WHO National Consultant for day to day functional support for quality assurance and through bringing in teams of renowned international experts to undertake frequent mid-term and post mid-term reviews of the survey. The findings from these visits were extremely encouraging and the survey is branded thus far as one of the best in the region and perhaps in the world with semi paperless data system, excellent field work and exemplary coordination among partners.

WHO also supported both technically and financially, the active drug safety monitoring and management (aDSM) for Drug Resistance TB. Developed tools and detailed chapters in the DR-TB guideline and trained all 21 DR-TB subcenters on aDSM. The reporting pathways were well defined in close collaboration with the National TB Center (NTC) and Department of Drug Administration (DDA).

WHO has also supported the NTC in reactivation of the Technical Working Group for TB control in the country with detailed TOR and functions. This has created credible technical governance in the country and the TWG has made a critical policy decision that changes the ways in how TB is managed in the country. WHO also plays the role of secretariat for the TB TWG along with NTC.

WHO also provided handholding and advise on critical technical matters related to TB policies and implementation aspects and supported in finalization of several strategic documents such as PPM and FAST strategies.

Financial contributions to NTP

WHO contributed to several activities including payments for deployment of national TB consultant to paying for international expert visits for TB prevalence survey

reviews and follow up training as well as training on aDSM. If all contributions were valued in terms of the budget would exceed USD 200,000 for the year 2018.

Key achievements

- The TB prevalence quality is branded as one of the best in the region and in the global scenario
- Nepal has now a functional TB Technical Working Group which is a critical technical governance body
- Nepal is one of the few countries to have adopted the TB aDSM and implemented with a clear pathway of reporting systems
- PPM and FAST strategy were finalized and supported resource mobilization for the implementation of the strategies.

16.4 Birat Nepal Medical Trust (BNMT Nepal)

Introduction

Birat Nepal Medical Trust (BNMT Nepal) is a Nepalese non-governmental organization dedicated towards the improved health and well-being of Nepalese people. BNMT Nepal is built on the foundation, expertise, and experience of Britain Nepal Medical Trust UK with a commendable history of serving the people of Nepal since 1967. Since its inception, BNMT Nepal continues to support the Government's interventions on tuberculosis, mental health, child health, maternal health and to combat HIV/AIDS and other diseases.

Major Interventions and Achievement

1. National Tuberculosis Program

BNMT Nepal has been implementing the 'National Tuberculosis Program' from January 2017. The project is funded by the Global Fund. BNMT Nepal is working as a Sub Recipient (SR) to contribute and support the National Strategic plan 2016 to 2021. The duration of the project is 15 months with a total budget of NPR 66,566,246.00.

The project has been implemented in five districts in Province one (Ilam, Jhapa, Morang, Sunsari and Udayapur) The project's Goal and objectives are set to contribute and support to achieve the National Strategic Plan 2016-2021.

Summary Achievement of the project (16 April to 31 December 2018) for TB Case Detection and Prevention

Activity	No of presumptive	No of TB Diagnosis	No of enrollment
Sputum Transportation	2503	115	113
Contact Tracing	2292	73	63
Childhood TB Management	1368	59	58
DR TB Management	229	13	11

ACF at prison	161	10	10
TB cases notified from PPM	0	29	29
TB cases diagnosed- FAST	65	6	6
Total	6618	305	290

2. IMPACT TB Project

BNMT is implementing IMPACT TB (Implementing proven community-based case finding intervention in Nepal) project from 1 January 2017 to 31 December 2019. The objective of this project is to assess facilitators and barriers to scale-up of two proven active TB cases finding and comprehensive care models in Central Development Region (Dhanusha, Mahottari, Makwanpur, and Chitwan) of Nepal.

Target vs. Achievement (June 2017 – December 2018)

Indicators	Gene Xpert				Smear Microscopy				Total		
	Chitwan		Dhanusha		Makwanpur		Mahottari				
	Tar.	Ach.	Tar.	Ach.	Tar.	Ach.	Tar.	Ach.			
Number of Index cases identified and verified	672	978	399	502	584	378	515	653	2170	2511	116%
Number of contacts reached	6720	9539	3990	5286	5840	3421	5150	7472	21700	25718	119%
Number of presumptive contacts screened	4260	8040	2715	3742	2920	3421	3475	4652	13370	19855	149%
Number of sputum sample tested	4260	6930	2715	3693	2920	3124	3475	4507	13370	18254	137%
Number of positive cases identified	520	293	309	229	117	79	104	203	1050	804	77%
Number of identified cases enrolled in DOTS	520	283	309	223	117	79	104	195	1050	780	74%

3. Developing a locally-appropriate socio-economic support package for TB-affected households in Nepal

Developing a locally-appropriate socioeconomic support package for TB-affected households in Nepal' project is a SEED award funded by Wellcome Trust UK to conduct research within the infrastructure of IMPACT-TB. This project has begun from April 2018 to June 2019. In the project, interviews with TB affected households and focus group discussions with TB-stakeholders have already been started.

4. TB REACH Wave 5 Project

Birat Nepal Medical Trust has been implementing the TB REACH project since 16 March 2017 with the aim of increasing case notification and treatment success rate in western, Midwestern and Far Western regions of Nepal where the present status of case detection is below the national standards. Interventions included contact tracing of index cases, the conduct of microscopy camps and increased Gene Xpert testing (4 districts only).

Target vs. Achievement (July 2017 – December 2018)

Indicators	Target	Achievement	%
Number of index cases on which contact tracing happened	2903	3297	114%
Number of people screened	59659	57184	96%
Number of people with TB symptoms and tested	37044	27297	74%
Number of people confirmed TB	1090	1092	100%
Number of people confirmed TB registered for treatment	1090	1065	98%

5. Management of the Eastern Region TB Quality Control Centre

BNMT Nepal manages the Eastern Region Quality Control Centre (ERQCC). BNMT is working in close coordination with the Ministry of Health of Nepal in quality control in the Eastern Region. The ERQCC is located within the NATA Morang premises in Biratnagar. BNMT Nepal is responsible for providing HR as well as the Quality Assurance of TB Microscopy in the labs of the Eastern Region. The ERQCC also helps to improve the cost-effectiveness and reduction of errors by promoting uniformity in the process used and maintaining a high standard.

6. The Nepal Drone Observed Therapy System (DrOTS) project

The DrOTS project aims to improve TB case detection through active case finding (ACF) of tuberculosis (TB), drone transport of specimens and supplies, and rapid molecular diagnostics, and improve treatment completion through electronic reminders and video curriculums. The project is funded by Stony Brook University and will work in Pyuthan in partnership with NTC.

7. TB-MAC Project

In partnership with Liverpool School of Tropical Medicine and Johns Hopkins University, this project will develop mathematical models that help us determine the optimal approach to active case finding for TB in Nepal. By using that we can find the optimal number of testing centers for TB and where to place them in each district so that we can ensure communities have access to TB diagnosis without wasting money on too many centers.

8. Amplify Change

Advancing SRHR of Adolescent of earthquake affected villages of Sindhupalchowk, Nepal: a pilot project' aims to improve access to ASRH information and services among school children through strengthening and mobilization of Civil Society Organizations and concerned stakeholders. The project will work collectively with the students, teachers, parents and local stakeholders to strengthen their understanding of SRHR in relation to mental health and advocate for breaking the silence in SRHR.

16.5 Japan-Nepal Health and Tuberculosis Research Association (JANTRA)

Introduction

Japan-Nepal Health and Tuberculosis Research Association (JANTRA) is a non-profitable and non-governmental organization affiliated with the Research Institute of Tuberculosis/Japan Anti-Tuberculosis Association (RIT/JATA), Japan.

Mission, Goal, and Objectives of JANTRA

Our mission is to strive to end TB, promote health and prevent public health problems through the application of evidence-based public health practices, quality health services and research in Nepal. It defends the rights to be free from Tuberculosis.

Key interventions and achievements in 2074/75:

1. Urban TB-Control program

The program has been implementing in partnership with RIT/JATA. During the fiscal year, 46 TB patients were enrolled in the JANTRA Clinic and 76 % were successfully treated and 14% is not still not evaluated in the DOTS clinic. A total of 160 presumptive TB cases sputum was tested for TB and among there 3 were diagnosed with TB. Likewise, 158 people's follow sample was tested, and 1 patient was positive for TB. A total of 11 DR patients were enrolled for treatment and 1 have been cured. Furthermore, at the community level, the major activities are TB awareness activities at schools and factories, mobilization of volunteers, regular meeting with FCHVs in Wards 10, 32 of KMC.

2. Psychosocial support and nutritional support project

In the project, the major activities are training in psychosocial care of health workers of the urban health clinic, interaction with the TB patients with psychosocial problems, patient club meeting. The outcome of the project is to improve treatment adherence, reduce stigma and discrimination and increase contact tracing. JANTRA has also provided 51 poor TB patients nutritional food support which has helped to improve the nutritional status of the TB patients.

3. GFATM-NTP Support Programme

JANTRA is a sub-recipient of the Global Fund to implement the national tuberculosis programme in the Gandaki Province. The major interventions of the project are sputum currier, contact tracing, screening of TB among malnourish children, IPT for under five years children, screening of presumptive DR TB, engagement of private sectors, the introduction of FAST strategy in major hospitals and active case finding in refugee and slums. The project has been successful to identify 2161 presumptive TB in the community. Among them, 108 persons were diagnosed as all forms of TB and they could enroll all of them in the treatment from nearby DOTS centers.

4. National Tuberculosis Prevalence survey

JANTRA is a co-lead partner to jointly carry out the National TB prevalence survey together with Intrepid Nepal. The main purpose of this survey is to measure the prevalence of Tuberculosis among the general population. So far 82 out of 99 clusters has been successfully completed. The overall participation rate is more than 91%.

16. 6 Bagmati Welfare Society Nepal (BWSN)

Introduction

Tuberculosis (TB) is an infectious disease caused by *Mycobacterium tuberculosis*. Tuberculosis is most commonly transmitted by inhalation of infected droplet nuclei which are discharged in the air when sputum smear-positive TB patient coughs or sneezes. Only about 5%–10% of infected persons (primary infection) develop active tuberculosis disease. Among the remaining 90% to 95 % of infected persons, initial infection usually goes without further consequences.

Tuberculosis (TB) is the major public health problem in Nepal and is responsible for high morbidity among thousands of people every year. TB ranks as the sixth leading cause of death in Nepal. World Health Organization (WHO) estimates the prevalence of all types of tuberculosis cases for Nepal at 59000 (211/100000) while the number of all forms of incident cases is estimated around 43000 (156/100000). Tuberculosis infects about 45% of the total population. Every year about 45000 people develop active TB, and out of them, 20000 have the infectious pulmonary disease and can spread the infection to others. Here Bagmati Welfare Society Nepal has selected as SR for the Province 2 under the PR Save the Children.

Major Intervention:

- Sputum Courier
- Contact Tracing
- Childhood TB Management
- Childhood TB identification through Doctor mobilization
- DR TB Management
- IPT
- PPM
- FAST Strategy
- ACF in ANC Clinic/Refugee Camp/Prisons/Migrants

Financial Contribution to NTP:

Total financial expenditure till February is given as:

FY 2018: Rs. 22517063

FY 2019: Rs. 4653565

Total expenditure: Rs. 27170628

Key achievements of 2074/75:

1. In the fiscal year, total sputum transportation was 5904 in which the total positive cases identified were 310.
2. A number of visits to the household of PBC and all Child cases were total 2675 in which the positive cases identified were 68.
3. Childhood TB Management through the hospital.
4. Childhood TB identification through Doctor mobilization.
5. A number of children (<5 years of age) eligible for IPT.

16.7 LHL International Tuberculosis Foundation, Norway

Introduction

The Government of Nepal requested LHL International TB Foundation (LHLI) to assist and support the NTP for its national training and supervision activities in 1994. LHLI has been supporting to the NTP in Nepal especially focusing on capacity building by training and supervision activities at various levels since 1995. The Ministry of Health (MoH) and LHLI signed an agreement for four years co-operation in 1995 (1995-1998) and further five years co-operation (1999-2003, 2004-2008, 2009- 2013), one-year extension for 2014 and currently there is a 3-year (2015-2017) cooperation. LHLI, in collaboration with the union, has served as a technical advisor for the development of the programme.

The LHLI supported to implement the following major activities of NTP in 2017:

Support to participate in the union world conference on Tuberculosis and lung disease

The union world conference was organized from 11-14 October 2017 in Gaudalajara, Mexico. The Ministry of Health nominated Director General and District TB/Leprosy Officer for participating in the conference. The theme of the conference was ‘**Accelerating Toward Elimination**’ built on the momentum from the conference in Liverpool, drawing together world TB community to achieve the ambitious goals that have been set for the global lung health agenda.

Support to commemoration World TB Day 2018

NTP commemorated World TB day (24th March). The big social event was organized at the national level with the support of different NTP stakeholders. The theme for World TB Day this year, “**Unite to End TB**” emphasizes the wide-ranging individual effort required to prevent, treat and control TB. To be successful, we need political commitment at every level from government ministers and international donors to health care professionals, researchers, patients and families affected by TB.

All over Nepal, the event was celebrated by organizing media workshops, government briefings and other events to educate people about the symptoms of TB; build awareness to utilize the resources for early diagnosis and treatment of TB and celebrate the survival of those who have recovered. Similarly, different events were organized to draw the attention of policymakers, community people and other stakeholders on the tuberculosis prevention, control, and management in Nepal. All the government authorities including Health Secretary, Partners, and Donors representative were made their commitment to unite End TB in coming days like previous years. This is one of the highest commitments of Government that the authorities made their promise during World TB Day.

Workshop with media people on Tuberculosis advocacy

The workshop was organized with media people on 18 and 19 January 2018. There were 44 participants from the National TB Centre, Journalists and TB Stakeholders in the workshop. The objectives of the workshop were:

- Orient on Global, Regional and National TB situation.
- Brief about ongoing TB prevalence survey and role media for successfully carrying out the survey in the country.
- Identify the role of media to advocate the TB outcomes at National, Provincial and Local

Skill development training to DR TB patient

This is one of the very effective programs for DRTB patients in the country to reduce the depression of patients, appearing after medication. It also helps to improve the economic aspects and well rehabilitated in their respective community.¹⁰ DRTB patients were trained on skill training out of them, one was trained in driving, one was mobile phone repairing and eight were trained on sewing and cutting training from NATA Morang. This program should gradually be expanded in other parts of the country as this has recommended in the WHO End TB Strategy as a core component.

Printing of TB booklets for TB patients and clinical manuals

There were 700 TB booklets and 650 clinical manuals printed and distributed as per the district requirement. TB booklet will help to increase the accessibility of TB information to the TB patients and it will also serve the counseling materials to the health workers.

Community DOTS at District level

LHLI Supported to implement Community Based Directly Observe Treatment (CBDOT) in two districts of the country in 2017.

Support to implement Prevalence Survey

The Research Institute of Tuberculosis (RIT), Japan has continuously been provided technical supports to TB Prevalence Survey in Nepal. LHLI has been covering technical assistance of RIT.

Financial performance

The approved NTP support budget for 2017 was NPR 5.6 million, of which NPR 5.6 million was spent (100%) budget from July to December 2017.

16.8 Kapilvastu Integrated Development Services (KIDS)

Introduction

Aligning to contribute National Tuberculosis Program (NTP) under National Strategic Plan (NSP) 2016-2021 to reduce the TB incidence by 20% and increase case notification by a cumulative total of 20,000 by 2021, compared to 2015. Kapilvastu Integrated Development Services (KIDS) was awarded as Sub Recipient (SR) effective from 16th April 2018 to work with majorly case finding activities which cover 9 districts under Province 5 namely, Banke, Bardiya, Dang, Pyuthan, Rolpa, Kapilvastu, Palpa, Rupandehi, and Nawalparasi-West.

Major interventions and key achievement:

1. Sputum courier

Focusing to cover hard to reach population to bring them in early diagnosis and early treatment, a total of 187 Non-MCs are linked to MCs under Province 5 from where sputum of 3114 presumptive cases was collected and examined. As a result, 139 new TB cases are diagnosed and ensured treatment which contributed to additional new case finding.

2. Contact tracing

This activity is being focused to TB Index cases with systematic screening of TB case family members as per guideline from which 2390 TB patient's household were contact traced of which 26 new TB cases are diagnosed and ensured to treatment.

3. Childhood TB management

This activity is designed to catch up Malnourished/ARI children from major hospitals and HFs from where 800 children were found presumptive and 766 children were referred for TB investigations from where 55 new child TB cases were diagnosed and enrolled for treatment.

4. DR TB management

Contribute to increasing coverage of DR Service 155 DR suspects cases were accessed Gene Xpert test through sputum courier and contact tracing from where 5 new MTB+ Rif. Resistant TB Cases were detected and ensured for treatment.

5. Establish pay for performance

Support to engage the private sector and mainstream them into NTP reporting, totaling of 8 private practitioners were engaged under pay for performance scheme through online reporting from where 102 cases were reported to NTP through an online reporting system.

6. FAST strategy

The FAST strategy is innovative and fast track activity to support infection control and new case finding at a major hospital. Total 3 major hospitals are participating with this strategy form where 268 presumptive TB cases were examined, and 13 new TB cases were identified.

7. Isoniazid preventive therapy (IPT)

Aiming to control TB transmission among under 5 children within the TB case household and community, this therapy is initiating in program districts where 170 U5 children identified through contact tracing are initiated to IPT, out of them, 71 have completed full 6 months IPT course.

Financial contributions to NTP

Total NRs. 13,204,898 was expensed for NTP supported activities through KIDS during the FY 2074/075. This expenditure includes Program management, TB Care and Prevention, MDR-TB Management, Integrated Service Delivery, and Quality Improvement, Health Management Information Systems and M&E and Community Responses and Systems.

Beside this, HWs and FCHVs are oriented and provided onsite coaching regarding NTP supported activities in regular basis likely local Palikas are coordinating for TB program management and follow up of HFs activities toward TB program intervention as per the plan.

16.9 The National Association of PLWHA in Nepal (NAP+N)

Introduction

NAP+N was established after the first national consultation of PLHIVs in 2003. This historic event succeeded in bringing 30 PLHIV participants from across the country to agree to one common goal: **to unite all those living with the virus in Nepal and fight back**. NAP+N has focused on building the capacity of local PLHIV groups to respond appropriately to the needs of PLHIVs and its related Key Populations in the

area of advocacy, prevention, care, and support, counseling, raising community awareness, providing information and education and improving access to the healthcare and legal services. NAP+N is the largest network of grassroots organizations working on the frontlines of this concentrated epidemic to achieve the national goal.

NAP+N is committed towards the promotion of autonomy and empowerment of PLHIVs which will help them make an informed decision. It ensures that PLHIVs are at the forefront of policymaking debates and their meaningful involvement at all levels is essential. The network is working towards multi-sectored collaboration and aims to develop a strong working partnership with Non-Governmental Organizations (NGOs), the government and the private sectors.

It can mobilize all its affiliated community-based organizations to mitigate the national goal. The prevention model should incorporate the meaningful involvement of People Living with HIV and greater involvement of People Living with HIV concept along with evidence-based HIV prevention program "Nothing about us without us" (Declaration of Ending AIDS by 2030, HLM UNGASS-2016). The NAP+N as an institution has a vast array of HIV related work experience for more than a decade. It has demonstrated its ability to manage huge grants and is well equipped both technically and programmatically. In 2010, HIV/AIDS Project Management Unit (PMU) of UNDP Nepal, in written, has recognized NAP+N for best management of Challenge Fund.

Vision

Create a favorable environment for access to treatment, care and support for PLHA and ensure the quality of life of individual PLHIV in Nepalese society.

Mission

Strengthen the voice of PLHIV through the formation and strengthening of networks and association of PLHIV to respond to the challenges of HIV.

Goal

To ensure that PLHIV understands and enjoy their fundamental rights irrespective of religion, race, caste, gender, sexual orientation, and social and economic status.

Objectives

- To build the capacity of the network towards the institutionalization
- To build the capacity of PLHIV based Community Based Organizations
- To advocate lobby and facilitate mainstreaming of HIV related issues in national agenda
- To work towards ensuring universal access of PLHIV to essential standard services (treatment, care, and support) of Nepal

Target Groups

All people of Nepal Living with HIV (PLHIV) are the main beneficiaries of NAP+N. In addition, the following groups of people are also recognized as the primary target group of the organization:

- Seasonal Labor Migrants & their spouses
- Injecting Drug users (IDUs)
- Sex workers (FSWs)
- Clients of Sex workers (CSWs)
- Male Sex with Male (MSM-Sexual Minorities) and
- People Living and Affected by Tuberculosis

16.10 TB Nepal

Introduction

TB Nepal is a Non-religious, Non-political and not for profit making, Non-governmental organization working in the field of health particularly in TB and leprosy. Diagnosis, Treatment, Awareness raising are the main component and 25-bed Regional base TB Referral Centre conducting for the support of the TB control programme of Nepal. Leprosy OPD and 10 bedded leprosy wards also running in TB Nepal. It was legally registered at District Administration Office Nepalgunj, Banke (Regd. No 489 / 2060- 5 -10 B.S) and affiliated with Social Welfare Council, Kathmandu, Nepal (Affiliation No. 15748 / 2060 – 9 – 25 BS). The organization is dedicated to supporting the TB and Leprosy control programme of Nepal. Additionally, the organization was established by the Ex-International Nepal Fellowship (INF) employees in 2003 AD.

Major Activities of TB Nepal

- TB OPD service
- TB IPD service
- Laboratory service including gene x-pert service
- Awareness raising/counseling service
- 24 hours of DOTS unit
- Advocacy service for poor, marginalized and disadvantaged people
- Default chasing service for late and defaulted TB / DR TB patients
- TB –HIV co-infection service
- Regular recording / reporting to DPHO/ RHD / NTC / LCD and donor
- Epidemic control/disaster management Technical staff support to DPHO
- 20 Bedded DR TB Hostel

Key Achievement:

Main Activities	Carried out activities	Annual achievement
TB OPD	OPD visit.	32339
	New TB cases referral after diagnosis	934
	TB DOTS visit	13270
	Health education about TB.	31903
TB In-patients	TB patient's admission inward for complication management.	716
	TB In-patients death rate	1.28 %
	Bed occupancy rate	76 %
	The average length of stay (days).	9 Days
Laboratory	TB suspects sputum smear test	12310
	TB follow-up sputum smear test.	1639
	Gene X-pert test for TB diagnosis.	1836
	Sputum sample sends to reference Laboratory for Culture/drug sensitivity test.	563
	HIV Test in new TB	1002
	Mantoux test	747
	Other general test (Basic Blood test)	24574
Charity Provision	The charity provided based on Socio–economic assessment (Food, accommodation, medical investigation, general medicine, and Patients travel cost etc.).	10830
MDR TB	MDR TB Case Finding by Gene X-pert Test.	91
	DRTB Treatment Success rate.	73 %

16.11 Nepal Anti Tuberculosis Association

Introduction

NATA is a non-governmental, non-profit making voluntary organization established in 1953 with a view to raising public awareness about Tuberculosis (TB) by adopting preventive and curative measures towards the control of tuberculosis. It works with close coordination with NTP of National Tuberculosis Centre (NTC), Ministry of Health and Population (MoHP), Save The Children International (SCI), Kuratorium Tuberkulose (Germany). NATA has a long-standing history of collaboration with the National Tuberculosis Program (NTP) as one of the oldest and key partners. NATA is affiliated to The Union and Social Welfare Council (SWC) and is one of the prominent members of the South East Asian Region (SEAR).

NATA has been working as a sub-recipient for Global Fund Grant for DR TB management Program. NATA/GENETUP, National Reference Lab (NRL) is providing second line Treatment Laboratory Services to all DR TB Centers situated in Province 4, 5, 6, 7 & including GENETUP DR Center Province 3

Major interventions/activities:

- German Nepal Tuberculosis Project
 - National Reference Laboratory (Gene-Xpert services, Culture, DST)
 - DOTS service
 - Drug Resistance (DR) TB management services
- Kalimati Chest Hospital (One and only chest hospital of Nepal)
- DR hostel
- General Lab services
- X-Ray Services
- HIV counseling and testing service
- Advocacy, Communication and Social Mobilization (ACSM) activities
- Research and surveillance
- Participation in Laboratory activities for Prevalence Survey

Financial contributions to NTP:

SN	Donar's/ Grant Name	Expenditure
1	Global Fund	3,12,18,719 NPR
2	Kuratorium Tuberkulose, Germany	1,10,98,409 NPR
3	The government of Nepal to run Kalimati Chest Hospital	33,34,533 NPR
4	Core Fund	77,69,342 NPR
	Total	5,34,21,005 NPR

Key Activities executed in the year 2074/75:

Programmatic Achievements 2074/75(NATA Central, Kalimati Kathmandu)

SN	Activity	Unit	Achievement
1	First line TB Services		
1.1	Patients visited in OPD	No. of visits	6111
1.2	Presumptive TB cases screened in OPD	No. of patients	5669
1.3	Presumptive TB cases Examined in lab	No. of patients	5142
1.4	TB cases found smear positive from a lab	No. of patients	478
1.5	TB cases enrolled for treatment in the center among the case diagnosed in own center	No. of patients	111
1.6	TB cases referred to another treatment center for treatment	No. of patients	698
1.7	TB cases received any kind of support e.g. charity for treatment, travel and nutritional allowances etc.	No. of patients	836
2	Services for DR TB cases		
2.1	Presumptive DR TB cases screened in OPD	No. of patients	937
2.2	Presumptive DR TB cases collected sputum for examination of c/dst	No. of patients	897
2.3	DR patients tested for side-effect management (TFT, LFT, and another routine test)	No. of patients	861
2.4	DR TB cases enrolled for treatment in the center	No. of patients	81
2.5	TB cases received any kind of support e.g charity for treatment, travel and nutritional allowances etc	No. of patients	549
2.6	Shorter Treatment Regimen (MDR) started from Jan 2018		17 patients till Ashad 2075
3	In-patient Services		
3.1	New Admission	No. of patients	278
3.2	Total Firstline TB Patients Admitted	No. of patients	129
3.3	Total DR TB Patients admitted	No. of patients	64
3.4	Total patients admitted other than TB showing chest complications	No. of patients	66
3.5	Total Discharge	No. of patients	212
3.5	Referred to Higher centers	No. of patients	35
3.6	Death	No. of patients	12
4	DR Hostels Service		
4.1	Total patients received services from DR Hostel	No. of patients	42
5	DR reference lab		
5.1	Total number of presumptive DR cases tested for culture	No. of patients	1155
5.2	Total number of presumptive DR cases found culture positive	No. of patients	182

		patients	
5.3	Family members of DR cases tested for c/dst (contact tracing)	No. of DR contacts	176
5.4	Total number of family members diagnosed TB	No. of DR contacts	6
5.5	Total number of MDR cases diagnosed from c/dst	No. of patients	80
5.6	Total number of XDR and Pre-XDR cases diagnosed from c/dst	No. of patients	155
6.	X-Ray		
1	Total X-Ray	No. of X-Ray	3556
7.	General Laboratory		
1	General patients	No. of Patients	3041
2	DR TB patients of which 187 is the total patients & 918 is repeated patients	No. of Patients	1105 (of which 187 is the total patients & 918 is repeated patients)
8.	HIV Test		
1	OPD patients	No. of Patients	734
2	DR TB patients	No. of Patients	72

Advocacy, Communication and Social Mobilization (ACSM) Activities:

To sensitize and aware key risk groups and local community leaders regarding TB, NATA every year conducts various awareness raising activities throughout its 31 active district branches. Altogether 4986 participants were benefited from various types of *ASCM* activities that were conducted throughout the district branches of NATA. The programs were conducted from the selfless contribution of NATA's volunteers along with the involvement of expert resource persons and facilitators.

The details of activities:

S.N	Activities	Districts	Beneficiaries
1	Orientation about TB, DR TB and TB/HIV co-infection to health workers	Gorkha, Dhading, Chitwan, Sarlahi, Lalitpur, Banke, Kailali	177
2	Teachers training /orientation to school teachers about TB	Gorkha, Kavre, Morang, Gulmi, Dhading, Dolakha, Rautahat, Kathmandu, Bhaktapur, Bara, Sarlahi, Nuwakot, lalitpur, Kaski, Banke, Jhapa, Syangya, Kailali, Chitwan, Gulmi, Parsa	704
3	TB awareness among migrants and Internally displaced group	Kavre, Morang, Dhading, Rautahat, Kathmandu, Bhaktapur, Bara, Dang, Nuwakot, Kailali	308
4	TB orientation to mother's group/	Gorkha, Kavre, Morang, Gulmi, Dhading, Dolakha, Rautahat, Kathmandu, Bhaktapur,	1007

	community health volunteers	Chitwan, Sarlahi, Dang, Nuwakot, lalitpur, Kaski, Banke, Jhapa, Syangya, Kailali, Tehrathum, Sunsari, Kapilvastu, Palpa, Dhanusha, Sankhuwasabha	
5	TB awareness among marginalized and disadvantaged group	Gorkha, Kavre, Morang, Gulmi, Dolakha, Rautahat, Kathmandu, Bara, Chitwan, Sarlahi, Dang, Kaski, Jhapa, Syangya, Kailali	683
6	TB/HIV awareness among high Risk Group (Factory Workers)	Kavre, Morang, Gulmi, Bhaktapur, Bara, Chitwan, Lalitpur, Banke, Jhapa, Syangya	313
7	TB/HIV awareness among high-risk Group (Prisoners)	Dhading, Dolakha, Nuwakot, Kaski, Illam	188
8	School Based competition on TB (Painting, Oratory, Quiz and Debate)	Gorkha, Gulmi, Dolakha, Rautahat, Kathmandu, Bhaktapur, Bara, Chitwan, Sarlahi, Dang, Nuwakot, lalitpur, Kaski, Banke, Jhapa, Syangya, Saptari	1606
9	Formation of Junior NATA groups	Saptari, Banke, Dhading	4 Schools

National Tuberculosis Day

Every Day on 13th Mangsir, NATA marks its Establishment Day. This year NATA celebrated its 64th National TB Day. A weeklong program was organized by NATA Central from 7th – 13th Mangsir to mark the establishment day. Similarly, to mark the Establishment day of NATA a program was organized. Flag Hoisting Ceremony was done by President, Devendra Bahadur Pradhan. Moreover, Fruits and Blanket was distributed to the patients of DR Hostel, Hospital and patients of DR Clinic and DOTS.

World TB Day 2018

On 13th World TB Day, 24th March 2018 and embracing the slogan “*Wanted: Leaders for a TB-Free World; You can make history. End TB*”; NATA including its district branches have organized community-based awareness programs to increase awareness among the people for the control of tuberculosis. On this very day, NATA central has distributed Fruits and lunch box to 78 patients staying at DR Hostel Kathmandu, DOTS Clinic, DR Clinic, and Kalimati Hospital. Similarly, Free X-ray service was provided to the patients of OPD for 2 days. Where 17 suspected patients were benefited with the free x-ray service.

Health Camps/Screening

In coordination with the Yang-Min University of Taiwan, NATA has conducted tuberculosis screening program at Saint Joseph School using Mantoux test on 25th Shrawan 2074. A total of 119 Students were tested for Tuberculosis. Among the students, those who were found to be positive were suggested to visit NATA for further investigation and treatment. NATA also provided free diagnostic services for the patients.

RIFA SHORT Clinical Trial

NATA/GENETUP have launched an International Multicenter Controlled Clinical Trial to evaluate 1200 mg and 1800mg Rifampicin daily in the reduction of Treatment duration for Pulmonary TB from 6 months to 4 months since April 2018. The Sponsor is St George's, University of London. The Chief Investigator is Dr. Amina Jindani and the Global Drug Facility (STOP TB Partnership) will supply drugs.

Plans:

1. To improve the quality services of Kalimati chest hospital, National reference lab, General laboratory through the construction of an improvised building for hospital and laboratory
2. Conduct Awareness, Communication and Social Mobilization (ACSM) activities at every district through the mobilization of the volunteers to raise awareness on tuberculosis.
3. To provide support in Research and Surveillance activities of NTP
4. To provide regular support to the National Tuberculosis Program to make TB free Nepal
5. To expand district branches throughout the country.

16.12 Health Research and Social Development Forum (HERD) and HERD International

Introduction, Goal, and Objectives

Health Research and Social Development Forum (HERD), established in 2004, is a non-governmental organization with an aim to promote quality of life of people, especially women and children, the poor and the disadvantaged. HERD's priority areas of services are research and surveys using various designs and methods, programme planning and implementation, monitoring and evaluation; health service delivery; and promoting the use of data in decision making that are aligned with needs and priorities of the country.

Fight against TB has been one of the priority areas of the organization since its inception. HERD has a trusted history of collaboration with NTP Nepal, providing technical support in policy and programme design and implementation. HERD, as a partner of NTP, has implemented Global Fund Round-7 and NSA grants (Phase I and

Phase II), TB REACH project in urban areas of 22 districts through an innovative strategy to reach the unreached high-risk population - a mobile van with embedded diagnostic services.

Key Activities and Achievements in FY 2074-75:

HERD implemented several NTP activities in partnership with the NTP and Save the Children International in 21 districts of Central and Western region from 16 Jan 2017 – 15 March 2018, and 2nd phase in 7 districts of Province 3 from 16 April 2018. During this period, a total of 311 cases were identified through major interventions such as sputum courier, contact tracing, management of childhood tuberculosis, Drug-Resistant Tuberculosis management, FAST in Province 3, in addition to our routine support to implement NTP activities.

Evidencing a functional partnership with NTP Nepal, HERD has been providing diagnostic services through GeneXpert and smear microscopy in its laboratory in Kathmandu which serves as a drop-in center for sputum testing for major districts of Province 3 and receives many clients referred from private providers including major private hospitals in Kathmandu Valley. In the fiscal 2074/75 among 1525 samples tested through GeneXpert, 325 samples showed MTB detected Rif sensitive, 8 samples showed MTB detected Rif resistant, 58 samples showed error and 1134 samples had no MTB detection.

Along with the above services, HERD International (HERD Nepal's sister organization) implementing several types of research, generating evidence to help to strengthen NTP policies and programmes. We are implementing a multi-country TB-Tobacco study in Kathmandu valley with an aim to facilitate the integration of tobacco cessation services within NTP. Also implementing research on understanding community engagement model to the growing concern of antimicrobial resistance including resistance to TB drugs.

The organization continues to work closely with NTP in accomplishing the vision of TB free Nepal.

16.13 National Partnership for Integrated Development Nepal

Introduction

National Partnership for Integrated Development-Nepal (NAPID-Nepal) established in 2006 A.D. is a nonprofit service based, non-governmental organization working in the field of health and human right in Far-western region of Nepal. Since 2011 NAPID-Nepal has been implementing regional level Drug Resistant (DR-TB) Hostel, treatment service, TB/HIV awareness, and advocacy program in collaboration with National Tuberculosis center Thimi Bhaktapur. From the F/Y 2016/017, NAPID Nepal has been working for national tuberculosis program funding from Global Fund

as a Sub Recipient (SR) and implementing DR TB hostel program in Dhangadhi, Kailali.

Core activities

- Establishment and operation of DR-TB hostel in Dhangadhi, Kailali and provide food, shelter, and treatment to DR-TB and TB-HIV co-infected Patients.
- Sputum collection and courier to Genetop, Kathmandu for culture and DST through SZH.
- Regular laboratory investigation of MDR-TB patients: - potassium, creatinine, LFT, TSH etc through SZH.
- Counseling to MDR-TB patients, their families, and the community.
- Treatment of DR-TB patients.
- Side effect management of DR-TB patients.
- TB /HIV awareness and advocacy.

16.14 Damien Foundation (DF)

Damien Foundation is a non-governmental organization, independent, apolitical and pluralist. It works to make a difference in the fight against poverty diseases such as leprosy and tuberculosis and through targeted medical interventions and social reintegration of sick people. For this, it emphasizes to sensitize people and put raising events through dedicated staff and volunteers.

The mission of Damien Foundation Nepal (DFN) encompasses TB free Nepal. In the end of 2016, Damien Foundation was registered in Nepal after General agreement with Social Welfare Council. MoU was signed with Ministry of Health and Population and project agreement with Social Welfare Council in 2017. The primary goal and objectives of the DFN are to enhance the accessibility of DR-TB services and provide quality DR TB services in Nepal. Intervention accomplished since inception of Damien Foundation in Nepal:

- **Training for Health Care Providers on Shorter Treatment Regimen for RR/MDR**

DFN has organized three days Shorter Treatment Regimen for DR –TB training in coordination with the National Tuberculosis Center to health workers of MDR-TB centres, sub-centres and District TB managers. A total of 296 health workers were trained in Shorter treatment regimen (STR) and newer drugs to treat MDR TB.

- **Implementation of Shorter Treatment Regimen (STR) :**

Damien Foundation supported NTC initially to launch STR in Nepal from 4 DR TB Centers to begin with the 1st phase of STR implementation. Damien Foundation provided additional drugs and medical equipment, ECG and audiometer to begin STR implementation.

- **DR TB CBDOT Guideline development:**

The DFN initiated support to NTC to develop the DR-TB CBDOT guideline at National level. The main objectives of this event were to minimize the hardship and catastrophic cost implication to a patient and family needed to maintain daily DOT at the health facilities/ Community Volunteers through the introduction of Community-Based DOTS for DR TB treatment. It aims to improve the adherence to daily DOT by the patient throughout the treatment period.

- **DR-TB Referral centre guideline:**

The DFN has supported and supporting NTC to develop the DR-TB referral centres guideline at National level. The main objective of this event was to complete the treatment and cure all DR-TB patients and identification of DR-TB from the suspected cases, to treat all completed DR-TB cases referred from the DR-TB centers and also to treat the cases of those who have financial implication and physically impaired, hence improving the adherence to daily DOT by the patient to anti TB therapy throughout the treatment period.

- **DR-TB case management guideline:**

The Damien Foundation Nepal also contributed to support NTC to develop the MDR-TB treatment management guideline at a national level. The main objective of this event was, to develop the MDR-TB treatment guideline based on WHO recommended treatment guideline and to introduce the shorter treatment regimen for MDR-TB case management in Nepal.

- **Health Institution's physical infrastructure construction and renovation:**

In coordination with National TB centre, DFN constructed new buildings and renovated the old existing building for the establishment of DOTS Center and Referral Buildings in 4 districts: Rupandehi, Dang, Kailali and Dadeldhura.

- **Technical and human resource Support:**

The DFN had provided technical support for MDR-TB treatment management in Nepal. The organization has provided one DR TB Medical Officer to NTC for DR-TB case management, guideline development and technical support for the TB prevalence survey. Human resources were supported to the Dadeldhura Sub Regional Hospital and Seti Zonal Hospital, Dhangadi for DR- TB and leprosy case management services. Short term HR support was also provided for Rapti Zonal Hospital (Rapti Academy of Health Science) and Surkhet Sub Regional Hospital (now Surkhet Provincial hospital) for MDR TB services to run the MDR Center.

CHAPTER 17: KEY CONSTRAINTS AND CHALLENGES

17.1 Key Constraint & Challenges

The Nepal NTP has regularly been facing several challenges and constraints, which influence the inability to expand and sustain the vision of the programme. Following are the key challenges and constraints faced by the NTP in order to reach the intended goals and targets of the programme in the last fiscal year.

Challenges:

- Lack of focal person for TB program at Palika and Province in the federal context
- Staff restructuring and its impact on staff motivation
- Insufficient income generation program for the patient and their family members.
- Inadequate TB management training to medical doctors
- Minimum interventions for strengthening PPM component
- Lack of operational research regarding increasing retreatment cases
- Lack of patient-friendly TB treatment service
- Lack of sputum transportation services at all districts
- Availability of TB IEC materials at health facilities
- Difficult to coordinate with regional and provincial hospitals

Action to be taken:

- Expansion of CB-DOTS programme throughout the country
- Endorsement of PPM guideline to strengthen Public-Private Mix approach
- Strengthen the community support system programme
- Explore operational research areas on TB prevention, treatment, and care
- Develop and distribute patients centered on TB IEC materials
- Pilot patient-friendly treatment centers in the country

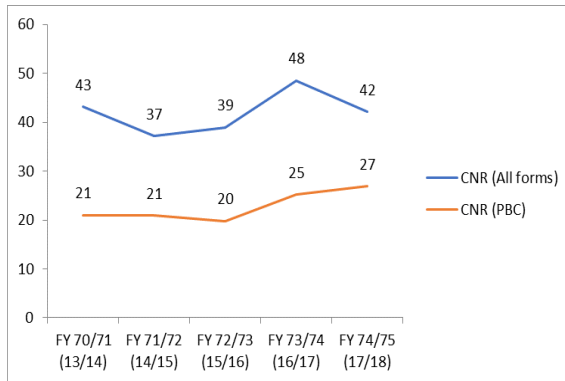
ANNEX

Annex 1: Case Notification Rate

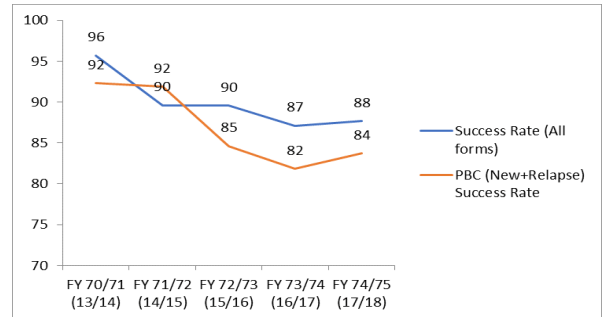
Province 1

Bhojpur

Case Notification Rate

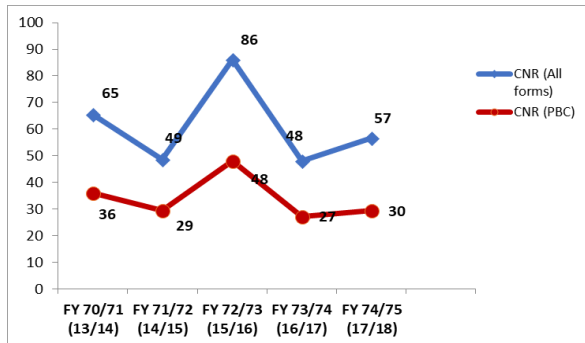


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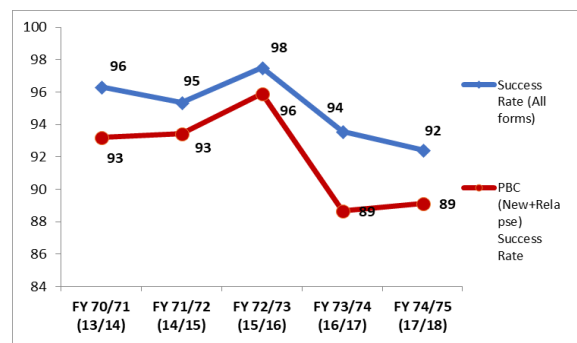


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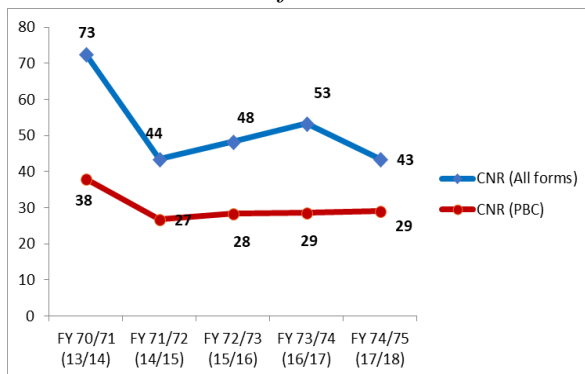


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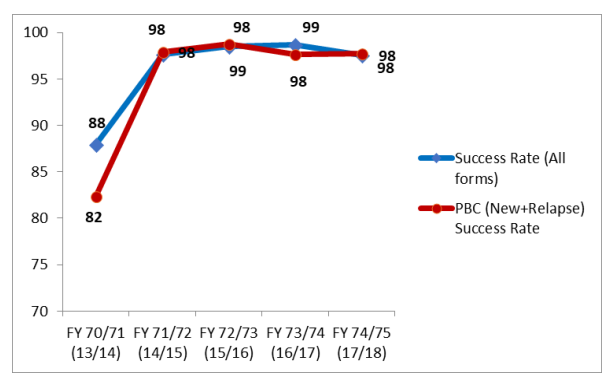


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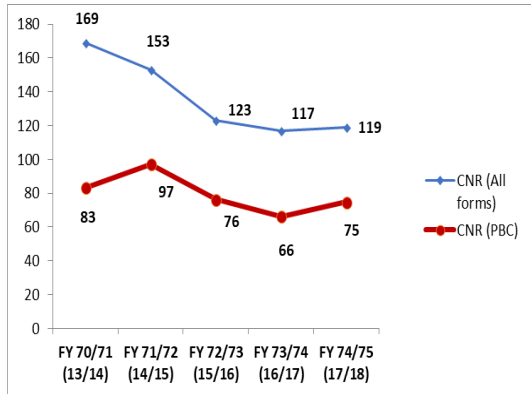


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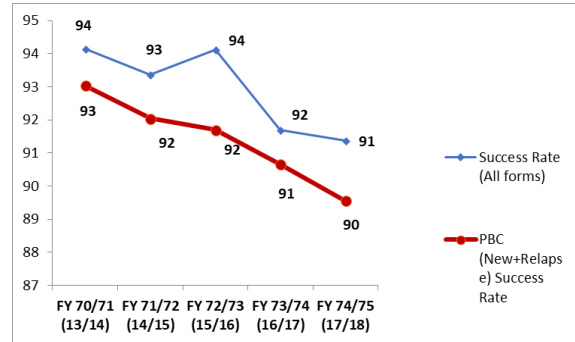


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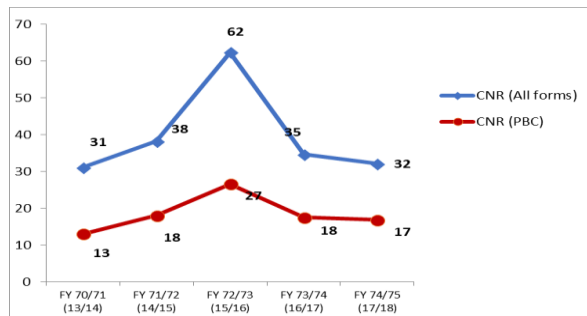


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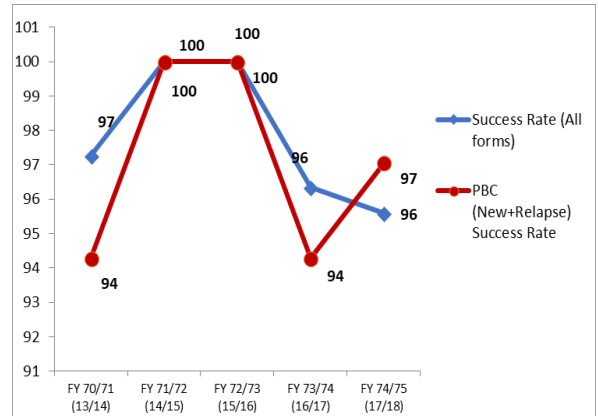


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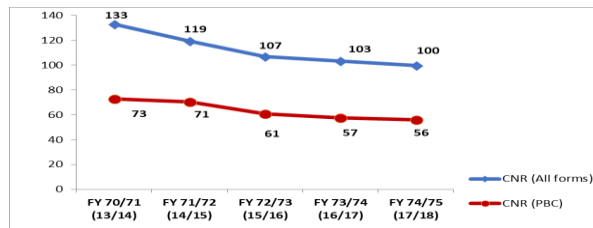


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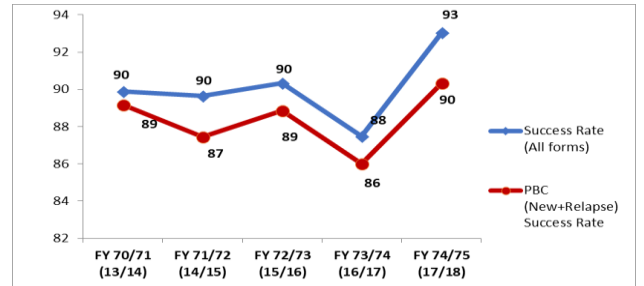


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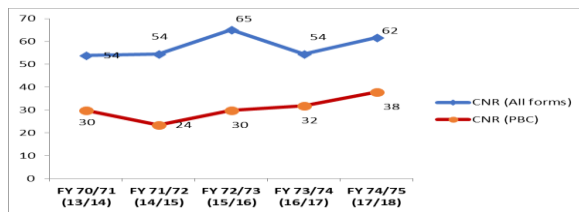


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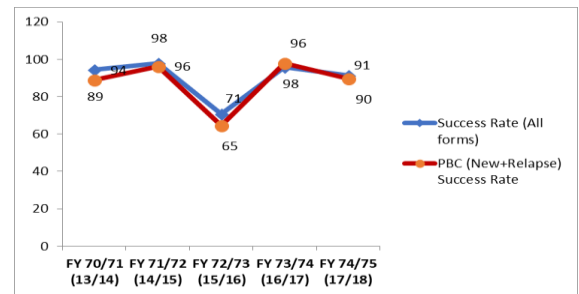


Okhaldhunga

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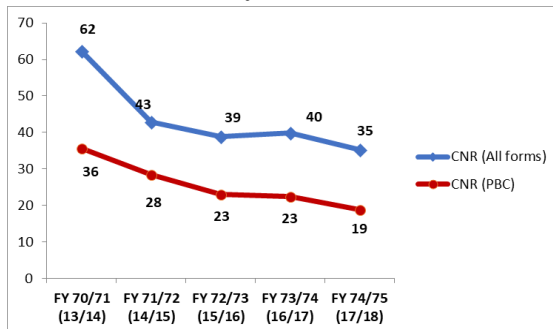


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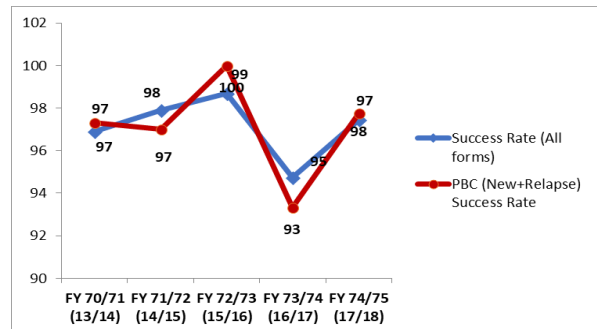


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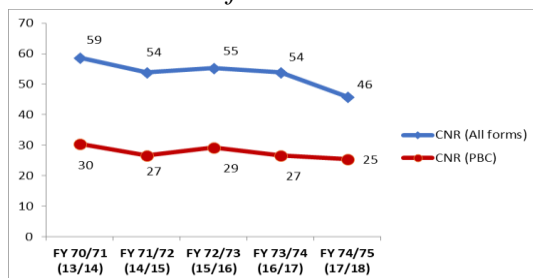


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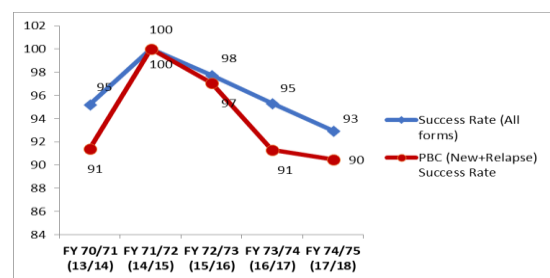


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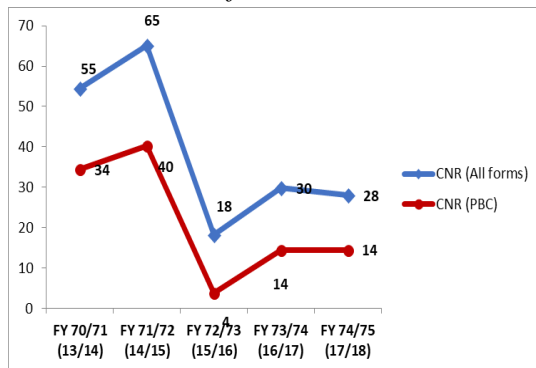


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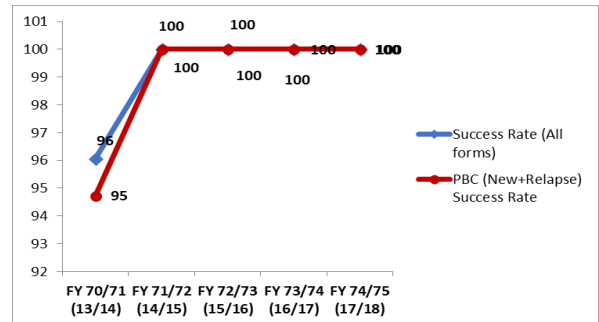


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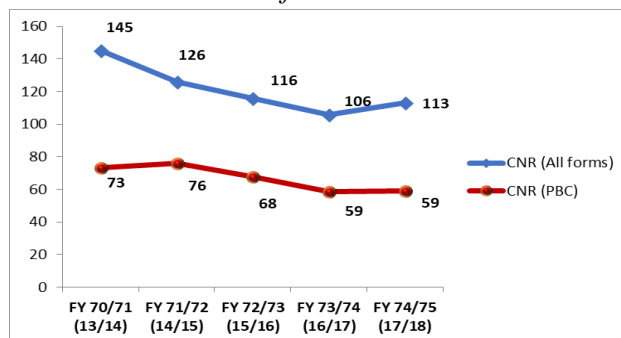


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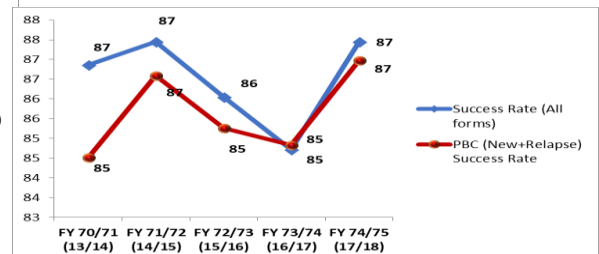


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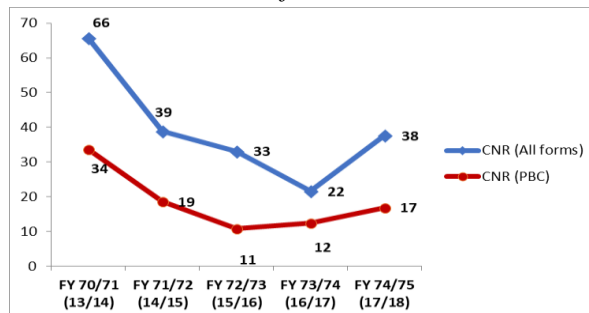


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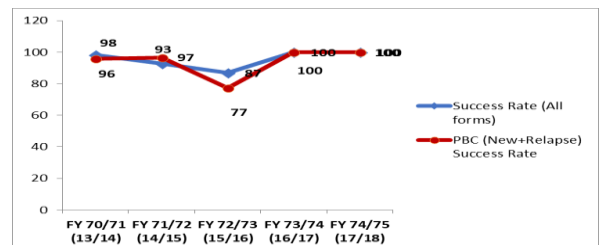


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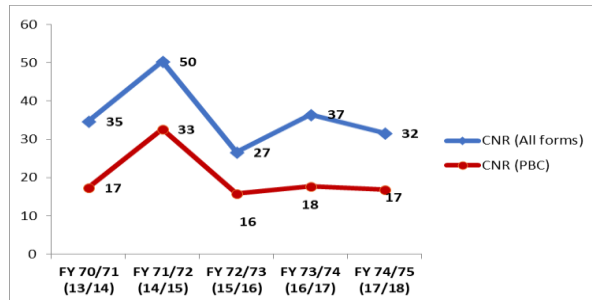


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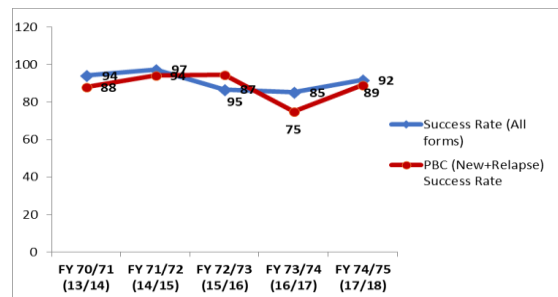


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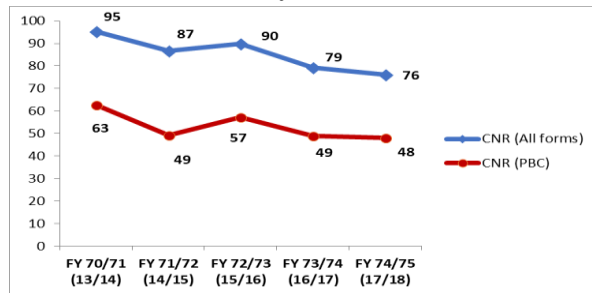


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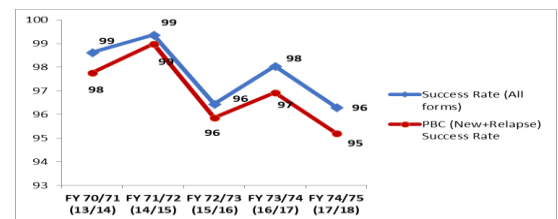


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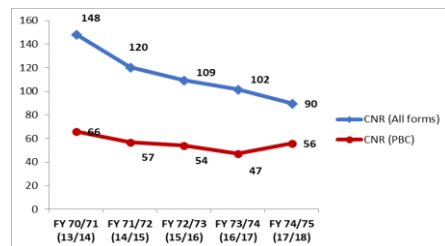
Treatment Outcome



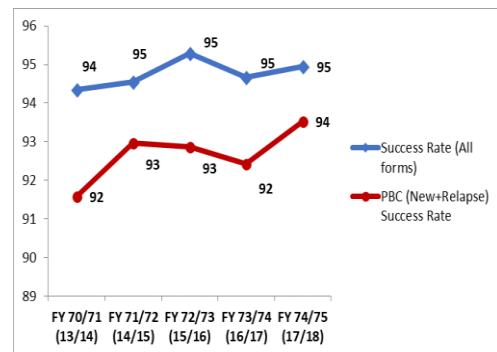
Province 2

Rautahat

Case Notification Rate

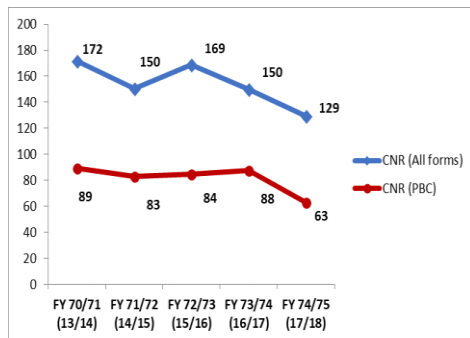


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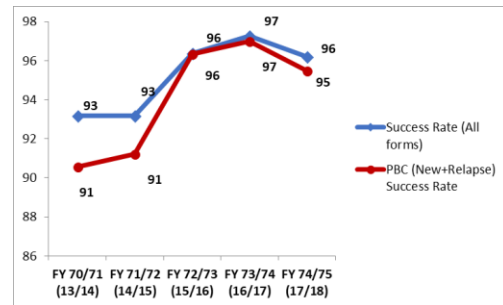


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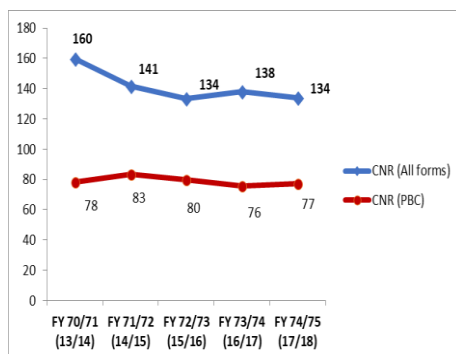


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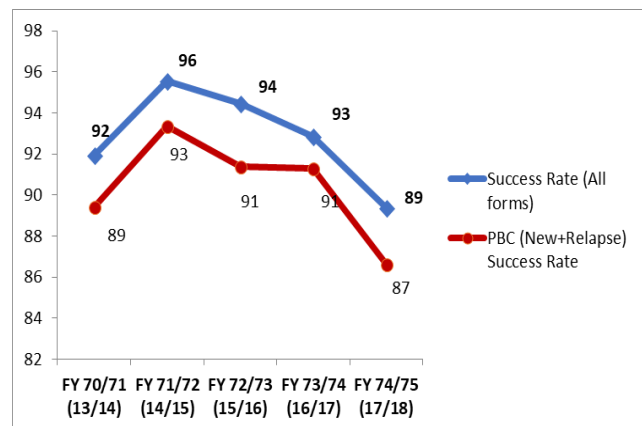


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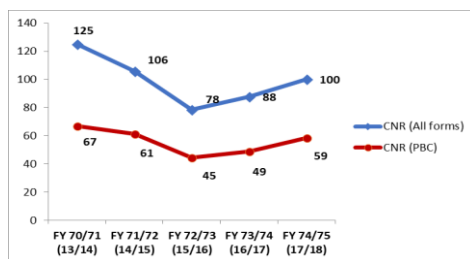


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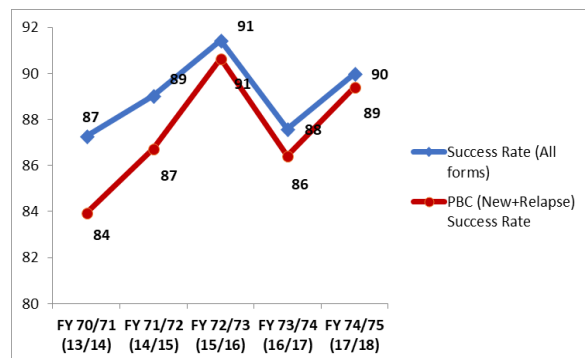


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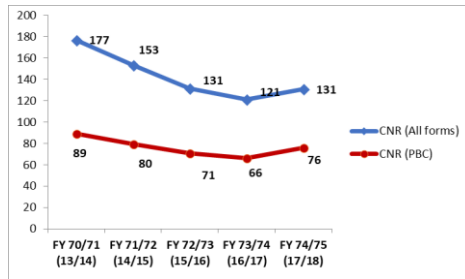


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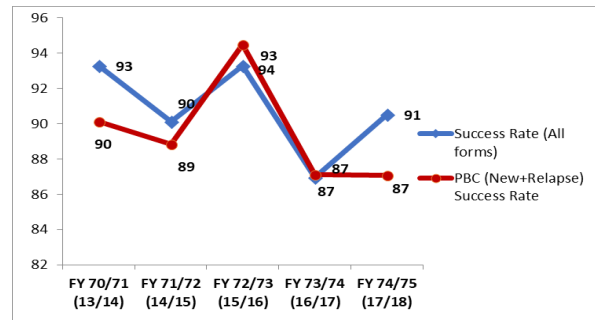


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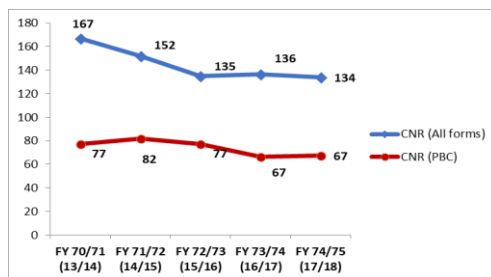


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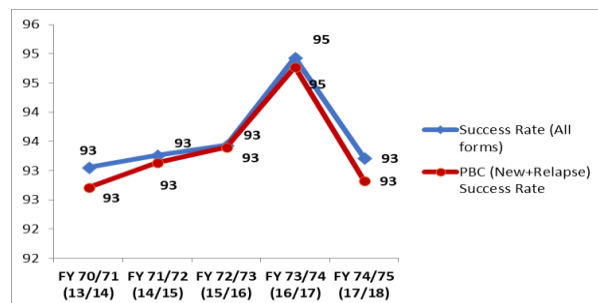


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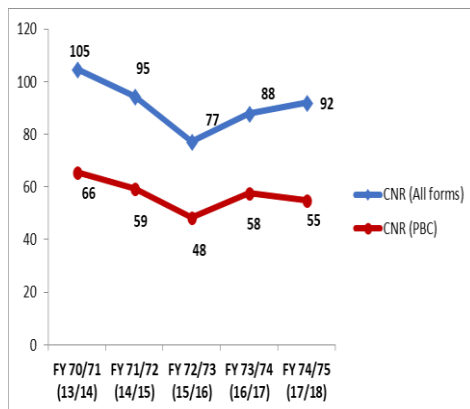


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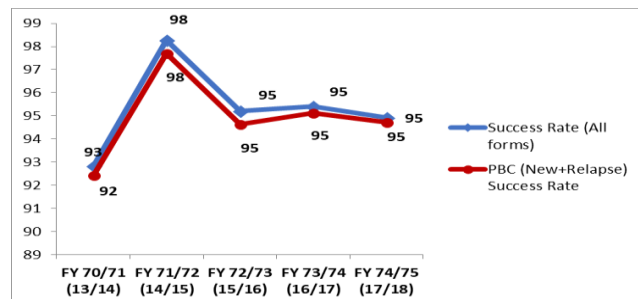


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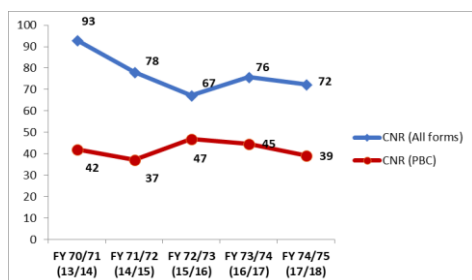


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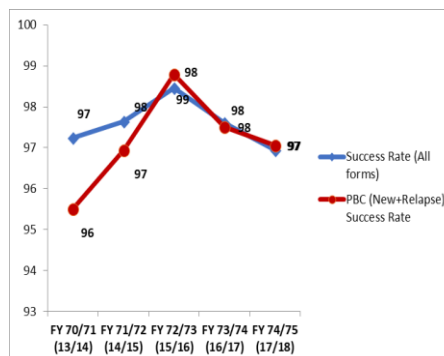


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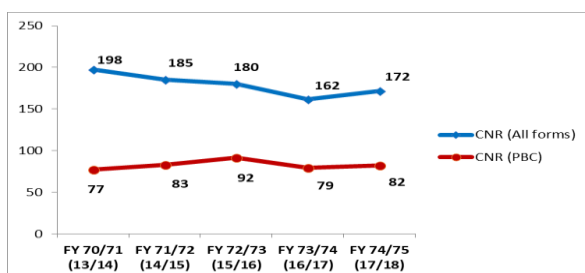
Treatment Outcome



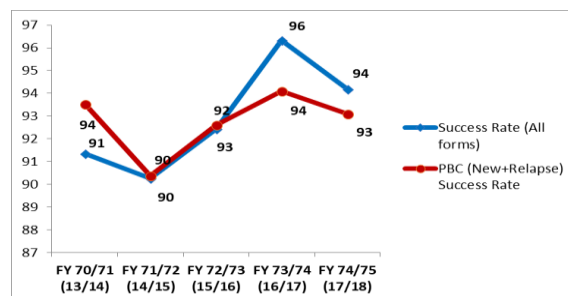
Province 3

Bhaktapur

Case Notification Rate

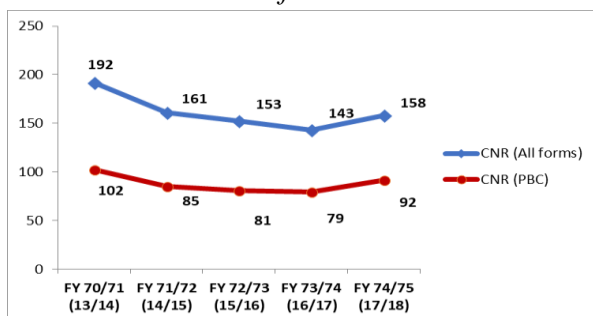


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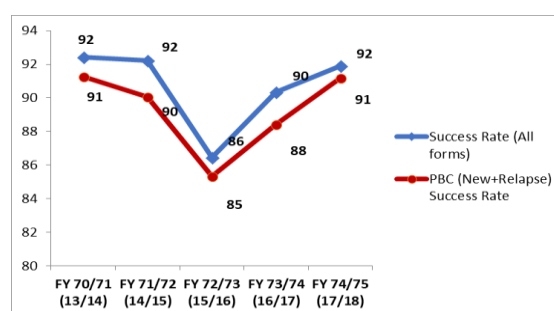


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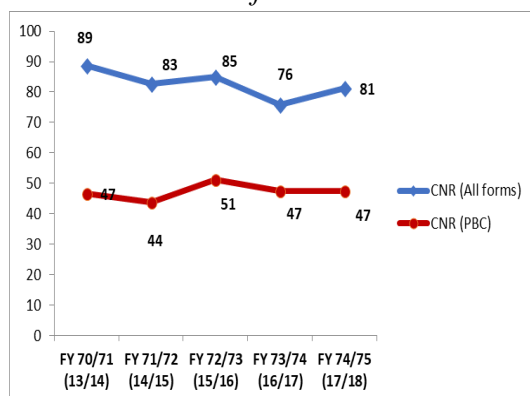


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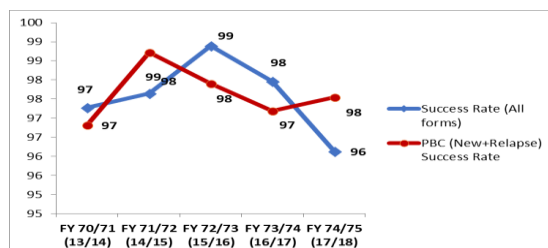


Dhading

Case Notification Rate

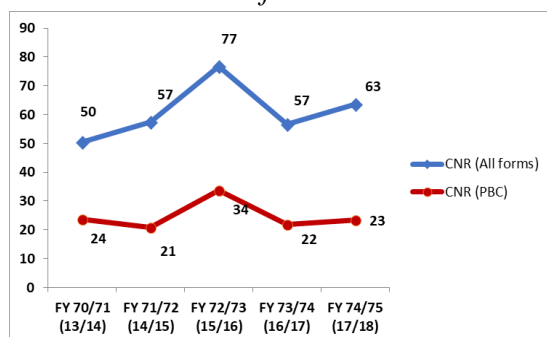


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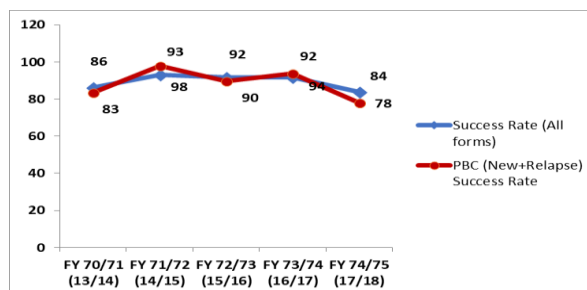


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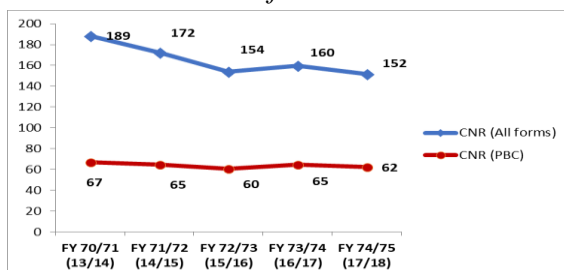


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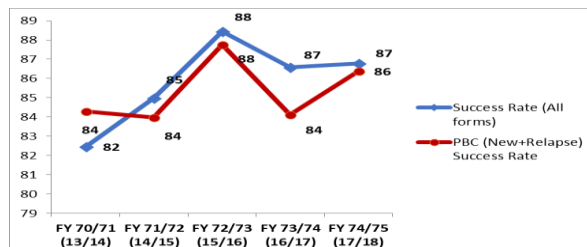


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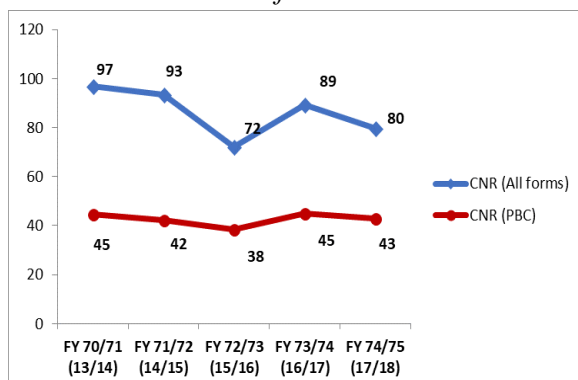


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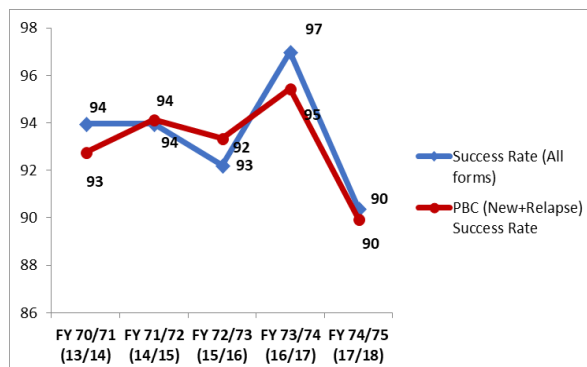


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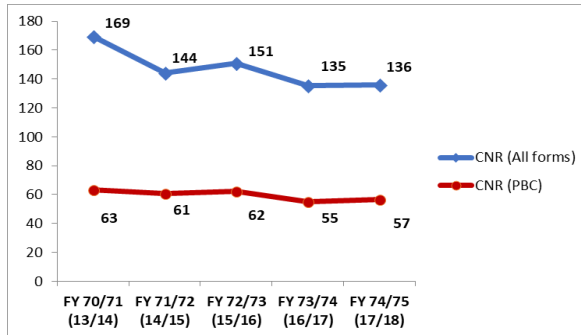


Treatment Outcome

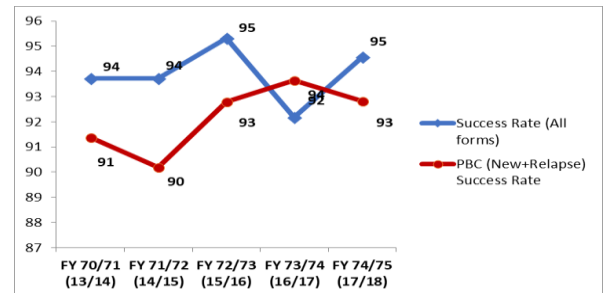


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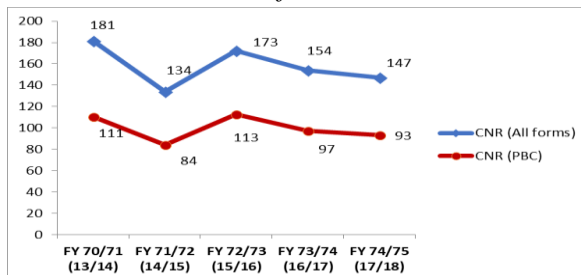


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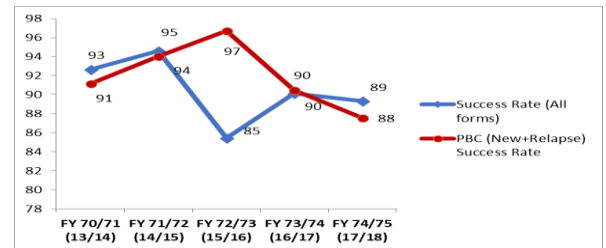


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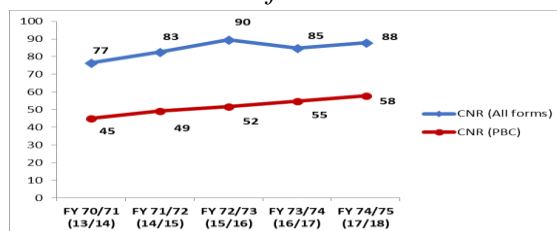


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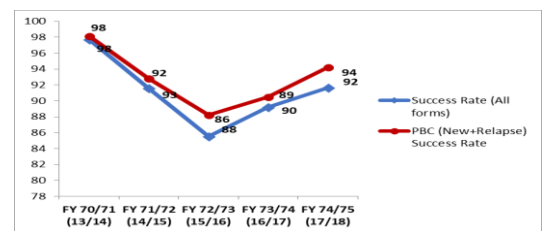


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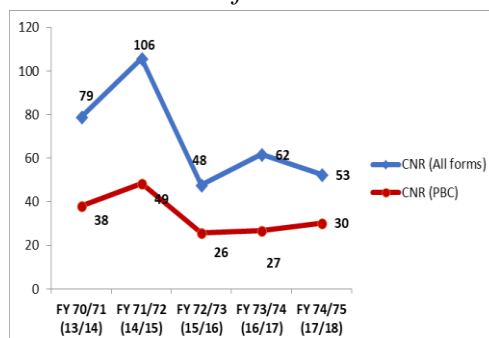


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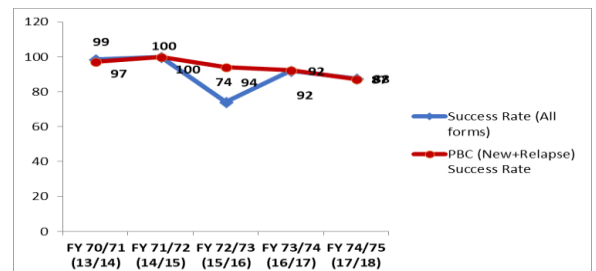


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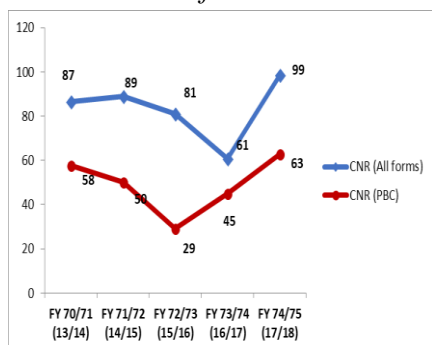


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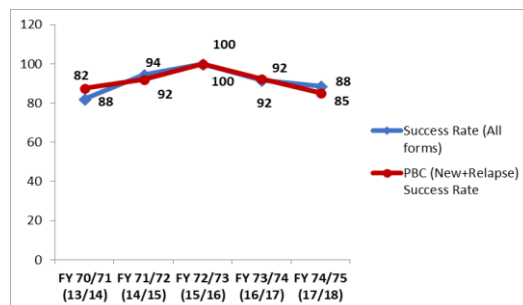


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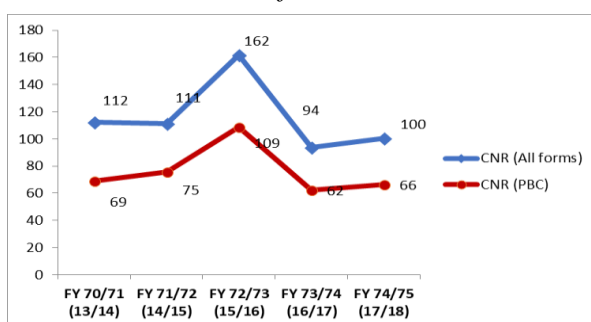


Treatment Outcome

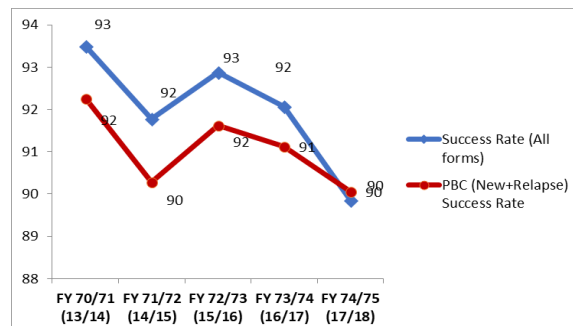


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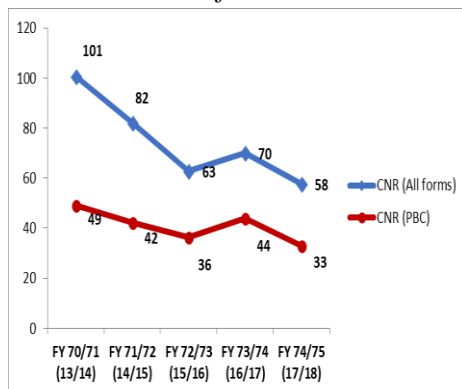


Treatment Outcome

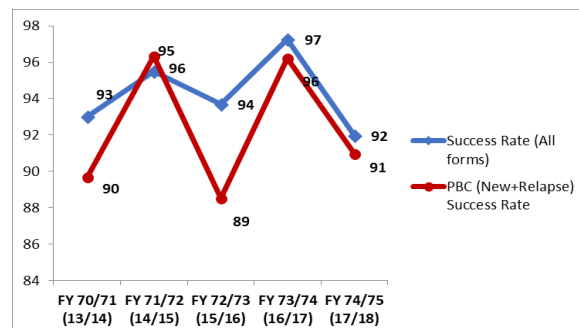


Sindupalchowk

Case Notification Rate



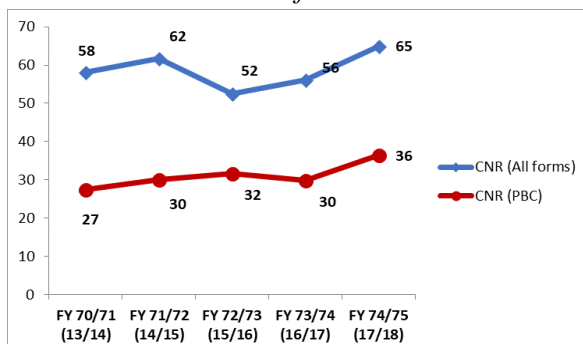
Treatment Outcome



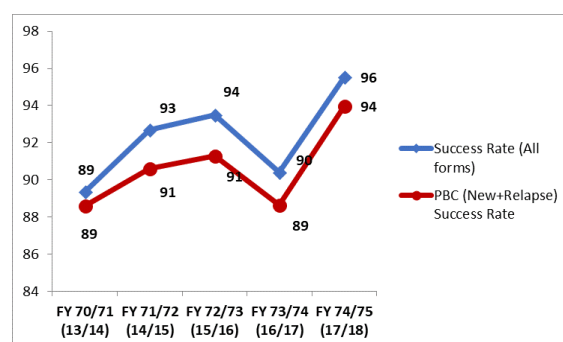
Gandaki Province

Baglung

Case Notification Rate

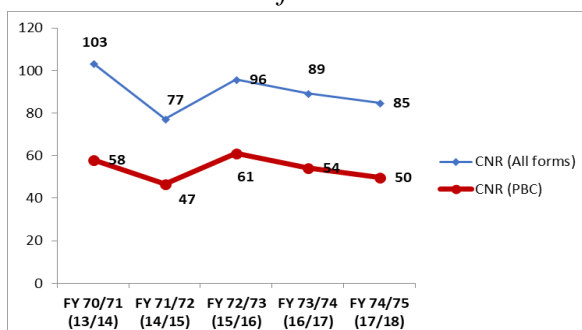


Treatment Outcome

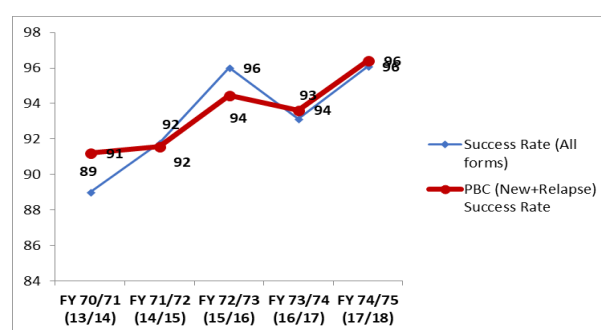


Gorkha

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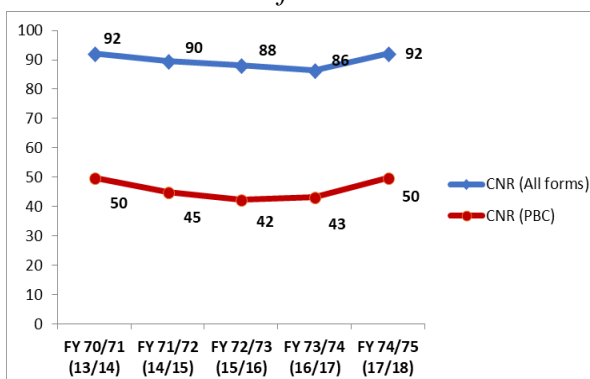


Treatment Outcome

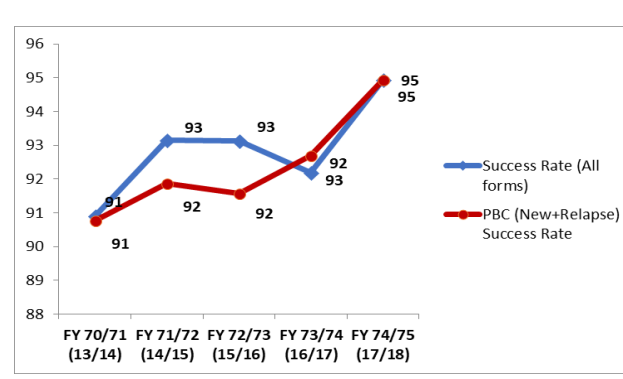


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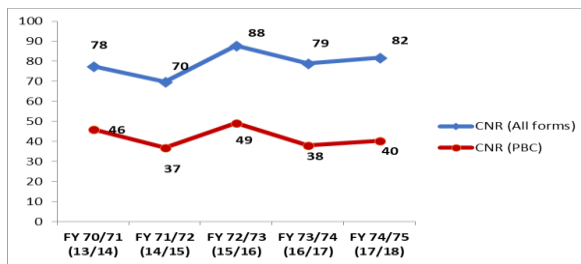


Treatment Outcome

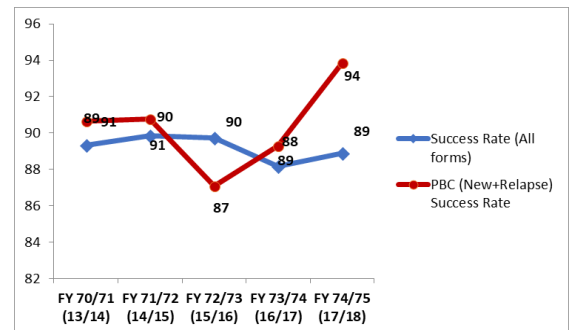


Lamjung

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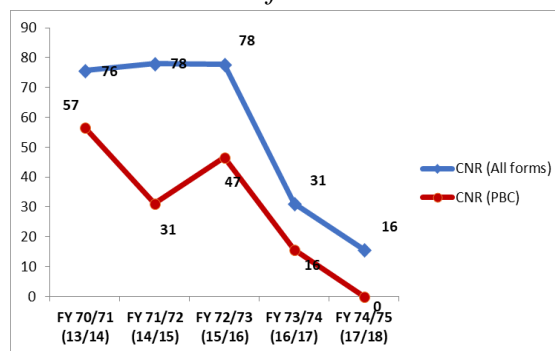


Treatment Outcome

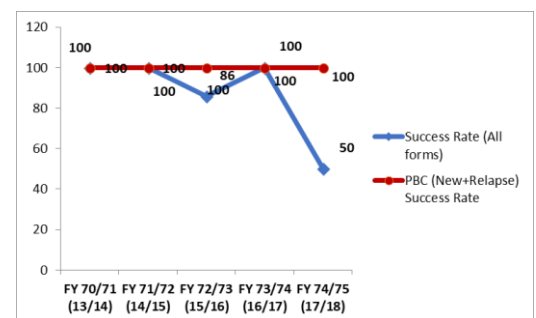


Manang

Case Notification Rate

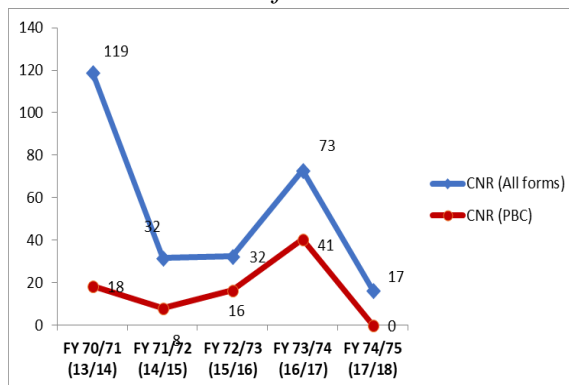


Treatment Outcome

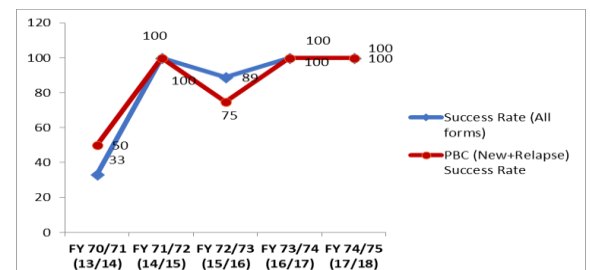


Mustang

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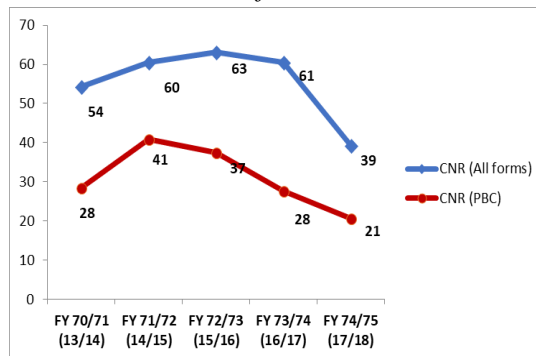


Treatment Outcome

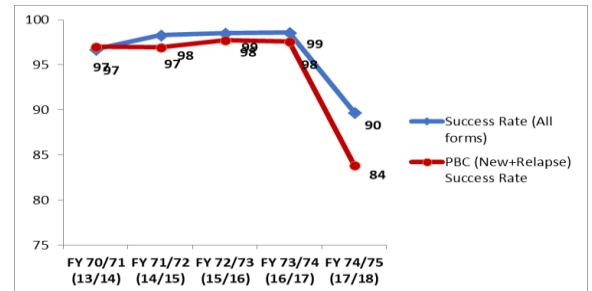


Myagdi

Case Notification Rate

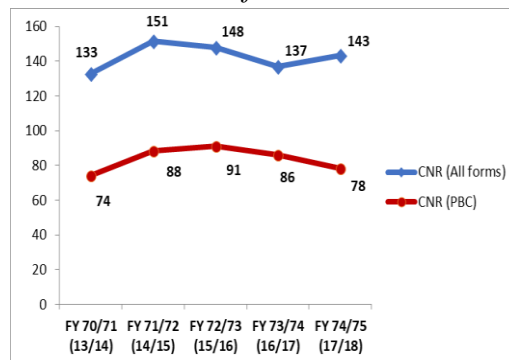


Treatment Outcome

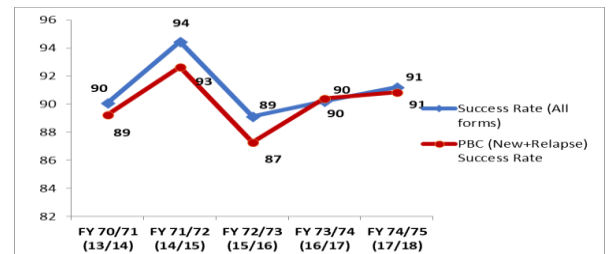


Nawalparasi East

Case Notification Rate

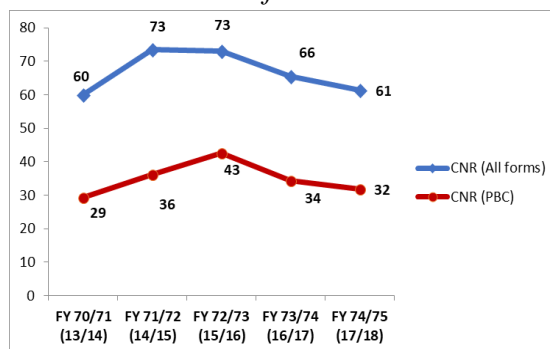


Treatment Outcome

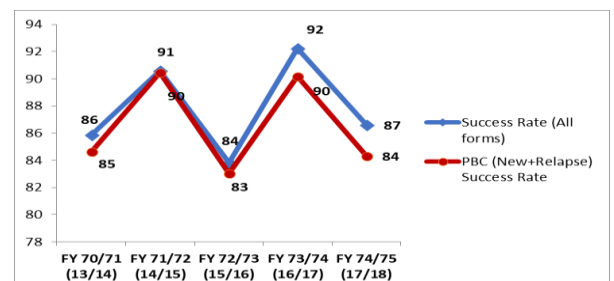


Parbat

Case Notification Rate

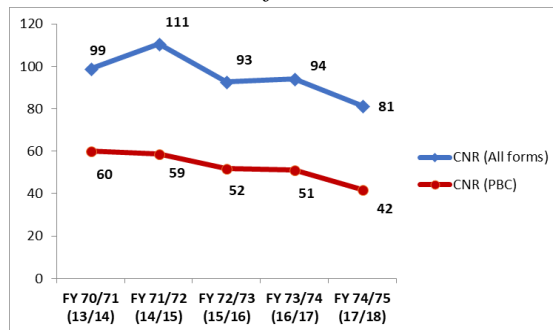


Treatment Outcome

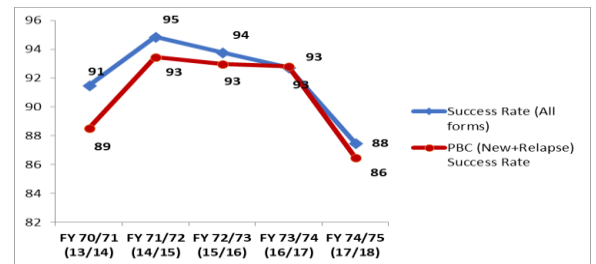


Syangja

Case Notification Rate

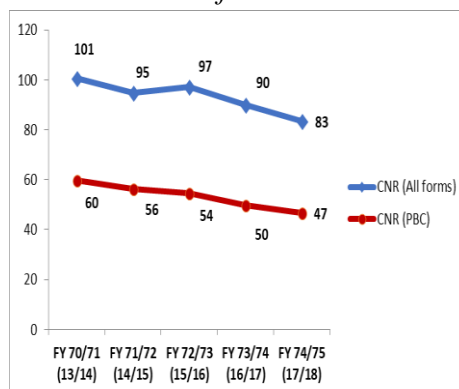


Treatment Outcome

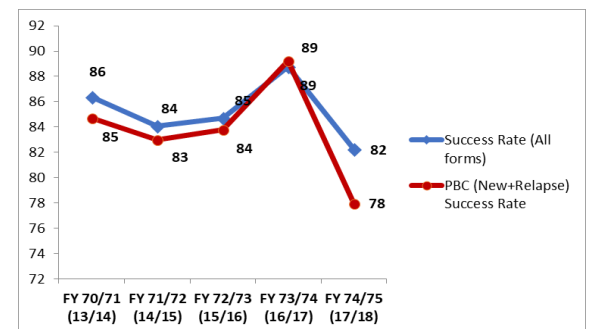


Tanahu

Case Notification Rate



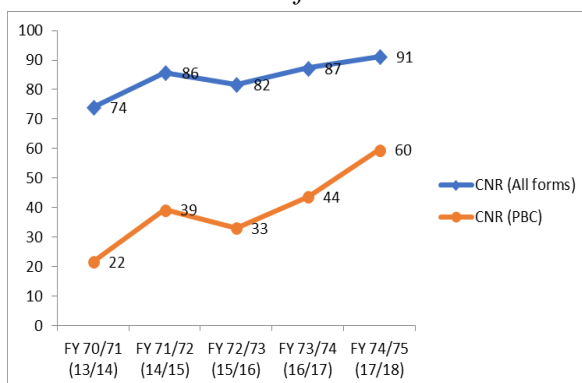
Treatment Outcome



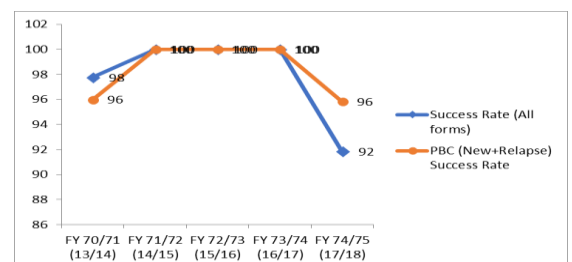
Province 5

Rukum East

Case Notification Rate

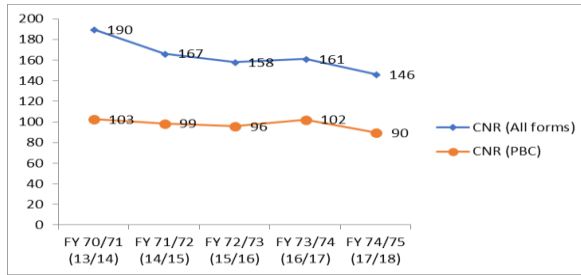


Treatment Outcome

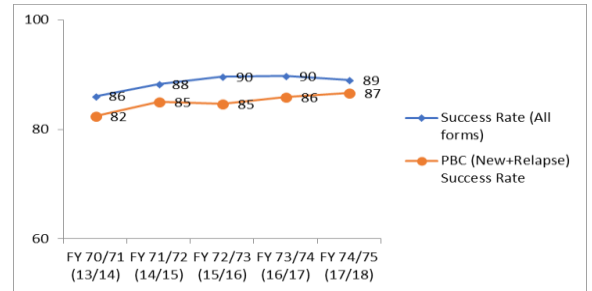


Banke

Case Notification Rate

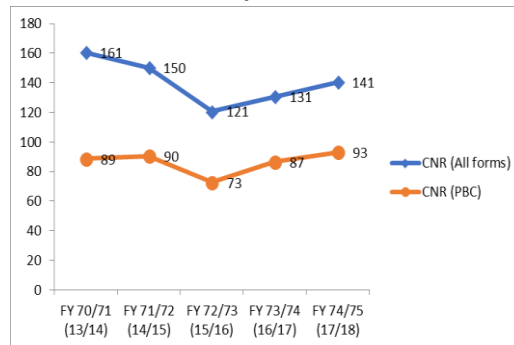


Treatment Outcome

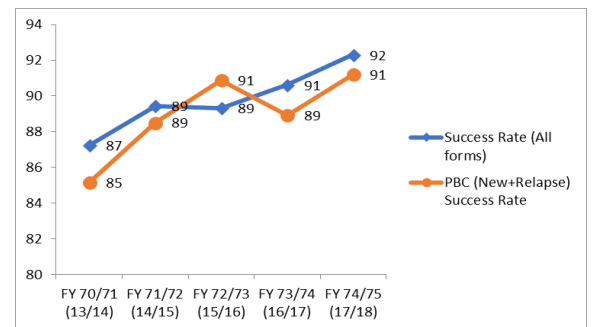


Bardiya

Case Notification Rate

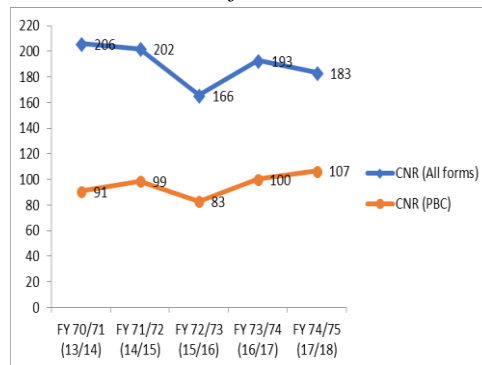


Treatment Outcome

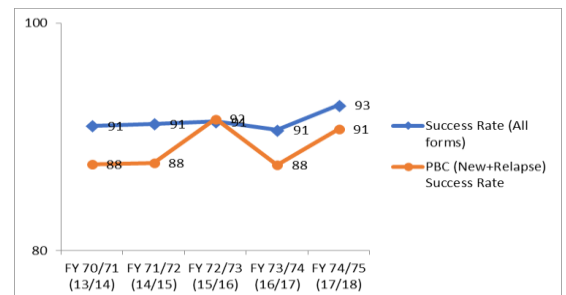


Dang

Case Notification Rate

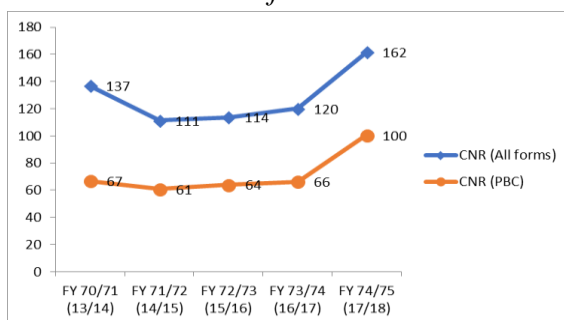


Treatment Outcome

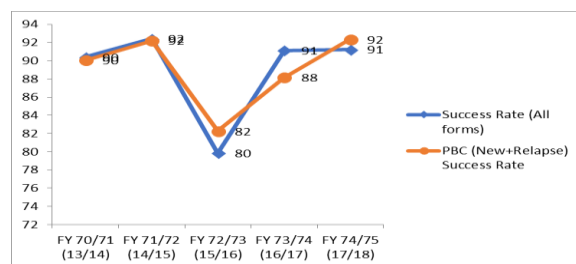


Pyuthan

Case Notification Rate

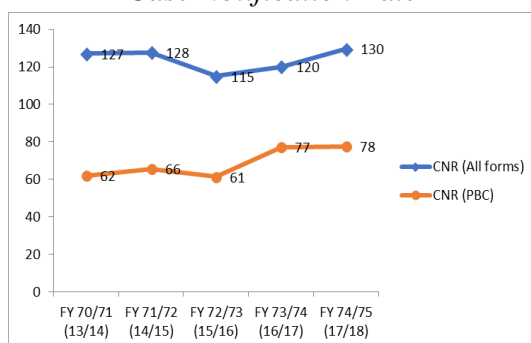


Treatment Outcome

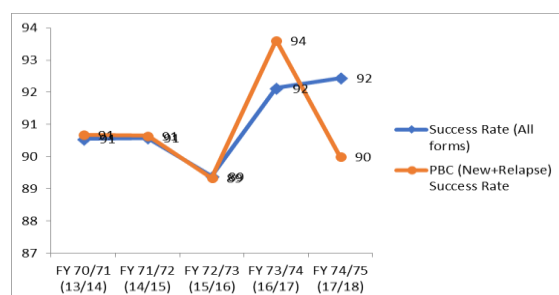


Rolpa

Case Notification Rate

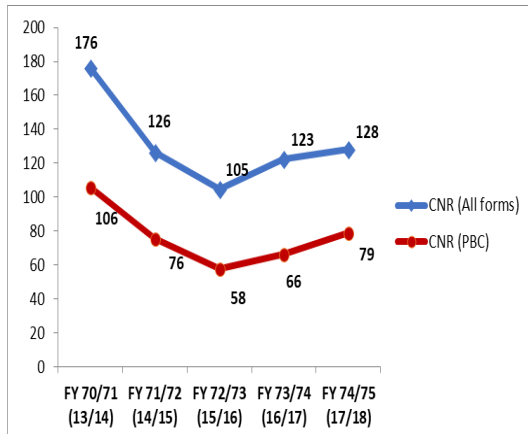


Treatment Outcome

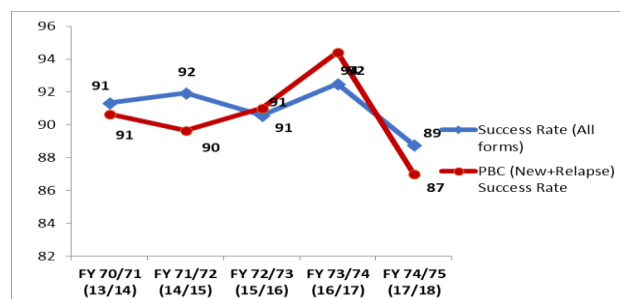


Nawalparasi West

Case Notification Rate

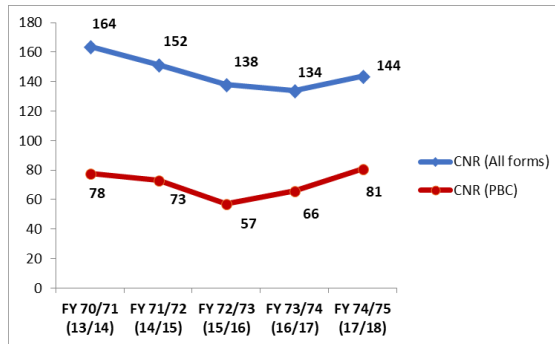


Treatment Outcome

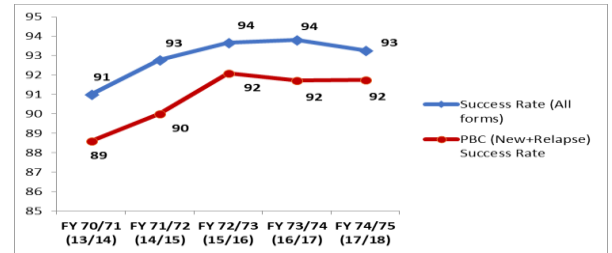


Rupandehi

Case Notification Rate

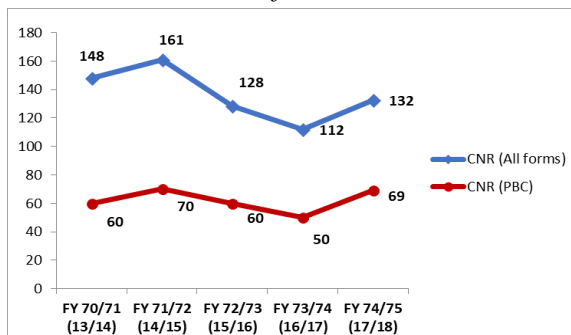


Treatment Outcome

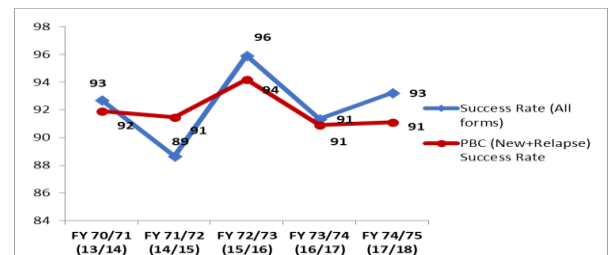


Arghakhanchi

Case Notification Rate

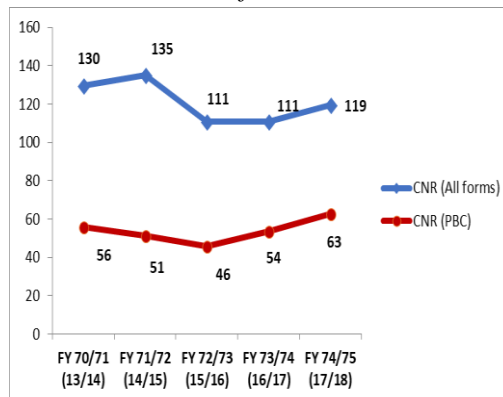


Treatment Outcome

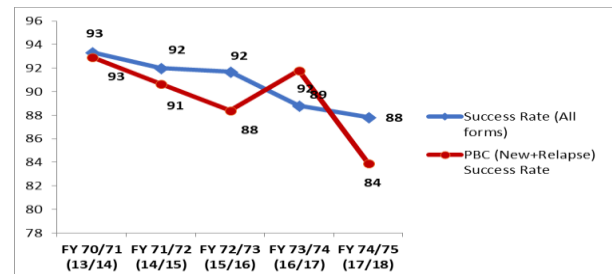


Gulmi

Case Notification Rate

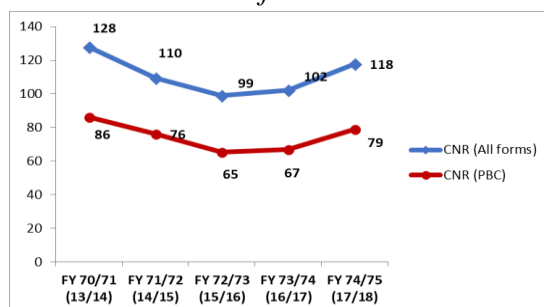


Treatment Outcome

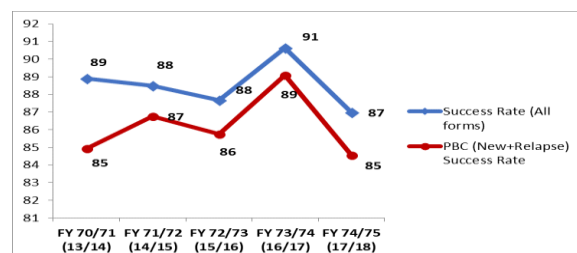


Kapilvastu

Case Notification Rate

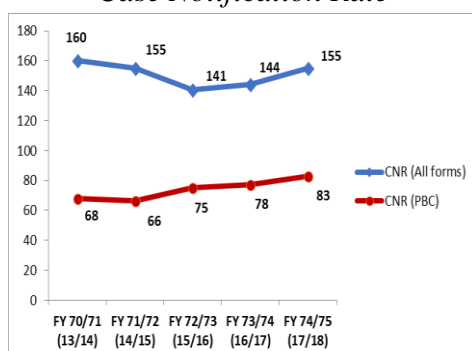


Treatment Outcome

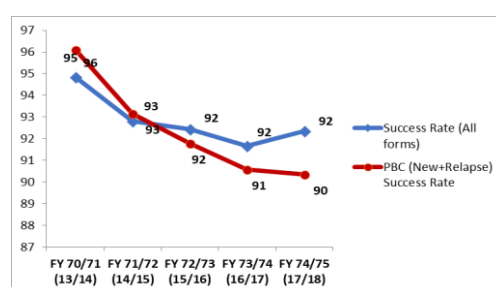


Palpa

Case Notification Rate



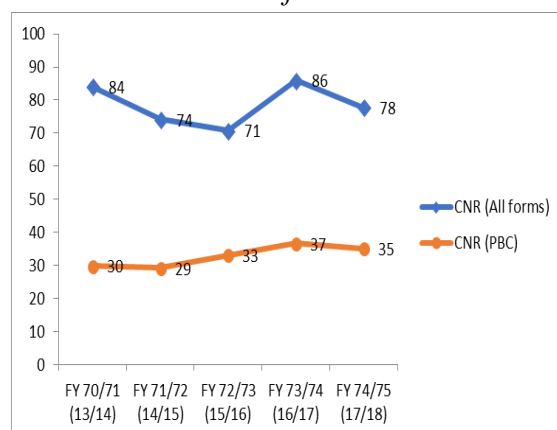
Treatment Outcome



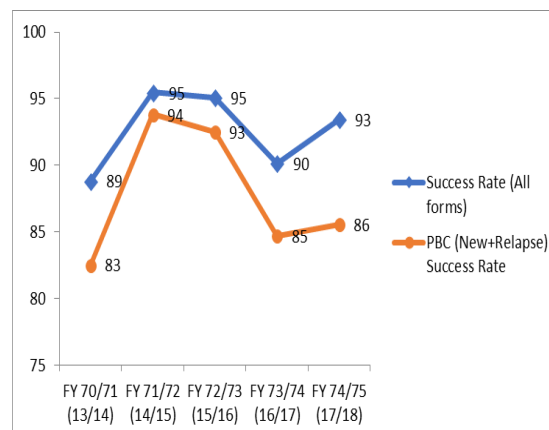
Karnali Province

Dailekh

Case Notification Rate

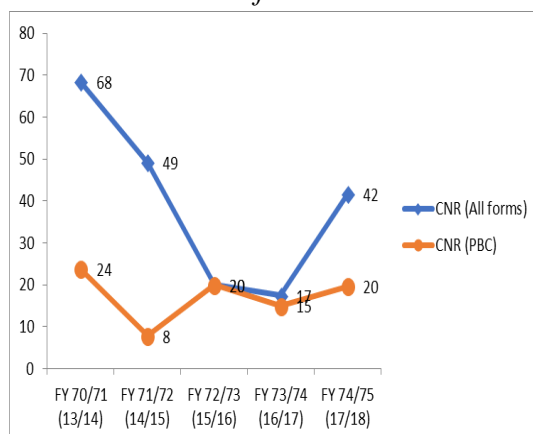


Treatment Outcome

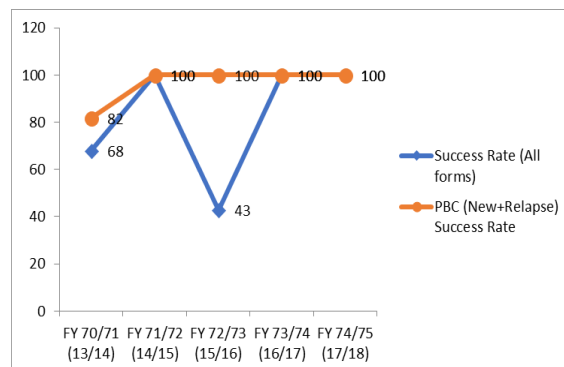


Dolpa

Case Notification Rate

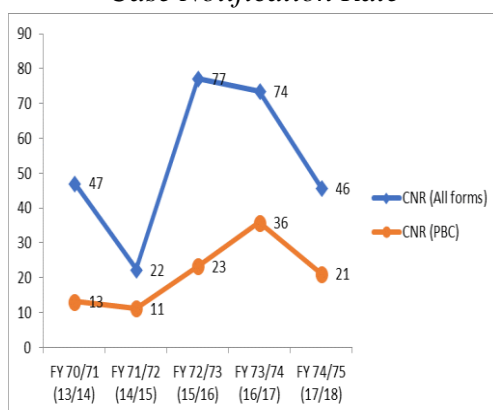


Treatment Outcome

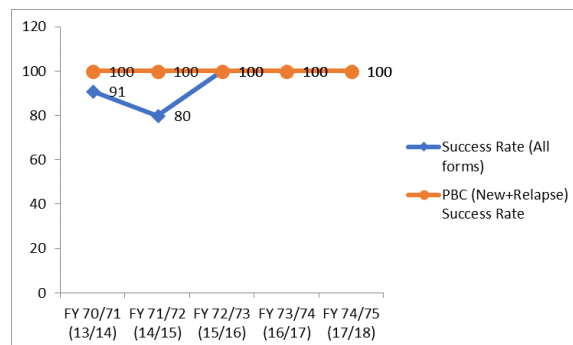


Humla

Case Notification Rate

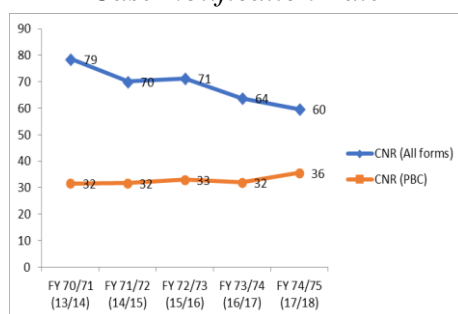


Treatment Outcome

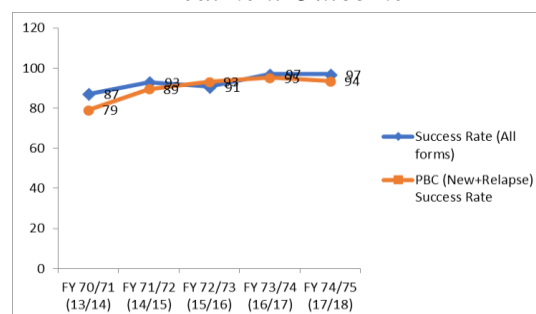


Jajarkot

Case Notification Rate

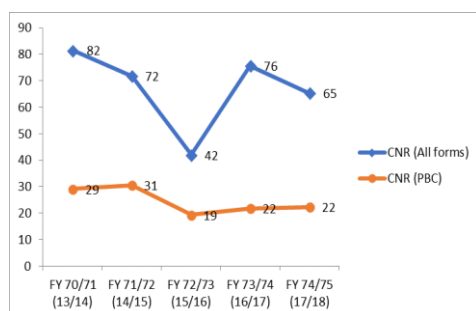


Treatment Outcome

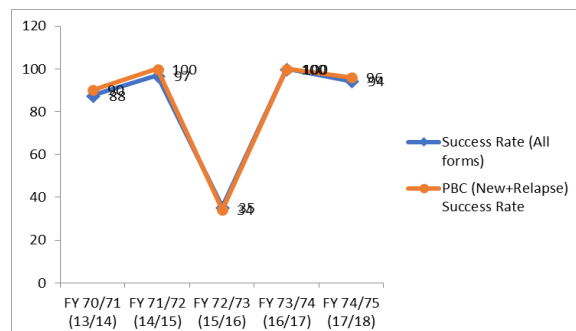


Jumla

Case Notification Rate

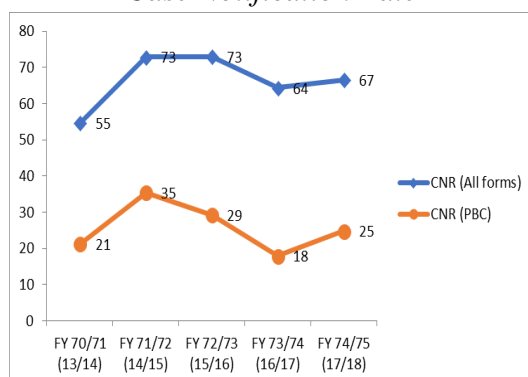


Treatment Outcome

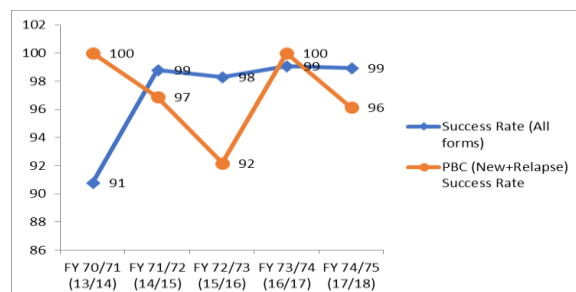


Kalikot

Case Notification Rate

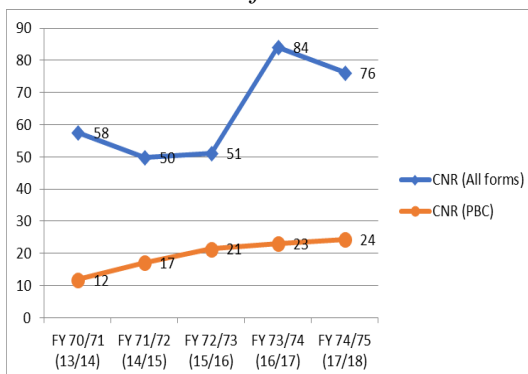


Treatment Outcome

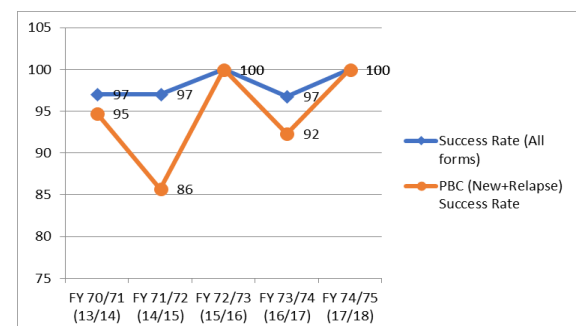


Mugu

Case Notification Rate

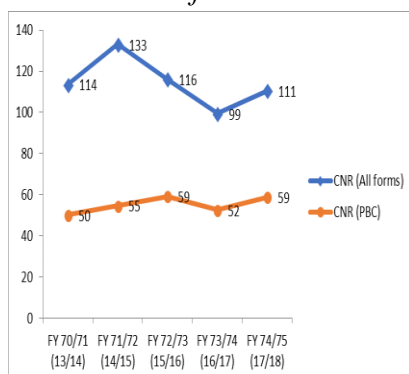


Treatment Outcome

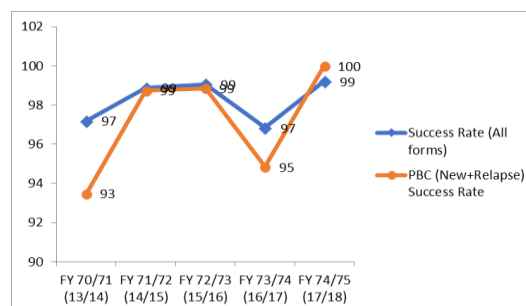


Rukum West

Case Notification Rate

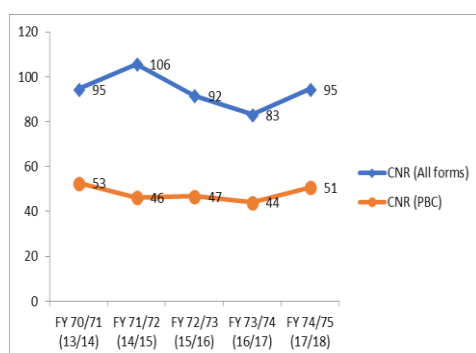


Treatment Outcome

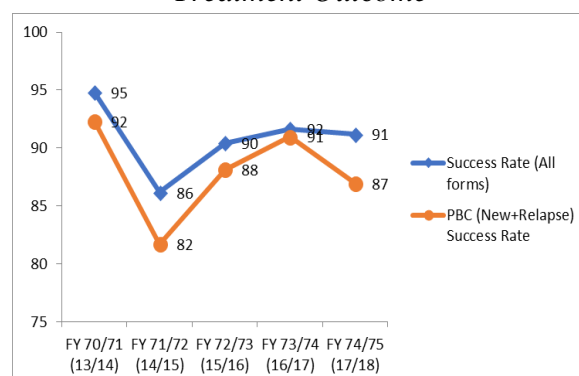


Salyan

Case Notification Rate

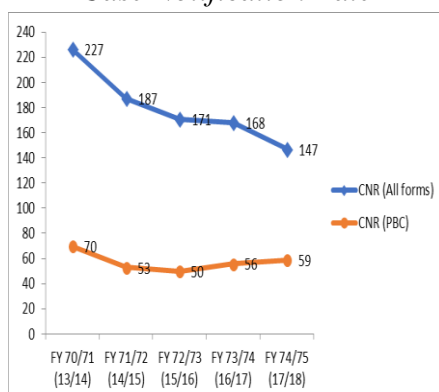


Treatment Outcome

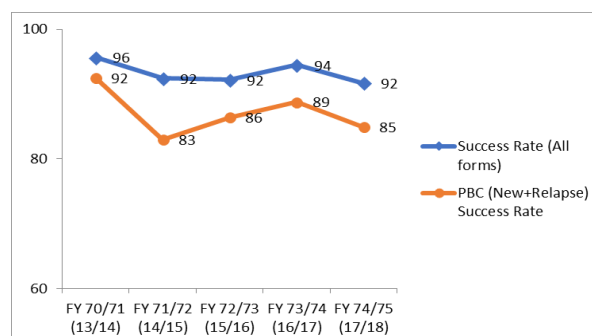


Surkhet

Case Notification Rate



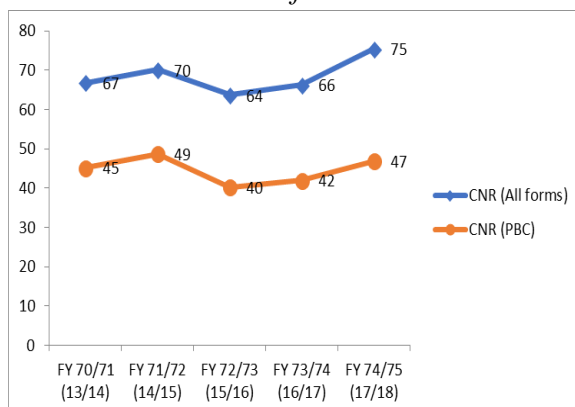
Treatment Outcome



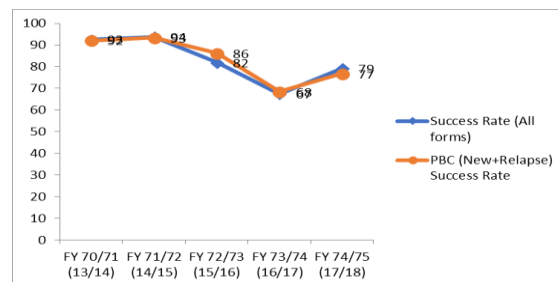
Sudurpaschim Province

Achham

Case Notification Rate

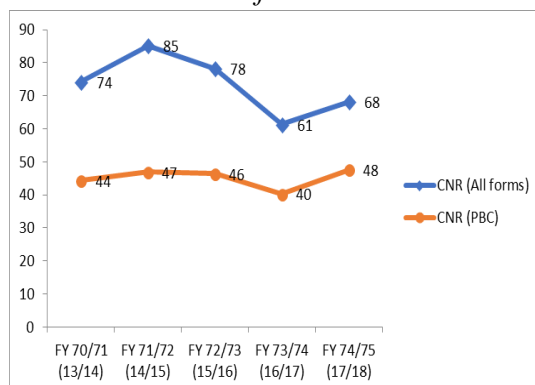


Treatment Outcome

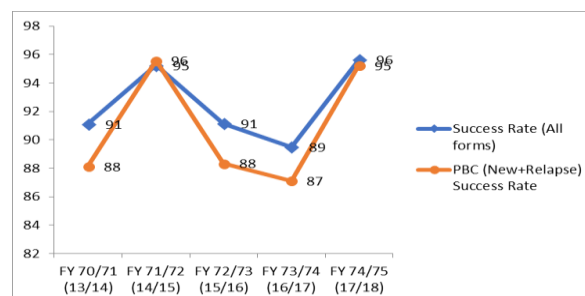


Baitadi

Case Notification Rate

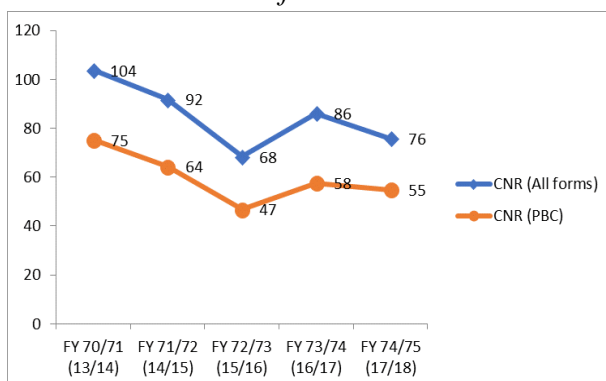


Treatment Outcome

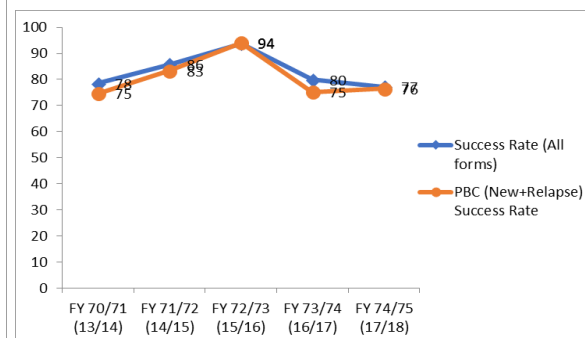


Doti

Case Notification Rate

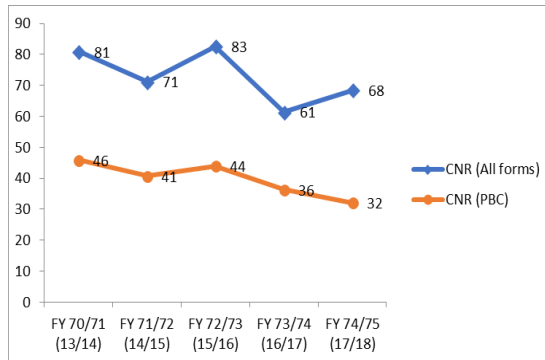


Treatment Outcome

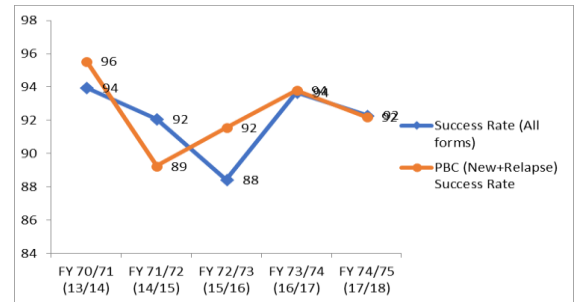


Bajhang

Case Notification Rate

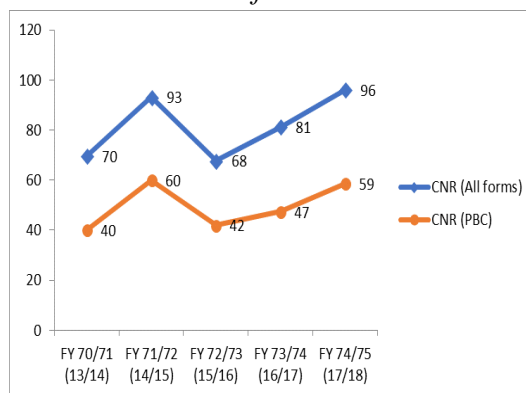


Treatment Outcome

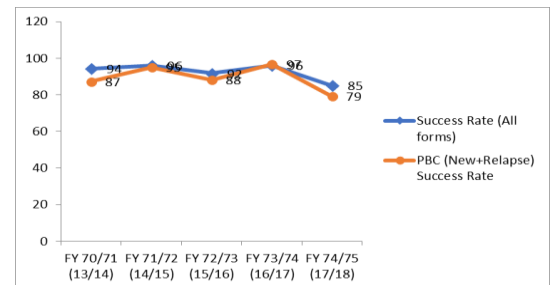


Bajura

Case Notification Rate

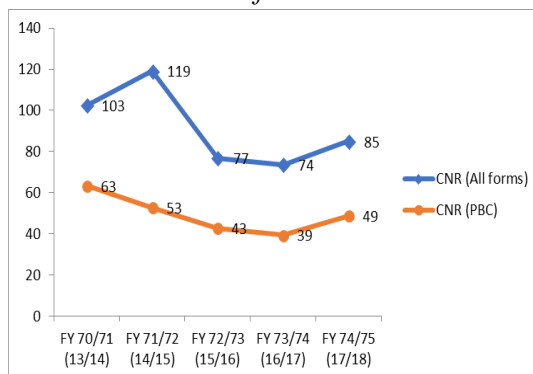


Treatment Outcome

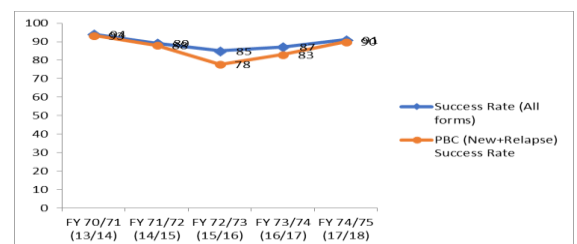


Dadeldhura

Case Notification Rate

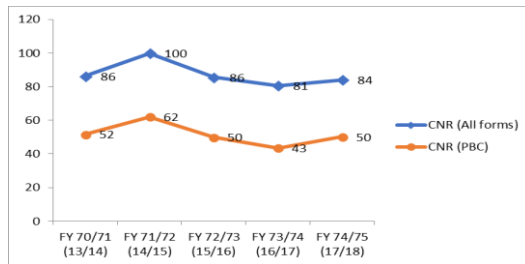


Treatment Outcome

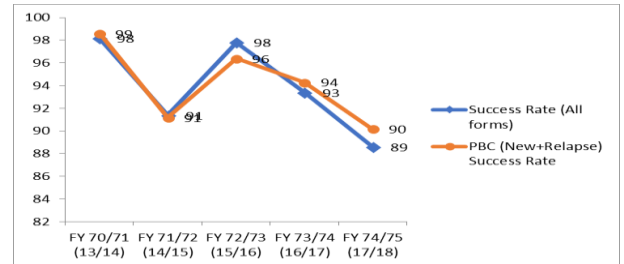


Darchula

Case Notification Rate

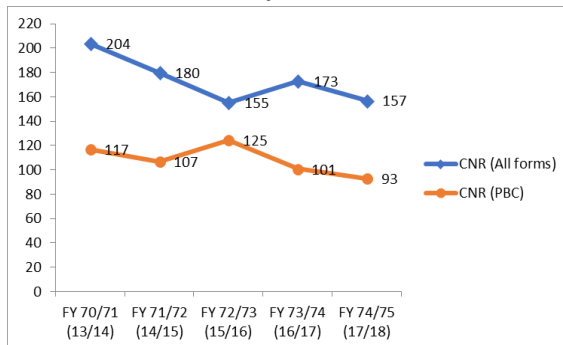


Treatment Outcome

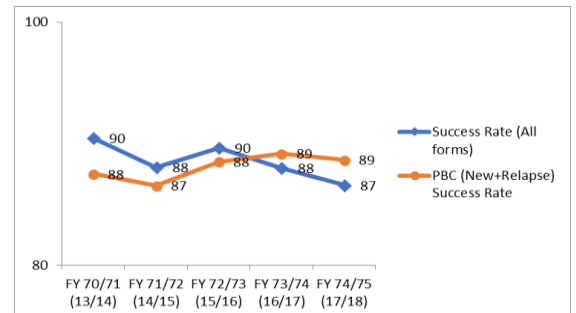


Kanchanpur

Case Notification Rate

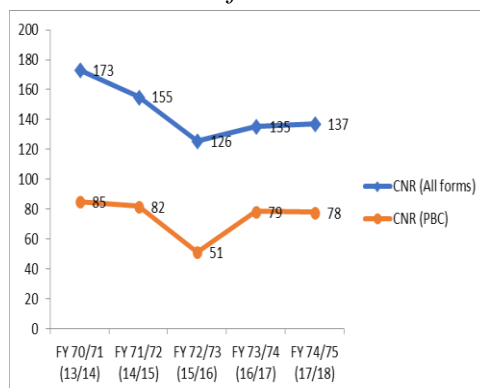


Treatment Outcome

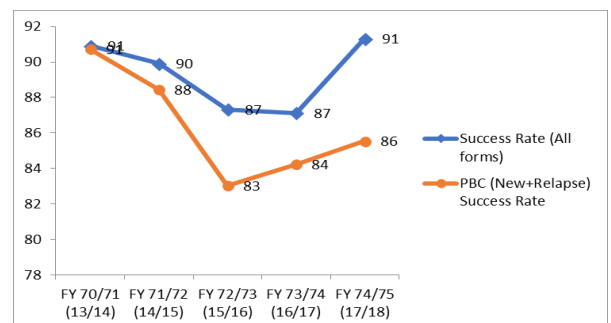


Kailali

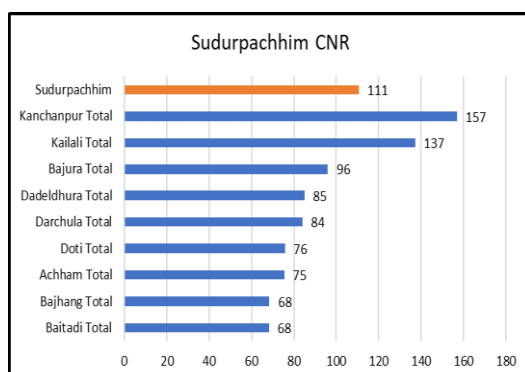
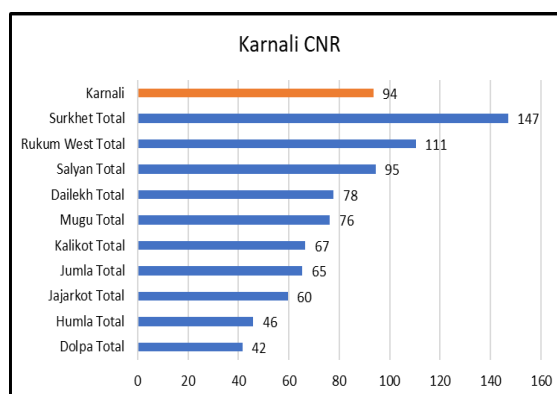
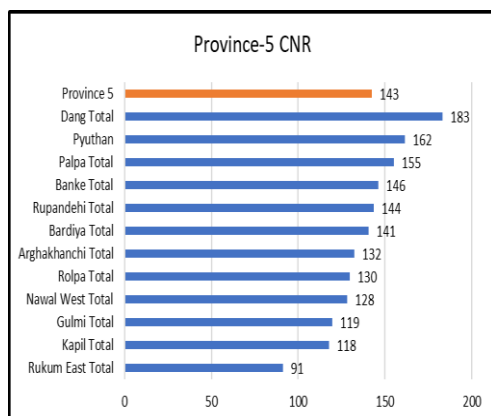
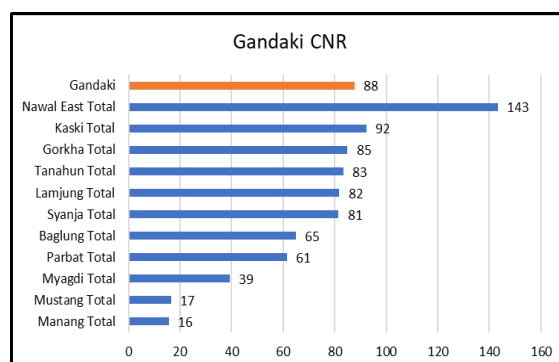
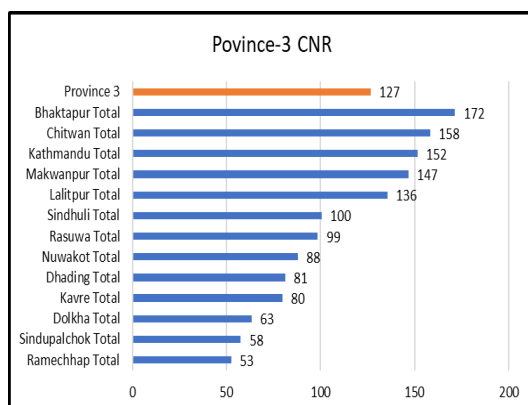
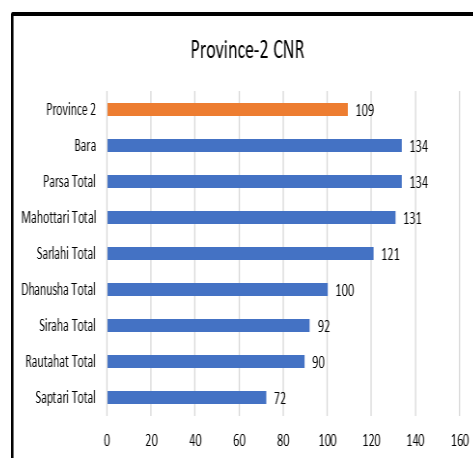
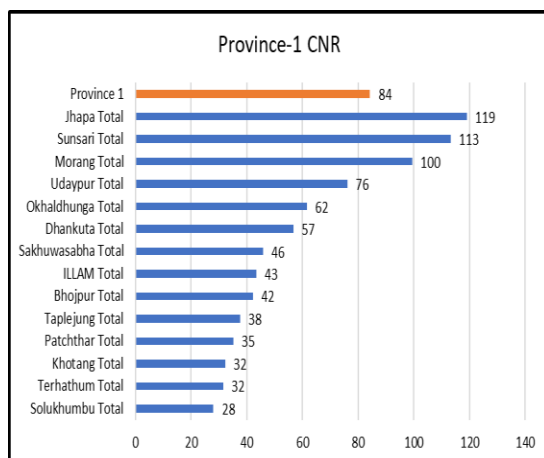
Case Notification Rate



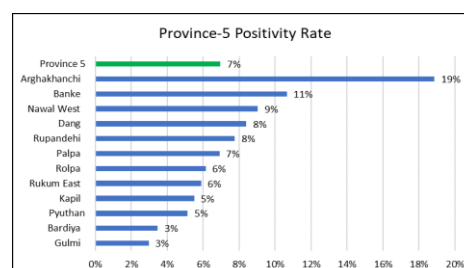
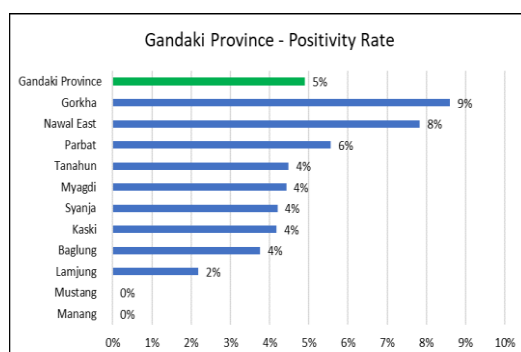
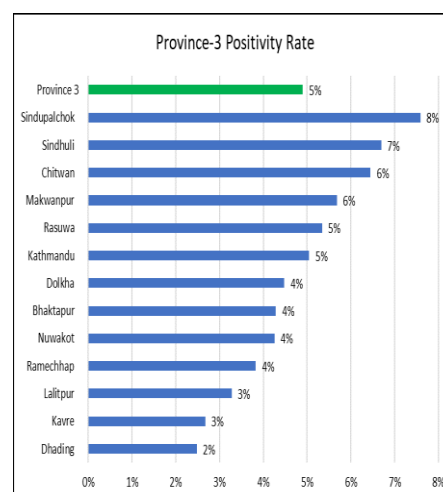
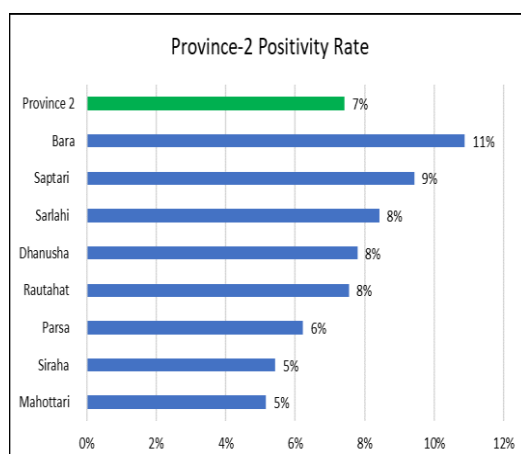
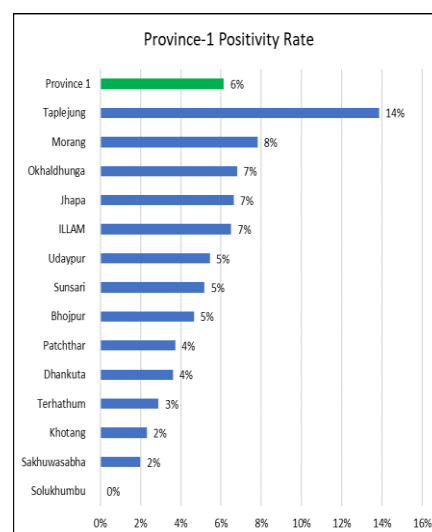
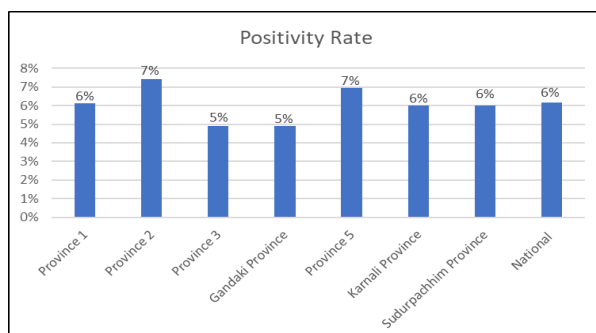
Treatment Outcome

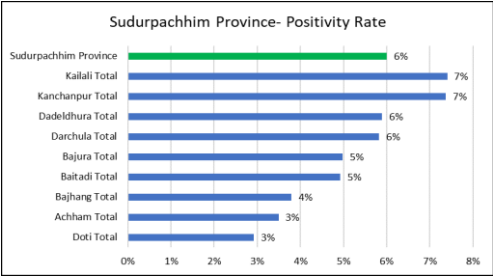
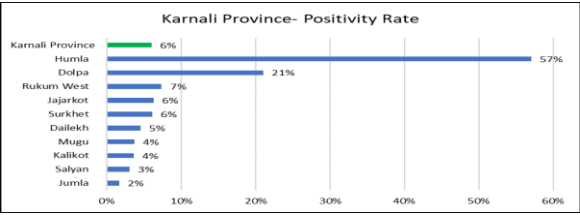


Annex 2 Case Notification Rate 2074-75 (2018)



Annex 3: District wise positivity rate of sputum microscopy





Annex 4: NTP Annual Case Finding Report Fiscal Year: 2074/75 (2018)

Region :	S.N.	Districts	Pulmonary (BC)																	
			New		Relapse		Treatment After Failure		Treatment After Lost to Follow-up		Other Previously Treated		Other Treatment History Unknown		Transfer In		Total (excluding T in)			
			F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M		
Province 1	Province 1	Bhojpur Total	11	30	1	2	1	0	0	0	0	0	0	0	4	2	13	32		
	Province 1	Dhankuta Total	16	33	0	1	0	0	1	3	0	1	0	1	3	1	17	39		
	Province 1	ILLAM Total	29	57	2	1	0	0	0	0	1	0	0	1	0	1	32	59		
	Province 1	Jhapa Total	164	432	18	55	0	2	0	5	1	3	0	0	6	11	183	497		
	Province 1	Khotang Total	5	26	0	0	0	0	1	0	0	0	0	0	0	0	5	27		
	Province 1	Morang Total	177	348	14	52	1	0	2	6	1	4	0	2	4	5	195	412		
	Province 1	Okhaldhunga Total	12	40	0	5	1	3	0	1	0	0	0	0	0	1	3	13	49	
	Province 1	Panchthar Total	11	21	1	4	0	1	0	0	0	0	0	0	0	1	3	12	26	
	Province 1	Sakhuwasabha Total	7	27	2	4	0	0	0	0	0	0	0	0	0	0	0	9	31	
	Province 1	Solukhumbu Total	5	10	0	0	0	0	0	0	0	0	0	0	0	0	0	5	10	
	Province 1	Sunsari Total	144	321	12	37	2	3	0	5	1	2	0	5	4	159	368	814		
	Province 1	Taplejung Total	6	14	0	2	0	0	0	0	0	0	0	0	0	0	6	16		
	Province 1	Terhathum Total	1	14	1	1	0	0	0	0	0	0	0	0	0	0	2	15		
	Province 1	Udaypur Total	41	114	2	9	0	5	0	0	0	0	0	0	0	0	43	128		
	Province 2	Province 2	Province 2	629	1487	53	173	5	15	3	20	4	10	0	4	24	30	694	1709	
Province 2		Saptari Total	79	181	1	10	0	0	0	1	0	1	0	0	0	3	80	193		
Province 1		Siraha Total	107	253	3	14	1	2	1	1	0	0	0	0	3	0	112	270		
Province 2		Bara	205	336	20	49	2	4	1	2	0	1	0	0	4	1	228	392		
Province 2		Dhanusha Total	154	286	13	26	3	2	0	0	0	0	0	1	2	2	170	317		
Province 2		Mahottari Total	171	301	16	33	4	4	0	2	0	0	1	0	0	1	192	340		
Province 2		Parsa Total	154	264	10	32	1	0	0	4	0	0	0	0	3	3	165	300		
Province 2		Rautahat Total	123	274	12	36	1	3	0	1	0	0	0	0	1	0	136	314		
Province 2		Sarlahi Total	228	341	24	61	1	3	0	4	0	0	0	0	8	8	253	409		
Province 2		Province 2	1221	2236	99	261	13	18	2	15	0	4	1	1	21	18	1336	2535		
Province 3	Province 3	Bhaktapur Total	92	150	18	28	2	0	0	2	0	0	0	0	6	8	112	180		
	Province 3	Chitwan Total	167	340	22	81	1	4	1	4	0	0	0	1	4	6	191	430		
	Province 3	Dhading Total	42	100	4	20	0	1	0	2	0	0	0	0	0	2	46	123		
	Province 3	Dolcha Total	11	25	0	8	0	0	0	0	0	0	0	0	1	2	11	33		
	Province 3	Kathmandu Total	471	659	48	130	3	10	2	7	9	14	1	5	24	54	534	825		
	Province 3	Kavre Total	33	123	3	12	0	2	0	0	0	1	0	0	2	2	36	138		
	Province 3	Lalitpur Total	104	166	17	22	1	0	1	0	2	3	2	0	5	9	127	191		
	Province 3	Makwanpur Total	117	240	13	50	0	1	0	0	0	0	0	0	7	14	130	291		
	Province 3	Nuwakot Total	43	93	5	24	0	0	0	2	0	0	0	0	0	0	48	119		
	Province 3	Ramechhap Total	9	47	1	6	0	0	0	0	0	1	0	0	0	1	10	54		
Province 4	Province 3	Rasuwa Total	4	19	3	2	0	0	0	1	0	1	0	0	1	2	9	21		
	Province 3	Sindhuli Total	48	127	5	24	0	0	0	2	0	0	0	0	1	1	53	153		
	Province 3	Sindupalchok Total	22	59	4	12	0	2	0	2	0	0	0	0	1	7	6	26		
	Province 4	Province 4	1163	2148	143	419	7	20	5	21	12	19	3	7	58	107	1333	2634		
	Province 4	Baglung Total	28	55	5	14	0	0	0	0	0	0	0	0	1	1	33	69		
	Province 4	Gorkha Total	23	82	5	17	0	1	0	1	0	0	0	0	4	6	28	101		
	Province 4	Kaski Total	94	150	8	27	0	1	1	0	0	0	0	0	5	3	103	178		
	Province 4	Lamjung Total	24	40	2	3	0	2	0	0	0	0	0	0	0	0	26	45		
	Province 4	Manang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Province 4	Mustang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Province 5	Province 4	Myagdi Total	7	15	0	1	0	0	0	0	0	0	0	0	1	0	7	17		
	Province 4	Nawal East Total	84	146	7	30	1	5	1	2	0	0	0	0	2	2	93	163		
	Province 4	Parbat Total	17	24	1	5	1	2	0	0	0	0	0	0	0	1	20	31		
	Province 4	Syanja Total	24	64	3	19	0	1	0	0	0	0	0	0	0	0	27	84		
	Province 4	Tanahun Total	41	98	2	18	1	1	0	1	0	0	0	0	1	1	44	118		
	Province 5	Province 4	342	674	33	134	3	13	3	4	0	0	0	0	1	13	14	381	826	
	Province 5	Arghakhanchi Total	33	76	8	22	1	1	0	0	0	1	0	0	0	0	42	100		
	Province 5	Gulmi Total	39	88	8	30	0	0	0	0	0	0	0	0	0	0	47	118		
	Province 5	Kapli Total	145	313	11	37	1	11	2	5	0	0	0	0	4	159	366			
	Province 5	Nawal West Total	76	164	11	36	0	1	0	3	1	0	0	0	3	3	88	204		
Province 6	Province 5	Palpa Total	58	126	4	22	1	1	0	0	0	0	0	0	0	3	63	149		
	Province 5	Rupandehi Total	260	449	26	85	1	3	2	5	1	9	0	0	6	8	290	551		
	Province 5	Banka Total	175	282	14	46	8	10	2	2	1	2	1	1	3	201	343			
	Province 5	Bardiya Total	121	253	13	47	5	2	0	0	0	0	0	0	5	4	139	302		
	Province 5	Dang Total	221	358	20	65	7	2	0	4	0	1	0	2	6	6	248	432		
	Province 5	Pyuthan	76	126	8	30	1	2	0	0	1	2	0	1	0	2	86	161		
	Province 5	Rolpa Total	48	103	8	23	0	4	0	0	0	0	0	1	1	1	57	131		
	Province 5	Rukum East Total	15	18	1	0	0	0	0	0	0	0	0	0	0	0	16	18		
	Province 5	Province 5	1267	2356	132	443	25	37	6	19	4	15	2	5	22	33	1436	2875		
	Province 6	Dallekh Total	20	75	3	3	0	0	0	0	0	0	0	0	0	0	23	78		
Province 7	Province 6	Dolpa Total	1	4	1	2	0	0	0	0	0	0	0	0	2	3	2	6		
	Province 6	Humla Total	3	8	1	0	0	0	0	0	1	0	0	0	0	1	4	8		
	Province 6	Jajarkot Total	18	43	2	5	0	0	0	0	0	0	0	0	0	0	20	49		
	Province 6	Jumla Total	8	16	0	3	0	0	0	0	0	0	0	0	2	1	8	19		
	Province 6	Kalikot Total	10	25	1	2	0	0	0	0	1	0	0	0	2	1	11	28		
	Province 6	Mugu Total	6	8	0	1	0	0	0	0	0	0	0	0	2	0	6	9		
	Province 6	Rukum West Total	33	49	4	12	0	0	0	2	0	0	0	0	0	0	37	63		
	Province 6	Salyan Total	37	64	9	24	0	0	0	1	0	0	0	0	0	0	46	89		
	Province 6	Surkhet Total	58	150	2	25	3	4	0	2	0	0	0	0	0	0	63	181		
	Province 6	Province 6	194	442	23	77	3	4	0	7	0	0	0	0	8	6	220	530		
Province 7	Province 7	Achham Total	38	75	3	15	1	2	2	5	1	8	0	4	4	45	109	245		
	Province 7	Baitadi Total	27	73	6	19	0	0	0	0	0	0	0	0	0	0	33	92		
	Province 7	Bajhang Total	28	29	6	6	0	1	0	1	2	4	0	0	2	0	36	41		
	Province 7	Bajura Total	26	42	8	12	1	3	0	1	0	0	0	0	0	2	35	58		
	Province 7	Dadeldhura Total	21	48	0	6	0	0	0	1	0	0	0	1	0	0	22	55		
	Province 7	Darchula Total	23	36	4	8	0	0	1	1	0	0	0	0	0	1	28	45		
	Province 7	Doti Total	23	76	5	13	0	1	0	1	0	0	0	0	1	3	28	91		
	Province 7	Kanchanpur Total	121	275	12	65	1	4	0	4	0	2	1	2	2	2	135	352		
	Province 7	Kailali Total	192	422	25	63	6	4	0	3	1	4	0	4	5	5	224	500		
	Province 7	Province 7	499	1076	69	207	9	15	3	17	4	18	2	10	10	17	586	1343		
National Total			5315	10411	552	1714	65	122	22	103	24	66	8	28	156	225	5986	12452		

Region :	S.N.	Districts	Pulmonary (CD)													
			New		Relapse		Treatment After Lost to Follow-up		Other Previously Treated		Other Treatment History Unknown		Transfer In		Total (excluding T in)	
			F	M	F	M	F	M	F	M	F	M	F	M	F	M
Province 1	Province 1	Bhojpur Total	0	4	0	0	0	0	0	0	0	0	1	1	0	4
	Province 1	Dhankuta Total	2	7	0	0	0	0	0	0	0	0	0	1	2	7
	Province 1	ILLAM Total	5	12	0	0	0	0	0	0	0	0	0	0	5	12
	Province 1	Jhapa Total	37	82	2	4	0	0	2	1	0	0	0	2	41	87
	Province 1	Khotang Total	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Province 1	Morang Total	21	53	0	0	0	1	2	3	0	0	1	0	23	57
	Province 1	Okhaldhunga Total	3	2	0	0	0	0	0	0	0	0	1	0	3	2
	Province 1	Panchthar Total	1	5	0	0	0	0	0	0	0	0	1	1	1	5
	Province 1	Sakhuwasabha Total	3	8	0	0	0	0	0	0	0	0	2	0	3	8
	Province 1	Solukhumbu Total	1	4	1	0	0	0	0	0	0	0	0	0	2	4
	Province 1	Sunsari Total	22	65	0	1	0	0	1	1	0	0	0	1	23	67
	Province 1	Taplejung Total	1	2	0	0	0	0	0	0	0	0	0	0	1	2
	Province 1	Terhathum Total	1	3	0	0	0	0	0	0	0	0	0	1	1	3
	Province 1	Udaypur Total	10	17	0	0	0	0	0	0	0	0	0	0	10	17
Province 2	Province 2	Province 1	107	265	3	5	0	1	5	5	0	0	6	7	115	276
	Province 2	Saptari Total	35	67	0	0	0	0	0	1	0	0	0	0	35	68
	Province 2	Siraha Total	34	69	0	1	1	0	0	0	0	0	0	2	35	70
	Province 2	Bara	75	125	0	2	1	1	0	0	0	0	0	1	76	128
	Province 2	Dhanusha Total	54	93	0	2	0	0	1	1	0	2	0	0	55	98
	Province 2	Mahottari Total	81	147	2	4	0	0	0	0	0	2	0	0	83	151
	Province 2	Parsa Total	72	107	0	2	0	0	0	0	0	0	1	0	72	109
	Province 2	Rautahat Total	45	74	2	2	0	0	0	1	0	0	0	1	47	77
	Province 2	Sarlahi Total	68	116	3	6	0	1	0	0	1	0	3	1	72	123
	Province 2	Province 2	464	798	7	19	2	2	1	3	1	2	6	5	475	824
Province 3	Province 3	Bhaktapur Total	24	21	0	1	0	0	0	0	0	0	3	24	22	
	Province 3	Chitwan Total	47	96	3	3	0	0	0	0	0	1	1	0	50	100
	Province 3	Dhading Total	11	14	1	3	0	1	0	0	0	0	0	0	12	18
	Province 3	Dolkha Total	6	19	1	2	0	0	0	0	0	0	0	0	7	21
	Province 3	Kathmandu Total	77	131	5	4	0	2	1	4	0	1	6	18	83	142
	Province 3	Kavre Total	4	14	0	2	0	0	0	0	0	1	0	0	4	17
	Province 3	Lalitpur Total	18	46	1	2	0	0	0	1	1	1	1	1	20	50
	Province 3	Makwanpur Total	35	61	0	3	1	0	0	0	0	0	0	4	36	64
	Province 3	Nuwakot Total	5	15	0	0	0	0	0	0	0	0	0	0	5	15
	Province 3	Ramechhap Total	1	11	0	0	0	1	0	0	0	0	0	0	1	12
	Province 3	Rasuwa Total	0	5	0	0	0	0	0	0	0	0	0	2	0	5
	Province 3	Sindhuli Total	14	34	2	1	0	0	0	0	0	0	0	0	16	35
	Province 3	Sindupalchok Total	3	16	0	1	0	0	0	0	0	0	2	0	3	17
	Province 3	Province 3	245	483	13	22	1	4	1	5	1	4	10	28	261	518
Province 4	Province 4	Baglung Total	8	18	0	1	0	0	0	0	0	0	0	1	8	19
	Province 4	Gorkha Total	8	11	0	1	0	0	0	0	0	0	1	0	8	12
	Province 4	Kaski Total	16	29	1	0	0	0	0	1	0	0	0	1	17	30
	Province 4	Lamjung Total	8	17	0	1	0	0	0	0	0	0	0	0	8	18
	Province 4	Manang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Mustang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Myagdi Total	1	0	0	1	0	0	0	0	0	0	0	0	1	1
	Province 4	Nawal East Total	29	43	4	3	0	1	0	1	0	0	1	1	33	48
	Province 4	Parbat Total	3	12	0	0	0	0	0	1	0	0	0	0	3	13
	Province 4	Syanja Total	9	16	0	3	0	0	1	0	0	0	0	0	10	19
Province 5	Province 4	Tanahun Total	11	19	1	1	0	0	0	0	0	0	1	1	12	20
	Province 5	Province 4	93	165	6	11	0	1	1	3	0	0	3	4	100	180
	Province 5	Arghakhanchi Total	17	40	0	3	0	0	0	0	0	0	1	1	17	43
	Province 5	Gulmi Total	11	31	1	6	0	0	0	1	0	1	0	0	12	39
	Province 5	Kapil Total	33	58	0	1	0	0	0	0	0	0	2	0	33	59
	Province 5	Nawal West Total	26	45	2	1	0	0	0	1	0	0	1	3	28	47
	Province 5	Palpa Total	9	40	0	2	0	0	0	0	0	0	0	0	9	42
	Province 5	Rupandehi Total	94	148	2	11	0	0	4	1	0	1	1	0	100	161
	Province 5	Banke Total	40	50	0	0	0	1	1	1	2	0	1	1	43	52
	Province 5	Bardiya Total	35	40	0	1	0	0	3	1	2	0	1	2	40	42
Province 6	Province 5	Dang Total	91	111	1	4	0	1	0	1	0	1	4	2	92	118
	Province 5	Pyuthan	16	30	1	1	0	0	0	0	0	0	1	1	17	31
	Province 5	Roipa Total	16	14	0	0	0	0	0	0	1	2	0	0	17	16
	Province 5	Rukum East Total	3	8	0	0	0	0	0	0	0	0	0	0	3	8
	Province 6	Province 5	391	615	7	30	0	2	8	6	5	5	12	10	411	658
	Province 6	Dailekh Total	10	13	0	0	0	0	0	0	0	0	0	1	10	13
	Province 6	Dolpa Total	3	1	0	0	0	0	0	0	0	0	1	4	3	1
	Province 6	Humla Total	0	4	0	0	0	0	0	0	0	0	0	0	0	4
	Province 6	Jajarkot Total	11	15	0	0	0	0	0	0	0	0	0	0	11	15
	Province 6	Jumla Total	8	12	0	0	0	0	0	0	0	0	0	0	8	12
Province 7	Province 6	Kalikot Total	5	8	0	1	0	0	0	1	0	1	0	0	5	11
	Province 6	Mugu Total	3	9	0	0	0	0	0	0	0	0	3	1	3	9
	Province 6	Rukum West Total	15	24	0	1	0	0	0	0	0	0	0	0	15	25
	Province 6	Salyan Total	8	23	0	2	0	0	0	0	0	0	0	0	8	25
	Province 6	Surkhet Total	34	70	0	6	0	0	1	3	1	2	1	3	36	81
	Province 6	Province 6	97	179	0	10	0	0	1	4	1	3	5	9	99	196
	Province 7	Achham Total	5	5	0	0	0	0	0	0	3	2	0	1	8	7
	Province 7	Baitadi Total	9	10	0	1	0	0	0	0	0	1	0	2	9	12
	Province 7	Bajhang Total	6	11	0	0	0	0	0	0	0	0	0	0	6	11
	Province 7	Bajura Total	1	7	0	0	0	0	0	0	0	0	0	1	1	7
Province 7	Province 7	Dadeldhura Total	4	10	0	2	0	0	0	0	0	0	0	0	4	12
	Province 7	Darchula Total	7	20	0	0	0	0	0	0	0	0	0	0	7	20
	Province 7	Doti Total	6	8	1	0	0	0	0	0	0	0	1	1	7	8
	Province 7	Kanchanpur Total	36	66	2	8	1	0	0	1	0	0	0	1	39	75
	Province 7	Kailali Total	51	93	2	5	0	0	0	1	0	1	2	3	53	100
	Province 7	Province 7	125	230	5	16	1	0	0	2	3	4	3	9	134	252
	Province 7	National Total	1522	2735	41	113	4	10	17	28	11	18	45	72	1595	2904

Region :	S.N.	Districts	Extra Pulmonary (BC or CD)														Total All (including T in)		
			New		Relapse		Treatment After Lost to Follow-up		Other Previously Treated		Other Treatment History Unknown		Transfer In		Total (excluding T in)				
			F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	
Province 1	Province 1	Bhojpur Total	8	12	0	0	0	0	0	0	0	0	0	6	8	12	26	57	
	Province 1	Dhankuta Total	10	19	1	0	0	0	0	1	0	0	0	0	11	20	33	68	
	Province 1	ILLAM Total	10	15	0	0	0	0	0	0	0	0	0	0	10	15	47	87	
	Province 1	Jhapa Total	101	148	2	5	0	0	1	1	0	1	3	4	104	155	337	756	
	Province 1	Khotang Total	12	13	0	0	0	0	1	0	0	0	0	0	13	13	18	41	
	Province 1	Morang Total	157	193	0	1	0	1	4	10	0	1	1	10	161	206	385	690	
	Province 1	Okhaldhunga Total	8	17	1	0	0	0	0	0	0	0	2	3	9	17	29	74	
	Province 1	Panchthar Total	11	14	0	0	0	0	0	0	0	0	1	1	11	14	27	50	
	Province 1	Sakhuwasabha Total	10	11	0	0	0	0	0	0	0	0	4	1	10	11	28	51	
	Province 1	Solukhumbu Total	1	7	0	0	0	0	0	0	0	0	0	1	1	7	8	22	
	Province 1	Sunsari Total	174	184	0	0	0	0	4	7	1	0	5	7	179	191	371	638	
	Province 1	Taplejung Total	10	14	0	0	0	0	0	0	0	0	0	0	10	14	17	32	
	Province 1	Terhathum Total	0	11	0	0	0	0	0	0	0	0	0	0	0	11	3	30	
	Province 1	Udaypur Total	28	37	0	0	0	0	0	0	0	0	1	5	28	37	82	187	
Province 2	Province 1		540	695	4	6	0	1	10	19	1	2	17	38	555	723	1411	2783	
	Province 2	Saptari Total	45	79	0	0	0	0	0	0	0	0	1	0	45	79	161	343	
	Province 2	Siraha Total	52	88	2	3	0	0	0	0	0	0	3	2	54	91	207	435	
	Province 2	Bara	98	134	0	0	0	0	1	0	0	1	1	1	99	135	408	658	
	Province 2	Dhanusha Total	72	106	0	1	0	0	1	0	1	0	1	0	74	107	302	524	
	Province 2	Mahottari Total	53	79	2	1	0	0	0	0	0	0	1	0	55	80	333	572	
	Province 2	Parsa Total	118	145	2	2	0	0	1	0	0	0	3	1	121	147	365	560	
	Province 2	Rautahat Total	70	87	3	3	0	0	0	0	0	0	0	0	73	70	257	462	
	Province 2	Sarlahi Total	77	100	1	2	0	1	1	1	2	0	2	0	81	104	419	645	
	Province 2	Province 2	585	798	10	12	0	1	4	1	3	1	12	4	602	813	2452	4199	
	Province 3	Bhaktapur Total	112	138	7	4	1	1	2	0	0	0	4	3	122	143	268	359	
	Province 3	Chitwan Total	125	137	6	8	0	0	1	2	1	1	1	7	133	148	380	691	
	Province 3	Dhading Total	34	45	4	0	0	2	0	0	0	0	1	2	38	47	97	192	
	Province 3	Dolcha Total	18	27	1	0	0	0	0	0	0	1	0	1	19	28	38	88	
Province 3	Kathmandu Total	751	718	33	41	4	2	21	19	7	3	46	55	816	783	1508.5	1877		
Province 3	Kavre Total	50	65	4	1	0	0	0	1	0	1	3	2	54	68	99	227		
Province 3	Lalitpur Total	180	150	7	8	0	0	0	3	1	1	5	3	188	162	346	416		
Province 3	Makwanpur Total	66	76	0	0	0	0	0	0	0	0	5	6	66	76	244	455		
Province 3	Nuwakot Total	27	36	0	1	0	0	0	0	0	0	0	0	27	37	80	171		
Province 3	Ramechhap Total	9	21	0	0	0	0	1	1	0	0	1	6	10	22	22	95		
Province 3	Rasuwa Total	2	6	0	1	0	0	0	0	0	0	0	0	2	7	12	37		
Province 3	Sindhuli Total	18	33	0	1	0	0	0	0	0	0	1	0	18	34	89	223		
Province 3	Sindupalchok Total	19	27	0	1	0	0	0	0	0	0	2	4	19	28	59	131		
Province 4	Province 3		1411	1479	62	66	5	5	25	26	9	7	69	92	1512	1583	3243	4962	
	Province 4	Baglung Total	26	24	1	2	0	0	0	0	0	0	0	3	27	26	69	119	
	Province 4	Gorkha Total	20	47	0	0	0	0	0	0	0	0	2	2	20	47	63	168	
	Province 4	Kaski Total	71	97	4	6	1	0	4	4	2	0	1	3	82	107	208	329	
	Province 4	Lamjung Total	22	19	0	0	0	1	0	1	0	0	1	2	22	21	57	86	
	Province 4	Manang Total	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	
	Province 4	Mustang Total	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	2	
	Province 4	Myagdi Total	5	12	0	1	0	0	0	0	0	0	0	0	5	13	13	31	
	Province 4	Nawal East Total	60	69	0	3	0	1	0	0	0	0	2	1	60	73	191	308	
	Province 4	Parbat Total	10	14	0	0	0	0	0	0	0	0	0	1	10	14	33	60	
	Province 4	Syanja Total	32	40	0	2	0	0	0	0	0	0	1	1	32	42	70	146	
	Province 4	Tanahun Total	33	47	4	2	0	1	0	2	1	0	1	2	38	52	97	194	
	Province 5	Province 4		280	371	9	16	1	3	4	7	3	0	8	15	297	397	802	1436
		Province 5	Arghakhanchi Total	25	38	1	1	0	0	0	0	0	0	1	0	26	39	86	184
Province 5		Gulmi Total	31	62	2	4	0	0	0	0	0	0	1	0	33	66	93	223	
Province 5		Kapil Total	49	85	0	4	0	0	1	0	1	0	1	3	51	89	246	521	
Province 5		Nawal West Total	45	52	0	1	1	0	0	1	0	0	0	1	46	54	166	312	
Province 5		Palpa Total	53	72	2	2	0	0	0	0	0	0	1	1	55	74	128	269	
Province 5		Rupandehi Total	166	164	7	8	1	0	5	5	2	0	4	4	181	177	582	901	
Province 5		Banke Total	81	109	1	2	0	0	1	2	5	2	1	1	84	117	332	517	
Province 5		Bardiya Total	55	64	0	2	0	1	2	1	6	1	2	1	63	69	250	420	
Province 5		Dang Total	113	129	4	2	0	0	1	0	0	2	1	4	118	133	469	695	
Province 5		Pyuthan	33	52	2	2	0	0	0	1	1	0	0	2	36	55	140	252	
Province 5		Rolpa Total	35	41	2	0	0	0	0	0	4	1	0	0	41	42	116	189	
Province 5		Rukum East Total	2	5	0	0	0	0	0	0	0	0	0	0	2	5	21	31	
Province 6		Province 5		688	873	21	28	2	1	9	9	16	9	12	18	736	920	2629	4514
	Province 6	Dallekh Total	45	54	0	1	0	0	0	0	0	0	0	0	45	55	78	147	
	Province 6	Dolpa Total	5	0	0	0	0	0	0	0	0	0	5	7	5	0	18	21	
	Province 6	Humla Total	6	4	0	0	0	0	0	0	0	0	0	0	6	4	10	17	
	Province 6	Jajarkot Total	12	7	0	0	0	0	0	0	0	0	0	0	12	7	43	71	
	Province 6	Jumla Total	13	19	0	0	0	0	0	0	0	0	0	0	13	19	31	51	
	Province 6	Kalikot Total	19	26	0	1	0	1	0	0	0	0	0	1	19	28	37	69	
	Province 6	Mugu Total	9	11	0	0	0	0	0	0	0	0	1	3	9	11	24	33	
	Province 6	Rukum West Total	14	24	1	5	0	0	0	0	0	0	0	0	15	29	67	117	
	Province 6	Salyan Total	34	44	2	1	0	0	0	1	0	0	1	1	36	46	91	161	
	Province 6	Surkhet Total	97	115	4	1	0	0	6	3	0	1	1	0	107	120	208	385	
	Province 7	Province 6		254	304	7	9	0	1	6	4	0	1	8	12	267	319	607	1072
		Province 7	Achham Total	16	18	1	0	0	0	0	2	1	4	2	1	21	21	75	144
		Province 7	Baitadi Total	17	16	0	0	0	0	0	0	0	0	0	1	17	16	60	122
Province 7		Bajhang Total	23	29	1	0	0	0	0	0	0	0	1	2	24	29	69	83	
Province 7		Bajura Total	19	21	1	0	0	0	0	1	1	0	0	1	21	22	57	91	
Province 7		Dadeldhura Total	10	27	0	0	0	0	0	0	1	0	0	2	11	27	37	96	
Province 7		Darchula Total	10	8	1	0	0	0	0	0	0	0	0	0	11	8	46	74	
Province 7		Doti Total	9	18	0	0	0	0	0	0	1	0	0	1	9	19	47	123	
Province 7		Kanchanpur Total	80	106	0	8	0	0	0	3	0	0	1	1	80	117	257	548	
Province 7		Kailali Total	137	201	1	6	0	0	2	6	5	2	2	2	145	215	431	825	
Province 7		Province 7	321	444	5	14	0	0	2	12	11	4	7	11	339	474	1079	2106	
National Total			4079	4964	118	151	8	12	60	78	43	24	133	190	4308	5229	12223	21672	

Region :	S.N.	Districts	Treatment regimen (Adult)						Treatment regimen (Child 0-14 Years)												Total		Total New Cases	
			Cat I		Cat II		Total Adult		Cat I		Cat II		Cat III		Total Child									
			F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M				
Province 1	Province 1	Bhojpur Total	22	53	1	2	23	55	3	2	0	0	0	0	3	2	26	57	19	46				
	Province 1	Dhankuta Total	30	64	2	3	32	67	1	0	0	1	0	0	1	1	33	68	28	59				
	Province 1	ILLAM Total	42	83	2	3	44	86	3	1	0	0	0	0	3	1	47	87	44	84				
	Province 1	Jhapa Total	306	676	21	67	327	743	9	12	0	0	1	1	10	13	337	756	302	662				
	Province 1	Khotang Total	17	40	0	1	17	41	1	0	0	0	0	0	0	1	17	41	17	40				
	Province 1	Morang Total	342	589	24	76	366	665	14	18	0	0	5	7	19	25	365	690	355	594				
	Province 1	Okhaldhunga Total	26	60	2	9	28	69	1	5	0	0	0	0	1	5	29	74	23	59				
	Province 1	Panchthar Total	26	42	1	5	27	47	0	3	0	0	0	0	0	3	27	50	23	40				
	Province 1	Sakhuwasabha Total	25	45	2	4	27	49	1	2	0	0	0	0	1	2	28	51	20	46				
	Province 1	Solukhumbu Total	6	21	1	0	7	21	0	0	0	0	0	0	0	0	7	21	7	21				
	Province 1	Sunsari Total	333	572	24	48	357	620	15	22	0	0	3	2	18	24	375	644	340	570				
	Province 1	Taplejung Total	15	30	0	2	15	32	2	0	0	0	0	0	2	0	17	32	17	30				
	Province 1	Terhathum Total	2	29	1	1	3	30	1	0	0	0	0	0	1	0	4	30	2	28				
	Province 1	Udaypur Total	78	168	1	15	79	183	3	3	0	0	0	0	3	3	82	186	79	168				
Province 2	Province 1	Province 1	1270	2472	82	236	1502	2708	54	68	0	1	9	10	63	79	1415	2787	1276	2447				
	Province 2	Saptari Total	145	314	1	11	146	325	11	12	0	2	4	5	15	19	161	344	159	327				
	Province 2	Siraha Total	192	409	4	17	196	426	11	9	0	0	0	0	11	9	207	435	193	410				
	Province 2	Bara	365	576	29	61	394	637	13	21	0	0	1	0	14	21	408	658	378	595				
	Province 2	Dhanusha Total	273	470	15	35	288	505	4	10	0	1	7	10	11	21	299	526	280	485				
	Province 2	Mahottari Total	292	513	24	43	316	556	17	15	0	0	0	0	17	16	333	572	305	527				
	Province 2	Parasi Total	334	500	13	39	347	539	18	21	0	0	0	0	18	21	365	550	344	516				
	Province 2	Rautahat Total	226	409	16	39	242	448	12	14	0	0	3	0	15	14	257	462	238	415				
	Province 2	Sarlahi Total	378	541	30	77	408	618	2	6	0	0	9	21	11	27	419	645	373	557				
	Province 2	Province 2	2205	3732	132	322	2337	4054	88	108	0	4	24	36	112	148	2449	4202	2270	3832				
	Province 3	Bhaktapur Total	219	295	27	36	246	331	14	21	2	1	0	0	16	22	262	353	228	309				
	Province 3	Chitwan Total	338	571	32	103	370	674	11	16	0	0	0	0	11	17	381	691	338	571				
	Province 3	Dhading Total	80	151	7	26	87	177	8	12	0	0	1	1	9	13	96	190	87	159				
	Province 3	Dolcha Total	36	64	2	15	38	79	0	0	0	0	0	0	9	38	88	88	35	71				
Province 3	Kathmandu Total	1319	1583	114	213	1433	1796	75	79	0	2	1	1	76	82	1509	1878	1299	1508					
Province 3	Kavre Total	88	206	7	21	95	227	4	1	0	0	0	0	4	1	99	228	87	202					
Province 3	Lalitpur Total	301	362	29	40	330	402	16	12	0	0	0	0	16	14	348	416	302	362					
Province 3	Makwanpur Total	219	384	17	56	236	440	10	16	0	0	0	0	10	17	246	457	218	377					
Province 3	Nuwakot Total	69	140	5	28	74	168	6	2	0	1	0	0	6	3	80	171	75	144					
Province 3	Ramechhap Total	20	75	2	9	22	84	0	11	0	0	0	0	0	11	22	95	19	79					
Province 3	Rasawa Total	7	33	5	3	12	36	0	1	0	0	0	0	0	1	12	37	6	30					
Province 3	Sindhuli Total	75	182	7	28	82	220	8	4	0	0	0	0	8	4	80	224	80	184					
Province 3	Sindupalchok Total	50	113	4	16	54	129	5	1	0	1	0	0	5	2	59	131	44	102					
Province 4	Province 3	Province 3	2821	4169	258	594	3079	4763	157	176	2	6	2	14	161	196	3240	4959	2819	4110				
	Province 4	Baglung Total	61	100	5	18	66	118	2	1	1	0	0	0	3	1	69	119	62	97				
	Province 4	Gorkha Total	54	145	5	20	59	165	4	3	0	0	0	0	4	3	63	168	51	140				
	Province 4	Kaski Total	185	272	17	38	202	310	5	6	0	0	1	5	6	12	208	322	181	276				
	Province 4	Lamjung Total	55	79	2	7	57	86	0	0	0	0	0	0	0	0	57	86	54	78				
	Province 4	Manang Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0				
	Province 4	Mustang Total	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	2				
	Province 4	Myagdi Total	13	27	0	4	13	31	0	0	0	0	0	0	0	0	13	31	13	27				
	Province 4	Nawal East Total	165	249	15	43	180	292	11	15	0	0	0	0	1	11	16	191	308	173	258			
	Province 4	Parbat Total	30	51	3	7	33	58	0	1	0	0	0	0	1	0	2	33	60	30	50			
	Province 4	Syanya Total	65	114	4	26	69	140	1	6	0	0	0	0	1	6	70	146	65	120				
	Province 4	Tanahun Total	84	164	9	25	93	189	4	5	0	0	0	0	4	5	97	194	85	164				
	Province 4	Province 4	713	1203	60	188	773	1391	27	37	1	1	1	1	7	29	45	802	1436	715	1210			
	Province 5	Province 5	Arghakhanchi Total	72	143	10	31	82	174	4	12	0	0	0	0	4	12	86	186	75	154			
Province 5		Gulmi Total	77	170	11	41	88	211	3	4	0	0	2	8	5	12	93	223	81	181				
Province 5		Kapil Total	218	448	15	61	233	509	15	10	0	0	0	0	15	10	248	519	227	456				
Province 5		Nawal West Total	141	254	15	47	156	301	10	8	0	1	0	2	10	11	166	312	147	261				
Province 5		Palpa Total	110	228	7	28	117	256	11	13	0	0	0	0	11	13	128	269	120	238				
Province 5		Rupandehi Total	517	762	46	120	563	882	10	15	2	0	222	377	234	392	797	1274	520	761				
Province 5		Banka Total	286	408	25	58	291	466	18	19	2	0	11	15	31	36	322	502	236	441				
Province 5		Bardiya Total	192	351	19	54	211	405	8	3	0	0	30	12	38	15	249	420	211	357				
Province 5		Dang Total	398	572	36	77	434	649	7	6	0	1	30	40	37	47	471	696	425	598				
Province 5		Pyuthan	124	208	12	35	136	243	6	7	0	0	0	0	6	7	142	250	125	208				
Province 5		Rollpa Total	98	151	11	27	109	178	5	6	0	0	2	5	7	11	116	189	99	158				
Province 5		Rukum East Total	20	30	1	0	21	30	0	0	0	0	0	1	0	1	21	31	20	31				
Province 5		Province 5	2233	3725	208	579	2441	4304	97	103	4	4	297	460	398	567	2830	4871	2346	3844				
Province 6		Province 6	Dalekh Total	52	118	6	6	58	124	3	5	0	1	17	17	20	23	78	147	75	142			
	Province 6	Dolpa Total	11	12	4	7	15	19	3	2	0	0	0	0	3	2	18	21	9	5				
	Province 6	Humla Total	9	16	1	1	10	17	0	0	0	0	0	0	0	0	10	17	9	16				
	Province 6	Jaarakot Total	34	57	2	6	36	63	5	6	1	0	0	0	3	6	9	42	72	41				
	Province 6	Jumla Total	29	41	2	5	33	46	0	0	0	0	0	0	2	5	31	46	21	29				
	Province 6	Kalikot Total	33	54	1	8	34	62	4	5	0	0	0	0	4	5	38	67	34	59				
	Province 6	Mugu Total	22	30	1	1	22	31	2	2	0	0	0	0	2	2	24	33	18	26				
	Province 6	Rukum West Total	56	82	5	20	61	102	5	4	0	1	1	1	10	6	15	67	117	62	97			
	Province 6	Salyan Total	72	118	7	29	79	147	12	13	0	0	0	0	1	12	14	91	161	79	131			
	Province 6	Surkhet Total	154	280	9	41	163	321	12	46	0	1	45	64	58	95	169	335	169	335				
	Province 6	Province 6	472	808	35	124	507	932	81	105	1	2	18	32	100	139	667	1071	545	825				
	Province 7	Achham Total	63	106	6	31	69	137	5	6	0	0	1	1	6	7	75	144	59	88				
	Province 7	Baitadi Total	51	100	6	20	57	120	4	2	0	0	0	0	4	2	61	122	53	99				
	Province 7	Bajhang Total	59	64	9	10	68	74	1	7	0	1	0	1	1	9	69	83	57	69				
Province 7	Bajura Total	75	103	15	53	90	143	4	7	0	0	1	1	1	17	31	46	70						
Province 7	Dadeldhura Total	33	76	0	12	33	88	3	7	0	0	1	1	1	4	8	37	96	35	85				
Province 7	Darchula Total	41	62	5	8	46	70	0	4	0	0	0	0											

Region 1	S.N.	Districts	Age group distribution (All New Cases)																		Total of All Relapse Cases			
			0-4		5-14		15-24		25-34		35-44		45-54		55-64		65+		Total					
			F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M			F	M
			F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M			F	M
Province 1	<div><div></div><div></div></div>	Bhojpur Total	2	0	1	2	4	5	3	12	3	6	1	7	3	11	2	3	19	46	1	2		
	Dhankuta Total	1	0	0	0	5	13	5	10	10	13	3	4	3	11	1	10	28	61	1	1			
	ILAM Total	0	0	3	1	10	21	9	20	7	9	10	9	2	15	3	9	44	84	2	1			
	Jhapa Total	1	3	8	10	78	107	68	136	44	129	33	106	38	78	32	93	302	662	22	64			
	Khotang Total	0	0	0	0	1	4	6	7	3	7	3	7	4	3	0	12	17	40	0	0			
	Morang Total	3	9	18	21	36	87	92	130	45	75	35	93	42	85	24	94	355	594	14	53			
	Okhaldhunga Total	0	1	1	3	9	13	6	9	0	6	2	7	3	13	2	7	23	59	1	5			
	Panchthar Total	0	3	1	0	6	8	8	10	2	7	1	7	2	2	3	3	23	40	1	4			
	Sakhuwasabha Total	0	1	1	1	6	7	5	8	3	6	4	6	1	7	0	10	20	46	2	4			
	Solukhumbu Total	0	0	1	0	1	2	0	2	3	3	2	5	0	2	0	3	7	21	0	0			
	Sunsari Total	5	7	19	18	80	97	64	103	60	83	52	104	27	79	35	80	347	571	12	38			
	Taplejung Total	1	0	2	1	4	6	2	6	4	4	2	9	1	2	1	2	17	30	0	2			
	Terahatum Total	0	0	0	0	0	6	1	10	1	2	0	5	0	3	0	2	28	1	1	0			
	Udaypur Total	0	0	3	3	19	31	17	38	17	23	11	21	5	19	7	39	79	169	2	9			
Province 1	13	24	58	60	319	409	286	499	202	373	159	390	129	328	110	367	1276	2450	60	184				
Province 2	Saptari Total	12	8	3	11	23	38	31	53	29	59	30	55	19	59	12	44	159	327	1	10			
	Siraha Total	2	4	6	3	40	51	31	46	30	47	28	73	23	96	30	86	193	410	5	18			
	Bara	2	9	12	11	85	72	71	69	46	64	61	103	60	121	51	166	378	596	20	51			
	Dhanusha Total	9	7	5	14	47	60	40	57	31	59	49	61	51	104	49	119	281	481	13	29			
	Mahottari Total	8	8	10	7	59	91	48	62	41	56	44	85	50	75	45	143	305	527	20	38			
	Paras Total	5	7	14	15	71	68	65	79	41	57	63	82	45	107	40	101	344	516	12	38			
	Rautahat Total	3	3	12	11	45	58	39	53	28	64	38	69	37	64	39	93	238	415	17	41			
	Sarlahi Total	0	8	10	19	74	87	91	78	55	67	46	88	53	98	44	112	373	557	28	69			
	Province 2	41	54	75	93	424	525	416	489	311	473	356	616	338	724	310	854	2271	3528	116	292			
	Bhatpur Total	3	6	11	15	85	80	51	64	40	46	13	44	11	25	14	35	228	315	25	33			
	Chitwan Total	4	7	5	9	85	95	64	81	41	79	42	100	39	93	59	109	339	573	31	92			
	Dhading Total	0	3	5	10	25	20	18	28	10	22	11	24	10	22	6	29	85	158	9	23			
	Dolcha Total	0	0	0	9	8	16	8	9	2	6	6	7	3	9	10	15	35	71	2	10			
	Kathmandu Total	21	22	50	38	502	457	309	337	156	220	84	162	72	116	105	157	1299	1598	86	175			
Kavre Total	0	0	4	4	26	25	22	38	11	34	13	36	7	33	4	33	87	203	7	15				
Lalitpur Total	2	5	12	7	74	92	72	77	38	49	30	42	32	43	42	48	302	363	25	32				
Makwanpur Total	2	5	8	13	51	57	40	56	35	50	29	75	23	58	33	65	221	379	13	53				
Nuwakot Total	0	2	6	1	17	22	12	24	13	24	10	26	12	24	5	20	75	143	5	25				
Ramechhap Total	0	2	0	9	5	14	6	2	2	11	2	16	2	12	2	13	19	79	1	6				
Rasuwa Total	0	0	0	2	2	0	4	6	0	10	0	8	0	5	1	1	7	32	3	3				
Sindhuli Total	1	1	8	3	22	28	16	32	8	39	13	29	5	30	7	31	80	193	7	26				
Sindhupalchok Total	1	0	2	17	14	17	10	19	8	19	8	14	4	15	20	52	105	4	14					
Province 3	34	53	111	121	916	923	630	773	364	609	261	583	220	485	291	576	2827	4123	218	507				
Province 4	Baglung Total	0	0	3	1	4	18	17	15	6	16	4	13	12	11	16	23	62	97	6	17			
	Gorkha Total	1	3	3	4	10	11	7	22	9	33	11	32	5	18	5	17	51	140	5	18			
	Kaski Total	2	6	13	9	49	64	40	55	28	44	18	34	17	33	14	31	181	276	13	33			
	Lamjung Total	2	0	3	0	16	14	9	12	3	11	5	16	8	7	7	16	54	76	4	4			
	Manang Total	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0			
	Mustang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Myagdi Total	0	0	0	1	3	1	0	0	5	6	0	9	1	5	3	5	13	27	0	3			
	Nawal East Total	2	3	7	9	36	35	26	37	23	35	26	39	22	49	31	51	173	258	11	36			
	Parbat Total	0	1	1	1	5	8	4	10	5	8	6	9	4	3	5	10	30	50	1	5			
	Syanja Total	0	1	2	6	13	18	11	6	9	18	11	19	6	16	12	37	64	121	3	24			
	Tanahun Total	1	0	3	4	28	22	13	23	7	23	9	25	12	24	12	43	85	164	7	21			
	Province 4	8	14	35	35	164	191	129	180	95	194	90	197	88	167	105	233	714	1211	48	161			
	Province 5	Arghakhanchi Total	1	4	7	9	8	17	15	22	3	18	11	17	13	25	17	41	75	153	9	26		
		Gulmi Total	3	2	4	9	11	29	11	29	10	17	11	32	16	28	15	34	81	180	11	40		
Kapli Total		4	3	11	8	64	80	36	74	34	65	21	65	28	66	29	95	227	456	11	42			
Nawal West Total		1	5	10	5	29	46	31	39	16	51	15	21	15	39	20	58	137	264	13	38			
Palpa Total		3	3	8	10	22	28	12	31	14	35	17	35	23	46	21	50	120	238	8	26			
Rupandehi Total		35	61	39	57	100	118	84	107	78	118	215	386	47	57	54	93	652	997	35	104			
Banka Total		17	21	14	13	70	88	50	70	45	69	41	53	32	68	26	55	295	437	15	48			
Bardiya Total		24	10	5	3	47	64	32	49	25	47	28	56	30	50	30	71	209	350	13	50			
Dang Total		16	22	23	21	81	71	46	73	37	79	41	91	60	117	101	124	425	598	25	71			
Pyuthan		1	1	5	5	19	28	12	21	15	24	17	37	29	46	22	43	120	205	11	33			
Rojap Total		2	4	5	7	16	30	19	22	12	13	13	27	21	29	11	26	99	158	10	23			
Rukum East Total		0	0	0	1	3	2	6	9	3	6	4	9	3	3	1	1	20	31	1	0			
Province 5		107	136	131	146	470	601	354	586	292	542	434	688	326	574	347	691	2460	4967	160	501			
Province 6		Dalekh Total	5	7	16	14	13	25	11	28	12	20	8	13	6	14	4	21	75	142	3	4		
	Dolpa Total	0	0	1	0	1	0	1	2	1	1	1	1	0	1	0	3	5	1	2	0			
	Humla Total	0	0	0	0	2	3	2	4	2	2	2	4	1	1	0	2	9	16	1	0			
	Jejakot Total	2	1	4	9	10	15	11	10	8	7	3	7	2	10	1	6	41	65	2	3			
	Jumla Total	0	0	3	7	8	11	3	7	3	5	4	6	5	9	3	2	29	47	0	3			
	Kalikot Total	0	2	3	4	9	13	5	13	7	7	5	4	2	9	3	7	34	59	1	4			
	Mugu Total	0	0	2	3	4	5	4	8	0	2	1	4	5	2	1	6	18	29	0	1			
	Rukum West Total	0	4	6	11	10	16	16	22	10	9	8	12	10	12	2	11	62	97	5	19			
	Salvan Total	6	6	6	7	21	19	10	20	10	12	9	19	7	19	10	29	79	131	11	27			
	Sunhet Total	18	34	17	16	66	76	28	33	23	32	21	37	13	53	18	45	189	325	13	39			
	Province 6	31	54	58	81	119	161	102	168	78	97	62	108	52	128	43	129	545	926	30	77			
	Province 7	Achham Total	1	1	2	1	12	14	1	20	14	22	8	15	7	16	14	9	59	98	4	15		
		Baitadi Total	0	1	1	1	10	12	5	14	12	20	14	31	6	12	5	8	53	99	6	20		
		Bajura Total	0	1	1	1	14	14	6	13	11	13	11	11	13	8	2	2	57	108	1	5		
Bajura Total		0	0	4	1	8	18	13	15	6	11	8	9	5	12	2								

Region :	S.N.	Districts	Age group distribution (All Relapse Cases)																		
			0-4		5-14		15-24		25-34		35-44		45-54		55-64		65+		Total		
			F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	
Province 1																					
	Province 1	Bhojpur Total	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	2		
	Province 1	Dhankuta Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	
	Province 1	ILLAM Total	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	2	1	
	Province 1	Jhapa Total	0	0	0	0	4	2	5	11	5	20	1	11	3	13	4	7	22	64	
	Province 1	Khotang Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	
	Province 1	Morang Total	0	0	0	1	2	2	5	2	9	3	14	3	8	3	15	14	53		
	Province 1	Okhaldhunga Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3	1	5	
	Province 1	Panchthar Total	0	0	0	0	0	0	0	2	1	0	0	1	0	1	0	0	1	4	
	Province 1	Sakhuwasabha Total	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	1	2	4	
	Province 1	Solukhumbu Total	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	
	Province 1	Sunsari Total	0	0	0	0	2	6	4	3	1	7	2	7	0	9	3	12	12	38	
	Province 1	Taplejung Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	
	Province 1	Terhathum Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	
Province 1	Udaypur Total	0	0	0	0	0	1	0	1	1	0	1	5	0	0	0	2	2	9		
Province 2	Province 1	Province 1	0	0	0	0	7	5	14	22	12	39	8	42	9	33	11	43	61	184	
	Province 2	Saptari Total	0	0	0	0	1	0	0	0	0	2	0	3	0	3	0	1	1	10	
	Province 1	Siraha Total	0	0	0	0	0	1	1	0	1	4	1	3	1	7	1	3	5	18	
	Province 2	Bara	0	0	0	0	4	6	3	2	5	8	4	11	2	13	2	11	20	51	
	Province 2	Dhanusha Total	0	0	1	0	1	1	3	3	1	3	2	5	2	8	3	9	13	29	
	Province 2	Mahottari Total	0	0	0	0	1	3	6	1	2	4	3	5	3	9	5	16	20	38	
	Province 2	Parasi Total	0	0	0	0	2	2	2	6	2	5	1	8	2	6	3	7	12	36	
	Province 2	Rautahat Total	0	0	0	0	3	4	3	1	2	5	3	13	3	9	3	9	17	41	
	Province 2	Sarlahi Total	0	0	0	1	2	3	6	4	1	7	8	10	7	22	4	22	28	69	
	Province 3	Province 2	Province 2	0	0	1	1	14	20	24	18	14	38	22	58	20	79	21	78	116	292
		Province 3	Bhaktapur Total	0	0	1	0	8	3	6	3	5	7	3	10	4	4	0	7	27	34
		Province 3	Chitwan Total	0	0	0	0	10	5	4	11	2	14	7	15	5	19	3	29	31	83
		Province 3	Dhading Total	0	0	0	0	2	0	0	3	4	0	7	1	2	1	7	7	23	
		Province 3	Dolcha Total	0	0	0	0	0	0	0	3	0	0	2	5	0	2	0	0	2	10
Province 3		Kathmandu Total	0	0	0	0	33	27	14	40	18	31	8	34	5	25	8	18	86	175	
Province 3		Kavre Total	0	0	0	0	2	0	0	0	2	3	1	6	2	5	0	1	7	15	
Province 3		Lalitpur Total	0	0	0	1	4	3	5	3	6	9	2	5	2	3	6	8	25	32	
Province 3		Makwanpur Total	1	1	0	0	0	0	4	3	2	7	2	18	2	14	2	10	13	52	
Province 3		Nuwakot Total	0	0	0	0	0	2	0	2	0	3	1	8	1	8	3	2	5	25	
Province 3		Ramechhap Total	0	0	0	0	1	0	0	0	0	0	1	0	2	0	3	1	6		
Province 3		Rasuwa Total	0	0	0	0	0	0	0	1	1	2	1	0	1	0	0	0	3	3	
Province 3		Sindhuli Total	0	0	0	0	0	0	0	3	1	2	4	9	1	8	1	5	7	27	
Province 3		Sindupalchok Total	0	0	0	0	0	0	1	1	2	4	0	3	0	3	1	3	4	14	
Province 4	Province 3	Province 3	1	0	1	1	60	40	34	73	42	86	31	121	24	95	25	93	218	509	
	Province 4	Baglung Total	0	0	0	1	0	3	0	0	1	2	2	3	1	5	2	3	6	17	
	Province 4	Gorkha Total	0	0	1	0	0	1	0	1	1	5	3	4	0	5	0	2	5	18	
	Province 4	Kaski Total	0	0	0	2	4	4	0	6	4	4	2	5	0	3	3	9	13	33	
	Province 4	Lamjung Total	0	0	0	0	1	1	1	1	0	1	0	0	0	0	0	1	2	4	
	Province 4	Manang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Mustang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Myagdi Total	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	3	
	Province 4	Nawal East Total	0	0	0	2	4	0	3	1	7	3	10	2	5	3	7	11	36		
	Province 4	Parbat Total	0	0	0	0	0	0	0	1	0	0	1	1	0	3	0	0	1	5	
	Province 4	Syanja Total	0	0	0	0	0	0	0	4	0	3	0	4	1	6	2	7	3	24	
	Province 4	Tanahun Total	0	0	0	0	2	0	1	1	2	5	1	4	0	3	1	8	7	21	
	Province 5	Province 4	Province 4	0	0	2	3	8	13	2	17	9	28	12	33	4	30	11	37	48	161
		Province 5	Argakhanchi Total	0	0	0	0	0	2	1	1	1	2	3	7	2	6	2	8	9	26
Province 5		Gulmi Total	0	0	0	0	0	0	3	11	1	0	1	7	1	9	5	13	11	40	
Province 5		Kapil Total	0	0	0	0	1	5	0	7	4	10	2	8	2	5	3	7	11	42	
Province 5		Nawal West Total	0	0	0	0	1	3	2	3	3	9	1	9	2	5	3	9	12	38	
Province 5		Palpa Total	0	0	0	2	0	0	0	2	1	4	1	5	2	4	0	11	6	26	
Province 5		Rupandehi Total	3	4	4	8	8	10	5	21	18	50	12	46	6	19	6	25	62	183	
Province 5		Banka Total	0	0	0	0	3	4	3	5	2	11	3	10	3	8	1	10	15	48	
Province 5		Bardiya Total	0	0	0	1	0	4	0	4	4	6	1	13	2	8	6	14	13	50	
Province 5		Dang Total	0	0	0	0	4	2	0	9	4	5	2	21	4	20	11	14	25	71	
Province 5		Pyuthan	0	0	0	0	0	2	1	3	4	5	1	1	1	9	3	11	10	31	
Province 5		Rolla Total	0	0	0	0	1	1	2	1	2	1	1	5	2	7	2	8	10	23	
Province 5		Rukum East Total	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	
Province 6		Province 5	Province 5	3	4	4	9	19	33	17	67	45	103	28	132	27	100	42	130	185	578
	Province 6	Dalekh Total	0	0	0	0	0	1	0	0	1	0	1	0	1	1	0	0	1	2	
	Province 6	Dolpa Total	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	1	2	
	Province 6	Humla Total	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	
	Province 6	Jajarkot Total	0	0	0	0	1	0	0	1	0	1	1	3	0	0	0	0	2	5	
	Province 6	Jumla Total	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	3	
	Province 6	Kalikot Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	5	
	Province 6	Mugu Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
	Province 6	Rukum West Total	0	0	0	0	0	3	1	4	1	1	2	2	0	4	1	4	1	18	
	Province 6	Salyan Total	0	0	0	0	2	3	2	1	0	1	2	9	1	8	4	5	11	27	
	Province 6	Surkhet Total	0	0	0	0	0	1	3	1	0	10	0	3	1	7	2	10	6	32	
	Province 7	Province 6	Province 6	0	1	0	0	3	8	7	11	3	17	6	19	3	21	8	20	30	97
		Province 7	Achham Total	0	0	0	0	0	0	0	2	1	4	1	4	1	4	1	1	4	15
		Province 7	Baitadi Total	0	0	0	0	0	0	0	3	0	3	2	5	4	5	0	4	6	20
Province 7		Bajhang Total	0	0	0	0	0	0	3	2	1	1	3	1	0	0	2	0	0	7	
Province 7		Bajura Total	0	0	0	0	0	0	3	1	4	2	2	3	0	4	0	2	9	12	
Province 7		Dadeldhura Total	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	4	0	8	
Province 7		Darchula Total	0	0	0	0	2	2	1	0	0	1	2	2	0	3	0	0	5	8	
Province 7		Doti Total	0	0	0	0	0	1	0	1	2	4	2	3	0	4	2	0	6	13	
Province 7		Kanchanpur Total	0	0	0	0	4	4	5	4	1	18	0	23	2	16	1	16	13	81	
Province 7		Kailali Total	0	0	2	0	1	4	4	7	7	11	6	17	4	13	4	22	28	74	
Province 7		Province 7	Province 7	0	0	2	0	7	12	16	20	16	44	18	59	11	53	8	49	78	237
Province 7		Province 7	Province 7	0	0	2	0	7	12	16	20	16	44	18	59	11	53	8	49	78	237
		Province 7	National Total	4	5	10															

Region :	S.N.	Districts	Referred by community											
			PBC (New)		PBC (Relapse)		PBC (retreatment cases excluding relapse)		PCD (All)		EP (All)		Total	
			F	M	F	M	F	M	F	M	F	M	F	M
Province 1	Province 1	Bhojpur Total	4	9	0	0	0	0	0	1	1	0	5	10
	Province 1	Dhankuta Total	1	8	0	0	0	0	0	0	0	0	1	8
	Province 1	ILLAM Total	7	18	0	1	1	0	0	0	3	3	11	22
	Province 1	Jhapa Total	16	49	0	1	0	0	3	7	1	1	20	58
	Province 1	Khotang Total	1	3	0	0	0	0	0	0	0	0	1	3
	Province 1	Morang Total	48	107	4	12	0	5	1	5	20	26	73	155
	Province 1	Okhaldhunga Total	2	4	0	1	0	0	2	2	3	2	7	9
	Province 1	Panchthar Total	1	1	0	0	0	0	0	0	0	0	1	1
	Province 1	Sakhuwasabha Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Solukhumbu Total	4	7	0	0	0	0	0	3	0	3	4	13
	Province 1	Sunsari Total	3	8	1	0	0	1	0	1	0	0	4	10
	Province 1	Taplejung Total	0	0	0	0	0	0	0	1	0	2	0	3
	Province 1	Terhathum Total	0	1	0	0	0	0	0	0	0	1	0	2
	Province 1	Udaypur Total	8	39	3	3	0	2	3	4	8	10	22	58
Province 2	Province 2	Province 2	95	254	8	18	1	8	9	24	36	48	149	352
	Province 2	Saptari Total	42	135	1	6	0	0	17	20	10	16	70	177
	Province 2	Siraha Total	88	201	1	3	2	6	13	30	24	40	128	280
	Province 2	Bara	83	145	7	15	1	2	28	36	19	38	138	236
	Province 2	Dhanusha Total	37	72	2	4	1	1	12	11	11	17	63	105
	Province 2	Mahottari Total	130	229	15	30	14	27	68	121	38	58	265	465
	Province 2	Parsa Total	3	7	0	1	0	0	1	1	2	2	6	11
	Province 2	Rautahat Total	86	179	7	23	5	10	21	25	23	20	142	257
	Province 2	Sarlahi Total	140	205	13	36	0	2	38	67	36	54	227	364
	Province 2	Province 2	609	1173	46	118	23	48	198	311	163	245	1039	1895
Province 3	Province 3	Bhaktapur Total	2	5	1	2	0	2	0	1	3	1	6	11
	Province 3	Chitwan Total	12	29	2	5	0	3	4	6	11	7	29	50
	Province 3	Dhading Total	0	4	0	1	0	0	0	1	2	2	2	8
	Province 3	Dolkha Total	2	11	0	0	0	0	3	8	10	9	15	28
	Province 3	Kathmandu Total	8	17	1	3	0	1	2	2	11	9	22	32
	Province 3	Kavre Total	9	21	0	1	0	0	0	2	9	10	18	34
	Province 3	Lalitpur Total	59	80	8	11	3	4	6	18	67	57	143	170
	Province 3	Makwanpur Total	84	180	8	34	1	0	12	16	19	26	124	256
	Province 3	Nuwakot Total	3	11	0	1	0	0	0	0	3	4	6	16
	Province 3	Ramechhap Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Rasuwa Total	1	4	0	1	0	0	0	0	0	0	1	5
	Province 3	Sindhuli Total	35	89	4	14	0	0	3	14	9	20	51	137
	Province 3	Sindupalchok Total	12	29	5	7	0	3	3	5	7	12	27	56
	Province 3	Province 3	227	480	29	80	4	13	33	73	151	157	444	803
Province 4	Province 4	Baglung Total	14	26	2	8	1	1	4	8	13	16	34	59
	Province 4	Gorkha Total	6	25	1	4	0	0	2	1	2	2	11	32
	Province 4	Kaski Total	11	11	4	0	1	0	1	5	8	3	25	19
	Province 4	Lamjung Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Manang Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Mustang Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Myagdi Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Nawal East Total	9	15	2	5	0	0	3	2	1	0	15	22
	Province 4	Parbat Total	0	1	0	0	0	0	0	1	0	0	0	2
	Province 4	Syanja Total	5	19	0	6	0	0	3	7	7	7	15	39
Province 5	Province 4	Tanahun Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 5	Province 5	45	97	9	23	2	1	13	24	31	28	100	173
	Province 5	Arghakhanchi Total	0	0	1	0	0	0	0	1	0	0	1	1
	Province 5	Gulmi Total	15	52	2	16	0	0	1	4	5	19	23	91
	Province 5	Kapil Total	104	225	7	31	2	14	19	41	27	33	159	344
	Province 5	Nawal West Total	12	29	1	4	0	0	8	5	6	6	27	44
	Province 5	Palpa Total	4	3	0	1	0	0	0	1	2	0	6	5
	Province 5	Rupandehi Total	43	117	14	40	3	6	13	27	30	29	103	219
	Province 5	Banke Total	49	65	6	10	5	2	7	4	8	10	75	91
	Province 5	Bardiya Total	0	0	0	0	0	0	0	0	0	0	0	0
Province 6	Province 5	Dang Total	6	18	1	1	0	0	2	1	0	3	9	23
	Province 5	Pyuthan	19	34	1	6	0	2	5	7	6	8	31	57
	Province 5	Rolpa Total	2	1	0	0	0	0	0	0	0	0	2	1
	Province 5	Rukum East Total	4	8	0	0	0	0	0	0	0	0	4	8
	Province 5	Province 5	258	552	33	109	10	24	55	91	84	108	440	884
	Province 6	Dailekh Total	0	2	0	0	0	0	1	0	0	0	1	2
	Province 6	Dolpa Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Humla Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Jajarkot Total	8	5	1	2	0	1	1	2	1	0	11	10
	Province 6	Jumla Total	0	0	0	0	0	0	0	0	0	0	0	0
Province 7	Province 6	Kalikot Total	0	1	0	0	0	0	0	0	0	0	0	1
	Province 6	Mugu Total	2	5	0	1	0	0	1	5	2	3	5	14
	Province 6	Rukum West Total	14	18	0	2	0	0	1	2	0	0	15	22
	Province 6	Salyan Total	7	27	2	3	0	0	0	1	9	6	18	37
	Province 6	Surkhet Total	8	12	0	0	0	0	0	1	2	1	10	14
	Province 6	Province 6	39	70	3	8	0	1	4	11	14	10	60	100
	Province 7	Achham Total	0	2	0	0	0	0	0	0	0	0	0	2
	Province 7	Baitadi Total	2	7	3	0	0	0	0	0	0	0	5	7
	Province 7	Bajhang Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Bajura Total	8	11	3	1	0	1	1	1	7	5	19	19
Province 7	Province 7	Dadeldhura Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Darchula Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Doti Total	16	47	3	10	0	2	4	5	4	12	27	76
	Province 7	Kanchanpur Total	0	2	0	0	0	0	0	0	6	0	6	2
	Province 7	Kailali Total	1	1	0	1	0	0	0	0	0	0	1	2
	Province 7	Province 7	27	70	9	12	0	3	5	6	17	17	58	108
	Province 7	National Total	1300	2696	137	368	40	98	317	540	496	613	2290	4315

Region :	S.N.	Districts	Referred/Diagnosed by Private HF											
			PBC (New)		PBC (Relapse)		PBC (retreatment cases excluding relapse)		PCD (All)		EP (All)		Total	
			F	M	F	M	F	M	F	M	F	M	F	M
Province 1	Province 1	Bhojpur Total	3	11	0	1	0	0	0	3	4	8	7	23
	Province 1	Dhankuta Total	1	2	0	0	0	0	0	5	2	4	3	11
	Province 1	ILLAM Total	11	26	2	0	0	0	3	7	5	9	21	42
	Province 1	Jhapa Total	20	54	1	0	4	5	4	16	23	44	52	119
	Province 1	Khotang Total	0	1	0	0	0	0	0	0	2	4	2	5
	Province 1	Morang Total	86	165	7	23	1	1	10	30	85	116	189	335
	Province 1	Okhaldhunga Total	0	1	0	0	0	0	0	0	1	2	1	3
	Province 1	Panchthar Total	0	0	0	0	0	0	1	3	4	5	5	8
	Province 1	Sakhuwasabha Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Solukhumbu Total	0	1	0	0	0	0	1	0	0	0	1	1
	Province 1	Sunsari Total	27	44	3	6	0	2	5	11	24	28	59	91
	Province 1	Taplejung Total	2	8	0	0	0	0	1	1	8	8	11	17
	Province 1	Terhathum Total	0	3	0	0	0	0	0	0	0	3	0	6
	Province 1	Udaypur Total	0	0	0	0	0	0	0	0	0	0	0	0
Province 2	Province 2	Province 2	150	316	13	30	5	8	25	76	158	231	351	661
	Province 2	Saptari Total	10	21	0	3	0	0	17	40	30	46	57	110
	Province 2	Siraha Total	3	5	1	2	0	1	2	4	12	7	18	19
	Province 2	Bara	53	85	11	10	1	0	7	21	21	30	93	146
	Province 2	Dhanusha Total	23	45	2	3	0	0	17	20	18	32	60	100
	Province 2	Mahottari Total	12	19	1	2	0	0	10	9	12	16	35	46
	Province 2	Parsa Total	17	37	1	5	0	0	7	9	9	8	34	59
	Province 2	Rautahat Total	11	20	0	2	1	2	6	19	19	17	37	60
	Province 2	Sarlahi Total	17	28	0	0	0	1	4	12	11	21	32	62
	Province 2	Province 2	146	260	16	27	2	4	70	134	132	177	366	602
Province 3	Province 3	Bhaktapur Total	7	3	0	0	0	0	2	0	1	1	10	4
	Province 3	Chitwan Total	41	64	3	8	6	10	26	47	47	56	123	185
	Province 3	Dhading Total	15	20	2	16	0	1	0	1	7	12	24	50
	Province 3	Dolkha Total	1	2	0	1	0	0	1	3	3	1	5	7
	Province 3	Kathmandu Total	78	97	12	8	3	14	14	16	121	112	228	247
	Province 3	Kavre Total	9	23	2	2	1	0	1	8	29	29	42	62
	Province 3	Lalitpur Total	44	82	10	13	4	2	11	30	109	95	178	222
	Province 3	Makwanpur Total	6	16	1	3	0	0	0	5	6	10	13	34
	Province 3	Nuwakot Total	14	21	3	2	0	0	2	2	3	4	22	29
	Province 3	Ramechhap Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Rasuwa Total	0	5	1	0	0	0	0	2	0	1	1	8
	Province 3	Sindhuli Total	9	13	1	0	0	1	4	3	2	10	16	27
	Province 3	Sindupalchok Total	10	21	1	6	0	1	0	7	12	10	23	45
	Province 3	Province 3	234	367	36	59	14	29	61	124	340	341	685	920
Province 4	Province 4	Baglung Total	13	21	2	5	0	1	3	9	9	11	27	47
	Province 4	Gorkha Total	2	9	0	0	0	0	2	5	3	4	7	18
	Province 4	Kaski Total	30	50	1	3	0	0	7	11	27	31	65	95
	Province 4	Lamjung Total	2	3	0	0	0	0	3	1	7	3	12	7
	Province 4	Manang Total	0	0	0	0	0	0	0	0	1	0	1	0
	Province 4	Mustang Total	0	0	0	0	0	0	0	0	0	2	0	2
	Province 4	Myagdi Total	0	0	0	0	0	0	0	0	1	1	1	1
	Province 4	Nawal East Total	24	32	2	8	0	1	13	13	17	32	56	86
	Province 4	Parbat Total	0	5	0	0	0	0	0	2	3	1	3	8
	Province 4	Syanja Total	7	23	1	8	0	0	5	4	18	20	31	55
Province 5	Province 4	Tanahun Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 5	Province 4	78	143	6	24	0	2	33	45	86	105	203	319
	Province 5	Arghakhanchi Total	1	4	0	1	0	0	0	1	0	3	1	9
	Province 5	Gulmi Total	18	20	4	11	1	0	7	20	23	34	53	85
	Province 5	Kapil Total	14	38	3	5	0	3	13	6	22	43	52	95
	Province 5	Nawal West Total	6	16	1	1	0	0	5	8	17	23	29	48
	Province 5	Palpa Total	40	59	3	11	0	3	5	29	47	61	95	163
	Province 5	Rupandehi Total	33	48	2	7	1	2	15	24	32	30	83	111
	Province 5	Banke Total	51	84	4	19	5	6	19	25	35	58	114	192
	Province 5	Bardiya Total	1	1	0	0	0	0	12	8	6	5	19	14
Province 6	Province 5	Dang Total	7	7	0	2	0	0	4	6	13	15	24	30
	Province 5	Pyuthan	4	15	0	1	0	1	7	4	2	6	13	27
	Province 5	Rolpa Total	3	5	0	5	0	0	3	2	15	23	21	35
	Province 5	Rukum East Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 5	Province 5	178	297	17	63	7	15	90	133	212	301	504	809
	Province 6	Dailekh Total	3	10	0	0	0	0	6	8	36	47	45	65
	Province 6	Dolpa Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Humla Total	0	0	1	0	0	0	0	1	4	0	5	1
	Province 6	Jajarkot Total	10	22	3	2	0	1	5	11	9	8	27	44
	Province 6	Jumla Total	0	0	0	0	0	0	0	0	0	0	0	0
Province 7	Province 6	Kalikot Total	0	1	0	0	0	0	0	0	2	0	2	1
	Province 6	Mugu Total	1	1	0	0	0	0	3	2	8	4	12	7
	Province 6	Rukum West Total	2	3	0	0	0	0	0	1	1	1	3	5
	Province 6	Salyan Total	3	8	0	2	0	0	1	4	7	13	11	27
	Province 6	Surkhet Total	18	41	0	2	1	1	17	35	58	64	94	143
	Province 6	Province 6	37	86	4	6	1	2	32	62	125	137	199	293
	Province 7	Achham Total	8	14	1	0	2	4	2	1	4	7	17	26
	Province 7	Baitadi Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Bajhang Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Bajura Total	11	16	1	10	1	0	0	2	6	9	19	37
Province 7	Province 7	Dadeldhura Total	0	0	0	0	0	0	0	4	0	5	0	9
	Province 7	Darchula Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Doti Total	0	12	0	2	0	0	2	2	0	3	2	19
	Province 7	Kanchanpur Total	0	2	0	0	0	0	0	0	0	3	0	5
	Province 7	Kailali Total	17	28	1	4	0	0	8	24	43	46	69	102
	Province 7	Province 7	36	72	3	16	3	4	12	33	53	73	107	198
	Province 7	Province 7	36	72	3	16	3	4	12	33	53	73	107	198
	Province 7	Province 7	36	72	3	16	3	4	12	33	53	73	107	198
	Province 7	Province 7	36	72	3	16	3	4	12	33	53	73	107	198
	Province 7	Province 7	36	72	3	16	3	4	12	33	53	73	107	198
National Total			859	1541	95	225	32	64	323	607	1106	1365	2415	3802

Region :	S.N.	Districts	Diagnosed by Contact Tracing														
			PBC (New)		PBC (Relapse)		PBC (retreatment cases excluding relapse)		PCD (All)		EP (All)		Total		Total All		
			F	M	F	M	F	M	F	M	F	M	F	M	F	M	
Province 1	Province 1	Bhojpur Total	1	1	0	0	0	0	0	0	0	0	1	1	13	34	
	Province 1	Dhankuta Total	0	0	0	0	0	0	0	0	3	6	3	6	7	25	
	Province 1	ILLAM Total	1	0	0	0	0	0	0	0	0	0	1	0	33	64	
	Province 1	Jhapa Total	1	4	0	0	0	0	0	0	0	0	1	4	73	181	
	Province 1	Khotang Total	0	0	0	0	0	0	0	0	0	0	0	0	3	8	
	Province 1	Morang Total	6	11	1	0	0	0	2	6	7	13	20	275	510		
	Province 1	Okhaldhunga Total	0	0	0	0	0	0	0	0	0	0	0	0	8	12	
	Province 1	Patchthar Total	0	1	0	0	0	0	0	0	0	0	0	1	6	10	
	Province 1	Sakhuwasabha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Solukhumbu Total	0	0	0	0	0	0	0	0	0	0	0	0	5	14	
	Province 1	Sunsari Total	0	5	0	0	0	0	2	0	0	0	0	7	63	108	
	Province 1	Taplejung Total	0	0	0	0	0	0	0	0	0	0	0	0	11	20	
	Province 1	Terhathum Total	0	3	0	0	0	0	0	0	0	3	0	6	0	14	
	Province 1	Udaypur Total	1	1	0	0	0	0	0	0	0	0	1	1	23	59	
Province 2	Province 2	Province 1	10	26	1	0	0	0	4	9	16	20	46	520	1059		
	Province 2	Saptari Total	1	8	0	0	0	0	1	9	5	9	7	26	134	313	
	Province 1	Siraha Total	1	2	0	0	0	0	0	0	0	0	1	2	147	301	
	Province 2	Bara	16	11	2	3	0	0	1	3	0	2	19	19	250	401	
	Province 2	Dhanusha Total	12	15	1	2	0	0	1	0	5	2	19	19	142	224	
	Province 2	Mahottari Total	36	67	0	2	0	2	2	6	0	0	38	77	338	588	
	Province 2	Parsa Total	2	5	0	1	0	0	0	0	0	0	2	6	42	76	
	Province 2	Rautahat Total	1	5	0	1	1	2	0	0	0	0	2	8	181	325	
	Province 2	Sarlahi Total	5	7	0	1	0	1	2	1	2	0	9	10	268	436	
	Province 2	Province 2	74	120	3	10	1	5	7	19	12	13	97	167	1502	2664	
Province 3	Province 3	Bhaktapur Total	1	0	0	0	0	0	0	2	2	3	2	19	17	17	
	Province 3	Chitwan Total	18	48	5	8	0	0	0	2	1	0	24	58	176	293	
	Province 3	Dhading Total	0	0	0	0	0	0	0	1	0	1	0	27	58	58	
	Province 3	Dolkha Total	1	2	0	0	0	0	0	0	0	0	1	2	21	37	
	Province 3	Kathmandu Total	1	2	0	3	0	0	0	0	0	1	1	6	251	285	
	Province 3	Kavre Total	2	5	0	3	0	0	0	0	0	0	2	8	62	104	
	Province 3	Lalitpur Total	2	4	0	1	2	3	1	1	6	6	11	15	332	407	
	Province 3	Makwanpur Total	12	42	2	7	0	0	3	4	0	11	17	64	154	354	
	Province 3	Nuwakot Total	0	1	0	1	0	0	0	0	0	0	0	2	28	47	
	Province 3	Ramechhap Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3	Rasuwa Total	0	2	0	0	0	0	0	1	0	0	0	3	2	16	
	Province 3	Sindhuli Total	4	11	0	1	0	0	2	3	2	0	8	15	75	179	
	Province 3	Sindupalchok Total	1	1	1	0	0	1	0	1	0	1	2	4	52	105	
Province 4	Province 3	Province 3	42	118	8	24	2	4	6	12	12	21	70	179	1199	1902	
	Province 4	Baglung Total	1	0	0	0	0	0	0	0	0	1	1	1	62	107	
	Province 4	Gorkha Total	1	1	0	0	0	0	2	0	0	0	3	1	21	51	
	Province 4	Kaski Total	3	2	0	0	0	0	0	0	1	0	1	3	4	93	118
	Province 4	Lamjung Total	1	0	0	0	0	0	0	0	0	0	1	0	13	7	
	Province 4	Manang Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
	Province 4	Mustang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
	Province 4	Myagdi Total	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
	Province 4	Nawal East Total	0	2	0	0	0	0	0	0	0	0	0	2	71	110	
	Province 4	Parbat Total	0	0	0	0	0	0	0	0	0	1	0	1	3	11	
	Province 4	Syanja Total	2	7	0	1	0	0	0	0	1	1	3	9	49	103	
	Province 4	Tanahun Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 5	Province 4	Province 4	8	12	0	1	0	0	2	1	1	4	11	18	314	510
		Province 5	Arghakhanchi Total	0	0	0	0	0	0	0	0	0	0	0	0	2	10
Province 5		Gulmi Total	1	6	0	2	0	0	0	0	0	1	1	9	77	185	
Province 5		Kapil Total	26	49	1	3	1	2	5	6	2	10	35	70	246	509	
Province 5		Nawal West Total	2	1	0	0	0	0	1	1	1	7	4	9	60	101	
Province 5		Palpa Total	0	0	0	0	0	0	0	0	0	0	0	0	101	168	
Province 5		Rupandehi Total	173	291	165	284	0	2	2	6	0	2	340	585	526	915	
Province 5		Banke Total	3	6	1	2	0	0	2	1	2	4	8	13	197	296	
Province 5		Bardiya Total	11	16	1	4	0	0	0	0	0	0	12	20	31	34	
Province 5		Dang Total	3	6	2	0	0	0	0	0	0	0	5	6	38	59	
Province 5		Pyuthan	7	8	1	0	0	2	1	1	0	2	9	13	53	97	
Province 5		Roipa Total	0	0	0	0	0	0	0	0	0	0	0	0	23	36	
Province 5		Rukum East Total	0	0	0	0	0	0	0	0	0	0	0	0	4	8	
Province 6		Province 5	Province 5	226	383	171	295	1	6	11	15	5	26	414	725	1358	2418
	Province 6	Dallekh Total	1	0	0	0	0	0	0	0	0	2	1	2	47	69	
	Province 6	Dolpa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Humla Total	2	8	0	0	0	0	2	2	1	2	5	12	10	13	
	Province 6	Jajarkot Total	2	2	0	0	0	0	0	0	0	0	2	2	40	56	
	Province 6	Jumla Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Kalikot Total	0	0	0	0	0	0	0	0	0	0	0	0	2	2	
	Province 6	Mugu Total	0	0	0	0	0	0	0	0	0	0	0	0	17	21	
	Province 6	Rukum West Total	1	0	0	0	0	0	0	0	0	0	1	0	19	27	
	Province 6	Salyan Total	0	0	0	0	0	0	0	1	0	1	0	30	64	64	
	Province 6	Surkhet Total	5	2	0	0	0	0	0	2	2	0	7	4	111	161	
	Province 7	Province 6	Province 6	11	12	0	0	0	0	2	4	4	17	20	276	413	
		Province 7	Achham Total	1	2	0	1	0	0	0	0	0	0	1	3	18	31
		Province 7	Baitadi Total	0	1	0	0	0	0	0	0	0	0	0	1	5	8
Province 7		Bajhang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 7		Bajura Total	0	5	1	0	0	0	0	0	1	1	2	6	40	62	
Province 7		Dadeldhura Total	0	1	0	0	0	0	0	0	0	0	0	1	0	10	
Province 7		Darchula Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 7		Doti Total	0	4	0	0	0	0	0	1	0	0	5	29	100	100	
Province 7		Kanchanpur Total	0	0	0	0	0	0	0	0	0	0	0	0	6	7	
Province 7		Kailali Total	0	3	0	0	0	0	0	0	0	0	3	70	107	107	
Province 7		Province 7	1	16	1	1	0	0	0	1	1	1	3	19	168	325	
	National Total	372	687	184	331	4	15	28	56	44	85	632	1174	5337	9291		

Region :	S.N.	Districts	TB-HIV (All TB Cases)									
			Total TB Patients Tested for HIV during this trimester		TB Patients with Know HIV Status (positive or negative)		HIV +ve TB Patients		HIV +ve TB Patients on ART		HIV +ve TB Patients on CPT	
			F	M	F	M	F	M	F	M	F	M
Province 1	Province 1	Bhojpur Total	18	50	18	49	0	1	0	1	0	0
	Province 1	Dhankuta Total	25	55	25	55	0	0	0	0	0	0
	Province 1	ILLAM Total	25	49	22	47	0	0	0	0	0	0
	Province 1	Jhapa Total	191	423	191	423	2	0	2	0	0	0
	Province 1	Khotang Total	18	40	10	25	0	0	0	0	0	0
	Province 1	Morang Total	245	415	245	415	2	0	2	0	0	0
	Province 1	Okhaldhunga Total	19	61	19	62	0	0	0	0	0	0
	Province 1	Panchthar Total	13	30	8	23	0	0	0	0	0	0
	Province 1	Sakhuwasabha Total	28	47	28	47	0	0	0	0	0	0
	Province 1	Solukhumbu Total	5	14	5	14	0	0	0	0	0	0
	Province 1	Sunsari Total	199	316	199	316	4	3	4	3	4	3
	Province 1	Taplejung Total	16	30	16	30	0	0	0	0	0	0
	Province 1	Terhathum Total	3	30	3	30	0	0	0	0	0	0
	Province 1	Udaypur Total	67	156	66	151	0	0	0	0	0	0
Province 2	Province 2	Saptari Total	872	1716	855	1687	8	4	8	4	4	3
	Province 2	Siraha Total	127	279	127	279	0	0	0	0	0	0
	Province 2	Bara Total	141	277	141	277	0	0	0	0	0	0
	Province 2	Dhanusha Total	271	451	271	451	0	0	0	0	0	0
	Province 2	Mahottari Total	275	488	275	488	0	5	0	5	0	0
	Province 2	Parsa Total	262	458	261	458	1	1	0	1	0	0
	Province 2	Parsa Total	15	26	15	26	0	1	0	1	0	0
	Province 2	Rautahat Total	179	332	179	332	1	3	1	3	1	3
	Province 2	Sarlahi Total	332	527	332	527	1	0	0	0	0	0
	Province 2	Province 2	1602	2838	1601	2838	3	10	1	10	1	3
Province 3	Province 3	Bhaktapur Total	164	203	152	189	0	0	0	0	0	0
	Province 3	Chitwan Total	304	600	304	599	4	8	4	7	3	1
	Province 3	Dhading Total	36	69	36	69	0	0	0	0	0	0
	Province 3	Dolkha Total	32	75	32	75	0	0	0	0	0	0
	Province 3	Kathmandu Total	607	729	607	729	4	7	4	7	0	2
	Province 3	Kavre Total	46	106	46	106	0	1	0	1	0	0
	Province 3	Lalitpur Total	65	71	65	71	0	1	0	1	0	0
	Province 3	Makwanpur Total	149	280	149	280	2	0	2	0	0	0
	Province 3	Nuwakot Total	46	104	46	104	0	2	0	2	0	0
	Province 3	Ramechhap Total	1	9	1	9	0	0	0	0	0	0
	Province 3	Rasuwa Total	11	32	4	17	0	1	0	1	0	0
	Province 3	Sindhuli Total	69	194	69	194	0	0	0	0	0	0
	Province 3	Sindupalchok Total	17	36	17	36	0	0	0	0	0	0
Province 4	Province 4	Province 3	1547	2508	1528	2478	10	20	10	19	3	3
	Province 4	Baglung Total	62	105	62	105	0	0	0	0	0	0
	Province 4	Gorkha Total	42	105	42	105	2	3	2	3	1	1
	Province 4	Kaski Total	145	231	145	231	4	4	4	4	4	1
	Province 4	Lamjung Total	41	52	41	52	3	1	3	1	2	1
	Province 4	Manang Total	1	0	1	0	0	0	0	0	0	0
	Province 4	Mustang Total	0	2	0	2	0	0	0	0	0	0
	Province 4	Myagdi Total	6	20	6	20	0	0	0	0	0	0
	Province 4	Nawal East Total	127	212	124	212	3	2	3	2	0	0
	Province 4	Parbat Total	19	45	9	38	0	0	0	0	0	0
	Province 4	Syanja Total	49	100	49	97	1	4	1	4	0	1
	Province 4	Tanahun Total	74	129	74	129	0	2	0	2	0	0
	Province 4	Province 4	566	1001	553	991	13	16	13	16	7	4
Province 5	Province 5	Arghakhanchi Total	80	169	80	169	0	2	0	2	0	0
	Province 5	Gulmi Total	92	215	92	215	2	9	2	9	2	9
	Province 5	Kapil Total	210	453	210	453	4	14	4	14	2	3
	Province 5	Nawal West Total	103	188	103	188	1	6	1	6	1	4
	Province 5	Palpa Total	123	248	123	248	1	2	1	2	1	2
	Province 5	Rupandehi Total	277	413	275	407	3	4	3	2	2	0
	Province 5	Banke Total	243	402	240	392	1	1	0	1	0	0
	Province 5	Bardiya Total	227	393	225	390	1	0	1	0	0	0
	Province 5	Dang Total	376	579	376	579	0	3	0	2	0	0
	Province 5	Pyuthan Total	120	206	120	206	0	3	0	2	0	0
	Province 5	Rolpa Total	107	164	107	164	0	0	0	0	0	0
	Province 5	Rukum East Total	19	29	19	29	0	0	0	0	0	0
	Province 5	Province 5	1977	3459	1970	3440	13	44	12	40	8	18
Province 6	Province 6	Dailekh Total	65	122	65	122	0	0	0	0	0	0
	Province 6	Dolpa Total	0	0	0	0	0	0	0	0	0	0
	Province 6	Humla Total	6	6	6	6	0	0	0	0	0	0
	Province 6	Jajarkot Total	25	42	25	42	0	0	0	0	0	0
	Province 6	Jumla Total	14	25	13	25	0	0	0	0	0	0
	Province 6	Kalikot Total	26	53	26	53	0	1	0	1	0	0
	Province 6	Mugu Total	19	26	19	26	0	0	0	0	0	0
	Province 6	Rukum West Total	58	109	58	109	0	0	0	0	0	0
	Province 6	Salyan Total	52	113	52	113	0	0	0	0	0	0
	Province 6	Surkhet Total	40	73	40	73	3	2	3	2	0	1
Province 7	Province 7	Province 6	305	569	304	569	3	3	3	3	0	1
	Province 7	Achham Total	61	112	61	112	3	6	3	5	3	3
	Province 7	Baitadi Total	53	110	53	110	0	0	0	0	0	0
	Province 7	Bajhang Total	62	72	62	72	0	0	0	0	0	0
	Province 7	Bajura Total	56	87	56	87	0	1	0	1	0	0
	Province 7	Dadeldhura Total	31	83	31	83	0	0	0	0	0	0
	Province 7	Darchula Total	45	72	45	72	0	0	0	0	0	0
	Province 7	Doti Total	37	109	33	73	3	4	3	2	0	1
	Province 7	Kanchanpur Total	212	460	210	459	0	6	0	6	0	0
	Province 7	Kailali Total	380	748	380	748	10	16	10	16	6	8
National Total	Province 7	Province 7	937	1853	931	1816	16	33	16	30	9	12
	National Total	National Total	7806	13944	7742	13819	66	130	63	122	32	44

Region :	S.N.	Districts	Gene-Xpert Examination Result											
			MTB Detected						MTB not Detected		Invalid / Error / No Result		Total test	
			RIF Sensitive		RIF Resistant		RIF Indeterminate		F	M	F	M	F	M
			F	M	F	M	F	M						
Province 1	Province 1	Bhojpur Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Dhankuta Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	ILLAM Total	7	23	1	1	0	0	126	134	31	28	165	186
	Province 1	Jhapa Total	9	17	0	3	0	0	68	98	1	2	78	120
	Province 1	Khotang Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Morang Total	95	234	6	14	1	7	434	737	63	83	599	1075
	Province 1	Okhaldhunga Total	6	38	0	6	31	33	20	21	2	2	59	100
	Province 1	Panchthar Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Sakhuwasabha Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Solukhumbu Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Sunsari Total	21	36	0	2	1	0	145	202	9	14	176	254
	Province 1	Taplejung Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Terhathum Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Udaypur Total	1	7	0	0	0	0	20	25	4	8	25	40
Province 2	Province 1	Province 1	139	355	7	26	33	40	813	1217	110	137	1102	1775
	Province 2	Saptari Total	3	23	5	10	0	0	67	140	27	56	102	229
	Province 2	Siraha Total	3	18	0	2	2	0	56	92	14	29	75	141
	Province 2	Bara	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Dhanusha Total	57	153	3	15	0	0	743	703	34	42	837	913
	Province 2	Mahottari Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Parsa Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Rautahat Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Sarlahi Total	5	7	1	0	0	1	17	18	0	2	23	28
	Province 2	Province 2	68	201	9	27	2	1	883	953	75	129	1037	1311
Province 3	Province 3	Bhaktapur Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Chitwan Total	100	261	5	19	19	46	1420	1514	191	299	1735	2139
	Province 3	Dhading Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Dolkha Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Kathmandu Total	454	778	31	59	1	3	1127	1800	61	98	1674	2738
	Province 3	Kavre Total	19	44	1	0	0	0	169	256	1	0	190	300
	Province 3	Lalitpur Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Makwanpur Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Nuwakot Total	5	18	0	0	0	0	14	36	1	0	20	54
	Province 3	Ramechhap Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Rasuwa Total	0	1	0	0	0	0	0	0	0	0	0	1
	Province 3	Sindhuli Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Sindupalchok Total	0	0	0	0	0	0	0	0	0	0	0	0
Province 4	Province 4	Province 3	578	1102	37	78	20	49	2730	3606	254	397	3619	5232
	Province 4	Baglung Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Gorkha Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Kaski Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Lamjung Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Manang Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Mustang Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Myagdi Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Nawal East Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Parbat Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Syanja Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Tanahun Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Province 4	0	0	0	0	0	0	0	0	0	0	0	0
Province 5	Province 5	Arghakhanchi Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 5	Gulmi Total	6	1	0	1	0	0	20	12	3	2	29	16
	Province 5	Kapil Total	15	36	7	6	0	0	46	75	5	7	73	124
	Province 5	Nawal West Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 5	Palpa Total	49	136	6	18	1	3	192	280	57	9	305	446
	Province 5	Rupandehi Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 5	Banke Total	58	179	5	15	0	1	64	105	11	6	138	306
	Province 5	Bardiya Total	8	17	0	1	0	0	24	26	1	5	33	49
	Province 5	Dang Total	101	144	1	2	0	0	335	465	14	14	451	625
	Province 5	Pyuthan	41	94	0	0	0	0	300	339	13	11	354	444
	Province 5	Rolpa Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 5	Rukum East Total	0	0	0	0	0	0	0	0	0	0	0	0
Province 6	Province 5	Province 5	278	607	19	43	1	4	981	1302	104	54	1383	2010
	Province 6	Dailekh Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Dolpa Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Humla Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Jajarkot Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Jumla Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Kalikot Total	0	0	0	0	0	0	0	1	0	0	0	1
	Province 6	Mugu Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Rukum West Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Salyan Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Surkhet Total	9	19	0	0	0	0	42	41	10	13	61	73
	Province 6	Province 6	9	19	0	0	0	0	42	42	10	13	61	74
Province 7	Province 7	Achham Total	47	111	4	12	0	4	164	244	8	5	223	376
	Province 7	Baitadi Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Bajhang Total	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Bajura Total	3	9	0	0	0	0	0	0	0	0	3	9
	Province 7	Dadeldhura Total	17	73	0	2	0	0	67	115	2	8	86	198
	Province 7	Darchula Total	0	2	0	0	0	0	0	2	0	0	0	4
	Province 7	Doti Total	19	67	3	6	1	2	147	206	21	34	191	315
	Province 7	Kanchanpur Total	34	99	7	9	0	0	68	113	5	4	114	225
	Province 7	Kailali Total	56	201	14	30	1	2	246	381	27	56	344	670
Province 7	Province 7	Province 7	176	562	28	59	2	8	692	1061	63	107	961	1797
	National Total		1248	2846	100	233	58	102	6141	8181	616	837	8163	12199

Region :	S.N.	Districts	Sputum Smear Examination Result by Microscopy															
			Presumptive TB Case Examined (Persons)				Slide A				Slide B				Follow-Up Cases (Slides)			
			+ve		-ve		+ve		-ve		+ve		-ve		+ve		-ve	
			F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Province 1	Province 1	Bhojpur Total	4	10	124	162	4	9	124	162	6	8	124	163	3	3	24	55
	Province 1	Dhankuta Total	9	18	316	406	8	17	305	440	7	10	276	377	0	0	37	77
	Province 1	ILLAM Total	17	37	326	450	17	36	326	451	17	37	326	450	2	3	58	135
	Province 1	Jhapa Total	82	261	2092	2743	81	258	1515	1914	652	1084	1454	1809	614	870	503	609
	Province 1	Khotang Total	3	4	143	153	3	4	143	153	3	4	143	153	0	1	13	40
	Province 1	Morang Total	146	483	3090	4326	138	450	3099	4436	137	449	2732	3876	19	75	1175	1943
	Province 1	Okhaldhunga Total	7	34	247	315	8	34	134	174	7	31	79	124	1	4	26	72
	Province 1	Panchthar Total	9	12	231	310	8	12	232	310	9	12	229	311	2	3	31	68
	Province 1	Sakhuwasabha Total	11	19	625	847	9	19	639	871	11	16	596	839	1	1	86	94
	Province 1	Solukhumbu Total	0	0	31	69	0	0	31	69	0	0	31	69	0	0	0	22
	Province 1	Sunsari Total	77	180	2084	2618	77	175	2037	2500	76	175	2025	2479	16	24	363	619
	Province 1	Taplejung Total	6	12	54	58	4	16	55	59	6	13	54	59	2	3	19	13
	Province 1	Terhathum Total	0	6	74	127	0	6	73	114	0	6	73	114	0	0	3	30
	Province 1	Udaypur Total	13	40	430	489	13	40	430	489	13	40	422	485	0	7	74	123
Province 2	Province 2	Province 1	384	1116	9867	13073	368	1076	9143	11942	944	1885	8564	11108	660	994	2394	3900
	Province 2	Saptari Total	71	141	752	1285	506	620	754	1289	505	622	755	1286	456	526	177	342
	Province 2	Siraha Total	28	75	757	1039	28	75	757	1039	28	74	748	1016	3	5	81	231
	Province 2	Bara	148	261	1410	1940	148	261	1410	1940	148	261	1410	1940	28	48	470	880
	Province 2	Dhanusha Total	166	287	2327	3037	166	287	2327	3038	162	284	2331	3030	6	17	411	731
	Province 2	Mahottari Total	157	246	3532	3872	154	246	3532	3872	157	244	3533	3871	15	25	384	517
	Province 2	Parsa Total	102	163	1582	2411	102	163	1582	2411	95	151	1434	2255	2	4	279	450
	Province 2	Rautahat Total	53	118	950	1146	50	115	955	1148	48	109	956	1156	10	13	299	415
	Province 2	Sarlahi Total	215	338	2696	3321	215	338	2693	3312	214	343	2692	3319	37	49	695	1005
	Province 2	Province 2	940	1629	14006	18051	1369	2105	14010	18049	1357	2088	13859	17873	557	687	2796	4571
	Province 3	Bhaktapur Total	14	33	503	547	5	14	498	540	5	14	532	538	2	2	167	181
	Province 3	Chitwan Total	137	330	3010	3764	124	301	2988	3697	194	379	2638	3309	18	46	645	1169
	Province 3	Dhading Total	3	12	242	348	3	12	242	348	3	12	242	348	3	6	43	65
	Province 3	Dolkha Total	7	11	144	240	7	11	144	240	7	11	143	240	0	0	33	91
Province 3	Kathmandu Total	369	626	8261	10461	265	525	6285	8929	243	467	5774	8070	85	287	1536	1916	
Province 3	Kavre Total	15	57	1180	1441	15	57	1172	1430	10	42	934	1190	6	14	136	291	
Province 3	Lalitpur Total	88	163	3368	4037	80	153	3367	4036	65	119	2340	2957	5	7	227	362	
Province 3	Makwanpur Total	75	187	2119	2232	75	188	2119	2232	75	187	2119	2232	7	25	346	533	
Province 3	Nuwakot Total	12	19	286	411	12	19	286	411	12	7	192	263	0	2	83	171	
Province 3	Ramechhap Total	2	14	178	224	2	14	171	203	2	14	170	202	0	3	23	64	
Province 3	Rasuwa Total	1	6	72	52	0	6	102	87	1	6	89	67	0	1	9	24	
Province 3	Sindhuli Total	26	52	515	572	26	62	505	624	26	130	395	555	3	15	100	236	
Province 3	Sindupalchok Total	32	19	313	308	24	12	282	276	24	12	278	277	0	0	51	75	
Province 4	Province 3	Province 3	781	1529	20191	24637	638	1374	18161	23053	667	1400	15826	20248	129	408	3399	5178
	Province 4	Baglung Total	13	31	568	558	13	30	568	558	9	20	419	465	3	4	67	106
	Province 4	Gorkha Total	20	53	357	419	27	62	355	407	23	54	302	342	7	17	73	148
	Province 4	Kaski Total	61	153	2206	2700	55	140	2209	2716	53	141	2107	2464	12	10	318	518
	Province 4	Lamjung Total	4	17	387	552	4	17	387	552	4	16	371	539	0	4	65	129
	Province 4	Manang Total	0	0	10	12	0	0	10	12	0	0	9	12	0	0	0	1
	Province 4	Mustang Total	0	0	31	52	0	0	31	52	0	0	31	52	0	0	14	10
	Province 4	Myagdi Total	8	7	163	161	8	7	163	161	8	7	161	158	2	3	28	44
	Province 4	Nawal East Total	45	121	816	1137	43	116	823	1140	45	115	785	1088	5	23	277	536
	Province 4	Parbat Total	9	13	136	238	9	12	137	236	8	11	119	211	3	2	61	109
	Province 4	Syanya Total	11	30	449	486	10	29	450	487	11	29	434	465	1	6	88	226
	Province 4	Tanahun Total	20	54	770	805	20	51	763	792	19	51	569	702	3	20	139	399
	Province 5	Province 4	191	479	5893	7120	189	464	5896	7103	180	444	5307	6498	37	89	1130	2226
	Province 5	Arghakhanchi Total	12	8	43	43	12	7	43	44	10	8	39	40	0	0	18	36
Province 5	Gulmi Total	11	32	731	673	11	32	731	682	10	32	694	650	2	4	156	278	
Province 5	Kapli Total	122	260	3123	3444	116	244	3145	3514	110	234	2966	3311	16	43	369	730	
Province 5	Nawal West Total	62	144	795	1278	61	132	792	1286	58	128	769	1211	3	21	201	442	
Province 5	Palpa Total	114	286	2238	3146	93	215	2259	3217	112	283	1306	1636	6	16	184	398	
Province 5	Rupandehi Total	148	290	2106	3098	129	264	2115	3113	145	285	1904	2810	18	37	632	1134	
Province 5	Banka Total	212	458	2499	3120	190	424	2517	3161	208	446	2543	3049	36	84	480	878	
Province 5	Baraha Total	52	147	2872	2648	51	144	2873	2651	52	146	2845	2610	8	30	354	696	
Province 5	Dang Total	160	318	2354	2858	294	708	2260	2857	139	402	2047	2568	37	88	548	888	
Province 5	Pyuthan	32	93	1103	1202	32	93	1103	1202	29	84	1075	1167	13	20	265	432	
Province 5	Rolpa Total	29	72	777	766	28	71	778	767	27	70	700	692	3	22	171	244	
Province 5	Rukum East Total	2	11	104	104	2	11	104	103	2	11	104	103	0	0	36	35	
Province 6	Province 5	Province 5	956	2119	18745	22380	1019	2345	18720	22597	902	2129	16992	19847	142	365	3415	6191
	Province 6	Dallekh Total	9	41	525	527	9	40	525	526	9	38	453	458	7	9	82	160
	Province 6	Dolpa Total	6	10	34	26	4	3	31	24	4	3	25	22	1	1	0	2
	Province 6	Humla Total	34	55	22	45	2	4	15	34	2	4	13	32	0	2	13	32
	Province 6	Jaarkot Total	10	23	263	227	8	23	263	227	7	22	223	181	4	5	81	103
	Province 6	Jumla Total	2	6	226	239	3	9	285	367	2	6	278	369	0	1	27	32
	Province 6	Kalikot Total	9	13	289	298	9	13	289	298	9	13	236	238	2	5	41	64
	Province 6	Mugu Total	5	6	142	146	5	6	142	146	5	6	127	133	1	1	31	23
	Province 6	Rukum West Total	30	60	531	600	30	60	531	600	27	57	516	580	2	8	114	149
	Province 6	Salyan Total	16	39	970	791	16	36	970	783	16	38	868	765	8	13	63	168
	Province 6	Surkhet Total	29	112	938	1228	28	111	932	1217	28	108	920	1194	7	26	200	498
	Province 7	Province 6	150	365	3940	4127	114	305	3983	4222	109	295	3659	3972	32	71	652	1231
	Province 7	Achham Total	33	72	1682	1218	33	72	1682	1218	24	70	1606	1172	4	12	86	179
	Province 7	Baitadi Total	12	48	553	604	12	48	552	638	12	48	527	588	5	3	82	156
Province 7	Bajhang Total	28	22	663	606	21	19	648	609	26	20	499	504	2	4	138	134	
Province 7	Barjura Total	14	22	349	338	14	22	346	338	13	19	339	331	7	4	68	72	
Province 7	Dadeldhura Total	23	63	642	731	23	59	642	735	21	57	597	714	2	13	110	232	
Province 7	Darchula Total	9	18	226	211	5	18	226	211	6	11	218	214	0	0	48	26	
Province 7	Doti Total	17	40															

Annex 5: NTP Annual Treatment Outcome Report

Fiscal Year: 2074/75 (2018)

Pulmonary Bacteriologically Confirmed

Region :	S.N.	Districts	New																
			Registered		Cured		Completed		Failure		Died		Lost to Follow-up		Not Evaluated		Total		
			F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	
Province 1	Province 1	Bhojpur Total	6	32	4	26	0	2	0	0	1	0	1	2	0	2	6	32	
	Province 1	Dhankuta Total	15	28	15	22	0	2	0	0	0	3	0	1	0	0	15	28	
	Province 1	LLAM Total	23	55	19	51	3	3	1	0	0	1	0	0	0	0	23	55	
	Province 1	Jhapa Total	154	374	139	305	8	24	0	4	2	13	2	15	3	13	154	374	
	Province 1	Khotang Total	5	29	5	28	0	0	0	0	0	1	0	0	0	0	5	29	
	Province 1	Morang Total	169	365	149	311	5	18	3	5	6	16	5	11	1	4	169	365	
	Province 1	Okhaldhunga Total	13	26	11	21	2	1	0	1	0	1	0	2	0	0	13	26	
	Province 1	Panchthar Total	8	30	8	29	0	1	0	0	0	0	0	0	0	0	8	30	
	Province 1	Sakhuwasabha Total	11	29	10	27	0	0	0	1	0	0	1	1	0	0	11	29	
	Province 1	Solukhumbu Total	7	7	7	7	0	0	0	0	0	0	0	0	0	0	7	7	
	Province 1	Sunsari Total	172	288	141	229	11	15	2	2	5	14	9	23	4	5	172	288	
	Province 1	Taplejung Total	3	10	3	10	0	0	0	0	0	0	0	0	0	0	3	10	
	Province 1	Terhathum Total	5	10	5	8	0	0	0	1	0	1	0	0	0	0	5	10	
	Province 1	Udaypur Total	42	100	41	90	1	3	0	0	0	3	0	3	0	1	42	100	
Province 2	Province 1	Province 1	633	1383	557	1164	30	69	6	14	14	53	18	58	8	25	633	1383	
	Province 2	Saptari Total	83	205	81	190	1	8	0	1	1	6	0	0	0	0	83	205	
	Province 2	Siraha Total	134	246	111	205	15	30	0	2	6	5	2	4	0	0	134	246	
	Province 2	Bara	178	321	126	209	35	60	2	5	4	22	5	15	6	10	178	321	
	Province 2	Dhanusha Total	139	226	109	194	12	14	4	2	7	9	6	7	1	0	139	226	
	Province 2	Mahottara Total	152	264	119	213	12	18	4	5	8	9	9	19	0	0	152	264	
	Province 2	Parsa Total	138	270	125	217	9	32	0	0	3	10	0	6	1	5	138	270	
	Province 2	Rautahat Total	105	184	92	156	8	13	1	0	1	9	3	3	0	3	105	184	
	Province 2	Sarlahi Total	171	329	151	279	15	35	1	2	3	12	0	1	1	0	171	329	
Province 3	Province 2	Province 2	1100	2045	914	1663	107	210	12	17	33	82	25	55	9	18	1100	2045	
	Province 3	Bhaktapur Total	79	150	73	137	1	2	0	1	1	2	0	0	4	8	79	150	
	Province 3	Chitwan Total	140	269	130	238	1	6	1	10	2	7	5	4	1	4	140	269	
	Province 3	Dhading Total	34	113	30	96	4	13	0	0	0	2	0	2	0	0	34	113	
	Province 3	Dolha Total	7	30	5	25	0	1	0	0	0	1	0	2	2	1	7	30	
	Province 3	Kathmandu Total	461	648	381	504	27	52	7	5	10	14	7	18	29	55	461	648	
	Province 3	Kavre Total	48	110	43	86	3	10	0	0	1	6	1	2	0	6	48	110	
	Province 3	Lalitpur Total	104	155	98	144	1	1	0	1	2	6	1	1	2	2	104	155	
	Province 3	Makwanpur Total	120	259	95	216	7	13	3	3	1	3	3	7	11	17	120	259	
	Province 3	Nuwakot Total	30	95	25	73	4	15	0	1	0	4	1	1	0	1	30	95	
	Province 3	Ramechhap Total	9	41	8	26	1	10	0	0	0	4	0	0	0	1	9	41	
	Province 3	Rasuwaga Total	2	15	2	10	0	3	0	0	0	1	0	1	0	0	2	15	
	Province 3	Sindhuli Total	42	114	28	101	8	6	0	1	5	6	1	1	0	0	42	115	
	Province 3	Sirupachchok Total	38	77	33	62	2	8	1	0	1	3	1	1	0	3	38	77	
Province 4	Province 3	Province 3	1114	2076	951	1718	59	140	12	22	23	59	20	40	49	98	1114	2077	
	Province 4	Baglung Total	23	47	22	44	0	0	0	1	1	2	0	0	0	0	23	47	
	Province 4	Gorkha Total	35	90	29	78	5	9	1	1	0	2	0	0	0	0	35	90	
	Province 4	Kaski Total	63	147	58	138	2	2	1	2	2	1	0	3	0	1	63	147	
	Province 4	Lamjung Total	22	32	21	29	0	0	0	1	1	1	0	0	0	1	22	32	
	Province 4	Manang Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
	Province 4	Mustang Total	2	3	2	3	0	0	0	0	0	0	0	0	0	0	2	3	
	Province 4	Myagdi Total	9	16	7	9	2	4	0	1	0	2	0	0	0	0	9	16	
	Province 4	Nawal East Total	63	159	54	134	2	9	4	1	2	7	0	5	1	3	63	159	
	Province 4	Parbat Total	11	37	11	29	0	1	0	1	0	2	0	3	0	1	11	37	
	Province 4	Syajur Total	31	74	20	40	9	23	0	2	2	5	0	3	0	1	31	74	
	Province 4	Tanahun Total	27	105	18	79	3	5	1	4	4	5	0	6	1	6	27	105	
Province 5	Province 4	Province 4	286	711	242	584	23	53	7	14	12	27	0	20	2	13	286	711	
	Province 5	Arghakhanchi Total	26	61	22	56	1	0	1	0	1	3	0	2	1	0	26	61	
	Province 5	Gulmi Total	38	89	28	78	2	1	2	0	5	5	0	2	1	3	38	89	
	Province 5	Kapil Total	128	239	113	194	2	3	3	9	7	21	3	11	0	1	128	239	
	Province 5	Nawal West Total	67	156	56	126	4	8	2	1	1	8	2	11	2	2	67	156	
	Province 5	Palpa Total	48	119	45	100	0	4	0	6	2	7	1	1	0	1	48	119	
	Province 5	Rupandehi Total	200	361	178	327	4	8	2	5	5	9	7	7	4	5	200	361	
	Province 5	Banka Total	186	319	155	269	2	14	11	10	6	11	7	7	5	8	186	319	
	Province 5	Bardiya Total	119	238	110	217	0	0	1	5	4	9	4	5	0	2	119	238	
	Province 5	Dang Total	187	324	164	289	4	8	4	4	10	12	3	8	2	3	187	324	
	Province 5	Pyuthan	44	86	42	77	0	2	0	2	2	0	0	5	0	0	44	86	
	Province 5	Roopa Total	53	104	50	91	1	2	0	0	2	8	0	3	0	0	53	104	
	Province 5	Rukum East Total	9	13	8	13	0	0	1	0	0	0	0	0	0	0	9	13	
	Province 6	Province 5	Province 5	1105	2109	971	1837	20	50	27	42	45	93	27	62	15	25	1105	2109
Province 6		Dalekh Total	22	70	15	58	2	5	1	1	2	4	2	0	0	2	22	70	
Province 6		Dolpa Total	1	5	1	5	0	0	0	0	0	0	0	0	0	0	1	5	
Province 6		Humla Total	5	11	4	8	1	3	0	0	0	0	0	0	0	0	5	11	
Province 6		Jajarkot Total	21	31	14	25	5	4	1	0	1	0	0	1	0	1	21	31	
Province 6		Jumla Total	5	20	5	18	0	1	0	0	0	1	0	0	0	0	5	20	
Province 6		Kailok Total	12	12	12	11	0	0	0	0	0	1	0	0	0	0	12	12	
Province 6		Mugu Total	5	8	5	8	0	0	0	0	0	0	0	0	0	0	5	8	
Province 6		Rukum West Total	36	34	32	31	4	3	0	0	0	0	0	0	0	0	36	34	
Province 6		Salyan Total	26	74	22	60	0	7	0	0	2	4	2	3	0	0	26	74	
Province 6		Surkhet Total	58	124	48	105	3	3	1	4	3	3	3	5	0	4	58	124	
Province 7		Province 6	Province 6	191	389	158	329	15	26	3	5	8	13	7	9	0	7	191	389
		Province 7	Achimam Total	30	70	18	42	7	14	0	1	1	5	4	4	0	4	30	70
		Province 7	Baitadi Total	16	81	16	78	0	0	0	0	0	2	0	0	0	1	16	81
	Province 7	Baghang Total	30	29	25	24	4	1	0	0	1	2	0	2	0	0	30	29	
	Province 7	Bejura Total	20	39	16	25	1	9	2	0	0	3	1	2	0	0	20	39	
	Province 7	Dadeldhura Total	18	34	17	28	0	1	1	1	0	3	0	1	0	0	18	34	
	Province 7	Darchula Total	18	35	12	22	4	9	0	0	1	0	1	4	0	0	18	35	
	Province 7	Doti Total	31	76	24	46	2	10	1	2	3	10	1	5	0	3	31	76	
	Province 7	Kanchanpur Total	133	301	124	267	0	0	1	4	4	11	1	7	3	12	133	301	
	Province 7	Kailali Total	210	403	176	327	4	20	7	6	6	19	13	21	4	10	210	403	
Province 7	Province 7	Province 7	506	1068	428	859	22	64	12	14	16	55	21	46	7	30	506	1068	
	National Total	National Total	4,935	9,781	4,221	8,154	276	612	79	128	151	382	118	290	90	216	4,935	9,781	

Region :	S.N.	Districts	Relapse																
			Registered		Cured		Completed		Failure		Died		Lost to Follow-up		Not Evaluated		Total		
			F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	
Province 1	Province 1	Bhopur Total	2	3	1	3	0	0	0	0	0	0	0	0	1	0	2	3	
	Province 1	Dhankuta Total	1	2	1	1	0	0	0	0	1	0	0	0	0	0	2	1	
	Province 1	ILAM Total	3	6	3	5	0	1	0	0	0	0	0	0	0	0	3	6	
	Province 1	Jhapa Total	17	39	13	33	1	0	0	1	3	2	0	1	0	2	17	39	
	Province 1	Khotang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Morang Total	13	53	12	45	0	2	0	1	0	3	0	2	1	0	13	53	
	Province 1	Okhaldhunga Total	1	8	1	7	0	0	0	0	0	1	0	0	0	0	1	8	
	Province 1	Panchthar Total	1	6	1	4	0	1	0	0	0	0	0	0	0	1	1	6	
	Province 1	Sakhuwasabha Total	2	0	1	0	0	0	0	0	0	0	1	0	0	0	2	0	
	Province 1	Solukhumbu Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Sunsari Total	13	34	13	31	0	1	0	1	0	0	0	1	0	0	13	34	
	Province 1	Taplejung Total	2	3	2	3	0	0	0	0	0	0	0	0	0	0	2	3	
	Province 1	Terhathum Total	1	2	1	2	0	0	0	0	0	0	0	0	0	0	1	2	
	Province 1	Udaypur Total	3	22	3	20	0	1	0	0	0	1	0	0	0	0	3	22	
		Province 1	59	178	52	154	1	6	0	3	4	7	1	4	2	3	60	177	
Province 2	Province 2	Saptari Total	5	13	5	12	0	0	0	0	1	0	0	0	0	5	13		
	Province 2	Siraha Total	7	11	7	8	0	1	0	0	0	1	0	1	0	0	7	11	
	Province 2	Bara	15	70	13	57	1	5	0	0	4	1	2	0	2	15	70		
	Province 2	Dhanusha Total	9	22	7	18	0	0	0	1	0	2	2	1	0	9	22		
	Province 2	Mahottari Total	3	30	3	26	0	0	0	2	0	2	0	0	0	3	30		
	Province 2	Parsa Total	16	22	14	17	0	0	1	0	1	3	0	2	0	16	22		
	Province 2	Rautahat Total	4	31	4	28	0	2	0	0	0	1	0	0	0	4	31		
	Province 2	Sarlahi Total	16	61	15	48	0	8	0	2	1	3	0	0	0	16	61		
	Province 2	75	260	68	214	1	16	1	5	2	17	3	6	0	2	75	260		
Province 3	Province 3	Bhaktapur Total	12	34	11	30	0	2	0	0	0	0	2	1	0	12	34		
	Province 3	Chitwan Total	32	80	27	71	1	1	3	2	1	3	0	1	0	2	32	80	
	Province 3	Dhading Total	2	14	1	12	1	2	0	0	0	0	0	0	0	2	14		
	Province 3	Dolcha Total	0	4	0	1	0	0	0	0	0	0	0	0	0	3	0	4	
	Province 3	Kathmandu Total	70	143	58	112	3	5	1	7	2	6	1	6	5	7	70	143	
	Province 3	Kavre Total	4	17	4	14	0	1	0	0	0	0	0	1	0	1	4	17	
	Province 3	Lalitpur Total	10	23	7	20	0	0	0	0	2	2	0	0	1	1	10	23	
	Province 3	Makwanpur Total	9	46	8	41	0	0	0	0	0	4	1	0	0	1	9	46	
	Province 3	Nuwakot Total	6	25	5	20	1	4	0	0	0	0	0	1	0	0	6	25	
	Province 3	Ramechhap Total	1	4	0	2	1	0	0	0	0	1	0	1	0	0	1	4	
	Province 3	Rasuwa Total	1	2	1	1	0	0	0	0	0	0	0	1	0	0	1	2	
	Province 3	Sindhuli Total	8	27	6	21	0	2	0	1	2	3	0	0	0	0	8	27	
	Province 3	Sirupachok Total	2	16	1	14	1	0	0	0	0	1	0	0	0	1	2	16	
	Province 3	157	435	129	359	8	17	4	10	7	20	2	13	7	16	157	435		
Province 4	Province 4	Baglung Total	4	9	3	9	0	0	0	0	0	0	0	0	1	0	4	9	
	Province 4	Gorkha Total	1	14	1	13	0	0	0	1	0	0	0	0	0	0	1	14	
	Province 4	Kaski Total	6	21	5	19	1	0	0	1	0	1	0	0	0	6	21		
	Province 4	Langtang Total	1	10	1	10	0	0	0	0	0	0	0	0	0	1	10		
	Province 4	Manang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Mustang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Myagdi Total	1	5	1	2	0	1	0	0	2	0	0	0	0	0	1	5	
	Province 4	Nawal East Total	7	33	7	30	0	2	0	0	0	1	0	0	0	7	33		
	Province 4	Parbat Total	0	3	0	2	0	0	0	0	0	0	0	1	0	0	0	3	
	Province 4	Syangja Total	7	21	7	12	0	4	0	0	0	1	0	2	0	2	7	21	
Province 4	Tanahun Total	6	30	2	23	1	0	0	0	0	1	3	0	1	2	3	6	30	
	Province 4	33	146	27	120	2	7	0	2	1	8	0	4	3	5	33	146		
Province 5	Province 5	Arghakhanchi Total	4	10	3	10	0	0	0	0	1	0	0	0	0	4	10		
	Province 5	Gulmi Total	3	13	3	7	0	1	0	0	5	0	0	0	0	3	13		
	Province 5	Kapil Total	7	47	6	38	0	0	1	1	0	5	0	3	0	7	47		
	Province 5	Nawal West Total	13	26	13	21	0	0	0	1	0	2	0	2	0	13	26		
	Province 5	Palpa Total	5	25	5	24	0	0	0	0	0	1	0	0	0	5	25		
	Province 5	Rupandehi Total	23	71	20	64	0	0	2	1	0	3	0	2	1	1	23	71	
	Province 5	Banka Total	22	49	19	39	0	1	0	0	1	3	0	4	2	2	22	49	
	Province 5	Bardiya Total	9	32	8	28	0	0	0	1	1	3	0	0	0	9	32		
	Province 5	Dang Total	31	71	29	60	0	2	0	1	2	6	0	0	2	31	71		
	Province 5	Pyuthan	4	23	4	20	0	0	0	0	0	3	0	0	0	4	23		
Province 5	Rolpa Total	5	18	4	14	0	0	0	0	1	1	2	0	1	0	5	18		
Province 5	Rukum East Total	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0		
	Province 5	128	385	116	325	0	4	3	6	6	33	0	12	3	5	128	385		
Province 6	Province 6	Dalekh Total	3	9	1	8	0	0	0	1	2	0	0	0	0	3	9		
	Province 6	Dolpa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Humla Total	1	3	1	3	0	0	0	0	0	0	0	0	0	1	3		
	Province 6	Jajarkot Total	0	10	0	10	0	0	0	0	0	0	0	0	0	0	10		
	Province 6	Jumla Total	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0		
	Province 6	Kailkot Total	1	1	0	1	1	0	0	0	0	0	0	0	0	1	1		
	Province 6	Mugu Total	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0		
	Province 6	Rukum West Total	1	7	1	7	0	0	0	0	0	0	0	0	0	1	7		
	Province 6	Salyan Total	3	12	3	7	0	1	0	0	0	4	0	0	0	3	12		
	Province 6	Surkhet Total	6	31	4	21	0	2	0	0	0	3	1	4	1	1	6	31	
	Province 6	17	73	12	57	1	3	0	1	2	7	1	4	1	1	17	73		
Province 7	Province 7	Achham Total	3	13	1	7	0	0	0	1	1	3	1	2	0	0	3	13	
	Province 7	Baitadi Total	1	7	1	5	0	0	0	0	0	1	0	0	0	1	1	7	
	Province 7	Bajhang Total	11	7	10	5	1	1	0	0	0	0	0	1	0	0	11	7	
	Province 7	Bajura Total	5	8	1	3	1	1	2	0	1	2	0	2	0	0	5	8	
	Province 7	Dadeldhura Total	2	6	2	6	0	0	0	0	0	0	0	0	0	0	2	6	
	Province 7	Darchula Total	3	5	3	4	0	1	0	0	0	0	0	0	0	0	3	5	
	Province 7	Doti Total	3	13	3	8	0	1	0	0	0	3	0	1	0	0	3	13	
Province 7	Kanchanpur Total	15	54	12	43	0	0	1	1	1	5	1	2	0	3	15	54		
Province 7	Kailali Total	20	59	18	45	0	2	2	1	0	6	0	5	0	0	20	59		
	Province 7	63	172	51	126	2	6	5	3	3	20	2	13	0	4	63	172		
	National Total	532	1,649	455	1,355	15	59	13	30	25	112	9	56	16	36	533	1,648		

Region :	S.N.	Districts	Treatment After Failure															
			Registered		Cured		Completed		Failure		Died		Lost to Follow-up		Not Evaluated		Total	
			F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Province 1	Province 1	Bhopur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Dhankuta Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	ILAM Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Jhapa Total	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	3
	Province 1	Khotang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Morang Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Province 1	Okhaldhunga Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Province 1	Panchthar Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Province 1	Sankhuwasabha Total	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
	Province 1	Solukhumbu Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Province 1	Sunsari Total	3	2	3	2	0	0	0	0	0	0	0	0	0	0	3	2
	Province 1	Taplejung Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Terhathum Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Province 1	Udaypur Total	0	3	0	2	0	0	0	0	0	1	0	0	0	0	0	3
	Province 1		3	14	3	12	0	0	0	1	0	1	0	0	0	0	3	14
Province 2	Province 2	Saptari Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Province 2	Siraha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Bara	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
	Province 2	Dhanusha Total	1	2	0	2	0	0	1	0	0	0	0	0	0	0	1	2
	Province 2	Mahottari Total	1	1	1	0	0	0	0	0	0	0	1	0	0	0	1	1
	Province 2	Parsa Total	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	Province 2	Rautahat Total	0	7	0	6	0	0	0	0	0	1	0	0	0	0	0	7
	Province 2	Sarlahi Total	2	6	2	6	0	0	0	0	0	0	0	0	0	0	2	6
		Province 2		4	20	3	17	0	0	1	0	2	0	1	0	0	4	20
Province 3	Province 3	Bhaktapur Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Province 3	Chitwan Total	1	9	1	7	0	1	0	0	0	0	0	1	0	0	1	9
	Province 3	Dhading Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
	Province 3	Dolkha Total	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	Province 3	Kathmandu Total	11	8	7	5	0	0	1	0	1	2	0	1	2	0	11	8
	Province 3	Kavre Total	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	Province 3	Lalitpur Total	1	2	1	2	0	0	0	0	0	0	0	0	0	0	1	2
	Province 3	Makwanpur Total	2	8	2	7	0	0	0	0	0	0	1	0	0	0	2	8
	Province 3	Nuwakot Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Province 3	Ramechhap Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Rasuwa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Sindhuli Total	1	3	0	3	0	0	0	0	1	0	0	0	0	0	1	3
	Province 3	Sirupachok Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3		17	34	11	26	1	1	1	0	2	2	0	3	2	2	17	34
Province 4	Province 4	Baglung Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Gorkha Total	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
	Province 4	Kaski Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Lamjung Total	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
	Province 4	Manang Total	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	Province 4	Mustang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Myagdi Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
	Province 4	Nawal East Total	2	1	2	0	0	1	0	0	0	0	0	0	0	0	2	1
	Province 4	Parbat Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Syangja Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Province 4	Tanahun Total	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
	Province 4		4	7	3	5	1	1	0	0	0	0	0	0	0	1	4	7
Province 5	Province 5	Arghakhanchi Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 5	Gulmi Total	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
	Province 5	Kapil Total	2	1	2	0	0	0	0	0	0	1	0	0	0	0	2	1
	Province 5	Nawal West Total	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	3
	Province 5	Palpa Total	0	3	0	2	0	0	0	1	0	0	0	0	0	0	0	3
	Province 5	Rupandehi Total	4	7	4	5	0	0	0	0	0	1	0	0	0	1	4	7
	Province 5	Banka Total	8	9	7	9	0	0	0	0	1	0	0	0	0	0	8	9
	Province 5	Bardiya Total	1	4	0	3	0	0	0	1	1	0	0	0	0	0	1	4
	Province 5	Dang Total	2	8	2	5	0	0	0	2	0	0	0	0	0	1	2	8
	Province 5	Pyuthan	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Province 5		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 6		Province 5	18	36	16	28	0	0	0	4	2	2	0	0	0	2	18	36
	Province 6	Dalekh Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Dolpa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Humla Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Jajarkot Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Jumla Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Kailash Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Mugu Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Rukum West Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Province 6	Salyan Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6		1	2	0	2	0	0	0	0	1	0	0	0	0	0	1	2
Province 7		Province 6	1	3	0	3	0	0	0	0	1	0	0	0	0	0	1	3
	Province 7	Achham Total	2	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0
	Province 7	Baitadi Total	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
	Province 7	Bajhang Total	0	3	0	2	0	0	0	0	0	0	0	0	0	1	0	3
	Province 7	Bajura Total	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1
	Province 7	Dadeldhura Total	2	1	1	1	0	0	0	0	1	0	0	0	0	0	2	1
	Province 7	Darchula Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Doti Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Kanchanpur Total	1	5	1	3	0	0	0	0	0	1	0	0	0	1	1	5
		Province 7		4	4	1	3	1	0	1	1	0	0	1	0	0	4	4
	Province 7		11	14	6	10	1	0	1	1	1	1	0	1	2	11	14	
	National Total	58	128	42	101	3	2	3	6	6	8	1	4	3	7	58	128	

Region :	S.N.	Districts	Treatment After Lost to Follow-up														Total	
			Registered		Cured		Completed		Failure		Died		Lost to Follow-up		Not Evaluated			
			F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Province 1	Province 1	Bhojpur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Dhankuta Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	ILAM Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Jhapa Total	2	2	1	2	0	0	0	0	0	0	0	0	1	0	2	2
	Province 1	Khotang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Morang Total	2	3	1	2	0	0	0	0	0	0	0	1	1	0	2	3
	Province 1	Okhaldhunga Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Panchthar Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Sankhuwasabha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Solukhumbu Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Sunsari Total	3	7	3	2	0	0	0	0	0	1	0	4	0	0	3	7
	Province 1	Taplejung Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Terhathum Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Udaypur Total	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
	Province 1		7	13	5	6	0	0	0	0	1	0	6	2	0	7	13	
Province 2	Province 2	Saptari Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Siraha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Bara	3	4	2	1	0	0	0	0	0	1	3	0	0	0	3	4
	Province 2	Dhanusha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Mahottari Total	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
	Province 2	Parsa Total	1	7	1	4	0	0	0	0	0	3	0	0	0	0	1	7
	Province 2	Rautahat Total	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	5
	Province 2	Sarlahi Total	1	3	1	3	0	0	0	0	0	0	0	0	0	0	1	3
	Province 2	Province 2	5	21	4	15	0	0	0	0	3	1	3	0	0	5	21	
	Province 3	Bhaktapur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 3	Chitwan Total	0	4	0	2	0	0	0	0	0	1	0	1	0	0	0	4	
Province 3	Dhading Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 3	Dolkha Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
Province 3	Kathmandu Total	3	7	2	6	0	0	0	0	0	0	1	1	0	0	3	7	
Province 3	Kavre Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 3	Lalitpur Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
Province 3	Makwanpur Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
Province 3	Nuwakot Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
Province 3	Ramechhap Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 3	Rasuwa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 3	Sindhuli Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 3	Sindhupalchok Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 4	Province 3		3	15	2	12	0	0	0	0	0	1	1	2	0	0	3	15
	Province 4	Baglung Total	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
	Province 4	Gorkha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Kaski Total	1	1	1	0	0	0	0	0	0	0	1	0	0	0	1	1
	Province 4	Lamjung Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Manang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Mustang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Myagdi Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Nawal East Total	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	3
	Province 4	Parbat Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Syangeja Total	0	2	0	1	0	0	0	0	0	1	0	0	0	0	0	2
	Province 4	Tanahun Total	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
	Province 5	Province 4		2	7	2	4	0	0	0	0	2	0	1	0	0	2	7
Province 5		Arghakhanchi Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 5		Gulmi Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 5		Kapil Total	0	3	0	2	0	0	0	0	0	0	0	1	0	0	0	3
Province 5		Nawal West Total	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Province 5		Palpa Total	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Province 5		Rupandehi Total	1	2	1	2	0	0	0	0	0	0	0	0	0	0	1	2
Province 5		Banka Total	4	4	4	3	0	0	0	0	0	0	0	1	0	0	4	4
Province 5		Bardiya Total	0	2	0	1	0	0	0	0	0	1	0	0	0	0	0	2
Province 5		Dang Total	1	4	1	3	0	0	0	0	0	0	0	0	0	1	1	4
Province 5		Pyuthan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 5		Rolpa Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Province 5	Rukum East Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 6	Province 5		6	18	6	12	0	0	0	0	2	0	3	0	1	6	18	
	Province 6	Dalekh Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Dolpa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Humla Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Province 6	Jajarkot Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Jumla Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Kalikot Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Mugu Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Rukum West Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Salyan Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Surkhet Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Province 6	Province 6	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Province 7	Province 7	Achham Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Province 7	Baitadi Total	0	2	0	1	0	0	0	0	0	0	0	0	0	1	0	2
	Province 7	Bajhang Total	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
	Province 7	Bajura Total	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	Province 7	Dadeldhura Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Darchula Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Doti Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Province 7	Kanchanpur Total	0	4	0	3	0	0	0	0	0	0	0	1	0	0	0	4
	Province 7	Kailali Total	1	4	1	2	0	1	0	0	0	0	0	1	0	0	1	4
	Province 7	Province 7	3	12	1	8	0	1	0	0	1	0	0	2	1	1	3	12
	National Total	26	88	20	59	0	1	0	0	0	1	9	2	17	3	2	26	88

Region :	S.N.	Districts	Others Previously Treated																
			Registered		Cured		Completed		Failure		Died		Lost to Follow-up		Not Evaluated		Total		
			F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	
Province 1	Province 1	Bhojpur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Dhankuta Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	LLAM Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Jhapa Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
	Province 1	Khotang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Morang Total	2	2	2	2	0	0	0	0	0	0	0	0	0	0	2	2	
	Province 1	Okhaldhunga Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Panchthar Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Sakhuwasabha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Solukhumbu Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Sunsari Total	6	6	4	4	2	2	0	0	0	0	0	0	0	0	6	6	
	Province 1	Taplejung Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Terhathum Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Udaypur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1		8	9	6	7	2	2	0	0	0	0	0	0	0	0	8	9	
Province 2	Province 2	Saptari Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
	Province 2	Siraha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 2	Bara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 2	Dhanusha Total	0	3	0	2	0	1	0	0	0	0	0	0	0	0	0	3	
	Province 2	Mahottari Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 2	Parsa Total	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	
	Province 2	Rautahat Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 2	Sarlahi Total	0	3	0	1	0	2	0	0	0	0	0	0	0	0	0	3	
	Province 2	Province 2	1	7	1	4	0	3	0	0	0	0	0	0	0	0	1	7	
	Province 2	Bhaktapur Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
Province 3	Province 3	Chitwan Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
	Province 3	Dhading Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3	Dolkha Total	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	
	Province 3	Kathmandu Total	10	9	7	5	2	1	0	0	1	0	0	1	2	10	9	9	
	Province 3	Kavre Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3	Lalitpur Total	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	3	
	Province 3	Makwanpur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3	Nuwakot Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3	Ramechhap Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3	Rasuwa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3	Sindhuli Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3	Sindupalchok Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Province 3		11	14	8	10	2	1	0	0	0	1	0	0	1	2	11	14
Province 4	Province 4	Baglung Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Gorkha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Kaski Total	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	
	Province 4	Lamjung Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
	Province 4	Manang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Mustang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Myagdi Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Nawal East Total	0	2	0	1	0	0	0	0	0	0	0	1	0	0	0	2	
	Province 4	Parbat Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Syangeja Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
Province 4	Tanahun Total	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2		
Province 5		Province 4	1	7	1	6	0	0	0	0	0	0	1	0	0	0	1	7	
	Province 5	Arghakhanchi Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 5	Gulmi Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 5	Kapil Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 5	Nawal West Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 5	Palpa Total	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	2	
	Province 5	Rupandehi Total	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	5	
	Province 5	Banka Total	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	
	Province 5	Bardiya Total	0	4	0	3	0	0	0	0	0	0	0	1	0	0	0	4	
	Province 5	Dang Total	1	4	1	4	0	0	0	0	0	0	0	0	0	0	1	4	
	Province 5	Pyuthan	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
Province 6	Province 5	Rolpa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 5	Rukum East Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Province 5	3	16	3	14	0	1	0	0	0	0	1	0	0	0	3	16	
	Province 6	Dalekh Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Dolpa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Humla Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Jajarkot Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 7	Province 6	Jumla Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Kailash Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Mugu Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Rukum West Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Salyan Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Surkhet Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
		Province 6	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
	Province 7	Achham Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 7	Baitadi Total	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
	Province 7	Bajhang Total	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	
	Province 7	Bajura Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 7	Dideldhura Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 7	Province 7	Darchula Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 7	Doti Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 7	Kanchanpur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 7	Kailali Total	2	4	2	4	0	0	0	0	0	0	0	0	0	0	2	4	
		Province 7	3	5	3	4	0	1	0	0	0	0	0	0	0	0	3	5	
		National Total	27	59	22	46	4	8	0	0	0	0	1	0	2	1	2	27	59

Region :	S.N.	Districts	Previous Treatment History Unknown														Total		
			Registered		Cured		Completed		Failure		Died		Lost to Follow-up		Not Evaluated				
			F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	
Province 1	Province 1	Bhojpur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Dhankuta Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	ILAM Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Jhapa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Khotang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Morang Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
	Province 1	Okhaldhunga Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Panchthar Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Sankhuwasabha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Solukhumbu Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Sunsari Total	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	2	
	Province 1	Taplejung Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Terhathum Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Udaypur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 2	Province 1		0	3	0	2	0	1	0	0	0	0	0	0	0	0	0	3	
	Province 2	Saptari Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 2	Siraha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 2	Bara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 2	Dhanusha Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
	Province 2	Mahottari Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 2	Parsa Total	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	
	Province 2	Rautahat Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 3	Province 2		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3	Bhaktapur Total	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	
	Province 3	Chitwan Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3	Dhading Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3	Dolcha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3	Kathmandu Total	4	2	3	2	0	0	0	0	0	0	0	0	1	0	4	2	
	Province 3	Kavre Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3	Lalitpur Total	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
	Province 3	Makwanpur Total	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
	Province 3	Nuwakot Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3	Ramechhap Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3	Rasuwa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3	Sindhuli Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3	Sirindupalchok Total	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	
Province 4	Province 3		6	7	5	7	0	0	0	0	0	0	0	0	1	0	6	7	
	Province 4	Baglung Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Gorkha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Kaski Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Lamjung Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Manang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Mustang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Myagdi Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Nawal East Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Parbat Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Syanja Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4	Tanahun Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 5	Province 4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Province 5	Arghakhanchi Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 5		Gulmi Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 5		Kapil Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 5		Nawal West Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 5		Palpa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 5		Rupandehi Total	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
Province 5		Banka Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 5		Bardiya Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 5		Dang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 5		Pyuthan	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	2	
Province 5		Rolpa Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
Province 5		Rukum East Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 6		Province 5		0	5	0	4	0	1	0	0	0	0	0	0	0	0	0	5
	Province 6	Dalekh Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Dolpa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Humla Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Jajarkot Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Jumla Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Kailkot Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Mugu Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Rukum West Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Salyan Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Surkhet Total	0	2	0	0	0	1	0	0	0	0	1	0	0	0	0	2	
	Province 7	Province 6		0	2	0	0	0	1	0	0	0	0	1	0	0	0	0	2
		Province 7	Achham Total	1	4	0	2	1	1	0	0	0	0	0	1	0	0	1	4
		Province 7	Baitadi Total	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Province 7		Bajhang Total	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	
Province 7		Bajura Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
Province 7		Dadeldhura Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 7		Darchula Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 7		Doti Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 7		Kanchipur Total	0	4	0	3	0	1	0	0	0	0	0	0	0	0	0	4	
Province 7		Kailali Total	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	
Province 7			3	11	2	7	1	3	0	0	0	0	0	1	0	0	3	11	
National Total			10	29	8	21	1	6	0	0	0	1	0	1	1	0	10	29	

Region :	S.N.	Districts	HIV +ve, All Types														Total	
			Registered		Cured		Completed		Failure		Died		Lost to Follow-up		Not Evaluated			
			F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Province 1	Province 1	Bhojpur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Dhankuta Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	ILAM Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Jhapa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Khotang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Morang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Okhaldhunga Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Panchthar Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Sakhuwasabha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Solukhumbu Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Sunsari Total	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
	Province 1	Taplejung Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Terhathum Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Udaypur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1		1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	
Province 2	Province 2	Saptari Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Siraha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Bara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Dhanusha Total	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
	Province 2	Mahottari Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Parsa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Rautahat Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Sarlahi Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Province 2	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
	Province 3	Bhaktapur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 3	Chitwan Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 3	Dhading Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 3	Dolcha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 3	Kathmandu Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 3	Kavre Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 3	Lalitpur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 3	Makwanpur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 3	Nuwakot Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 3	Ramechhap Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 3	Rasuwa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 3	Sindhuli Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 3	Sindupalchok Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 4	Province 4	Baglung Total	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
	Province 4	Gorkha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Kaski Total	1	8	1	8	0	0	0	0	0	0	0	0	0	0	1	8
	Province 4	Lamjung Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Manang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Mustang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Myagdi Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Nawal East Total	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
	Province 4	Parbat Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Syangeja Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 4	Tanahun Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 4		1	12	1	12	0	0	0	0	0	0	0	0	0	1	12	
Province 5	Province 5	Argakhanchi Total	0	2	0	1	0	0	0	0	0	1	0	0	0	0	0	2
	Province 5	Gulmi Total	2	2	2	2	0	0	0	0	0	0	0	0	0	0	2	2
	Province 5	Kapil Total	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
	Province 5	Nawal West Total	1	2	0	2	1	0	0	0	0	0	0	0	0	0	1	2
	Province 5	Palpa Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Province 5	Rupandehi Total	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1
	Province 5	Banka Total	1	3	1	3	0	0	0	0	0	0	0	0	0	0	1	3
	Province 5	Bardiya Total	2	1	2	1	0	0	0	0	0	0	0	0	0	0	2	1
	Province 5	Dang Total	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
	Province 5	Pyuthan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 5	Rolpa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Province 5	Rukum East Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 5		8	14	7	13	1	0	0	0	1	0	0	0	0	8	14	
Province 6	Province 6	Dalekh Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Province 6	Dolpa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Humla Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Jajarkot Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Jumla Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Kalikot Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Mugu Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Rukum West Total	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	Province 6	Salyan Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Surkhet Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6		0	2	0	1	0	1	0	0	0	0	0	0	0	0	2	
Province 7	Province 7	Achham Total	1	7	1	3	0	0	0	0	0	2	0	0	0	0	1	5
	Province 7	Baitadi Total	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
	Province 7	Baghang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Bajura Total	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
	Province 7	Dadeldhura Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Darchula Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Doti Total	3	7	1	2	0	1	0	0	1	3	0	0	1	1	3	7
	Province 7	Kanchanpur Total	1	2	1	2	0	0	0	0	0	0	0	0	0	0	1	2
	Province 7	Kailali Total	1	8	0	6	0	1	0	0	0	0	1	1	0	0	1	8
		Province 7		6	27	3	15	0	2	0	0	1	5	1	2	1	6	25
	National Total	17	55	11	41	1	3	1	0	1	6	2	2	1	1	17	53	

Pulmonary Clinically Diagnosed and Extra-Pulmonary

Region :	S.N.	Districts	New (Pulmonary Clinically Diagnosed)															
			Registered		Completed		Failure		Died		Lost to Follow-up		Not Evaluated		Total			
			F	M	F	M	F	M	F	M	F	M	F	M	F	M		
Province 1	Province 1	Bhojpur Total	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1
	Province 1	Dhankuta Total	1	6	1	6	0	0	0	0	0	0	0	0	0	0	1	6
	Province 1	ILAM Total	4	19	4	19	0	0	0	0	0	0	0	0	0	4	19	
	Province 1	Jhapa Total	55	85	50	82	0	1	1	1	1	1	3	0	55	85		
	Province 1	Khotang Total	0	5	0	5	0	0	0	0	0	0	0	0	0	5	0	
	Province 1	Morang Total	32	75	31	74	0	0	0	1	1	0	0	0	32	75		
	Province 1	Okhaldhunga Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Panchthar Total	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	
	Province 1	Sankhuwasabha Total	1	7	1	7	0	0	0	0	0	0	0	0	0	1	7	
	Province 1	Solukhumbu Total	1	5	1	5	0	0	0	0	0	0	0	0	0	1	5	
	Province 1	Sunsari Total	28	45	27	42	0	0	0	1	1	1	0	1	28	45		
	Province 1	Taplejung Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 1	Terhathum Total	2	4	2	3	0	0	0	1	0	0	0	0	2	4		
	Province 1	Udayapur Total	9	19	9	19	0	0	0	0	0	0	0	0	9	19		
	Province 2	Province 2		135	272	128	264	0	1	1	4	3	2	3	1	135	272	
Province 2		Saptari Total	30	80	29	78	0	0	1	2	0	0	0	0	30	80		
Province 2		Siraha Total	34	68	30	65	0	1	1	1	3	1	0	0	34	68		
Province 2		Bara	87	164	80	154	0	0	3	5	3	2	1	3	87	164		
Province 2		Dhanusha Total	39	67	36	61	0	0	0	1	3	5	0	0	39	67		
Province 2		Mahottari Total	92	186	89	172	0	1	2	7	1	6	0	0	92	186		
Province 2		Parsa Total	89	134	86	128	1	0	1	3	0	2	1	1	89	134		
Province 2		Rautahat Total	79	110	75	108	0	0	4	0	0	2	0	0	79	110		
Province 2		Sarlahi Total	88	174	86	168	0	0	0	3	2	3	0	0	88	174		
Province 2			538	983	511	934	1	2	12	22	12	21	2	4	538	983		
Province 3		Bhaktapur Total	6	30	5	27	0	0	0	2	0	0	0	1	6	30		
Province 3		Chitwan Total	47	92	41	87	0	0	4	1	1	2	1	2	47	92		
Province 3		Dhading Total	8	18	7	17	0	0	1	1	0	0	0	0	8	18		
Province 3		Dolcha Total	4	11	4	10	0	0	0	0	0	0	0	0	4	11		
Province 3		Kathmandu Total	117	154	104	137	0	0	1	3	2	1	10	13	117	154		
Province 3	Kavre Total	13	28	11	27	0	0	2	1	0	0	0	0	13	28			
Province 3	Lalitpur Total	36	51	33	48	0	0	1	1	0	2	2	0	36	51			
Province 3	Makwanpur Total	42	67	39	61	0	0	1	3	0	2	2	1	42	67			
Province 3	Nuwakot Total	7	16	7	13	0	0	0	0	0	2	0	1	7	16			
Province 3	Ramechhap Total	4	16	3	11	0	0	0	2	0	1	1	2	4	16			
Province 3	Rasuwa Total	1	2	1	2	0	0	0	0	0	0	0	0	1	2			
Province 3	Sindhuli Total	13	24	11	22	0	0	1	1	0	1	1	0	13	24			
Province 3	Sindupalchok Total	8	13	8	13	0	0	0	0	0	0	0	0	8	13			
Province 4	Province 3		306	522	274	475	0	0	11	15	3	11	17	21	305	522		
	Province 4	Baglung Total	4	14	4	12	0	0	0	1	0	0	0	1	4	14		
	Province 4	Gorkha Total	12	17	11	17	0	0	0	0	0	0	1	0	12	17		
	Province 4	Kaski Total	20	13	18	13	0	0	1	0	1	0	0	0	20	13		
	Province 4	Lamjung Total	3	13	0	10	0	0	3	2	0	0	0	1	3	13		
	Province 4	Manang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Province 4	Mustang Total	1	0	1	0	0	0	0	0	0	0	0	0	1	0		
	Province 4	Myagdi Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Province 4	Nawalpur East Total	19	40	19	37	0	0	0	1	0	1	0	1	19	40		
	Province 4	Parbat Total	5	5	5	3	0	0	0	0	0	2	0	0	5	5		
	Province 4	Syange Total	8	23	8	19	0	0	0	2	0	0	0	2	8	23		
	Province 4	Tanahun Total	6	28	5	24	0	0	1	3	0	0	0	1	6	28		
	Province 4		78	153	71	135	0	0	5	9	1	3	1	6	78	153		
	Province 5	Province 5	Arghakhanchi Total	18	28	18	26	0	0	0	2	0	0	0	0	18	28	
		Province 5	Gulmi Total	20	33	17	31	0	0	2	1	0	1	1	0	20	33	
Province 5		Kapil Total	33	71	31	67	0	1	1	2	1	1	0	0	33	71		
Province 5		Nawalpur West Total	18	54	16	50	0	0	1	0	1	3	0	1	18	54		
Province 5		Palpa Total	13	25	12	25	0	0	0	0	0	0	1	0	13	25		
Province 5		Rupandehi Total	103	211	98	195	0	3	3	7	1	1	1	5	103	211		
Province 5		Banka Total	32	75	32	71	0	0	0	2	0	1	0	1	32	75		
Province 5		Bardiya Total	17	36	15	35	0	0	1	1	1	0	0	0	17	36		
Province 5		Dang Total	88	169	86	162	0	0	1	1	0	2	1	4	88	169		
Province 5		Pyuthan	19	12	16	11	0	0	2	1	1	0	0	0	19	12		
Province 5		Roipa Total	10	18	10	18	0	0	0	0	0	0	0	0	10	18		
Province 5		Rukum East Total	7	7	6	7	0	0	0	0	0	1	0	0	7	7		
Province 5			378	739	357	698	0	4	11	17	6	9	4	11	378	739		
Province 6		Province 6	Dalekh Total	15	23	15	23	0	0	0	0	0	0	0	0	15	23	
		Province 6	Dolpa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Province 6	Humla Total	2	6	2	6	0	0	0	0	0	0	0	0	2	6		
	Province 6	Jajarkot Total	7	11	7	11	0	0	0	0	0	0	0	0	7	11		
	Province 6	Jumla Total	6	14	6	14	0	0	0	0	0	0	0	0	6	14		
	Province 6	Kailash Total	7	6	7	6	0	0	0	0	0	0	0	0	7	6		
	Province 6	Mugu Total	7	16	7	16	0	0	0	0	0	0	0	0	7	16		
	Province 6	Rukum West Total	5	15	5	15	0	0	0	0	0	0	0	0	5	15		
	Province 6	Salyan Total	14	18	13	16	0	0	1	1	0	1	0	0	14	18		
	Province 6	Surkhet Total	64	114	59	106	1	0	4	6	0	1	0	1	64	114		
	Province 6		127	223	121	213	1	0	5	7	0	2	0	1	127	223		
	Province 7	Province 7	Achham Total	3	6	2	5	0	0	1	0	0	1	0	0	3	6	
		Province 7	Baitadi Total	3	12	3	12	0	0	0	0	0	0	0	0	3	12	
		Province 7	Bajhang Total	7	5	7	4	0	1	0	0	0	0	0	0	7	5	
		Province 7	Bajura Total	6	3	4	3	0	0	1	0	1	0	0	0	6	3	
Province 7		Dadeldhura Total	5	17	4	16	0	0	0	0	1	1	0	0	5	17		
Province 7		Darchula Total	15	24	11	22	0	0	2	0	2	2	0	0	15	24		
Province 7		Doti Total	5	13	4	9	0	0	0	0	1	4	0	0	5	13		
Province 7		Kanchanpur Total	38	110	36	107	0	0	1	3	1	0	0	0	38	110		
Province 7		Kailali Total	65	98	59	84	1	1	5	6	0	3	0	4	65	98		
Province 7			147	288	130	262	1	2	10	9	6	11	0	4	147	288		
	National Total	1,709	3,180	1,592	2,981	3	9	55	83	31	59	27	48	1,708	3,180			

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Region :	S.N.	Districts	Others (Pulmonary Clinically Diagnosed)													
			Registered		Completed		Failure		Died		Lost to Follow-up		Not Evaluated		Total	
			F	M	F	M	F	M	F	M	F	M	F	M	F	M
Province 1	Province 1	Bhojpur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Dhankuta Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	ILLAM Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Jhapa Total	4	8	3	7	0	0	0	1	1	0	0	0	4	8
	Province 1	Khotang Total	1	0	1	0	0	0	0	0	0	0	0	0	1	0
	Province 1	Morang Total	1	6	1	5	0	0	0	1	0	0	0	0	1	6
	Province 1	Okhaldhunga Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Panchthar Total	1	0	1	0	0	0	0	0	0	0	0	0	1	0
	Province 1	Sankhuwasabha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Solukhumbu Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
	Province 1	Sunsari Total	2	2	2	2	0	0	0	0	0	0	0	0	2	2
	Province 1	Taplejung Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Terhathum Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Udaypur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 2	Province 2	Province 2	9	17	8	15	0	0	0	2	1	0	0	0	9	17
	Province 2	Saptari Total	0	3	0	3	0	0	0	0	0	0	0	0	0	3
	Province 2	Siraha Total	1	2	1	2	0	0	0	0	0	0	0	0	1	2
	Province 2	Bara	4	4	4	4	0	0	0	0	0	0	0	0	4	4
	Province 2	Dhanusha Total	1	7	1	7	0	0	0	0	0	0	0	0	1	7
	Province 2	Mahottari Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Parsa Total	2	4	2	4	0	0	0	0	0	0	0	0	2	4
	Province 2	Rautahat Total	4	3	4	3	0	0	0	0	0	0	0	0	4	3
	Province 2	Sarlahi Total	3	7	3	7	0	0	0	0	0	0	0	0	3	7
Province 3	Province 3	Province 3	15	30	15	30	0	0	0	0	0	0	0	0	15	30
	Province 3	Bhaktapur Total	4	12	4	12	0	0	0	0	0	0	0	0	4	12
	Province 3	Chitwan Total	6	6	6	6	0	0	0	0	0	0	0	0	6	6
	Province 3	Dhading Total	1	0	1	0	0	0	0	0	0	0	0	0	1	0
	Province 3	Dolkha Total	0	2	0	2	0	0	0	0	0	0	0	0	0	2
	Province 3	Kathmandu Total	9	18	9	17	0	0	0	1	0	0	0	0	9	18
	Province 3	Kavre Total	2	1	2	0	0	0	0	1	0	0	0	0	2	1
	Province 3	Lalitpur Total	0	7	0	6	0	1	0	0	0	0	0	0	0	7
	Province 3	Makwanpur Total	2	4	2	4	0	0	0	0	0	0	0	0	2	4
	Province 3	Nuwakot Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Ramechhap Total	1	1	1	1	0	0	0	0	0	0	0	0	1	1
	Province 3	Rasuwa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Sindhuli Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
	Province 3	Sindhupalchok Total	0	4	0	4	0	0	0	0	0	0	0	0	0	4
Province 4	Province 4	Province 4	25	56	25	53	0	1	0	2	0	0	0	0	25	56
	Province 4	Baglung Total	1	1	1	1	0	0	0	0	0	0	0	0	1	1
	Province 4	Gorkha Total	1	0	1	0	0	0	0	0	0	0	0	0	1	0
	Province 4	Kaski Total	1	3	1	3	0	0	0	0	0	0	0	0	1	3
	Province 4	Lamjung Total	0	2	0	2	0	0	0	0	0	0	0	0	0	2
	Province 4	Manang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Mustang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Myagdi Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Newar East Total	1	3	0	2	0	0	0	1	1	0	0	0	1	3
	Province 4	Parbat Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
	Province 4	Syanja Total	0	2	0	1	0	0	0	0	0	1	0	0	0	2
	Province 4	Tanahun Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
Province 5	Province 5	Province 5	4	13	3	11	0	0	0	1	2	0	0	0	4	13
	Province 5	Arghakhanchi Total	0	5	0	5	0	0	0	0	0	0	0	0	0	5
	Province 5	Gulmi Total	1	3	1	2	0	0	0	1	0	0	0	0	1	3
	Province 5	Kapil Total	0	4	0	3	0	0	0	1	0	0	0	0	0	4
	Province 5	Newar West Total	3	4	2	4	0	0	0	1	0	0	0	0	3	4
	Province 5	Palpa Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
	Province 5	Rupandehi Total	2	12	1	11	0	0	1	1	0	0	0	0	2	12
	Province 5	Banka Total	1	6	1	5	0	0	0	0	0	0	0	1	1	6
	Province 5	Bardiya Total	2	4	2	4	0	0	0	0	0	0	0	0	2	4
	Province 5	Dang Total	5	5	5	5	0	0	0	0	0	0	0	0	5	5
	Province 5	Pyuthian	1	3	1	3	0	0	0	0	0	0	0	0	1	3
	Province 5	Roopa Total	1	1	1	1	0	0	0	0	0	0	0	0	1	1
	Province 5	Rukum East Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 6	Province 6	Province 6	16	48	14	44	0	0	1	3	1	0	0	1	16	48
	Province 6	Dalekh Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Dajja Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Humla Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Jajarkot Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Jumla Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Kailash Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
	Province 6	Mugu Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Rukum West Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
	Province 6	Salyan Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
	Province 6	Surkhet Total	6	6	6	6	0	0	0	0	0	0	0	0	6	6
	Province 6	Province 6	6	9	6	9	0	0	0	0	0	0	0	0	6	9
Province 7	Province 7	Achham Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
	Province 7	Bajura Total	0	2	0	1	0	0	0	1	0	0	0	0	0	2
	Province 7	Bajhang Total	2	0	2	0	0	0	0	0	0	0	0	0	2	0
	Province 7	Bajura Total	1	3	1	3	0	0	0	0	0	0	0	0	1	3
	Province 7	Dadeldhura Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Darchula Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Doti Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Kanchanpur Total	6	7	6	7	0	0	0	0	0	0	0	0	6	7
	Province 7	Kailali Total	4	10	4	9	0	0	0	0	0	0	0	1	4	10
	Province 7	Province 7	13	23	13	21	0	0	0	1	0	0	0	1	13	23
National Total			88	196	84	183	0	1	1	8	3	2	0	2	88	196

Region :	S.N.	Districts	Others EP (Bacteriologically Confirmed or Clinically Diagnosed)													
			Registered		Completed		Failure		Died		Lost to Follow-up		Not Evaluated		Total	
			F	M	F	M	F	M	F	M	F	M	F	M	F	M
Province 1		Province 1														
		Bhopur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Dhankuta Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		ILLAM Total	1	1	1	1	0	0	0	0	0	0	0	0	1	1
		Jhapa Total	1	6	1	5	0	0	0	1	0	0	0	0	1	6
		Khotang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Morang Total	9	12	9	12	0	0	0	0	0	0	0	0	9	12
		Okhaldhunga Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
		Panchthar Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Sankhuwasabha Total	0	1	0	0	0	0	0	0	1	0	0	0	0	1
		Solukhumbu Total	0	2	0	2	0	0	0	0	0	0	0	0	0	2
		Sunsari Total	6	6	6	5	0	0	1	0	0	0	0	0	6	6
		Taplejung Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
		Terhathum Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Udaypur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 2		Province 2	17	30	17	27	0	0	0	2	0	1	0	0	17	30
		Saptari Total	1	0	1	0	0	0	0	0	0	0	0	0	1	0
		Siraha Total	1	3	1	3	0	0	0	0	0	0	0	0	1	3
		Bara	2	1	2	1	0	0	0	0	0	0	0	0	2	1
		Dhanusha Total	0	6	0	6	0	0	0	0	0	0	0	0	0	6
		Mahottari Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Parasa Total	5	3	5	2	0	0	1	0	0	0	0	0	5	3
		Rautahat Total	5	2	5	2	0	0	0	0	0	0	0	0	5	2
		Sarlahi Total	1	3	1	3	0	0	0	0	0	0	0	0	1	3
		Province 2	15	18	15	17	0	0	0	1	0	0	0	0	15	18
Province 3		Province 3	7	6	7	6	0	0	0	0	0	0	0	0	7	6
		Bhaktapur Total	8	13	6	13	0	0	0	0	0	0	2	0	8	13
		Chitwan Total	1	3	1	3	0	0	0	0	0	0	0	0	1	3
		Dhading Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
		Dolkha Total	56	72	46	65	0	0	1	0	1	0	8	7	56	72
		Kathmandu Total	3	2	2	2	0	0	0	0	0	0	1	0	3	2
		Kavre Total	14	17	14	17	0	0	0	0	0	0	0	0	14	17
		Lalitpur Total	4	3	4	3	0	0	0	0	0	0	0	0	4	3
		Makwanpur Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
		Nuwakot Total	0	2	0	2	0	0	0	0	0	0	0	0	0	2
		Ramechhap Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Rasuwaga Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Sindhuli Total	1	2	1	2	0	0	0	0	0	0	0	0	1	2
		Sindupalchok Total	94	122	81	115	0	0	1	0	1	0	11	7	94	122
Province 4		Province 4	0	3	0	3	0	0	0	0	0	0	0	0	0	3
		Baglung Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
		Gorkha Total	4	15	4	15	0	0	0	0	0	0	0	0	4	15
		Kaski Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Lamjung Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Manang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Mustang Total	1	0	1	0	0	0	0	0	0	0	0	0	1	0
		Myagdi Total	2	4	2	3	0	0	0	0	0	1	0	0	2	4
		Nawalpur East Total	0	2	0	2	0	0	0	0	0	0	0	0	0	2
		Parbat Total	2	1	2	1	0	0	0	0	0	0	0	0	2	1
Province 5		Province 5	2	6	2	5	0	0	0	0	0	0	0	1	2	6
		Arghakhanchi Total	2	3	2	2	0	0	0	1	0	0	0	0	2	3
		Gulmi Total	1	3	0	3	0	0	1	0	0	0	0	0	1	3
		Kapil Total	2	0	1	0	0	0	1	0	0	0	0	0	2	0
		Nawalpur West Total	2	5	2	5	0	0	0	0	0	0	0	0	2	5
		Palpa Total	11	11	11	11	0	0	0	0	0	0	0	0	11	11
		Rupandehi Total	2	4	2	3	0	0	1	0	0	0	0	0	2	4
		Banka Total	5	6	5	6	0	0	0	0	0	0	0	0	5	6
		Bardiya Total	6	4	6	4	0	0	0	0	0	0	0	0	6	4
		Dang Total	2	1	2	1	0	0	0	0	0	0	0	0	2	1
		Pyuthan Total	1	2	1	2	0	0	0	0	0	0	0	0	1	2
		Rokum East Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 6		Province 6	35	42	33	40	0	0	2	2	0	0	0	0	35	42
		Dalekhanda Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Dolpa Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
		Humla Total	0	2	0	2	0	0	0	0	0	0	0	0	0	2
		Jajarkot Total	1	0	1	0	0	0	0	0	0	0	0	0	1	0
		Jumla Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Kailash Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Mugu Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Rukum West Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
		Salyan Total	8	6	8	6	0	0	0	0	0	0	0	0	8	6
		Surkhet Total	9	10	9	10	0	0	0	0	0	0	0	0	9	10
		Province 6	3	3	3	3	0	0	0	0	0	0	0	0	3	3
Province 7		Province 7	1	3	1	3	0	0	0	0	0	0	0	0	1	3
		Baitadi Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Bajhang Total	1	4	1	4	0	0	0	0	0	0	0	0	1	4
		Bajura Total	1	0	1	0	0	0	0	0	0	0	0	0	1	0
		Dadeldhura Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Darchula Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Doti Total	6	8	5	8	0	0	0	0	0	0	1	0	6	8
		Kanchanpur Total	3	14	3	14	0	0	0	0	0	0	0	0	3	14
		Kailali Total	15	32	14	32	0	0	0	0	0	0	1	0	15	32
		Province 7	196	286	180	271	0	0	3	5	1	2	12	8	196	286
National Total			196	286	180	271	0	0	3	5	1	2	12	8	196	286

Region :	S.N.	Districts	HIV +ve, All Types													
			Registered		Completed		Failure		Died		Lost to Follow-up		Not Evaluated		Total	
			F	M	F	M	F	M	F	M	F	M	F	M	F	M
Province 1	Province 1	Bhojpur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Dhankuta Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	ILLAM Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Jhapa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Khotang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Morang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Okhaldhunga Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Panchthar Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Sakhuw asabha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Solukhumbu Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Sunsari Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Taplejung Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Terhathum Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 1	Udaypur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 2	Province 2	Province 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Saptari Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Siraha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Bara	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Dhanusha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Manohar Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Parasa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Rautahat Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Sarlahi Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 2	Province 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 3	Province 3	Bhaktapur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Chitwan Total	1	0	0	0	0	0	1	0	0	0	0	0	1	0
	Province 3	Dhading Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Dolha Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Kathmandu Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Kavre Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Lalitpur Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Makwanpur Total	0	0	2	0	0	0	0	0	0	0	0	0	2	0
	Province 3	Nuwakot Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Ramechhap Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Rasuwa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Sindhuli Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Sirupalechok Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 3	Province 3	1	0	2	0	0	0	1	0	0	0	0	0	3	0
Province 4	Province 4	Baglung Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Gorkha Total	1	0	1	0	0	0	0	0	0	0	0	0	1	0
	Province 4	Kaski Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
	Province 4	Lamjung Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
	Province 4	Manang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Mustang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Myagdi Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Newal East Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Parbat Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Syanja Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
	Province 4	Tanahun Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 4	Province 4	1	3	1	3	0	0	0	0	0	0	0	0	1	3
Province 5	Province 5	Arghakhanchi Total	0	2	0	1	0	0	0	1	0	0	0	0	0	2
	Province 5	Gulmi Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
	Province 5	Kapil Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 5	Newal West Total	1	1	1	1	0	0	0	0	0	0	0	0	1	1
	Province 5	Palpa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 5	Rupandehi Total	0	2	0	2	0	0	0	0	0	0	0	0	0	2
	Province 5	Barke Total	0	3	0	3	0	0	0	0	0	0	0	0	0	3
	Province 5	Bardiya Total	3	0	3	0	0	0	0	0	0	0	0	0	3	0
	Province 5	Dang Total	3	5	3	5	0	0	0	0	0	0	0	0	3	5
	Province 5	Pyuthan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 5	Rebba Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 5	Rukum East Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 6	Province 6	Province 6	7	14	7	13	0	0	0	1	0	0	0	0	7	14
	Province 6	Dalekh Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
	Province 6	Dolpa Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Humla Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Jajarkot Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Jumla Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Kailash Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Mugu Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Rukum West Total	0	1	0	1	0	0	0	0	0	0	0	0	0	1
	Province 6	Salyan Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 6	Sunshet Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Province 7	Province 7	Province 7	0	2	0	2	0	0	0	0	0	0	0	0	0	2
	Province 7	Achham Total	1	8	1	6	0	0	0	1	0	0	0	0	1	7
	Province 7	Baitadi Total	1	2	1	1	0	0	0	1	0	0	0	0	1	2
	Province 7	Bajhang Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Bajura Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Dadeldhura Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Darchula Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Province 7	Doti Total	0	1	0	0	0	0	0	1	0	0	0	0	0	1
	Province 7	Kanchanpur Total	2	3	2	3	0	0	0	0	0	0	0	0	2	3
	Province 7	Kailali Total	0	3	0	3	0	0	0	0	0	0	0	0	0	3
	Province 7	Province 7	4	17	4	13	0	0	0	3	0	0	0	0	4	16
National Total			13	36	14	31	0	0	1	4	0	0	0	0	15	35

Annex 6: Annual DRTB Data

Case finding

1. Registered DRTB Case by Registration Category and Sex																											
New DR- Cases	New		Relapse		Treatment After Loss to Follow up				Treatment After Failure of CAT I		Treatment After Failure of CAT II		Others		Total DR Cases Register in this		Shifted due to MDR failed		Shifted after DST result		T In Cases		Still under treatment cases previous 5/7 Quarter		Grand Total DR cases		
					First line				Secod line																		
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	
RR/MDR	37	72	28	53	1	2	1	4	34	63	16	31	4	8	121	233					8	16	291	637	420	886	
Pre XDR	9	10	3	8	0	1	0	3	3	5	0	1	1	2	16	30	6	6	29	41	1	4	129	195	181	276	
XDR	1	5	2	3	0	0	1	1	1	3	0	0	0	3	5	15	0	3	6	7	0	1	35	51	46	77	
Total	47	87	33	64	1	3	2	8	38	71	16	32	5	13	142	278	6	9	35	48	9	21	455	883	647	1239	

2. DRTB Case by Age Group																
Category & Age	0-14		15-24		25-34		35-44		45-54		55-64		65+		TOTAL	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M		
MDR	5	4	30	47	38	45	22	38	7	39	10	33	9	27	121	233
Pre-XDR	1	0	6	9	5	9	3	5	1	5	0	0	0	2	16	30
XDR	0	0	0	3	5	1	3	0	0	0	0	1	0	5	5	15
Total	6	4	36	60	46	59	26	46	8	47	10	33	10	29	142	278

2. DRTB Case by Age Group																	
Category & Age	0-14		15-24		25-34		35-44		45-54		55-64		65+		TOTAL		
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	
MDR	5	4	30	47	38	45	22	38	7	39	10	33	9	27	121	233	
Pre-XDR	1	0	6	9	5	9	3	5	1	5	0	0	0	2	16	30	
XDR	0	0	0	4	3	5	1	3	0	3	0	0	1	0	5	15	
Total	6	4	36	60	46	59	26	46	8	47	10	33	10	29	142	278	

Conversion

1. Patients who completed 6 months of treatment in the last trimester (Patient registered 12 months ago)													
Type of DR Cases	Total No of Registered Cases		Culture result at 6 moths			Died by six moths		Switched to XDR/Pre-XDR		Lost to F/up by six months		Lost to F/up patiens enrolled in treatment (registered 12 month ago)	
	F	M	Negative	Positive	Report NA	F	M	F	M	F	M	F	M
MDR	106	230	202	3	16	8	15	25	39	5	18	2	4
Pre-XDR	36	48	56	2	3	5	7	2	1	2	4	0	0
XDR	8	11	12	0	1	3	3			0	0	0	0
Total	150	289	270	5	20	16	25	27	40	7	22	2	4

2. Patients who completed 12 months of treatment in the last trimester (Patient registered 16 months ago)													
Type of DR Cases	Total No of Registered Cases		Culture result at 12 moths			Died by six moths		Switched to XDR/Pre-XDR		Lost to F/up by 12 months		Lost to F/up patiens enrolled in treatment (registered 16 month ago)	
	F	M	Negative	Positive	Report NA	F	M	F	M	F	M	F	M
MDR	78	172	105	15	30	9	15	19	33	4	16	0	3
Pre-XDR	23	39	43	1	3	2	5	0	3	2	2	1	0
XDR	4	7	8	0	1	0	2			0	0	0	0
Total	105	218	156	16	34	11	22	19	36	6	18	1	3

Outcome

1. MDRTB Trimesterly Final Cohort Analysis (Patients Registered 28 months ago)

Registration Category	No. of Registered cases		Cured		Treatment Completed		Failed		Lost to Follow up		Died		Not Evaluated		Switched to Pre-XDR		Switched to XDR	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
New	27	44	15	19	1	3	0	0	2	7	2	8	0	0	6	6	1	0
Relapse	18	48	10	27	1	3	0	0	2	3	2	9	0	0	3	5	0	1
Rx after LTF	1	8	0	4	0	0	0	0	0	1	0	3	0	0	1	0	0	0
TAF CAT I	40	60	23	33	1	1	0	1	2	4	3	3	1	1	9	14	1	1
TAF CAT II	21	51	12	26	0	0	1	0	1	5	3	5	0	0	3	13	1	2
Others	2	7	2	2	0	0	0	0	0	1	0	1	0	0	0	3	0	0
Total	109	218	62	111	3	7	1	1	7	21	10	29	1	1	22	41	3	4

2. Pre-XDR TB Trimesterly Final Cohort Analysis (Patients Registered 28 months ago)

Registration Category	No. of Registered cases		Cured		Treatment Completed		Failed		Lost to Follow up		Died		Not Evaluated		Switched to XDR	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
New	9	7	4	4	0	1	0	0	1	1	4	1	0	0	0	0
Relapse	10	8	0	6	0	0	0	0	0	1	1	3	0	0	0	0
Rx after LTF	1	3	1	1	0	0	0	1	0	1	0	0	0	0	0	0
TAF CAT I	4	7	2	5	0	0	0	0	0	1	2	1	0	0	0	0
TAF CAT II	4	3	1	3	0	0	2	0	0	0	1	0	0	0	0	0
Others	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0
Shifted From RR/MDR	12	21	5	16	1	0	1	1	0	2	4	1	0	0	1	0
Total	41	51	14	37	1	1	3	2	1	6	12	6	0	0	1	0

3. XDR TB Trimesterly Final Cohort Analysis (Patients Registered 32 months ago)

Registration Category	No. of Registered cases		Cured		Treatment Completed		Failed		Lost to Follow up		Died		Not Evaluated	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M
New	1	2	0	3	0	0	0	0	0	0	0	0	0	0
Relapse	0	1	0	1	0	0	0	0	0	0	0	0	0	0
Rx after LTF	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAF CAT I	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAF CAT II	1	4	0	2	0	0	0	0	0	0	1	2	0	0
Others	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shifted From RR/MDR	2	5	3	1	0	0	0	0	0	0	1	2	0	0
Shifted from Pre-XD	0	2	0	1	0	0	0	0	0	0	0	1	0	0
Total	4	14	3	8	0	0	0	0	0	0	2	5	0	0

Annex 7: Annual GeneXpert Data

Center	MTB ND		MTB + RIF "S"		MTB + RIF "R"		MTB + RIF "I"		Error	Invalid	No Result	Total	
	No. of Persons	No. of Tests	No. of Persons	No. of Tests	No. of Persons	No. of Tests	No. of Persons	No. of Tests				No. of Persons	No. of Tests
NATA, Morang,Biratnagar	797	797	240	240	19	19	6	7	46	37	5	1062	1151
BPKIHS, Dharan	766	766	152	152	9	14	2	2	25	13	10	929	982
Mangalbare PHC, Morang	936	936	302	302	15	23	3	3	59	49	2	1256	1374
Ilam District Hospital, Ilam	252	264	25	29	2	4	0	0	41	3	0	279	341
DHO/NATA, Bhadrapur,Jhapa	448	448	66	66	7	7	0	0	5	0	0	521	526
Udayapur District Health Office	215	215	48	48	1	1	0	0	22	11	2	264	299
Okhaldhunga Community Hospiat, Okhaldhunga	176	176	68	68	3	6	1	1	13	10	3	248	277
Province 1 Total	3,590	3,602	901	905	56	74	12	13	211	123	22	4,559	4,950
Yadukuwa PHC Dhanusa (DHO)*	127	130	12	12	0	0	0	0	4	0	0	139	146
Chandranigahpur PHC, Rauthat	539	539	404	405	26	30	0	0	36	20	35	929	1065
Narayani sub-regional hospital ,Birgunj, Parsa	578	589	260	260	14	16	1	1	45	4	13	853	928
Mirchaiga PHC ,Sirha	519	519	85	85	9	11	1	1	105	0	0	614	721
DHO Saptari,Rajbiraj	236	236	41	41	0	0	0	0	51	3	0	277	331
DHO/Hospital Malangawa, Sarlai	39	40	11	11	1	1	0	0	1	1	0	51	54
DHO/Hospital Kaliya, Bara	150	160	118	122	5	9	0	0	15	0	0	273	306
Dhanusha DHO, Janakpur	1100	1103	227	227	35	35	1	1	57	85	10	1363	1518
Sabila PHC, Dhanusa	262	262	32	32	1	1	0	0	28	3	0	295	326
Dhalkebar HP Dhanusa	326	326	18	18	0	0	0	0	2	4	5	344	355
Province 2 Total	3,876	3,904	1,208	1,213	91	103	3	3	344	120	63	5,178	5,750
National TB Centre, Bhaktapur	3050	3050	840	840	54	56	9	9	125	5	12	3953	4097
Bagauda Hospital, Chitwan	214	215	13	13	0	0	0	0	10	0	0	227	238
TUTH, Maharjunj, Kathmandu	611	611	116	116	14	14	4	4	6	0	20	745	771
GENETUP ,Kalimati,Kathmandu	1380	1396	759	766	61	80	28	28	64	8	14	2228	2356
HERD laboratory,Thopathali, Kathmandu	1114	1150	321	321	8	8	0	0	33	22	0	1443	1534
Bir Hospital (NAMS), Kathmandu	397	397	78	78	2	2	1	1	1	1	5	478	485
Shukra Raj Infectious Diasese Hospital	1384	1384	243	243	11	11	0	0	93	3	35	1638	1769
Dhulikhel Hospital	964	974	127	127	1	2	0	0	14	3	1	1092	1121
Birendra Sainik Hospital Chauni, Kathmandu	49	49	16	16	0	0	0	0	4	0	2	65	71
DHO/Hospital, Nuwakot	49	51	22	22	0	0	0	0	3	0	0	71	76
Civil Hospital, Kathmandu	72	76	8	11	0	0	0	0	2	0	4	80	93
Chitwan DHO, Chitwan	1579	1581	280	280	19	22	0	1	140	24	7	1878	2055
Shivanagar PHCC, Chitwan	424	425	13	13	0	0	0	0	24	0	7	437	469
Ratnagar Hospital, Chitwan	579	582	61	64	0	0	0	0	60	6	0	640	712
Province 3 Total	11,866	11,941	2,897	2,910	170	195	42	43	579	72	107	14,975	15,847
Regional TB Centre, Pokhra	1310	1310	315	315	15	18	1	1	106	21	21	1641	1792
Dhaulagiri zonal Hospital ,Baglung	193	201	15	15	1	2	0	0	10	0	0	209	228
DHO/Hospital Damauli, Tanahau	9	9	10	10	0	0	0	0	0	0	0	19	19
Province 4 Total	1,512	1,520	340	340	16	20	1	1	116	21	21	1,869	2,039
Lumbini Zonal Hospital, Butwal	796	796	456	456	46	51	8	8	169	10	30	1306	1520
United Mission Hospital , Palpa	927	927	320	320	56	68	5	8	103	11	45	1308	1482
Nepalgunj Medical College,Nepalgunj	185	185	68	68	4	5	0	0	5	4	10	257	277
Rapti sub-regional Hospital, Dang	1265	1266	414	418	9	17	1	1	34	22	0	1689	1758
TB Nepal, Nepalgunj	800	813	877	893	61	95	2	3	38	8	2	1740	1852
Prithivi Chandra Hospital, Nawalparasi	246	337	105	65	4	4	0	0	15	5	0	355	426
Lumbini Medical College, Palpa	99	99	40	40	2	3	0	0	0	0	0	141	142
Madhyabindu Community Hospital- Nawalparasi	52	52	18	18	4	4	0	0	2	1	1	74	78
Gulmi DHO, Gulmi	130	130	30	30	3	4	0	0	10	3	0	163	177
Kapilvastu DHO	186	192	82	85	18	23	1	1	11	10	0	287	322
Pyuthan DHO	799	799	163	163	1	1	0	0	54	4	11	963	1032
Bardiya DHO	792	796	164	166	7	13	2	2	48	16	6	965	1047
Province 5 Total	6,277	6,392	2,737	2,722	215	288	19	23	489	94	105	9,248	10,113
Mid Western Regional Hospital, Surkhet	387	394	143	145	4	5	3	3	36	5	5	537	593
Karnali Academy of Health Sciences (KAHS) Jumla	99	99	17	17	1	2	0	0	20	13	14	117	165
DHO/Hospital, Dailekh	33	33	8	8	1	1	0	0	0	1	5	42	48
DHO/Hospital, Salyan	680	680	41	41	1	1	0	0	1	4	1	722	728
Province 6 Total	1,199	1,206	209	211	7	9	3	3	57	23	25	1,418	1,534
Seti Zonal Hospital,Dhangadhi	781	781	345	345	55	55	4	4	97	9	26	1185	1317
Doti Hospital, Doti	344	347	100	100	7	7	0	0	45	10	3	451	512
Bayalpata Community Hospital, Achham	436	436	180	180	13	17	5	5	7	3	5	634	653
Sub Regional Hospital Dadeldhure	144	144	79	79	1	1	0	0	28	0	0	224	252
Mahakali Zonal Hospital, Kanchanpur	237	238	171	171	10	11	0	0	11	0	0	418	431
Province 7 Total	1,942	1,946	875	875	86	91	9	9	188	22	34	2,912	3,165
National Compiled GX Sites Total	30262	30511	9167	9176	641	780	89	95	1984	475	377	40159	43398

Annex 8: NTC Staff List

राष्ट्रिय क्षयरोग नियन्त्रण केन्द्रमा हाल कार्यरत कर्मचारीहरुको विवरण :

सि.नं	पद	श्रेणि/तह	सेवा/समुह	द. संख्या	कर्मचारीको नाम	कैफियत
१	निर्देशक	११	स्वास्थ्य/प.हे.ए	१	डा. भिमसिंह तिकरी	
२	प्र.क.चेष्ट फिजिसियन	११	स्वास्थ्य/मे.	१	डा. अशेष ढुंगाना	विर अस्पताल काज
३	क.फिजिसियन (चेष्ट डिजिज)	१०	स्वास्थ्य/मे.	२	डा. नविन कुमार साह	
					रिक्त	
४	उपसचिव	रा.प.द्वि.	प्रशासन/सा.प्र.	१	रिक्त	
५	निर्देशक (तथ्यांक)	रा.प.द्वि.	रा.यो.आ./तथ्यांक	१	श्री अनिल थापा	
६	मेडिकल अधिकृत	८	स्वास्थ्य/ज.हे.स.	४	डा. मोहन नाथ	अध्ययन विदा
					डा. दिनेश भण्डारी	अध्ययन विदा
					रिक्त	
					रिक्त	
७	व./ज.स्वा.अ.	७/८	स्वास्थ्य/हे.ई.	१	श्री वसुन्धरा अर्याल	
८	व./ज.न..अ.	७/८	स्वास्थ्य/ज.न.	१	रिक्त	
९	व./मेडिकल ल्याव टेक्नोलोजिष्ट	७/८	स्वास्थ्य/मे.ल्या.टे.	२	श्री गोकर्ण घिमिरे	
					श्री मिरा हाडा	

१०	शाखा अधिकृत	रा.प.तृ.	प्रशासन/सा.प्र.	१	श्री दिपक रिजाल	
११	लेखा अधिकृत	रा.प.तृ.	प्रशासन./लेखा	१	श्री अवधेश साह	
१२	तथ्यांक अधिकृत	रा.प.तृ.	आ.यो.त./तथ्यांक	१	श्री पुष्पराज जोशी	
१३	ना.सु.	रा.प.अनं. प्र.	प्रशासन/सा.प्र.	२	श्री चन्द्रावती कोईराला	
					श्री बद्री कोईराला	
१४	ल्याव टेक्निसियन	५/६	स्वास्थ्य/मे.ल्या.टे.	२	श्री रामबाबु श्रेष्ठ	
					श्री कृष्ण अधिकारी	
१५	रेडियोग्राफर	५/६	स्वास्थ्य/रे.ग्रा.	१	श्री मुकेश कुमार मिक्लम	
१६	हे.अ.	५/६	स्वास्थ्य/हे.ई.	४	श्री सरोज कुमार राय	
					श्री अन्जु वस्नेत	
					श्री वृजरन्जन यादव	
					श्री हरिनारायण साह	
१७	स्टाफ नर्स	५/६	स्वास्थ्य/ज.न.	१	श्री सिता तिवारी	
१८	ह.स.चा.	श्रेणिबिहिन	इन्जी./मे.ई.	३	श्री विश्वहरी खड्का	
					श्री मुकुन्द सुवेदी	
					रिक्त	
१९	कार्यालय सहयोगी	श्रेणिबिहिन	प्रशासन	३	श्री विकास लामा	
					श्री हरेराम वाग्ले	

					श्री कृष्ण बस्नेत	
					श्री हरिगोपाल प्रधान	

अन्य कर्मचारीहरुको विवरण

सि.नं	पद र तह वा श्रेणि	श्रेणि/तह	सेवा/समुह	कर्मचारीको नाम
१	कम्प्युटर अधिकृत, रा.प.तृ.	रा.प.तृ.	विविध	श्री राजेश कुमार मिश्र
२	क्ष.कु.अ., सातौ	सातौ	स्वास्थ्य/हे.इ.	श्री चित्रजंग शाही
३	क्ष.कु.अ., सातौ	सातौ	स्वास्थ्य/हे.इ.	श्री तारा शर्मा
४	सि.अ.हे.व., छैठौ	छैठौ	स्वास्थ्य/हे.इ.	श्री कमल भट्टराई
५	सि.अ.हे.व., छैठौ	छैठौ	स्वास्थ्य/हे.इ.	श्री नेत्र बहादुर कटवाल
६	हे.अ.(पदनाम), छैठौ	छैठौ	स्वास्थ्य/हे.इ.	श्री श्यामकुमार ओली
७	सि.अ.हे.व., छैठौ	छैठौ	स्वास्थ्य/हे.इ.	श्री बाबुराम पौडेल
८	ल्या.अ., छैठौ	छैठौ	स्वास्थ्य/ मे.ल्या.टे.	श्री सन्तराम रजौरा
९	ल्या.अ., छैठौ	छैठौ	स्वास्थ्य/मे.ल्या.टे.	श्री पुष्पाकुमारी सिंह
१०	डा.रु.अ., छैठौ	छैठौ	स्वास्थ्य/रे.ग्रा.	श्री राजेन्द्र ब. खड्का
११	डा.रु.अ., छैठौ	छैठौ	स्वास्थ्य/रे.ग्रा.	श्री रेणुका कडेल
१२	प.हे.न.(पदनाम) छैठौ	छैठौ	स्वास्थ्य/प.हे.न.	श्री मिरा श्रेष्ठ
१४	सि.अ.न.मि., छैठौ	छैठौ	स्वास्थ्य/प.हे.न.	श्री सरिता मैनाली
१५	सि.अ.न.मि., छैठौ	छैठौ	स्वास्थ्य/प.हे.न.	श्री गिता बानिया
१६	पु. स., रा.प.अनं.द्वि.	रा.प.अनं.द्वि.	शिक्षा/पुस्तकालय	श्री विष्णु श्रेष्ठ
१७	टा.ना.सु., रा.प.अनं.प्र..	रा.प.अनं.प्र.	प्रशासन.	श्री रिता दाहाल
१८	खरिदार, रा.प.अनं.द्वि.	रा.प.अनं.द्वि.	प्र./सा.प्र.	श्री सन्तलाल श्रेष्ठ

१९	स्विपर, श्रेणिविहिन	श्रेणिविहिन	प्रशासन	श्री तारादेवी नेपाली
२०	स्विपर, श्रेणिविहिन	श्रेणिविहिन	प्रशासन	सुरज पोडे

विकास समितिका कर्मचारीहरुको विवरण

सि.नं	पद	कर्मचारीको नाम	कैफियत
१	ना.सु.	सुधिर खडका	
२	खरिदार	नविन खतिवडा	
३	खरिदार	गोपी रुपाखेती	
४	खरिदार	शिवराम दुवाल	
५	प्लम्बर	राम कुमार महाजु	
६	का.स.	शोभित धिताल	

करारमा कार्यरत कर्मचारीहरुको विवरण

सि.नं	पद	कर्मचारीको नाम	कैफियत
१	मे.अ.	डा.आशिस दाहाल	छात्रवृत्ति करार
२	ल्याव टेक्नोलोजिष्ट	श्री उमा श्रेष्ठ	छात्रवृत्ति करार
३	माइक्रोवायोलोजिष्ट	राकेश यादव	सेवा करार
४	मे.ल्या.टे.	कन्चन गौतम	सेवा करार
५	मे.ल्या.टे.	सृजना न्यौपाने	सेवा करार
६	ल्या.टे.	विमला सुवाल	सेवा करार
७	ल्या.टे.	सम्भना फुयाल	सेवा करार
८	बेरुजु सहायक	कमल कुमार थापा	सेवा करार
९	ह.स.चा.	सिताराम सापकोटा	सेवा करार
१०	ह.स.चा.	श्री प्रसाद आचार्य	सेवा करार

११	ह.स.चा.	श्री टिका राउत	सेवा करार
१२	का.स.	श्री भरत खतिवडा	सेवा करार
१३	का.स.	श्री देवका खतिवडा	सेवा करार
१४	का.स.	श्री कल्पना बस्नेत	सेवा करार
१५	स्विपर	श्री गौतम देउला	सेवा करार
१६	स्विपर	रामशरण धिताल	सेवा करार
१७	स्विपर	श्री निर्मला फाजु	सेवा करार
१८	का.स.	श्री चेताराज विष्ट	सेवा करार

Annex 9: Childhood TB Benchmarking Tool Assessment

Standard	Met/Partially met/Not met
A: 1.1 There is evidence of political commitment for childhood TB	Partially Met
B: 2.1 There is an active national working group on childhood TB	Not Met
D: 3.1 There is national guidance for childhood TB	Not Met
E: 3.2 There is effective technical assistance for childhood TB	Partially Met
F: 3.3 The childhood TB strategy is fully implemented	Not Met
G:4.1 National policies provide guidance for all providers of paediatric care are involved in diagnosis, prevention and treatment of childhood TB	Not Met
H:4.2 All providers of paediatric care are involved in diagnosis, prevention and treatment of childhood TB	Not Met
I: 5.1 All eligible children receive BCG vaccination	Met
J: 6.1 Investigation of childhood contacts of infectious TB patients is part of the national strategy	Not Met
K: 6.2 Investigation of child contacts of infectious TB patients is fully implemented	Not Met
L: 7.1 The national strategy provides for preventive treatment of eligible children	Partially Met
M: 7.2 All eligible children have access to preventive treatment	Partially Met
N: 8.1 Special approaches for diagnosis of TB in children are included in the national guidance on TB	Not Met
O: 8.2 Special diagnostic approaches for TB in children are applied	Not Met
P: 9.1 The national treatment guidelines for TB and MDR TB have appropriate and specific	Partially Met

adjustments for children	
Q: 9.2 Child friendly formulations are available	Met
R: 9.3 The national treatment strategy of children is universally accessible for children	Partially Met
S: 10.1 Data on childhood TB are available and used at the NTP	Partially Met
T: 11.1 There is a plan for human resource capacity building for childhood TB	Partially Met
U: 12.1 The NTP and partners deploy specific initiatives to promote a patient and family centred approach in childhood TB care	Partially Met