

Annual Report 2017



National Programme for Tuberculosis Control and Chest Diseases
Ministry of Health, Nutrition & Indigenous Medicine
Sri Lanka



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List of Abbreviations

AFB	Acid Fast Bacilli
AIDS	Acquired Immune Deficiency Syndrome
BCG	Bacillus Calmette–Guérin
DCC	District Chest Clinic
DOTS	Directly Observed Therapy Short-course
DST	Drug Susceptibility Testing
DTCO	District Tuberculosis Control Officers
EPTB	Extra Pulmonary Tuberculosis
EQA	External Quality Assessment
FDC	Fixed Dose Combination
GDF	Global Drug Facility
GFATM	Global Fund to fight AIDS, Tuberculosis and Malaria
HIV	Human Immune Deficiency Virus
IEC	Information, Education and Communication
MDG	Millennium Development Goals
MDR-TB	Multi Drug Resistant Tuberculosis
NPTCCD	National Programme for Tuberculosis Control and Chest Diseases
NTRL	National Tuberculosis Reference Laboratory
OPD	Out Patient Department
PTB	Pulmonary Tuberculosis
SAARC	South Asian Association for Regional Cooperation
SEARO	Regional Office for South-East Asia (WHO)
STAC	SAARC Tuberculosis and AIDS Centre
TB	Tuberculosis
WHO	World Health Organization

Foreword

The Annual Report of the National Programme for the Tuberculosis Control and Chest Diseases- 2017, is the publication which contains important data on the status of Tuberculosis activities in Sri Lanka.

In this year many new ventures were launched to increase the case detection and case holding. Technological and management advances were introduced to the programme to improve the performance. Special attention was paid for high risk and special groups, public- private partnership, including political leadership and policy makers for further strengthening of TB control activities. Improvement of recording and reporting system, human resource development and international collaborations were also given special importance.

I am thankful to Secretary, Ministry of Health Nutrition and Indigenous Medicine, Director General of Health services and deputy director general (Public Health Services 1) for the guidance given to us. I highly appreciate the support rendered by the staff of NPTCCD, the District Tuberculosis Control Officers (DTCOs), Consultant Respiratory Physician and all other members of our team at central and peripheral level.

I am thankful to International agencies such as GFATM, WHO, SAARC, IOM and World Bank for the support rendered in most of our activities. I wish the programme to be a success to reach its vision of "TB free Sri Lanka".

Dr. Nirupa Pallewatte

Deputy Director,

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Preface

Progress, Activity and Administration Report is an annual publication of the National Programme for Tuberculosis Control and Chest Diseases.

The objective of this annual report is to provide information to the wide range of stakeholders on the progress and the performance of TB control activities in Sri Lanka.

Part I of the report gives the performance of the National Tuberculosis Control Programme. Data collected during 2017 are analyzed and presented. This would be useful for policy makers to take appropriate policy decisions in order to improve TB care services. In addition, District Tuberculosis Control Officers and other central and district level health professionals can utilize this information to focus their activities more precisely to reach national targets of TB Control.

Part II of the report provides information regarding the tuberculosis control activities carried out in Sri Lanka during the year 2017 at central and district level.

Part III of the report describes the administrative framework of the NPTCCD and facilities affiliated to TB control services.

PART I
Progress Report

Introduction

National Programme for Tuberculosis Control and Chest Diseases

National Programme for Tuberculosis Control and Chest Diseases (NPTCCD) is a central level organization in the Ministry of Health, which is headed by the Director, NPTCCD. The programme functions under the Deputy Director General (Public Health Services I) of the Ministry of Health. The central unit of the NPTCCD, National Tuberculosis Reference Laboratory (NTRL), Central Drug Stores (CDS) of the NPTCCD, District Chest Clinics (DCCs) of Colombo and Gampaha are under the direct administrative purview of the Director NPTCCD.

NPTCCD provides its services through a network of chest clinics, chest wards and laboratories. Inward facilities for TB patients are provided at the National Hospital for Respiratory Diseases (NHRD) situated in Welisara and several other chest wards situated in government Hospitals.

Diagnostic services are provided through National TB Reference Laboratory, Intermediate TB laboratories (ITL) in Kandy, Karapitiya, Jaffna and Ratnapura, district chest clinic laboratories and 157 functioning microscopy centers.

Central Drug Stores (CDS) of the NPTCCD is responsible for estimation, procurement and supply of anti TB drugs. Fixed Dose combinations of anti TB drugs are procured directly from Global Drug Facility to CDS. Distribution of anti TB drugs to District Chest Clinics is carried out on quarterly basis.

TB and respiratory disease control activities at the district level are carried out by the 26 District Chest Clinics situated in 25 districts. All the District Chest Clinics except Colombo and Gampaha are under the administrative scope of respective provincial and district health authorities.

NPTCCD is responsible for infrastructure development and financial management of the institutions under its direct administrative purview. It also provides technical guidance and financial assistance from funds obtained from donor agencies for implementation of the TB control activities at the district level.

In addition, NPTCCD is responsible for formulation of policies and guidelines for control of TB and other respiratory diseases and for planning, implementation, monitoring and evaluation of the TB control activities carried out in the entire country. TB surveillance is another main activity carried out by the NPTCCD. It also acts as a coordinating body between the central ministry and provincial health sector and other governmental and nongovernmental organizations.

NPTCCD carries out training of medical and paramedical staff engaged in TB care and carries out public awareness through various channels of communication.

The Government of Sri Lanka is the main source of funding for the NPTCCD. In addition, TB control activities are supported by the Global Fund for AIDS, Tuberculosis and Malaria (GFATM). World Health Organization (WHO) provides technical assistance to the programme. In 2017, several microscopy centers in Colombo and Gampaha districts were constructed using the funds provided by Health Sector Development Project (HSDP).

Vision

Sri Lanka free of Tuberculosis and other respiratory diseases.

Mission

To contribute to the socio-economic development of the nation by committing ourselves to create a TB free Sri Lanka and to reduce the morbidity and mortality due to respiratory diseases by formulation of policies, planning, coordinating and monitoring of all TB and other respiratory disease control activities in the country.

Sustainable Development Goals & End TB Strategy

During the period of 2000 to 2015, national efforts to reduce the burden of tuberculosis (TB) were based on achieving the targets set in accordance with the Millennium Development Goals (MDGs). In 2016, MDGs were replaced by the new set of goals, known as the Sustainable Development Goals (SDGs) which focuses on broader areas. A goal for Health is included in SDG 3 “Ensure healthy lives and promote well-being for all at all ages” which has 13 targets set for the period of 2016-2030. TB is described in target 3.3: “By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, waterborne diseases and other communicable diseases”

The post 2015, Global TB strategy aims to end the global TB epidemic by 2035 and is linked with sustainable development goals. The targets and milestones to End TB are as follows:

Table1: Targets and milestones to End TB

Indicator	Milestones for 2020	Milestones for 2025	End TB targets for 2035
Percentage reduction in the absolute number of TB deaths (baseline 2015)	35% reduction of deaths	75% reduction of deaths	95% reduction of deaths
Percentage reduction in the TB incidence rate (baseline 2015)	20% reduction of incidence	50 % reduction of incidence	90% reduction of incidence (10 per 100,000 cases)
Percentage of TB patients and their households experiencing catastrophic costs due to TB	0%	0%	0%

NPTCCD has revised the it's National Strategic Plan (NSP) for TB control for the period of 2015-2020 to be in par with “End TB” global TB control strategies.

Methods

Goal & Objectives of National Strategic Plan for TB control (2015-2020)

Goal: Decrease the prevalence of TB by 10 % by 2020 based on TB burden figures of 2014 as per the WHO estimates.

Objectives

Objective 1:

To improve the TB control by detecting at least 80% of incident TB cases (all forms) by 2017 and 90% of incident cases by 2020

Objective 2:

To improve the outcome of enrolled TB patients

- a) By achieving 90% treatment success rate of all forms of non MDR TB patients and;
- b) To maintain at least 75% of treatment success rate among MDR TB cases by 2017

Objective 3:

To integrate TB control activities in to general healthcare system by establishing TB diagnostic and treatment services in 40% of all hospitals up to the level of Divisional Hospitals Type B or above by 2017 and in 80% -by 2020

Objective 4:

To improve the accessibility to TB treatment and care by engaging 30% of all private health care providers (hospitals and General Practitioners) in TB control by 2017, and 50% by 2020

Objective 5:

Ensure that quality TB services in line with current international standards are provided by qualified and regularly supervised personnel at 100% of all implementation sites by 2017

Surveillance of TB

Notification System

➤ TB Case Notification

TB is a notifiable disease since 1948. NPTCCD receives case notifications in a special form (Health 816 A) from District Chest Clinics, other government health institutions and from private health institutions. Once a TB patient is diagnosed at a chest clinic, he or she should be registered in the District TB Register and should be notified to Central unit of the NPTCCD and to National Epidemiological Surveillance System through Medical Officer of Health. Patients diagnosed at other institutions are also referred to the relevant chest clinics for registration, notification and further management.

➤ TB Death Notification

TB deaths are notified to the central unit by Health 814.A detailed report on deaths occurred among TB patients during the period of treatment are collected by form TB 17.

Deaths due to TB are also notified to the Registrar General's Department through vital registration system.

Monthly and Quarterly Records and Returns

Data on case detection (TB-08), sputum conversion (TB-09), treatment outcome (TB-10), programme management (TB-12) and TB and Non TB wards (TB-13) are collected quarterly from District Chest Clinics.

TB screening activities in prisons and OPD returns on TB suspects are collected monthly on the standard data collection forms. Data on culture specimens are sent from NTRL to Central Unit. DTCOs are responsible for sending completed returns and reports accurately and timely.

Presentation of Data

NPTCCD analyses the data and compiles the national reports. Performance at district level is discussed at the review meetings held bi-monthly at NPTCCD as well as at the district reviews held annually in respective districts.

Dissemination of Data

NPTCCD provides information to government and international organizations such as Epidemiology unit and other units of Ministry of Health, Central Bank of Sri Lanka, WHO, SAARC, STAC, GFATM etc.

In addition, information on TB is provided to provincial and regional health authorities and to DTCOs for further reference and interventions.

WHO revised classification of TB

Sri Lanka adopted revised WHO classification of TB of 2013 from 1st of January 2015 and reporting of information was started with the cohort of patients registered in 2015.

A case of tuberculosis is defined as “A patient in whom TB has been either bacteriologically confirmed in laboratory or clinically diagnosed based on a clinician’s decision taking into account clinical picture, results of other investigations and risk factors”.

➤ **Bacteriologically confirmed TB**

A patient whose sputum or another biological specimen is positive for AFB by smear microscopy or culture or WHO Approved Rapid Diagnostics (WRD) such as X-pert MTB/RIF.

➤ **Clinically diagnosed TB**

A patient who does not fulfil the criteria for bacteriological confirmation but has been diagnosed with active TB by a clinician and after consultation with a Consultant Respiratory Physician and decided to treat the patient with a full course of TB treatment

Classification based on anatomical site of the disease

➤ **Pulmonary tuberculosis (PTB)**

Any bacteriologically confirmed or clinically diagnosed case of TB involving the lung parenchyma or the tracheobronchial tree with or without the involvement of any other organs in the body.

➤ **Extra pulmonary tuberculosis (EPTB)**

Any bacteriologically confirmed or clinically diagnosed case of TB involving organs other than the lung parenchyma or tracheobronchial tree, e.g. pleura, lymph nodes, abdomen, genitourinary tract, skin, bones and joints, meninges.

Classification based on history of previous TB treatment

➤ **New patients**

- A patient who has never taken treatment for TB

OR

- A patient who has taken anti-tuberculosis drugs for less than one month

New patients may have positive or negative bacteriology and may have disease at any anatomical site.

➤ **Previously treated patients**

Patients, who have received 1 month or more of anti-TB drugs in the past are classified under this category. They are further classified by the outcome of their most recent course of treatment.

- **Relapse**

Patients who 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.

- **Treatment after failure**

Patients who have previously been treated for TB and whose treatment failed during or at the end of their most recent course of TB treatment.

- **Treatment after loss to follow-up**

Patients who have previously been treated for TB and were declared lost to follow-up at the end of their most recent course of treatment. (These were previously known as treatment after default patients.

- **Other previously treated patients**

Patients who have previously been treated for TB but whose outcome after their most recent course of treatment is unknown or undocumented.

➤ **Patients with unknown previous TB treatment history**

Patients who do not fit into any of the categories listed above

Indices

The main indices used to measure the progress in TB control are,

- Case notification rate
- Case Detection Rate
- Treatment Success Rate
- Sputum Conversion Rate
- Lost to follow up Rate
- Death Rate

Notification rate of all TB cases

The notification rate of all TB cases is defined as number of all forms of TB cases notified in a given year out of the mid-year population of the country in the same year

$$\frac{\text{Number of all TB cases notified during the year}}{\text{Mid-year population for the same year}} \times 100,000 \text{ population}$$

Case Detection Rate

The term “*detection*” as used in this report, means that a patient is diagnosed as having TB and is reported to the NPTCCD by TB-08.

Case Detection Rate is defined as “*percentage of total number of incident TB cases notified out of the total number of estimated incident cases of TB during the given year*”.

$$\text{Case Detection Rate} = \frac{\text{No. of all forms (new / relapse) of TB cases notified during the specified year}}{\text{Estimated total number of incidence cases of TB for the same year}} \times 100$$

Incidence of TB

The Incidence of TB is defined by the WHO as the number of new and relapse cases reported in a specified time period.

Estimation of TB Incidence

Estimation of TB incidence is calculated by WHO using a mathematical model which is revised annually. Accordingly, the case detection rate in this report is based on 2015 WHO estimates (65.0 per 100,000 population).

Treatment Success Rate

Treatment Success Rate is defined as the proportion of TB cases registered in a given year that **successfully completed** their entire course of treatment with or without bacteriological confirmation of cure (“cured” + “treatment completed”).

$$\text{Treatment Success Rate} = \frac{\text{Number of patients who have successfully completed treatment in the given period}}{\text{Number of patients registered in the same period}} \times 100$$

Sputum Conversion Rate

Sputum Conversion rate is the percentage of smear-positive pulmonary TB cases registered in a specified period that converted from smear positive to smear negative at the end of intensive phase of treatment.

$$\text{Sputum Conversion Rate} = \frac{\text{Number of smear-positive pulmonary TB cases Registered in a specified period that are smear negative at the end of the intensive phase of Treatment}}{\text{Total number of smear-positive pulmonary TB cases registered for treatment in the same period}} \times 100$$

Lost to follow up Rate

The Lost to follow up Rate is defined as the percentage of TB cases registered in a specified period that interrupted treatment for more than two consecutive months.

$$\text{Lost to follow up Rate} = \frac{\text{Number of TB cases registered in a specified period that interrupted treatment for more than two consecutive months}}{\text{Total number of TB cases registered in the same period}} \times 100$$

Death Rate

The Death rate is defined as the percentage of TB cases registered in a specified period that died from any reason during the course of treatment.

$$\text{Death Rate} = \frac{\text{Number of TB cases registered in a specified period that died from any reason during the course of the treatment}}{\text{Total number of TB cases registered in the same period}} \times 100$$

Results

Surveillance of Tuberculosis

➤ TB Case Notifications (H 816 A)

During the year 2017, 8367 cases of all forms of Tuberculosis were notified to the center by H 816 A form (Table 6). In contrast to this, registered TB cases reported to the NPTCCD by TB 08 were 8511 (Table 9).

➤ TB Death Notification (H 814)

During the year 2017, 204 TB deaths were notified by H 814 (Table 7).

Incidence of Tuberculosis

The incidence (new and relapse) rate of TB in Sri Lanka in 2017 was 39.0 (8013 new and 301 relapse cases) per 100,000 population (Table 9). There was a significant decrease in incidence rate when compared with the incidence rate of year 2016, which was 40.9 (8332 new and 328 relapse cases) per 100,000 population (Figure 1). An increase of relapses was observed over the years and proportion of relapses among the incidence cases were getting increased over the years too.

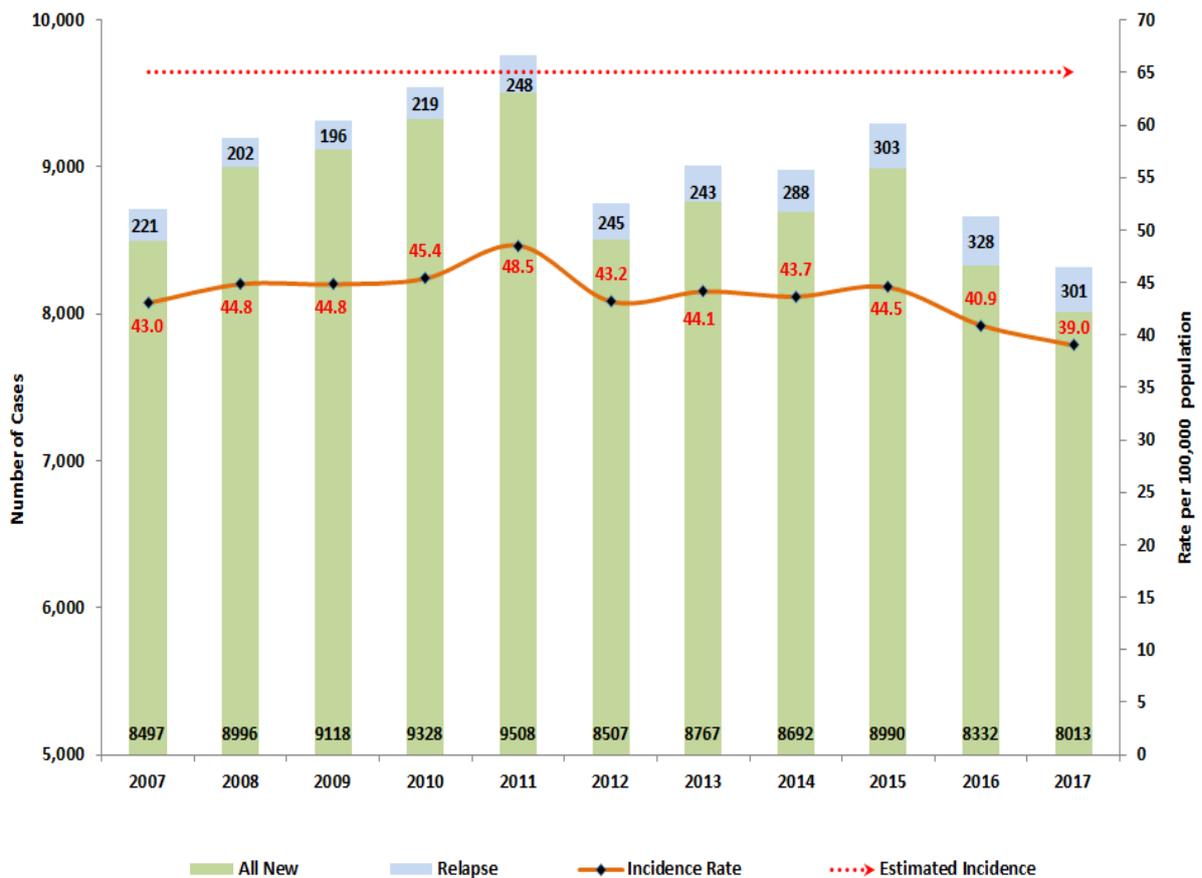


Figure 1: Incidence Rate of TB from 2007 – 2017

Case Detection

The total number of all forms of TB cases reported from DCCs was 8511. When compared to 2016, there was a decrease of all forms of TB in 2017 (Figure 2). Out of this, 8013 (94%) were new cases, 484 (5.7%) were previously treated cases and 14 (0.16%) were cases with unknown treatment history.

Out of all new cases, 4019 (50.15%) were Bacteriology conformed TB cases. Of this 3804 (94.65%) were sputum positive PTB, 131 (3.3%) cases were sputum negative culture positive TB, and 84 (2.1%) cases were WRD positive. There were 1766 (22.04%) cases of clinically diagnosed PTB and 2228 (27.8 %) cases of EPTB (Figure 3). There were 5785 cases of new pulmonary TB (72% of all new cases) and out of it, 4019 (69.5%) were bacteriologically confirmed.

Out of the previously treated cases 362 (74.8%) bacteriologically confirmed PTB, 61 (12.6%) clinically diagnosed PTB and 61 (12.6%) were EPTB cases.

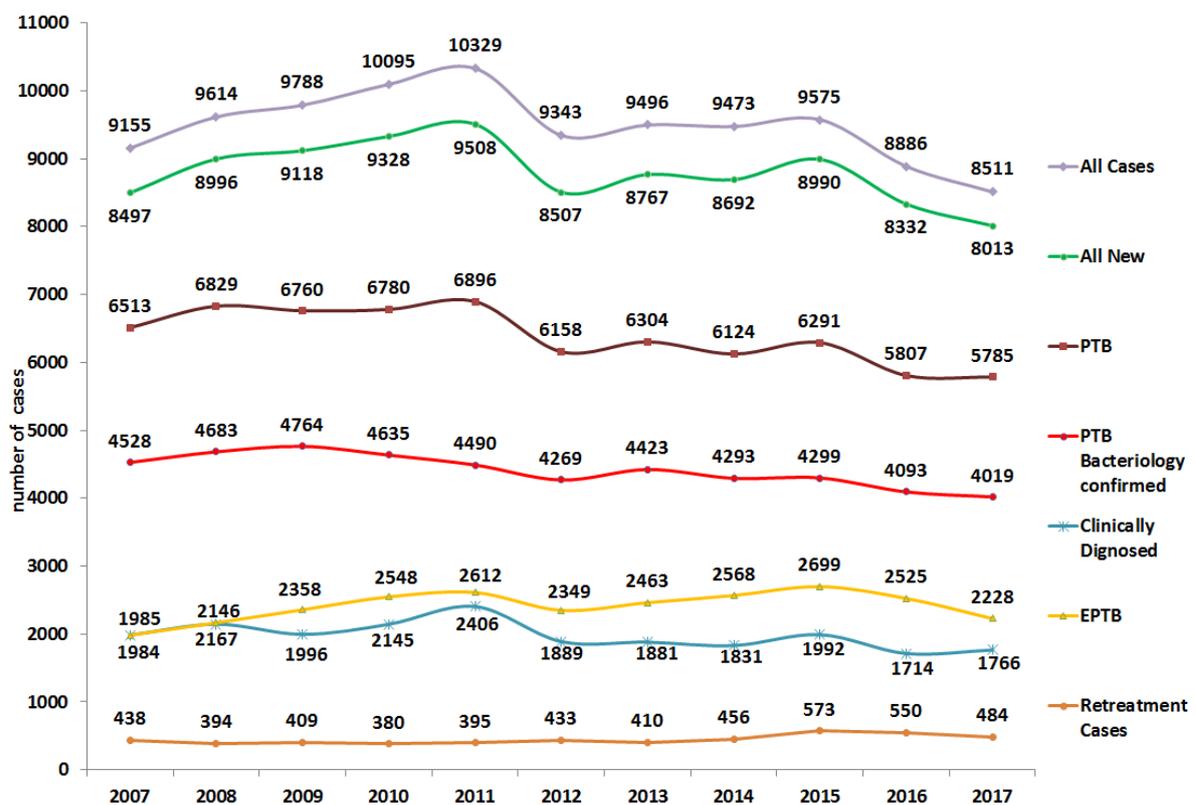


Figure 2: Case Detection of TB by Type in 2007 - 2017

There was a high disparity of TB case detection among districts (Figure 4). The highest number of TB cases was reported from Colombo 2051 (23.7%). High numbers of cases were reported from Gampaha 1066 (12.5%), Kalutara 568 (6.7%), Kandy 484 (5.7%), Ratnapura 507 (5.9%) and Kurunegala 424 (5%) districts respectively.

Colombo district also accounted for highest number of relapse cases, 83 (27.6%) of total relapse cases and 46 (46%) of total lost to follow up cases (Table 9). Lowest number of TB cases (27) was reported from Mullaitivu district.

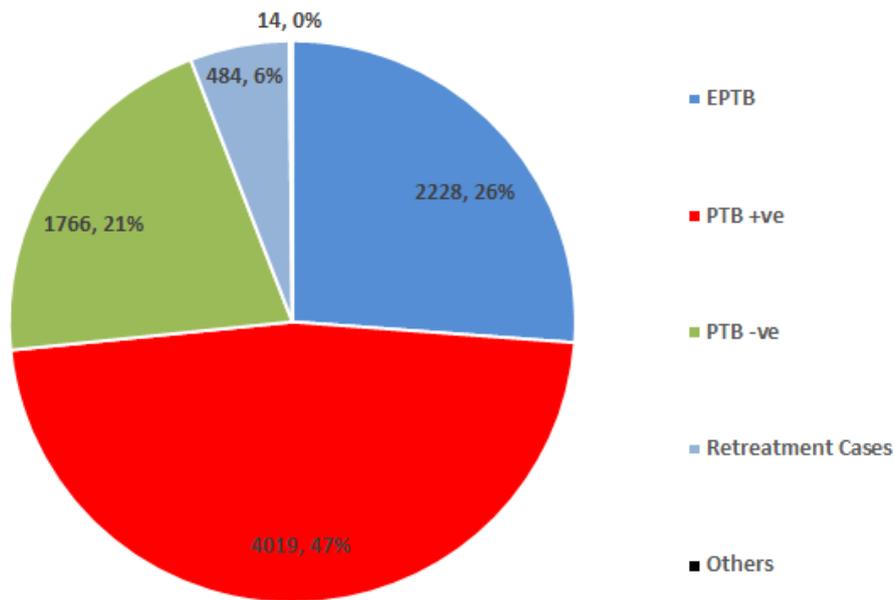


Figure 3: Case Detection of TB by Type in 2017

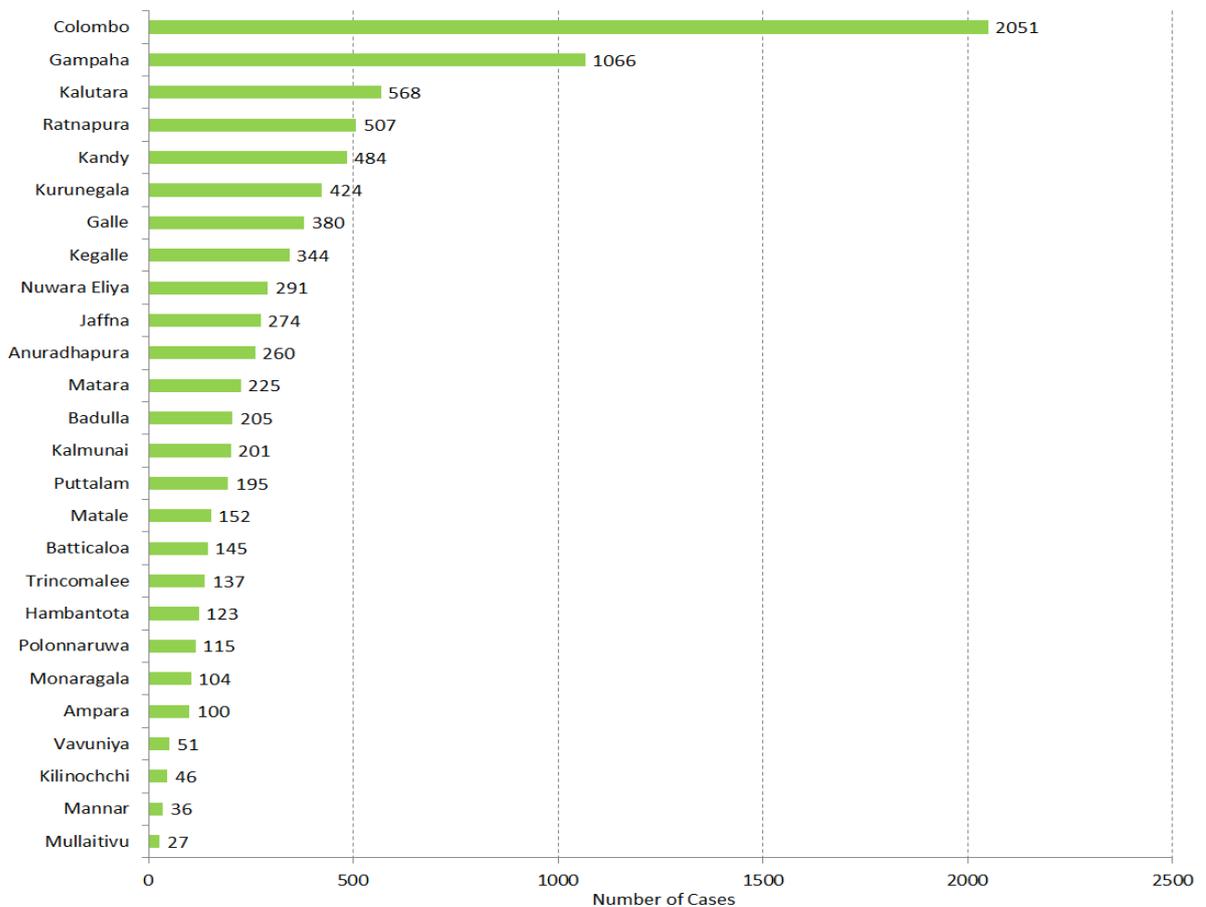


Figure 4: TB Case Detection by District of Registration in 2017

New TB Cases

There was a disparity of distribution of new cases among districts (Figure 5). More than 55% of the total cases were bacteriologically confirmed in Mannar (70.6%) and Vauniya (60.0%) and Anuradhapura (58.5%), while in Ampara (35.8%), Nuwara-Eliya (35.1%) and Jaffna (32.9%) bacteriologically confirmed cases account for less than 40% of total cases reported in respective districts. The number of clinically diagnosed cases detected were more than the bacteriologically confirmed cases in Jaffna, Kalmunai and Ampara districts.

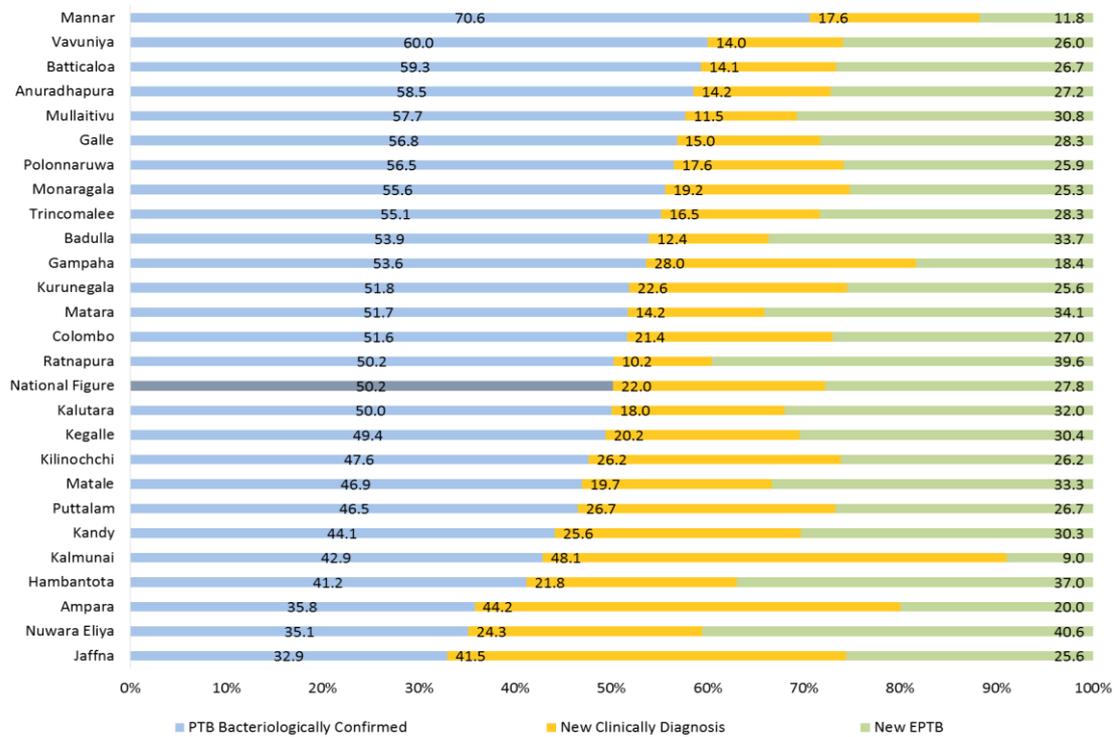


Figure 5: Percentage Distribution of New Cases of TB by Type and District in 2017

Bacteriology confirmed New Pulmonary TB cases

The highest number 975, (40.7 per 100,000 population) of bacteriologically confirmed pulmonary TB cases was reported from Colombo district and this accounts for 24% of national figure. Second highest number, 534 (22.4 per 100,000 population) of bacteriologically confirmed pulmonary TB cases was reported from Gampaha district (Figure 6).

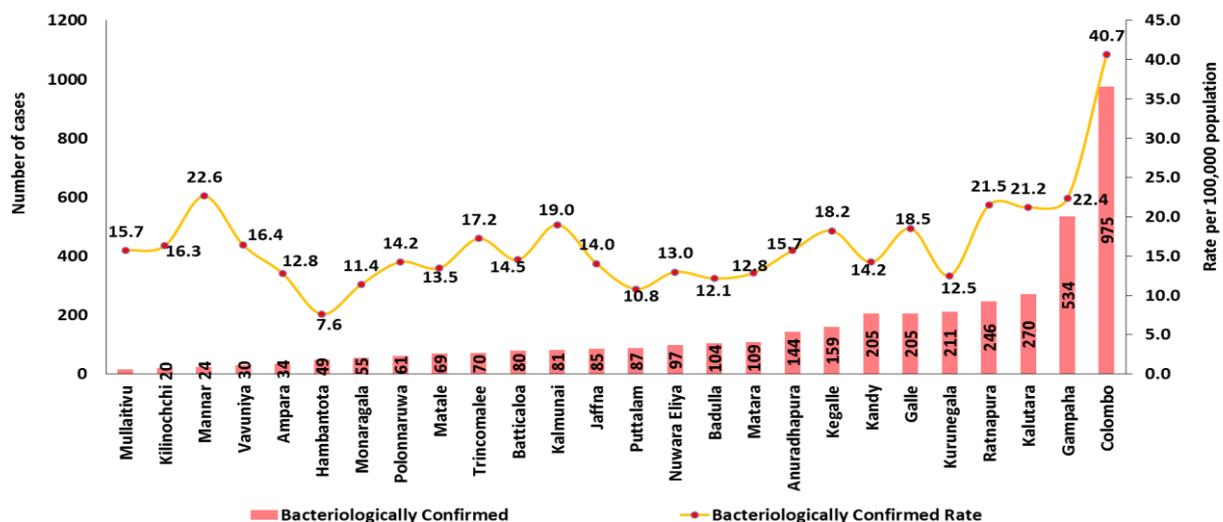


Figure 6: Distribution of Bacteriology confirmed New Pulmonary TB case detection by Districts in 2017

High numbers of cases were reported from Kalutara (270), Ratnapura (246) and Kurunagala (211) districts respectively. However, higher bacteriologically confirmed rates per 100,000 population were reported from Mannar (22.6) and Kalutara (21.2) districts (Figure 6).

Clinically Diagnosed New Pulmonary TB

Total of 1766 cases of new clinically diagnosed pulmonary TB cases were reported in 2017. The highest number of clinically diagnosed cases was reported from Colombo district 404 (16.9 per 100,000 population). However, higher rates were reported from Kalmunai (21.3 per 100,000 population), Jaffna (17.7 per 100,000 population), Ampara (15.8 per 100,000 population) respectively. The number of clinically diagnosed cases detected were more than the bacteriologically confirmed in Jaffna, Kalmunai and Ampara districts (Figure 5).

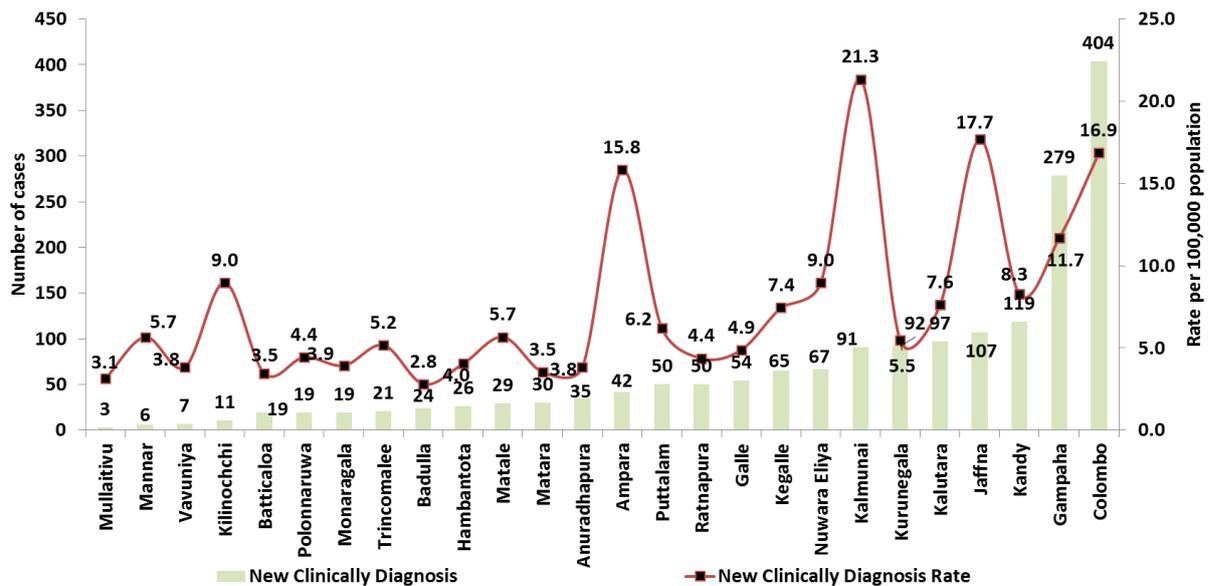


Figure 7: Distribution of Smear Negative New TB Cases Detection by Districts in 2017

➤ Extra Pulmonary TB

New EPTB Case Detection

Total of 2228 cases of new extra pulmonary TB were reported in 2017. Colombo District accounted for highest number (511) of EPTB cases. The highest rate (21.3 per 100,000 population) of EPTB was reported from Colombo district (Figure 8).

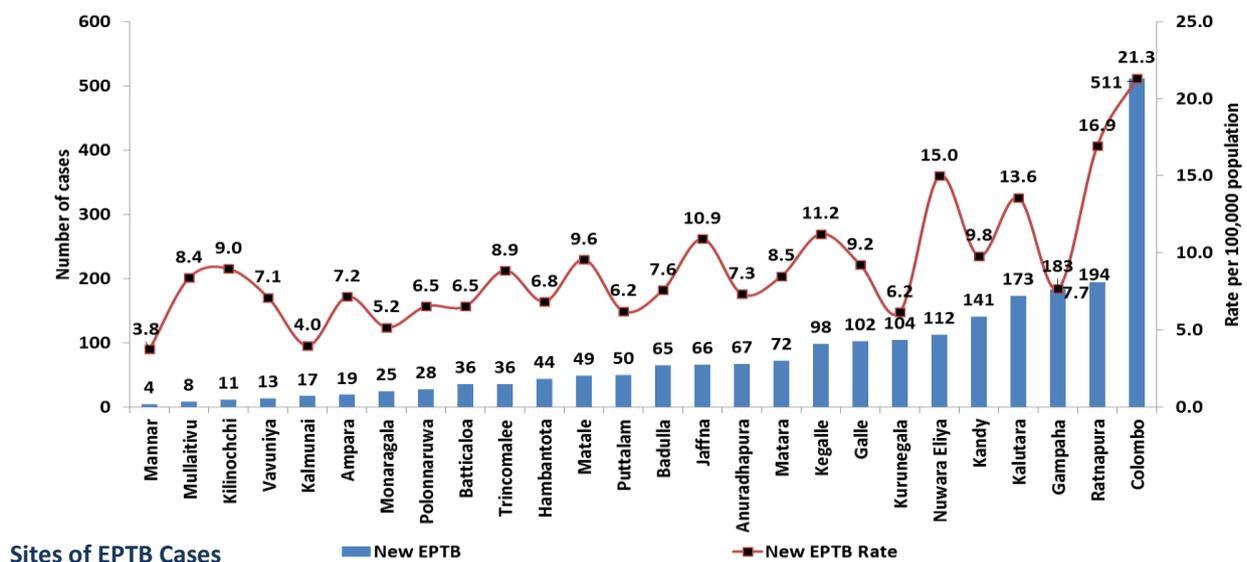


Figure 8: Distribution of New Extra Pulmonary TB Cases Detection by Districts in 2017

Out of all EPTB cases, tuberculosis of respiratory tract confirmed by bacteriologically and histologically (ICD code A15), accounted for 237 cases (10.4%), and 581 (25.4%) were cases of tuberculosis of respiratory tract, not confirmed by bacteriologically or histologically (ICD code A16). In addition 142 (6.2%) cases of Tuberculosis of nervous system, 1134 (49.6%) cases of Tuberculosis of other organs and 26 (1.1%) cases of Tuberculosis of other specified organs were reported in 2017 (Table 2).

Table 2: Distribution of All Cases of Extra Pulmonary Tuberculosis by Site in 2017

ICD-10 Code	Site	Number	Percentage
A15: Respiratory tuberculosis, bacteriologically and histologically confirmed		237	10.4
A15.4	Tuberculosis of intrathoracic lymph nodes	92	4.0
A15.6	Tuberculous pleurisy	136	6.0
A15.8	Other respiratory tuberculosis (mediastinal, nasopharyngeal, nose, sinus [any nasal])	5	0.2
A15.9	Respiratory tuberculosis unspecified	4	0.2
A16: Respiratory tuberculosis, not confirmed bacteriologically or histologically		581	25.4
A16.3	Tuberculosis of intrathoracic lymph nodes	109	4.8
A16.4	Tuberculosis of larynx, trachea and bronchus	20	0.9
A16.5	Tuberculous pleurisy	447	19.6
A16.8	Other respiratory tuberculosis (mediastinal, nasopharyngeal, nose, sinus [any nasal])	3	0.1
A16.9	Respiratory tuberculosis unspecified	2	0.1
A17: Tuberculosis of nervous system		142	6.2
A17.0	Tuberculous meningitis	94	4.1
A17.1	Meningeal tuberculoma	9	0.4
A17.8	Other tuberculosis of nervous system	24	1.1
A17.9	Tuberculosis of nervous system, unspecified	15	0.7
A18: Tuberculosis of other organs		1134	49.6
Tuberculosis of bones and joints			
A18.0	Spinal TB (Includes Vertebral Column - M49.0*)	185	8.1
	Tuberculosis of other bones and joints (Excluding spinal TB)	63	2.8
A18.1	Tuberculosis of genitourinary system	73	3.2
A18.2	Tuberculous peripheral lymphadenopathy (TB adenitis)	504	22.1
A18.3	Tuberculosis of intestines, peritoneum and mesenteric glands	99	4.3
A18.4	Tuberculosis of skin and subcutaneous tissue	67	2.9
A18.5	Tuberculosis of eye	139	6.1
A18.6	Tuberculosis of ear	3	0.1
A18.7	Tuberculosis of adrenal glands	1	0.0
Tuberculosis of other specified organs		26	1.1
A18.8	Pericardium	26	1.1
Tuberculosis of other Sites		164	7.2
	Psoas	8	0.4
	Disaminated	7	0.3
	Abnominal	2	0.1
	GI Track	1	0.0
	Site not specified	102	4.5
	Breast	1	0.0
	Empyema	2	0.1
	Neck Abscess	5	0.2
	Other	36	1.6
Total		2284	100.0

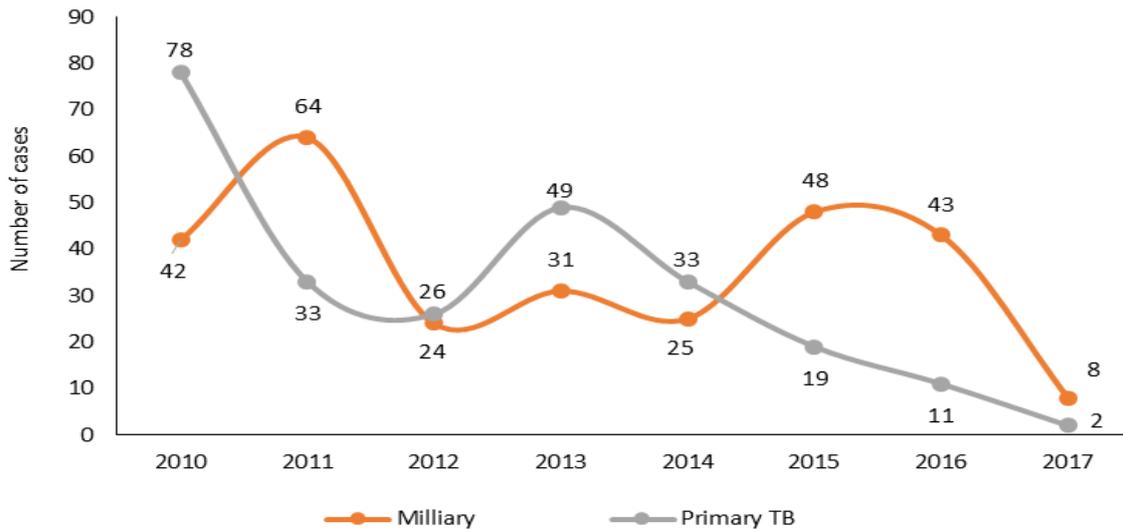


Figure 09: Distribution of Miliary and Primary TB cases from 2010-2017

➤ **Age and Sex Distribution of New TB Cases**

The highest number, 1692 (21.1 %) of new TB cases was in 55-64 age group. The lowest number was in 0-14 age group (244 cases, 3.05 %). Out of 8013 all new cases, 4529 (56.5 %) were in the economically productive age group of 15-54. More males (5192, 64.8%) were detected than the females (2821,35.2%). The highest number of new TB cases among males was found in the age group of 55-64 years (22.4%) of 5192 male cases, while that in the females was in the same age group 55-64 (18.7%) of 2821 female cases (Table 13). The number detected among females was slightly higher than the males in the age groups of 0-14 and 15 – 24 years.

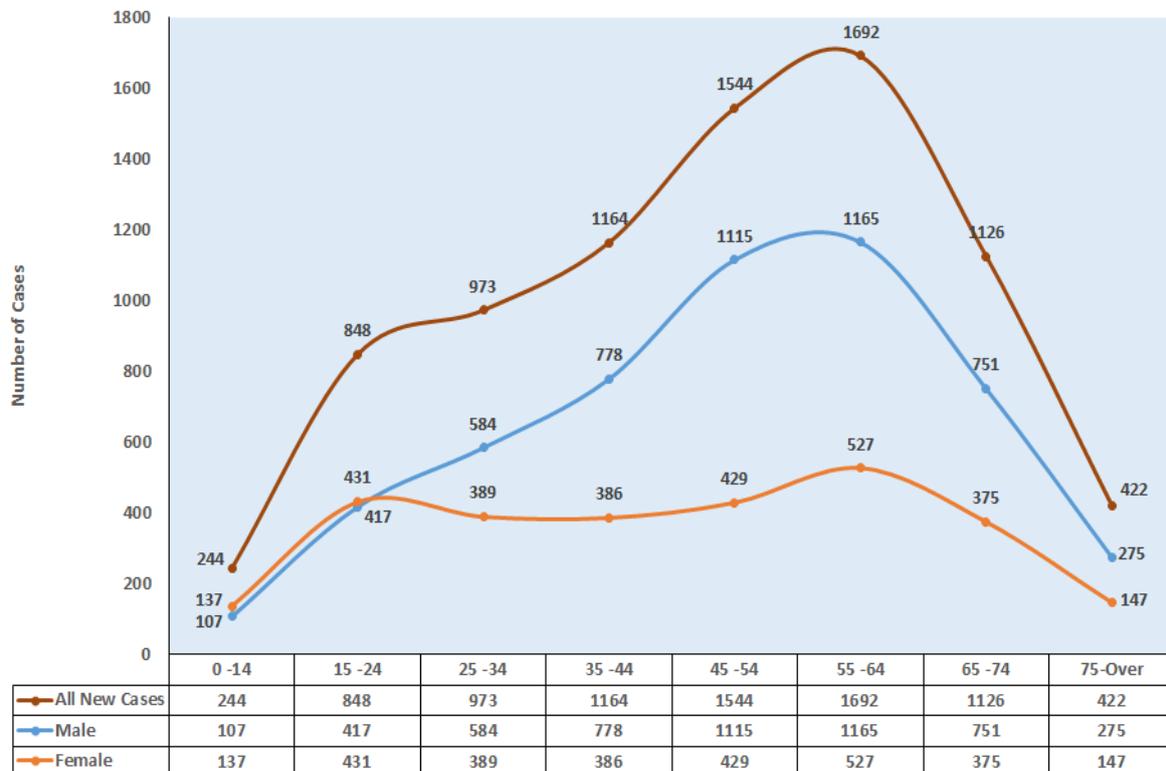


Figure 10: Distribution of All New Cases of TB by Age Group in 2017

Re-Treatment TB Cases

In 2017, 484 (5.7%) re-treatment cases were reported. This consisted of 301 relapses, 69 treatment after Failure, 100 treatment after lost to follow up and 14 other previously treated cases (Table 9)

The highest number of re-treatment cases 149 (30.8%) was reported from Colombo district and the second highest number was from Gampaha district 69 (14.2%). The total number of retreatment cases in 2017 was less than in 2016 (550).

Treatment after Failure cases were reported in higher numbers in Colombo and Gampaha districts.

Colombo (46, 30.8 %) and Gampaha (15, 21.7 %) were the districts which reported higher numbers of treatment after lost to follow up cases. Colombo (83, 55.7%) district reported the highest number of relapse cases contributing a significant number of cases for the national figure (Figure 11).

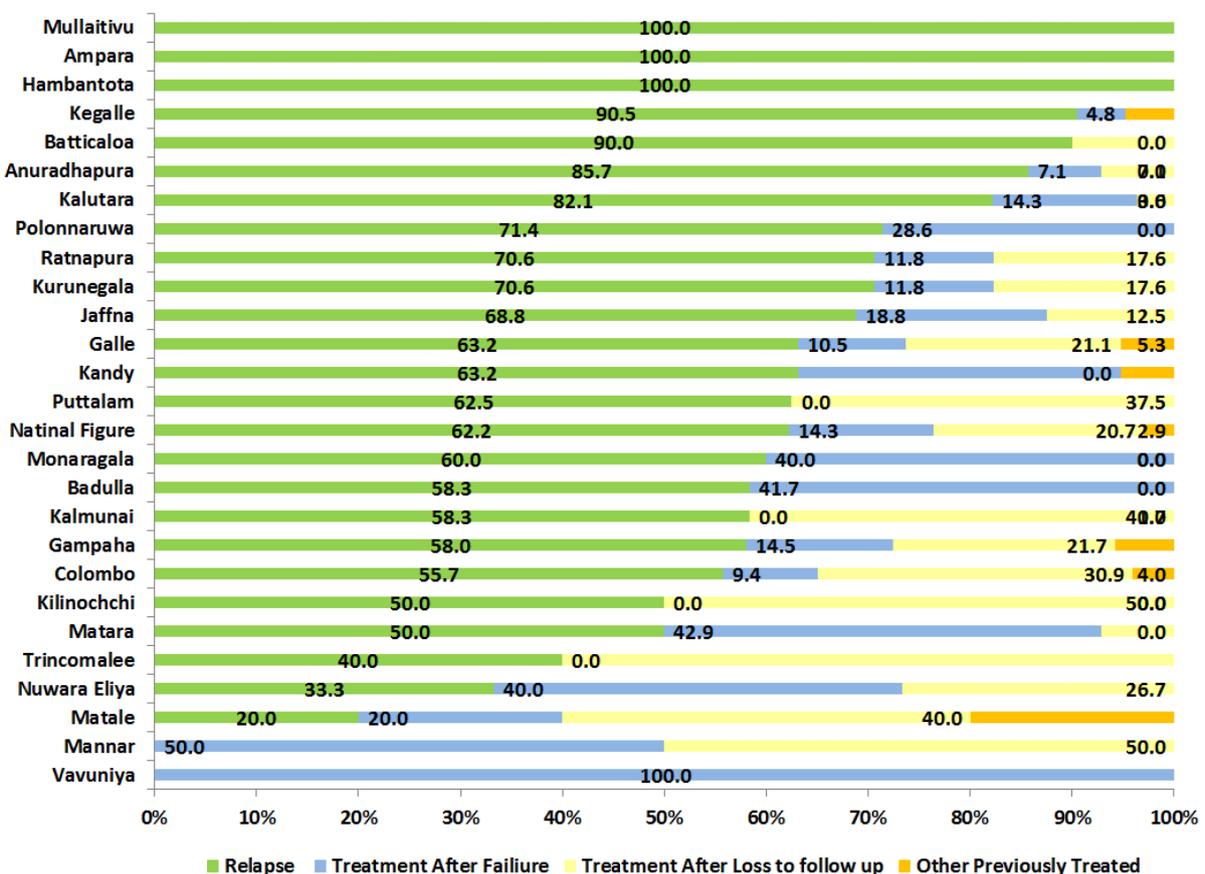


Figure 11: Proportion of Re-Treatment Categories by District in 2017

Table 3: Multi Drug Resistant Tuberculosis (MDR-TB)

	2010	2011	2012	2013	2014	2015	2016	2017
Number of laboratory confirmed MDRTB patients	8	12	5	4	13	13	17	25
Number enrolled in treatment in the same year	4	5	4	4	11	13	17	24
Number enrolled in treatment in the next year	1	4	1	-	-		-	-
Total number enrolled in treatment	5 (63%)	9 (75%)	5 (100%)	4 (100%)	11 (85%)	13 (100%)	17 (100%)	24 (96%)

Multidrug Resistant TB

The incidence of MDR-TB is low in Sri Lanka when compared to other countries in the SEARO region. Twenty five cases of MDR-TB were reported in year 2017 and 24 of them were enrolled in treatment. Sri Lanka uses standardized treatment regimen and the period of treatment for MDR TB is at least 20 months.

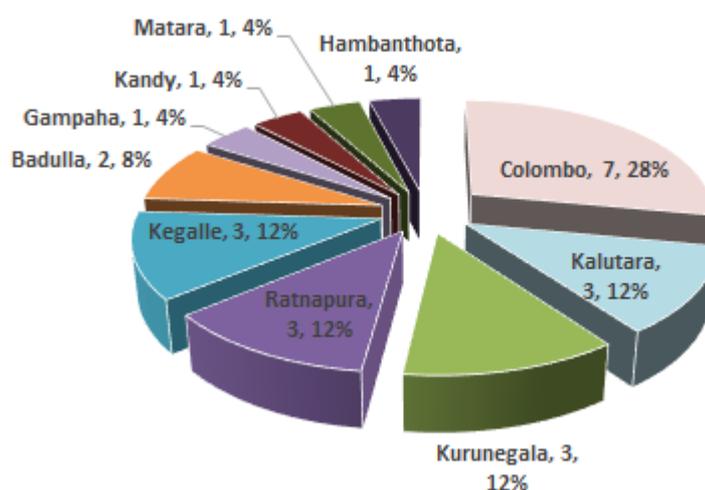


Figure 12: District distribution of Multi Drug Resistant Tuberculosis by District in 2017

TB/HIV Co-Infection

HIV testing of all TB patients was made mandatory since 2013. In 2017, 7986 (93.8%) TB patients were screened for HIV. Of these patients, 12 patients were found HIV positive. In addition, there were 13 patients with known HIV - status diagnosed with TB contributing to the total of 25 patients with HIV/ TB co-infection in 2017.

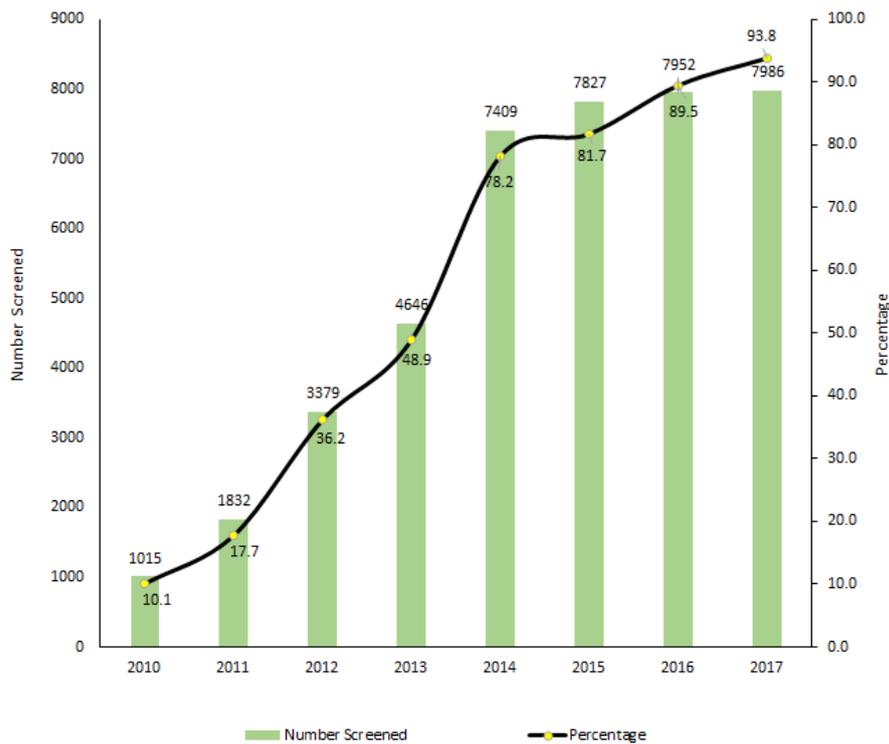


Figure 13: Percentages and Numbers of TB/HIV screening 2010-2017

TB among Health Care Workers

In 2017, 78 health care workers had been diagnosed with TB. The majority of them (13, 16.7%) were reported from Kandy District. Next higher number was reported from Galle (12) District.

TB among Foreign Nationals

In 2017, 8 foreign nationals with TB were reported to NPTCCD from Kandy (4), Colombo (2), and Mannar (2) districts.

Treatment Outcome

Outcome data presented below are based on the information provided according to the previous classification for cohort of patients registered in 2016

Treatment Outcome of All Forms TB Cases

Total number of cases registered for treatment in 2016 was 8886. Out of this, outcome of 311 (3.5%) patients was not evaluated. Outcome of rest of the patients is presented in this report (Table 18).

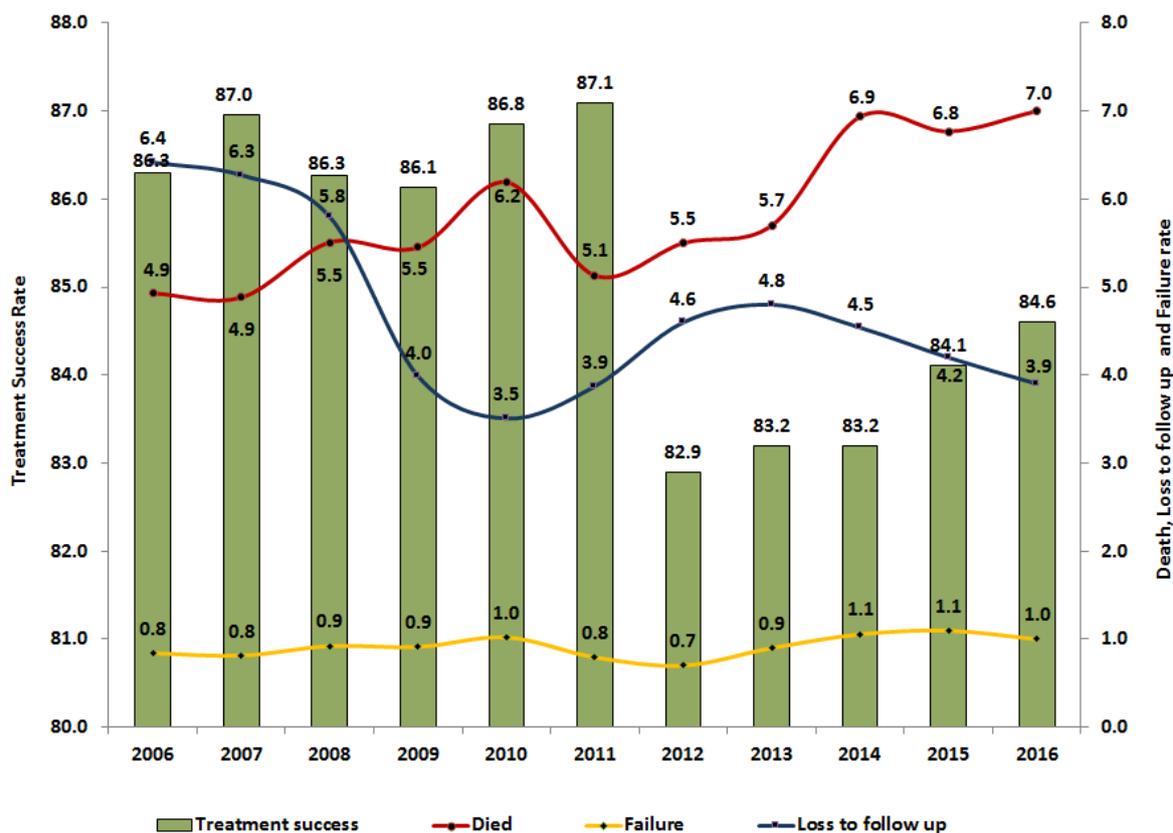


Figure 14: Treatment Outcome of All Forms of TB Cases from 2006-2016

➤ Treatment Success Rate (TSR)

The cure rate among registered cases was 40.9% (3637 cases) and a further 43.7% (3881 cases) completed treatment, accounting for an overall treatment success rate of 84.6% (7518 cases).

TSR in 2016 had increased when compared to TSR in 2015 which was 84.1% (8052 cases) (Figure 14). There were 11 districts with treatment success rate below the global target of 85% as well as National figure of TSR. These districts were Kalutara (84.9%), Vauniya (76.4%), Kandy (83.9%), Gampaha (83.7%), Matale (84.5%), Rathnapura (84.5%), Mannar (78.9%), Kurunagala (82.8%), Colombo (80.8%), Nuwara- Eliya (80.8%) and Baticoloa (82.3%). Anuradhapura (60.4%) district shows highest cure rate and the Kalmunai district showed lowest cure rate (21.4%) and Kalmunai (65.8%) district showed the highest treatment completion rate (65.8%) compared to the other districts (Figure 15).

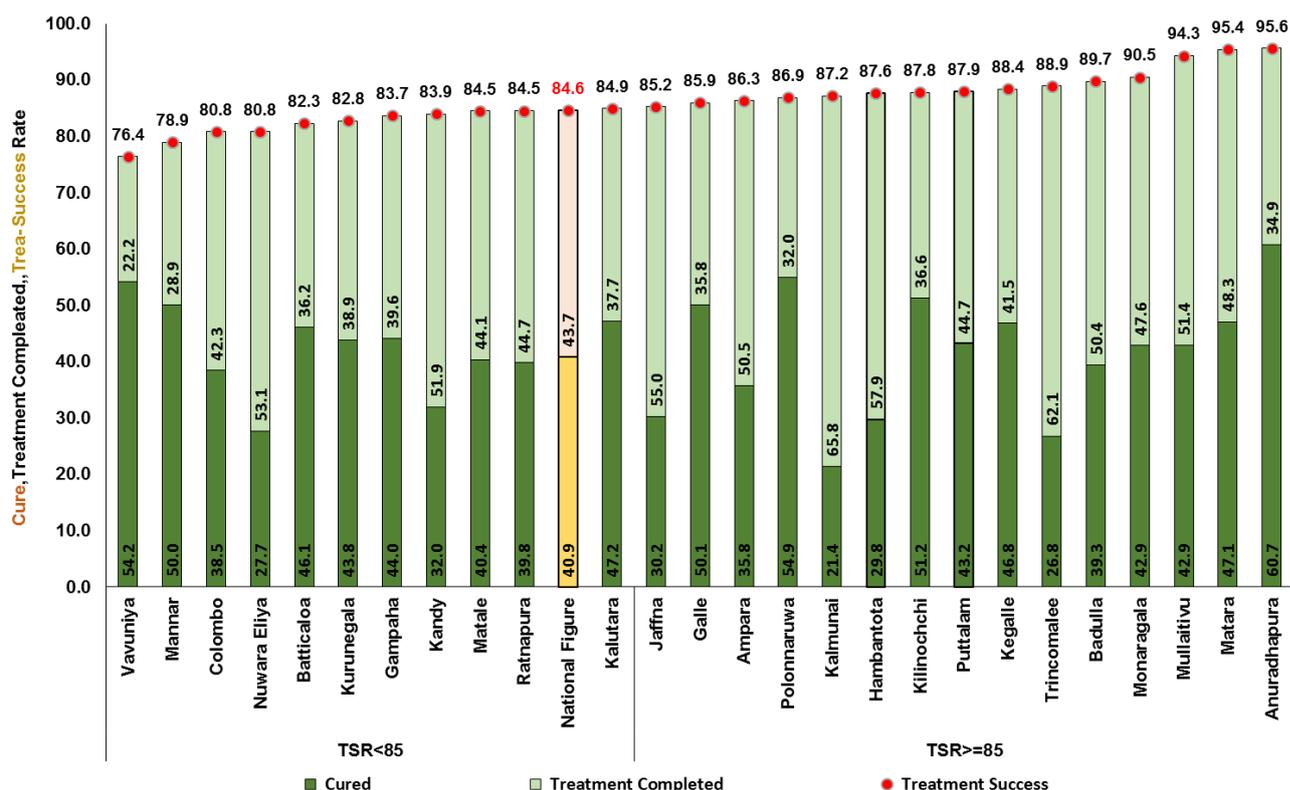


Figure 15: Treatment Success Rate of All Forms of TB According To Districts in 2016

➤ Treatment Failure Rate

The treatment failure rate was 1% in 2016. An increase in treatment failure rate was observed when compared to 2012 and 2013 in contrast to the slightly decreasing trend observed since 2010 to 2012. Year 2016 showed a slight decrease in treatment failure rate compared to year 2015. Mannar district accounted for the highest failure rate 2 (5.3%). Badulla 7 (3.0%), Monaragala 3 (2.9%) and Vavuniya 2 (2.8%) also accounted for the high failure rates (Table 18).

➤ Lost to Follow Up Rate

In 2016 the Lost to Follow Up rate was 3.9%, slightly less (4.2%) when compared to the year 2015. The highest Lost to Follow Up rate was reported in Colombo 163 (7.6%). Kalmunai 10 (5.3%), Mannar 2 (5.3%) and Rathnapura 24 (4.7%) also accounted for high Lost to Follow Up rates (Table 18).

➤ Death Rate

There were 620 (7%) deaths among the cohort of TB patients registered in year 2016. The highest number of deaths (143, 6.6%) were reported from Colombo district. More than 40 deaths were reported in Kurunegala (43, 10.0%), Kandy (42, 7.4%) and Gampaha (90, 8.3%) districts. Though the number of deaths were low, the highest death rate was reported from Vavuniya District (9, 12.5%). Five districts showed the death rate above the estimate of 5% (Table 18).

Treatment Outcome of New PTB Cases

➤ Treatment Success Rate

In 2016, 5807 new PTB cases were registered for treatment. Of these cases 2.5% (146) were in the category of “Outcome not been evaluated”.

The cure rate among registered cases was 57.7% (3351) and 26.8% (1554) completed treatment, giving an overall treatment success rate of 84.5% (4905). The lowest treatment success rate was shown in Vavuniya 76% (38) district. Rathnapura, Matale, Jaffna, Ampara, Kurunagala, Gampaha, Mannar, Batticaloa, Kandy, Colombo and Nuwara-Eliya districts were below the global target 85% of TSR (Table 20).

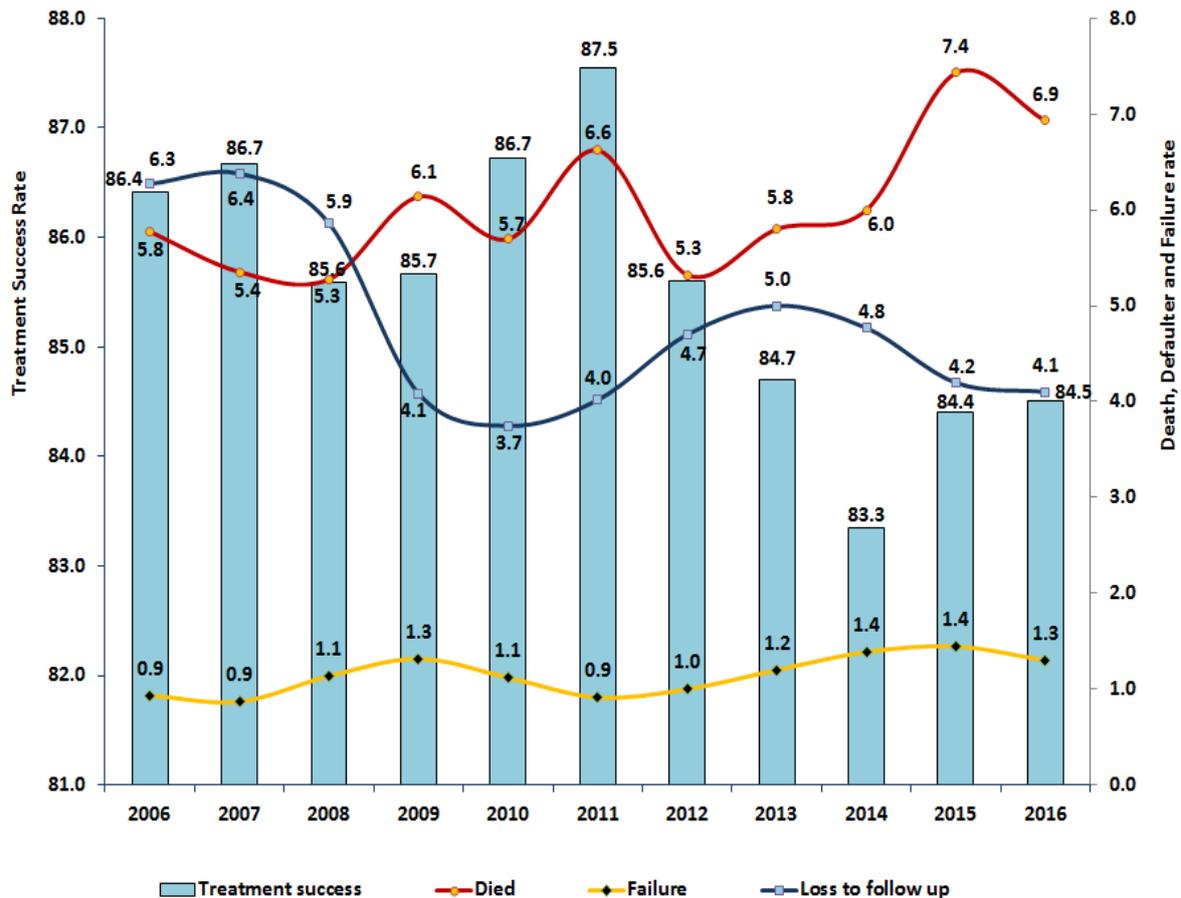


Figure 16: Treatment Outcome of New Pulmonary TB Cases from 2006-2016

➤ Treatment Failure Rate

Treatment failure rate among all new PTB cases was 1.3% (75). A gradual increasing trend of treatment failure rate have been observed since 2011 to 2015. This value is slightly less compared to year 2015. The highest rate 6.5% (2) of all new PTB cases was reported from Mannar District (Table 20).

➤ **Lost to Follow Up Rate**

The Lost to Follow Up rate was 4.1 % (238) among all new cases. The highest Lost to Follow Up rate was reported in Colombo 8.5% (118). Mannar 6.5% (2) also accounted for high Lost to Follow Up rate which are above the global target of 5% (Table 20).

➤ **Death Rate**

The death rate was 7.6% (443) among all new PTB cases and the highest death rate, 14.5% (10) was in Ampara District. Vavuniya (6, 12%), Nuwara-Eliya (20, 11.7%) and Jaffna (22, 11.5%) districts also showed higher death rates (Table 20).

Treatment Outcome of New Bacteriology confirmed PTB cases

➤ **Treatment Success Rate**

In 2016, 4135 new smear positive cases were registered for treatment. The cure rate among registered cases was 3349 (81.0%) and a further 190 (4.6%) completed treatment (no laboratory confirmation of cure), giving an overall treatment success rate of 85.6% (3539). This was an increase in comparison to 2015 where the treatment success rate was 85.3%. The failure rate remained low at 1.5% with 7 Districts not having any single case of treatment failure. The Loss to follow up rate was 4.5 % with only 5 Districts having lost to follow up rates above 5% (WHO target < 5%) and with 9 Districts were not having any single case of lost to follow up. (Figure 16).

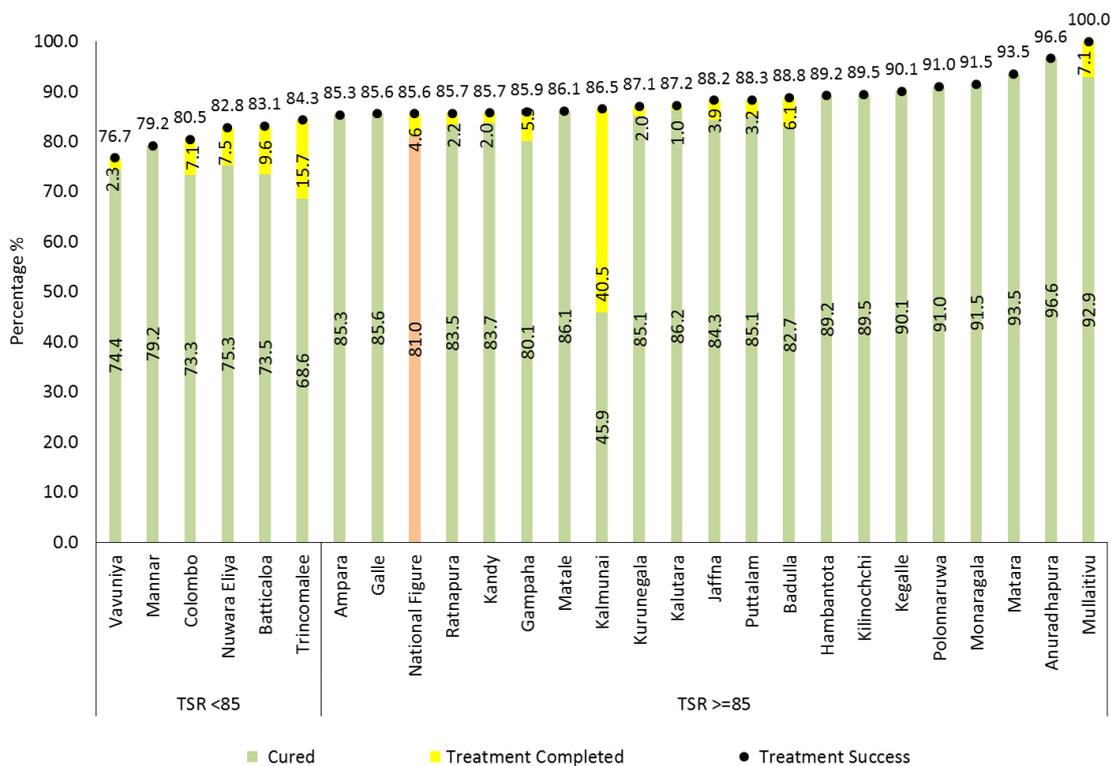


Figure 18: Treatment Success Rates of New Bacteriologically confirmed PTB Cases by Districts in 2016

➤ **Treatment Failure Rate**

The failure rate among new Bacteriology Confirmed patients was 1.5 %. Seven districts had not reported any treatment failures in 2016. The highest failure rate was 8.3% (2) which was reported from Mannar district (Table 21). The failure rate among new Bacteriology Confirmed patients was (1.5%, 64) in 2016.

➤ **Lost to Follow Up Rate**

The Lost to Follow Up rate among new Bacteriology Confirmed patients was 4.5 %.The Lost to Follow Up rate among new Bacteriology Confirmed patients was 4.6% (202) in 2015. The highest Lost to Follow Up rate was reported in 9.2% (94) Colombo district. Higher Lost to Follow Up rates were reported from Mannar 8.3% (2), Trincomalee 5.9% (3), Kalmunai 5.4% (4) and Kilinochchi 5.3% (1) while six districts reported zero lost to follow up rates (Table 21).

➤ **Death Rate**

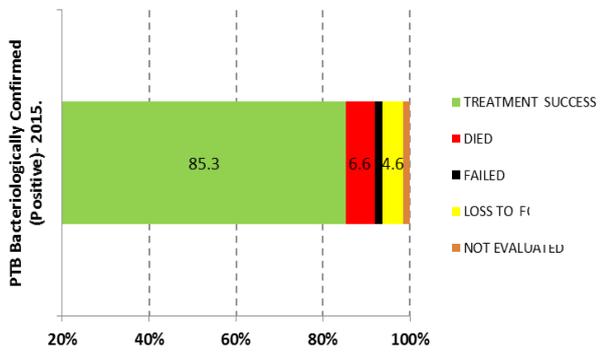
The death rate 6.8% (282) in 2016 was higher when compared to 2015 which was 6.6% (287). The highest death rate was reported from Ampara District 14.7% (5). Vauniya 11.6% (5), Hambanthota 10.8% (4), Batticaloa 9.6% (8) and Rathnapura 8.7% (20) also accounted for higher death rates (Table 21).

Treatment Outcome of previously treated Patients

In 2016, of the 550 registered retreatment cases, only 285 (51.8%) cases were cured while other 114 (20.7%) cases had completed treatment giving a treatment success rate of 72.5% (399 cases). The low treatment success rate in this group was mainly due to the high lost to follow up rate (9.5%, 52) and high death rate (8.5%, 47 deaths). In addition, there were 7 (1.3%) treatment failures among retreatment cases in 2016. Another 45 (8.2%) were not evaluated (Table 24).

Treatment Outcome of Sputum Negative and Culture Positive Cases

In 2016, 140 new sputum negative culture positive cases were registered for treatment. The cure rate among registered cases was 108 (77.1%) cured and a further 21 (15%) completed treatment (no laboratory confirmation of cure), giving an overall treatment success rate of 92.1% (129 cases).



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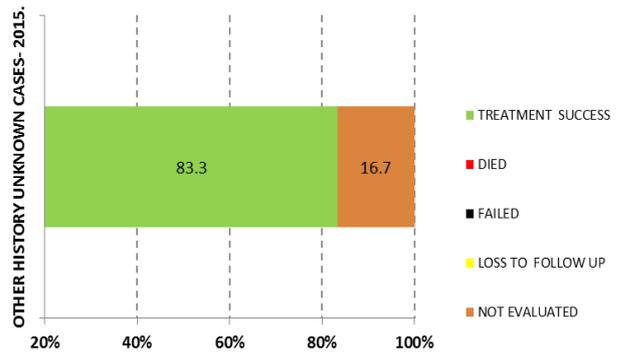
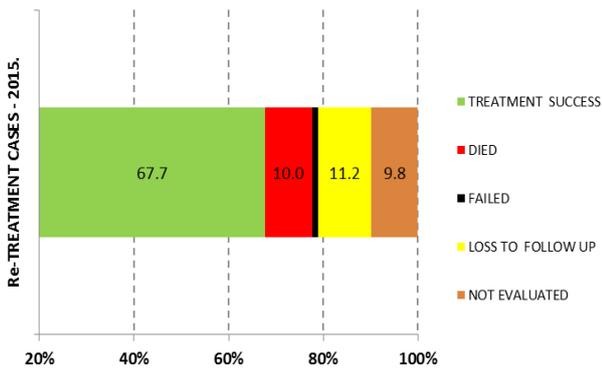
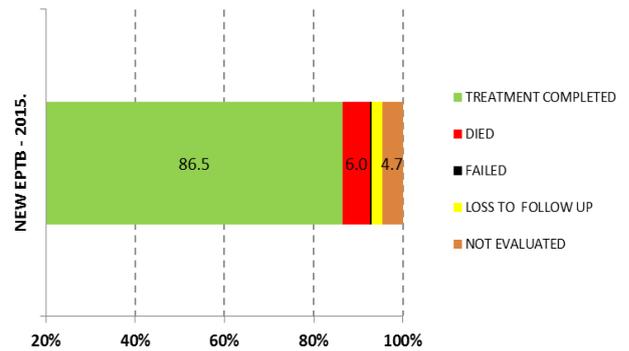
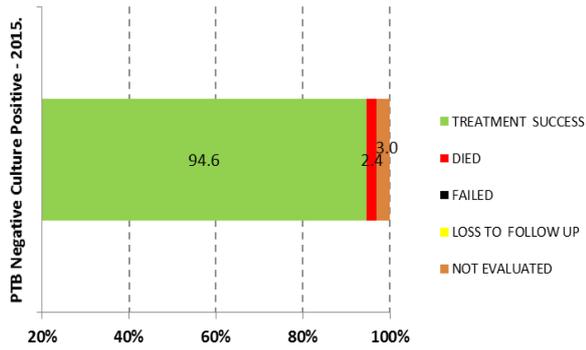
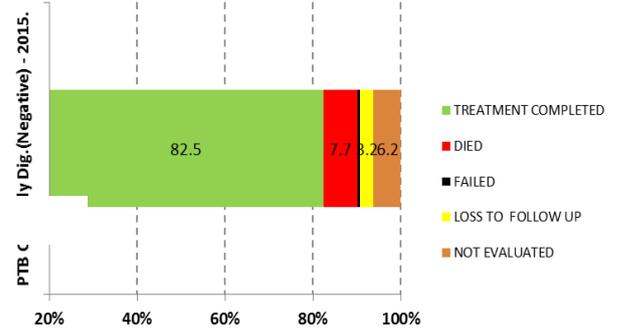


Figure 19: Treatment Outcome Summary of TB Patients (New Smear Positive, New Smear Negative New EPTB, Re-Treatment and Other history unknown cases in 2015)

DOTS Coverage

Population coverage of DOTS in the country is 100% since 2010.

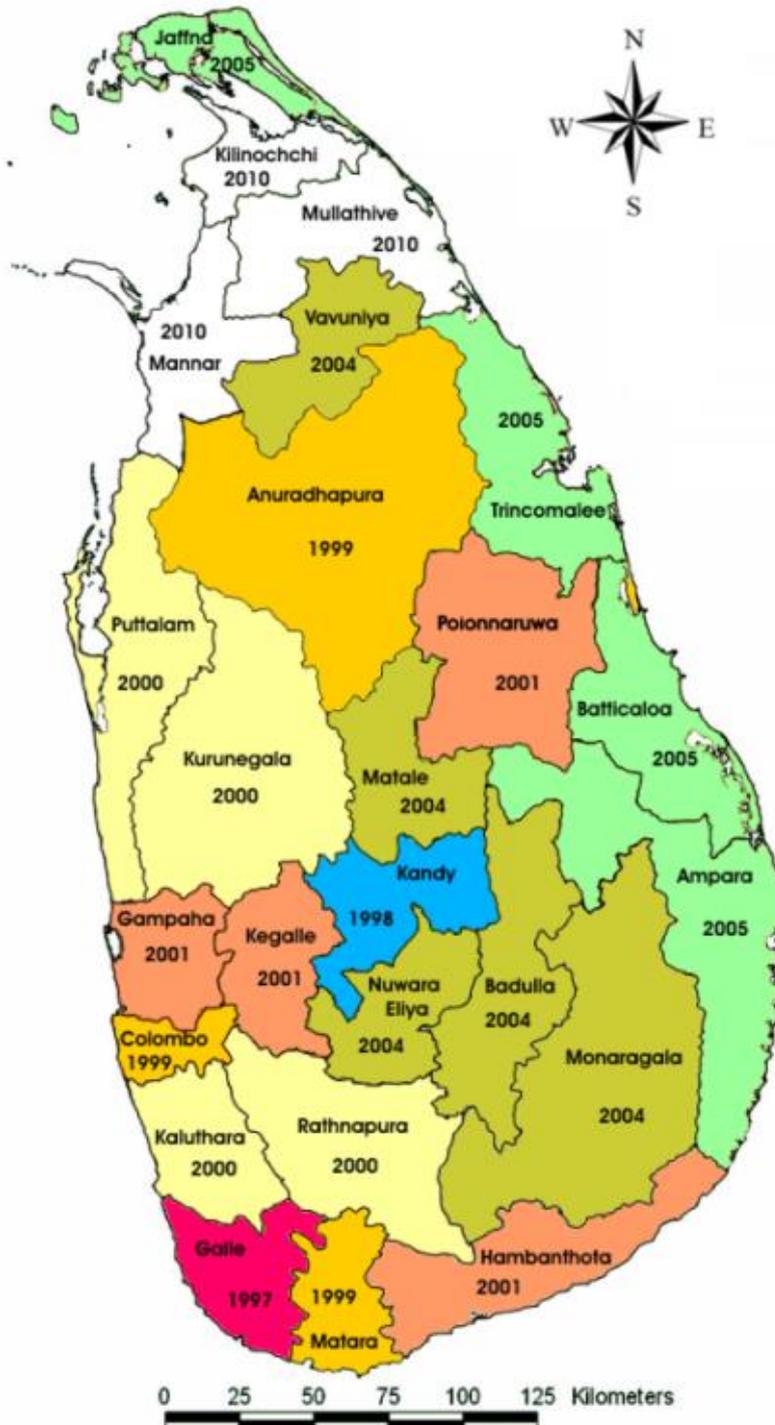


Figure 20: DOTS Coverage from 1997-2015 with Map of Year Achieved

PART II
Activity Report

Several important activities were carried out in 2017 in view of improving the quality of services provided by the NPTCCD

Tuberculosis

- NPTCCD published and distributed the National Manual for Tuberculosis Control, which included revised TB definitions and new advances in TB diagnostics.
- Completion of Mid Term Review of NPTCCD.
- Completion of Epidemiological review and impact assessment, supported by WHO and the Global funds to fight AIDS, TB and Malaria (GFATM).
- Conduction of Drug Resistant survey.
- Completion of survey on knowledge, attitude and practices of Tuberculosis among General population of Sri Lanka
- NPTCCD developed a Gender Assessment Tool as a requirement of the National Strategic Plan for controlling and preventing Tuberculosis and other respiratory diseases.
- Microscopy centres were constructed at DH Kiribathgoda, DH Minuwangoda, DH Meerigama, DH Koslanda, DH Uvaparanagama and DH Thanamalvila.



- Sputum collection booths were constructed at DCC gampaha, walikada, Magazine and Remand prison.
- The NPTCCD has taken further steps to strengthen case detection by carrying out active screening among high risk groups for TB such as prison inmates, drug addicts, estate population.
- Diagnostic services for TB was further strengthened. Eight MTB/ RIF Xpert machines were purchased and distributed. Laboratory equipment including analytical balances, LED and light microscopes were procured and distributed.
- Completion of Technical Assistance in situational analysis, External Quality Assessment (EQA) strengthening, referral strengthening and rationalization of Microscopy Center workload.
- Uninterrupted supply of quality assured anti TB drugs were ensured through procurement of Fixed Dose combination of Anti TB drugs from Global Drug Facility. The Second Line Drugs were procured through the GDF/GLC mechanism.
- NPTCCD conducted training programmes for DTCOs medical officers, nurses and other health workers utilizing both government and donor funds.

- Conduction of “SAARC Regional Training on Diagnosis and Treatment of Paediatric TB” on the 7th-15th of August 2017.



- The key staff of the NPTCCD attended several International meetings and conferences. Several Medical Officers and other staff participated in international training programs and workshops.
- Monitoring and evaluation of the TB control activities were further strengthened.
- Quarterly DTCO reviews were conducted regularly by the central level to monitor and evaluate district chest clinic activities.
- Provincial/districts reviews were conducted annually with a large participation of the officers of *Government and Private health sector, NGOs, other government organizations* in order to strengthen the collaboration between different stake holders functioning at district level
- Regular supervisory visits were conducted by the team from central unit of NPTCCD and NTRL, to monitor the progress of TB control activities and to identify the issues and constraints for provision of diagnostic, curative and preventive care. In addition, Chief pharmacist of the central drug stores carried out regular visits to chest clinic drug stores and provide guidance for drug and stores management.
- Exhibitions



➤ Art competitions



- World TB day was commemorated on 24th March 2017 in Kaluthara under the theme of “4000 undetected, Reach, Treat, and Cure for all” with the participation of large number of different stakeholders.



Respiratory Diseases

- A media seminar was conducted to commemorate World TB and Asthma day.
- World Asthma Day was celebrated in 25th May 2017 with collaboration of College of Pulmonologists of Sri Lanka targeting school children.

Major Challenges

The followings factors were identified as major challenges:

1. Maintaining trained health man power for TB control activities and addressing the misdistribution of human resources at central and peripheral level.
2. Reaching the unreached population groups such as those with limited access to services i.e. urban poor, estate workers, drug addicts.
3. Provision of TB care services for migrants and resettling population.
4. Strengthening early detection of TB cases and further improvement in treatment sustainability.
5. Maintain low incidence of Muti-drug resistant TB cases.
6. Overcoming the TB-related stigma
7. Reduction of TB deaths
8. Provision of social benefits and nutritional support for TB patients and their families
9. Maintaining financial sustainability of the National Programme for Tuberculosis Control and Chest Diseases.
10. Addressing the social determinants of health

Major challenges in respiratory disease control

1. Establishment of a surveillance system for respiratory diseases
2. Strengthening coordination between all stakeholders involved in respiratory disease care and control



PART III
Administration Report

OPD Attendance and Ward Admissions

District Chest Clinics provide ambulatory care for patients with TB and respiratory diseases. During the year 2017, 222,625 new patients were registered at District Chest Clinics. Out of these patients, (96,535 ,43.4 %) were self-referrals. Others included referrals from general health institutions or private practitioners (47,241,21.2%), contacts of TB patients (13,853, 6.2%) and persons came for medical examinations (64996, 29.2%).

In addition to National Hospital for Respiratory Diseases, there are several chest wards situated in different types of hospitals in the country which provide inward care for TB & non TB respiratory patients. NPTCCD received returns from 11 chest wards in the country.

Laboratory Services

➤ Sputum Smear Microscopy

Sputum smear examinations are done for diagnosis of TB and for monitoring of treatment. The patients having symptoms suggestive for TB, attending to the healthcare facilities are screened for TB by sputum examinations. During the period of treatment all pulmonary TB patients are monitored with sputum examinations at regular and specified intervals.

➤ Sputum Culture for AFB

TB culture and DST facilities are available only at the National Reference Laboratory at Welisara. Regional Laboratory, Kandy and Ratnapura provide culture facilities only. Sputum cultures are being done for smear-negative PTB cases, all re-treatment cases before initiation of anti TB treatment and on presumptive MDR TB cases.

➤ Testing By WHO recommended Rapid Diagnostics (Gene X pert)

WHO recommended diagnostic facilities (Gene X pert) are available in Sri Lanka since 2014 in a limited scale and these facilities were expanded to Ratnapura and Kandy Culture laboratories in last quarter of 2017.

Year	Laboratory	Number of Gene X pert tests performed	Number of specimens with +ve results
2017	NTRL	8423	3132
	All Districts	11,350	3488

Table 5: Testing By WHO recommended Rapid Diagnostics in 2017

External Quality Assurance of Sputum Microscopy

Quality assurance of sputum smear microscopy is an important component of the National TB Programme. Slides are being sent from all laboratories of District Chest Clinics & NHRD Welisara to the NTRL for EQA. Sputum smears done in microscopy centers of general health institutions are being sent to laboratories at District Chest Clinics for EQA. In addition, samples from 4 private hospitals are received for EQA.

X-Ray Facilities

X-ray facilities are available only in some chest clinics namely: Colombo, Kurunegala, Kandy, Badulla. Kalutara, Ratnapura, Galle and Matara. The other clinics obtain this facility from the nearest hospital. Microfilms (70 mm) and standard size films are used in these clinics.

The number of X-ray films of the three types consumed in 2015 at the Chest Clinics were as follows.

- Number of Micro Films : 14,356
- Number of Large Films : 90,856
- Total : 1,05,212
- Digital Films : 22,996

BCG Vaccination

The BCG vaccination is an essential component of Expanded Programme of Immunization in Sri Lanka. Accordingly, all newborns are being vaccinated within 24 hours of delivery. BCG vaccination will protect the child from two deadly forms of Tuberculosis in children, i.e.; TB Meningitis and Millitary TB. (Disseminated TB).In 2015, 99% of the all the new born babies has been vaccinated with BCG.

Chest clinics provide services whenever revaccination is necessary, in situations such as absence of BCG scar in children below 5 years of age. There were 1674 revaccinations carried out in chest clinics.

Detailed Tables

Table 8: Annual Mortality of All TB Cases from 2006-2017

Year	Mortality	
	Number	Rate per 100,000 population
2006	347	1.7
2007	205	1.0
2008	355	1.7
2009	275	1.3
2010	395	1.9
2011	358	1.8
2012	203	1.0
2013	314	1.5
2014	309	1.5
2015	329	1.6
2016	253	1.2
2017	204	1.0

Table 9: Distribution Rates of all TB cases by District of Residence in 2017

District	Estimated Mid-Year Population	No. of Cases Detected	No. of Cases Per 100,000 Population
Colombo	2,396,838	2051	85.6
Gampaha	2,389,096	1066	44.6
Kalutara	1,274,210	568	44.6
Kandy	1,439,491	484	33.6
Matale	512,055	152	29.7
Nuwara Eliya	747,744	291	38.9
Galle	1,106,841	380	34.3
Matara	848,292	225	26.5
Hambantota	644,304	123	19.1
Jaffna	605,142	274	45.3
Vavuniya	183,057	51	27.9
Batticaloa	550,673	145	26.3
Ampara	265,618	100	37.6
Kalmunai	426,545	201	47.1
Trincomalee	406,287	137	33.7
Kurunegala	1,687,369	424	25.1
Puttalam	804,988	195	24.2
Anuradhapura	914,939	260	28.4
Polonnaruwa	428,276	115	26.9
Badulla	856,393	205	23.9
Moneragala	483,961	104	21.5
Ratnapura	1,145,506	507	44.3
Kegalle	872,979	344	39.4
Mannar	106,054	36	33.9
Mullaitivu	95,434	27	28.3
Kilinochchi	122,635	46	37.5
Total	21,314,726	8511	39.9

Table 10: All TB Case Detection by District of Registration in 2017

District+A4 :AC28NA4: AD30	New Cases				Retreatment Cases																				Grand Total				
					Relapse				Treatment After Failure				Lost to Follow up				Other Previously Treated				Total Retreatment Cases					Treatment History unknown			
	PTB Bacteriologically Confirmed (Positive)	PTB Clinically Dig.(Negative)	EPTB	Total	PTB Bacteriologically Confirmed (Positive)	PTB Clinically Dig.(Negative)	EPTB	Total	PTB Bacteriologically Confirmed (Positive)	PTB Clinically Dig.(Negative)	EPTB	Total	PTB Bacteriologically Confirmed (Positive)	PTB Clinically Dig.(Negative)	EPTB	Total	PTB Bacteriologically Confirmed (Positive)	PTB Clinically Dig.(Negative)	EPTB	Total	PTB Bacteriologically Confirmed (Positive)	PTB Clinically Dig.(Negative)	EPTB	Total		PTB Bacteriologically Confirmed (Positive)	PTB Clinically Dig.(Negative)	EPTB	Total
Colombo	975	404	511	1890	67	3	13	83	13	1	0	14	40	6	0	46	4	1	1	6	124	11	14	149	7	2	3	12	2051
Gampaha	534	279	183	996	23	12	5	40	8	1	1	10	12	3	0	15	2	1	1	4	45	17	7	69	0	0	1	1	1066
Kalutara	270	97	173	540	18	3	2	23	4	0	0	4	1	0	0	1	0	0	0	0	23	3	2	28	0	0	0	0	568
Kandy	205	119	141	465	7	1	4	12	4	0	2	6	0	0	0	0	0	0	1	1	11	1	7	19	0	0	0	0	484
Matale	69	29	49	147	1	0	0	1	1	0	0	1	1	0	1	2	0	0	1	1	3	0	2	5	0	0	0	0	152
Nuwara Eliya	97	67	112	276	0	3	2	5	4	0	2	6	2	0	2	4	0	0	0	0	6	3	6	15	0	0	0	0	291
Galle	205	54	102	361	11	1	0	12	2	0	0	2	3	1	0	4	1	0	0	1	17	2	0	19	0	0	0	0	380
Matara	109	30	72	211	7	0	0	7	6	0	0	6	1	0	0	1	0	0	0	0	14	0	0	14	0	0	0	0	225
Hambantota	49	26	44	119	3	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	4	0	0	0	0	123
Jaffna	85	107	66	258	5	4	2	11	3	0	0	3	0	1	1	2	0	0	0	0	8	5	3	16	0	0	0	0	274
Vavuniya	30	7	13	50	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	51
Batticaloa	80	19	36	135	8	1	0	9	0	0	0	0	1	0	0	1	0	0	0	0	9	1	0	10	0	0	0	0	145
Ampara	34	42	19	95	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	100
Kalmunai	81	91	17	189	4	2	1	7	0	0	0	0	2	2	1	5	0	0	0	0	6	4	2	12	0	0	0	0	201
Trincomalee	70	21	36	127	2	2	0	4	0	0	0	0	4	1	1	6	0	0	0	0	6	3	1	10	0	0	0	0	137
Kurunegala	211	92	104	407	9	1	2	12	2	0	0	2	3	0	0	3	0	0	0	0	14	1	2	17	0	0	0	0	424
Puttalam	87	50	50	187	4	0	1	5	0	0	0	0	3	0	0	3	0	0	0	0	7	0	1	8	0	0	0	0	195
Anuradhapura	144	35	67	246	10	0	2	12	1	0	0	1	1	0	0	1	0	0	0	0	12	0	2	14	0	0	0	0	260
Polonnaruwa	61	19	28	108	5	0	0	5	2	0	0	2	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	115
Badulla	104	24	65	193	4	2	1	7	5	0	0	5	0	0	0	0	0	0	0	0	9	2	1	12	0	0	0	0	205
Monaragala	55	19	25	99	1	2	0	3	2	0	0	2	0	0	0	0	0	0	0	0	3	2	0	5	0	0	0	0	104
Ratnapura	246	50	194	490	6	1	5	12	0	0	2	2	2	0	1	3	0	0	0	0	8	1	8	17	0	0	0	0	507
Kegalle	159	65	98	322	14	4	1	19	0	1	0	1	0	0	0	0	1	0	0	1	15	5	1	21	0	0	1	1	344
Mannar	24	6	4	34	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	2	0	0	2	0	0	0	0	36
Mullaitivu	15	3	8	26	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	27
Kilinochchi	20	11	11	42	2	0	0	2	0	0	0	0	1	0	1	2	0	0	0	0	3	0	1	4	0	0	0	0	46
Total	4019	1766	2228	8013	217	42	42	301	59	3	7	69	78	14	8	100	8	2	4	14	362	61	61	484	7	2	5	14	8511

Table 11: Distribution of New Cases of TB by Province in 2017

Province	Number of Patients													
	PTB Bacteriologically Confirmed	Rate	PTB Clinically Dig	Rate	EPTB	Rate	All New	Rate	Re-treatment	Rate	Previous Treatment History Unknown	Rate	All TB	Rate
Western	1779	29.4	780	12.9	867	14.3	3426	56.5	246	4.1	13	0.2	3685	60.8
Central	371	13.7	215	8.0	302	11.2	888	32.9	39	1.4	0	0.0	927	34.3
Sabaragamuwa	363	14.0	110	4.2	218	8.4	691	26.6	37	1.4	0	0.0	728	28.0
Sorthern	174	15.6	134	12.0	102	9.2	410	36.9	24	2.2	0	0.0	434	39.0
North Western	265	16.1	173	10.5	108	6.5	546	33.1	37	2.2	0	0.0	583	35.4
Eastern	298	12.0	142	5.7	154	6.2	594	23.8	25	1.0	0	0.0	619	24.8
Northern	205	15.3	54	4.0	95	7.1	354	26.4	21	1.6	0	0.0	375	27.9
North Central	159	11.9	43	3.2	90	6.7	292	21.8	17	1.3	0	0.0	309	23.1
Uva	405	20.1	115	5.7	292	14.5	812	40.2	38	1.9	1	0.0	851	42.2
Total	4019	18.9	1766	8.3	2228	10.5	8013	37.6	484	2.3	14	0.1	8511	39.9

Table 12: Distribution of new cases of TB by Age and Type in 2017

Age Group	Number of Patients							
	Smear Positive	Rate	Smear Negative	Rate	EPTB	Rate	All New	Rate
0 - 14	30	0.5	76	1.3	138	2.4	244	4.3
15 - 24	425	10.7	129	3.3	294	7.4	848	21.4
25 - 34	461	13.2	152	4.4	360	10.3	973	27.9
35 - 44	651	23.6	158	5.7	355	12.9	1164	42.2
45 - 54	842	49.7	298	17.6	404	23.8	1544	91.1
55 - 64	877	79.0	437	39.4	378	34.0	1692	152.4
65 +	733	27.7	516	19.5	299	11.3	1548	58.5
Total	4019	18.9	1766	8.3	2228	10.5	8013	37.6

Table 13: Distribution of New Cases of TB by Age and Sex in 2017

Age Group	Male			Female			All New Cases		
	Estimated Mid-Year Population	No	Rate	Estimated Mid-Year Population	No	Rate	Estimated Mid-Year Population	No	Rate
0 - 14	2,900,934	107	3.7	2,749,600	137	5.0	5,650,534	244	4.3
15 - 24	1,750,405	417	23.8	2,216,731	431	19.4	3,967,136	848	21.4
25 - 34	1,752,070	584	33.3	1,737,150	389	22.4	3,489,221	973	27.9
35 - 44	1,138,206	778	68.4	1,619,919	386	23.8	2,758,125	1164	42.2
45 - 54	863,246	1115	129.2	831,274	429	51.6	1,694,521	1544	91.1
55 - 64	590,418	1165	197.3	520,079	527	101.3	1,110,497	1692	152.4
65 +	1,347,091	1026	76.2	1,297,601	522	40.2	2,644,691	1548	58.5
Total	10,342,371	5192	50.2	10,972,355	2821	25.7	21,314,726	8013	37.6

Table 14: Age and Sex Distribution of All New TB Cases by District in 2017

District	Male										Female										Male	Female	Total
	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-Over	Total	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-Over	Total			
Colombo	10	18	107	115	207	268	256	151	57	1189	20	21	108	83	95	121	142	76	35	701	1189	701	1890
Gampaha	1	6	35	75	92	149	164	114	45	681	4	6	36	36	40	49	74	48	22	315	681	315	996
Kalutara	4	1	22	37	54	72	75	50	18	333	2	5	37	33	26	32	35	25	12	207	333	207	540
Kandy	8	3	40	32	30	53	56	37	9	268	3	10	35	29	20	31	30	31	8	197	268	197	465
Matale	2	4	5	17	16	27	30	9	2	112	0	3	4	4	2	5	6	8	3	35	112	35	147
Nuwara Eliya	3	3	23	23	25	29	36	22	2	166	1	6	18	18	16	19	21	10	1	110	166	110	276
Galle	0	1	17	27	38	57	50	29	13	232	1	1	27	23	17	18	22	10	10	129	232	129	361
Matara	1	0	8	20	23	29	32	17	11	141	0	4	8	11	14	7	13	6	7	70	141	70	211
Hambantota	0	0	6	11	11	18	17	15	10	88	2	1	4	3	4	6	5	6	0	31	88	31	119
Jaffna	3	1	7	18	20	29	32	26	19	155	2	3	11	12	21	10	25	17	2	103	155	103	258
Vavuniya	1	1	2	2	4	7	8	5	1	31	0	0	4	4	2	7	1	1	0	19	31	19	50
Batticaloa	0	1	6	7	15	18	21	11	4	83	2	1	6	9	4	11	7	10	2	52	83	52	135
Ampara	0	0	3	5	10	9	17	16	2	62	0	1	5	1	9	2	7	5	3	33	62	33	95
Kalmunai	2	1	14	6	10	26	32	21	7	119	2	3	5	6	10	15	16	10	3	70	119	70	189
Trincomalee	0	4	3	7	8	17	26	18	4	87	0	1	7	4	7	4	9	5	3	40	87	40	127
Kurunegala	2	1	20	23	37	70	72	48	13	286	1	3	16	15	18	13	21	27	7	121	286	121	407
Puttalam	0	2	7	20	22	31	27	9	8	126	1	3	10	3	7	13	7	16	1	61	126	61	187
Anuradhapura	5	0	8	23	31	36	39	27	7	176	3	2	8	11	11	9	11	11	4	70	176	70	246
Polonnaruwa	0	0	6	16	13	14	17	10	3	79	0	0	1	6	4	2	8	7	1	29	79	29	108
Badulla	2	3	11	22	24	31	19	15	5	132	1	3	13	17	7	5	7	7	1	61	132	61	193
Monaragala	1	0	4	7	16	18	16	13	1	76	0	3	7	3	3	6	0	0	1	23	76	23	99
Ratnapura	4	3	32	44	45	60	59	45	15	307	2	4	35	28	32	24	24	23	11	183	307	183	490
Kegalle	2	3	22	18	21	40	51	24	13	194	1	2	21	24	13	16	28	15	8	128	194	128	322
Mannar	0	0	5	4	4	2	5	6	2	28	0	1	2	1	1	0	1	0	0	6	28	6	34
Mullaitivu	0	0	1	1	1	3	5	4	0	15	0	2	0	4	0	1	3	0	1	11	15	11	26
Kilinochchi	0	0	3	4	1	2	3	9	4	26	0	0	3	1	3	3	4	1	1	16	26	16	42
Total	51	56	417	584	778	1115	1165	751	275	5192	48	89	431	389	386	429	527	375	147	2821	5192	2821	8013

Table 15: Age and Sex Distribution of Smear Positive New TB Cases by District in 2017

District	Male										Female										Male	Female	Total
	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-Over	Total	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-Over	Total			
Colombo	1	1	55	59	137	182	151	79	26	691	0	2	43	33	39	53	68	32	14	284	691	284	975
Gampaha	0	0	17	42	56	96	97	51	26	385	0	0	26	19	21	24	32	18	9	149	385	149	534
Kalutara	1	0	13	12	30	44	43	29	10	182	0	2	20	8	12	10	17	13	6	88	182	88	270
Kandy	0	0	24	12	22	29	24	16	7	134	0	4	19	13	2	9	10	12	2	71	134	71	205
Matale	0	0	3	10	9	13	15	4	1	55	0	0	3	4	1	3	1	0	2	14	55	14	69
Nuwara Eliya	0	1	6	8	10	11	14	7	0	57	0	2	8	12	4	8	3	2	1	40	57	40	97
Galle	0	1	9	15	28	40	34	16	5	148	0	1	17	8	9	4	10	4	4	57	148	57	205
Matara	0	0	4	9	10	25	18	10	5	81	0	2	3	5	8	2	4	3	1	28	81	28	109
Hambantota	0	0	3	3	7	10	7	4	6	40	0	0	1	0	2	2	3	1	0	9	40	9	49
Jaffna	0	0	3	6	8	12	12	4	7	52	0	0	4	2	7	3	13	3	1	33	52	33	85
Vavuniya	0	0	0	1	4	7	5	4	1	22	0	0	2	1	1	3	1	0	0	8	22	8	30
Batticaloa	0	1	0	3	11	11	12	6	3	47	0	1	4	3	3	8	6	7	1	33	47	33	80
Ampara	0	0	2	3	5	4	6	6	1	27	0	0	2	0	2	0	2	1	0	7	27	7	34
Kalmunai	0	0	4	1	3	13	18	8	5	52	1	0	4	3	5	4	8	4	0	29	52	29	81
Trincomalee	0	0	1	4	5	14	13	12	1	50	0	0	4	2	6	1	3	4	0	20	50	20	70
Kurunegala	0	0	12	8	25	38	41	24	8	156	0	1	7	6	7	4	11	18	1	55	156	55	211
Puttalam	0	0	3	13	13	13	17	5	1	65	0	1	4	3	1	2	3	7	1	22	65	22	87
Anuradhapura	0	0	6	14	25	22	23	16	7	113	0	1	3	4	5	6	4	7	1	31	113	31	144
Polonnaruwa	0	0	3	10	9	9	8	6	2	47	0	0	0	2	2	2	3	4	1	14	47	14	61
Badulla	0	0	6	16	14	15	14	8	5	78	0	0	7	8	3	2	3	3	0	26	78	26	104
Monaragala	0	0	2	3	10	12	8	8	0	43	0	2	4	3	0	2	0	0	1	12	43	12	55
Ratnapura	1	0	17	24	29	30	26	26	8	161	0	1	20	13	14	6	13	10	8	85	161	85	246
Kegalle	0	0	8	13	12	23	30	10	9	105	0	0	13	10	7	4	11	5	4	54	105	54	159
Mannar	0	0	3	4	4	1	3	4	1	20	0	1	1	1	1	0	0	0	0	4	20	4	24
Mullaitivu	0	0	0	1	1	3	3	3	0	11	0	1	0	1	0	0	2	0	0	4	11	4	15
Kilinochchi	0	0	1	2	1	1	1	5	1	12	0	0	1	1	1	2	3	0	0	8	12	8	20
Total	3	4	205	296	488	678	643	371	146	2834	1	22	220	165	163	164	234	158	58	1185	2834	1185	4019

Table 16: Age and Sex Distribution of Smear Negative New TB Cases by District in 2017

District	Male										Female										Male	Female	Total
	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-Over	Total	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-Over	Total			
Colombo	6	5	16	19	23	45	56	46	20	236	16	8	19	14	16	25	35	25	10	168	236	168	404
Gampaha	1	1	11	16	19	32	43	48	18	189	1	3	7	5	5	9	28	21	11	90	189	90	279
Kalutara	1	0	4	10	5	12	12	13	3	60	1	0	3	6	4	6	8	5	4	37	60	37	97
Kandy	3	0	8	6	1	14	17	14	2	65	1	2	5	7	5	7	13	9	5	54	65	54	119
Matale	1	2	1	1	1	4	6	4	1	21	0	2	0	0	0	1	2	3	0	8	21	8	29
Nuwara Eliya	0	1	2	6	3	7	11	11	1	42	0	1	2	1	3	5	8	5	0	25	42	25	67
Galle	0	0	4	2	2	8	7	8	5	36	0	0	1	3	1	0	5	5	3	18	36	18	54
Matara	1	0	0	2	2	2	9	3	3	22	0	0	0	0	1	0	1	2	4	8	22	8	30
Hambantota	0	0	1	0	0	1	7	7	3	19	0	0	1	0	0	1	1	4	0	7	19	7	26
Jaffna	1	1	2	6	6	9	14	14	11	64	2	1	6	5	6	5	8	9	1	43	64	43	107
Vavuniya	0	0	0	1	0	0	2	1	0	4	0	0	1	0	0	1	0	1	0	3	4	3	7
Batticaloa	0	0	1	2	1	1	8	1	1	15	0	0	0	2	0	1	0	1	0	4	15	4	19
Ampara	0	0	1	0	1	3	9	10	1	25	0	1	2	1	3	2	3	2	3	17	25	17	42
Kalmunai	0	0	10	2	6	12	13	11	2	56	1	3	0	2	4	10	6	6	3	35	56	35	91
Trincomalee	0	0	0	0	0	0	6	4	1	11	0	0	1	2	0	0	4	1	2	10	11	10	21
Kurunegala	0	0	3	6	4	19	19	13	4	68	0	0	1	3	3	2	7	3	5	24	68	24	92
Puttalam	0	0	0	2	6	8	7	2	5	30	0	0	2	0	3	6	2	7	0	20	30	20	50
Anuradhapura	0	0	1	2	1	7	6	5	0	22	0	0	0	3	2	1	2	3	2	13	22	13	35
Polonnaruwa	0	0	1	2	2	2	6	3	1	17	0	0	0	0	0	0	2	0	0	2	17	2	19
Badulla	0	1	1	1	5	5	2	3	0	18	1	1	1	1	0	0	1	1	0	6	18	6	24
Monaragala	0	0	0	1	2	3	3	4	1	14	0	1	1	0	1	2	0	0	0	5	14	5	19
Ratnapura	1	1	2	0	2	4	13	5	3	31	0	1	2	2	2	4	2	6	0	19	31	19	50
Kegalle	1	1	3	3	6	6	10	6	1	37	0	0	1	4	1	3	8	8	3	28	37	28	65
Mannar	0	0	0	0	0	1	2	1	1	5	0	0	0	0	0	0	1	0	0	1	5	1	6
Mullaitivu	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1	0	0	0	2	1	2	3
Kilinochchi	0	0	1	0	0	0	1	4	2	8	0	0	0	0	0	1	1	1	0	3	8	3	11
Total	16	13	73	90	98	205	289	242	90	1116	23	24	56	62	60	93	148	128	56	650	1116	650	1766

Table 17: Age and Sex Distribution of All New PTB Cases by District in 2017

District	Male										Female										Male	Female	Total
	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-Over	Total	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-Over	Total			
Colombo	7	6	71	78	160	227	207	125	46	927	16	10	62	47	55	78	103	57	24	452	927	452	1379
Gampaha	1	1	28	58	75	128	140	99	44	574	1	3	33	24	26	33	60	39	20	239	574	239	813
Kalutara	2	0	17	22	35	56	55	42	13	242	1	2	23	14	16	16	25	18	10	125	242	125	367
Kandy	3	0	32	18	23	43	41	30	9	199	1	6	24	20	7	16	23	21	7	125	199	125	324
Matale	1	2	4	11	10	17	21	8	2	76	0	2	3	4	1	4	3	3	2	22	76	22	98
Nuwara Eliya	0	2	8	14	13	18	25	18	1	99	0	3	10	13	7	13	11	7	1	65	99	65	164
Galle	0	1	13	17	30	48	41	24	10	184	0	1	18	11	10	4	15	9	7	75	184	75	259
Matara	1	0	4	11	12	27	27	13	8	103	0	2	3	5	9	2	5	5	5	36	103	36	139
Hambantota	0	0	4	3	7	11	14	11	9	59	0	0	2	0	2	3	4	5	0	16	59	16	75
Jaffna	1	1	5	12	14	21	26	18	18	116	2	1	10	7	13	8	21	12	2	76	116	76	192
Vavuniya	0	0	0	2	4	7	7	5	1	26	0	0	3	1	1	4	1	1	0	11	26	11	37
Batticaloa	0	1	1	5	12	12	20	7	4	62	0	1	4	5	3	9	6	8	1	37	62	37	99
Ampara	0	0	3	3	6	7	15	16	2	52	0	1	4	1	5	2	5	3	3	24	52	24	76
Kalmunai	0	0	14	3	9	25	31	19	7	108	2	3	4	5	9	14	14	10	3	64	108	64	172
Trincomalee	0	0	1	4	5	14	19	16	2	61	0	0	5	4	6	1	7	5	2	30	61	30	91
Kurunegala	0	0	15	14	29	57	60	37	12	224	0	1	8	9	10	6	18	21	6	79	224	79	303
Puttalam	0	0	3	15	19	21	24	7	6	95	0	1	6	3	4	8	5	14	1	42	95	42	137
Anuradhapura	0	0	7	16	26	29	29	21	7	135	0	1	3	7	7	7	6	10	3	44	135	44	179
Polonnaruwa	0	0	4	12	11	11	14	9	3	64	0	0	0	2	2	2	5	4	1	16	64	16	80
Badulla	0	1	7	17	19	20	16	11	5	96	1	1	8	9	3	2	4	4	0	32	96	32	128
Monaragala	0	0	2	4	12	15	11	12	1	57	0	3	5	3	1	4	0	0	1	17	57	17	74
Ratnapura	2	1	19	24	31	34	39	31	11	192	0	2	22	15	16	10	15	16	8	104	192	104	296
Kegalle	1	1	11	16	18	29	40	16	10	142	0	0	14	14	8	7	19	13	7	82	142	82	224
Mannar	0	0	3	4	4	2	5	5	2	25	0	1	1	1	1	0	1	0	0	5	25	5	30
Mullaitivu	0	0	0	1	1	3	3	4	0	12	0	1	0	2	0	1	2	0	0	6	12	6	18
Kilinochchi	0	0	2	2	1	1	2	9	3	20	0	0	1	1	1	3	4	1	0	11	20	11	31
Total	19	17	278	386	586	883	932	613	236	3950	24	46	276	227	223	257	382	286	114	1835	3950	1835	5785

Table 18: Age and Sex Distribution of New EPTB Cases by District in 2017

District	Male										Female										Male	Female	Total
	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-Over	Total	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-Over	Total			
Colombo	3	12	36	37	47	41	49	26	11	262	4	11	46	36	40	43	39	19	11	249	262	249	511
Gampaha	0	5	7	17	17	21	24	15	1	107	3	3	3	12	14	16	14	9	2	76	107	76	183
Kalutara	2	1	5	15	19	16	20	8	5	91	1	3	14	19	10	16	10	7	2	82	91	82	173
Kandy	5	3	8	14	7	10	15	7	0	69	2	4	11	9	13	15	7	10	1	72	69	72	141
Matale	1	2	1	6	6	10	9	1	0	36	0	1	1	0	1	1	3	5	1	13	36	13	49
Nuwara Eliya	3	1	15	9	12	11	11	4	1	67	1	3	8	5	9	6	10	3	0	45	67	45	112
Galle	0	0	4	10	8	9	9	5	3	48	1	0	9	12	7	14	7	1	3	54	48	54	102
Matara	0	0	4	9	11	2	5	4	3	38	0	2	5	6	5	5	8	1	2	34	38	34	72
Hambantota	0	0	2	8	4	7	3	4	1	29	2	1	2	3	2	3	1	1	0	15	29	15	44
Jaffna	2	0	2	6	6	8	6	8	1	39	0	2	1	5	8	2	4	5	0	27	39	27	66
Vavuniya	1	1	2	0	0	0	1	0	0	5	0	0	1	3	1	3	0	0	0	8	5	8	13
Batticaloa	0	0	5	2	3	6	1	4	0	21	2	0	2	4	1	2	1	2	1	15	21	15	36
Ampara	0	0	0	2	4	2	2	0	0	10	0	0	1	0	4	0	2	2	0	9	10	9	19
Kalmunai	2	1	0	3	1	1	1	2	0	11	0	0	1	1	1	1	2	0	0	6	11	6	17
Trincomalee	0	4	2	3	3	3	7	2	2	26	0	1	2	0	1	3	2	0	1	10	26	10	36
Kurunegala	2	1	5	9	8	13	12	11	1	62	1	2	8	6	8	7	3	6	1	42	62	42	104
Puttalam	0	2	4	5	3	10	3	2	2	31	1	2	4	0	3	5	2	2	0	19	31	19	50
Anuradhapura	5	0	1	7	5	7	10	6	0	41	3	1	5	4	4	2	5	1	1	26	41	26	67
Polonnaruwa	0	0	2	4	2	3	3	1	0	15	0	0	1	4	2	0	3	3	0	13	15	13	28
Badulla	2	2	4	5	5	11	3	4	0	36	0	2	5	8	4	3	3	3	1	29	36	29	65
Monaragala	1	0	2	3	4	3	5	1	0	19	0	0	2	0	2	2	0	0	0	6	19	6	25
Ratnapura	2	2	13	20	14	26	20	14	4	115	2	2	13	13	16	14	9	7	3	79	115	79	194
Kegalle	1	2	11	2	3	11	11	8	3	52	1	2	7	10	5	9	9	2	1	46	52	46	98
Mannar	0	0	2	0	0	0	0	1	0	3	0	0	1	0	0	0	0	0	0	1	3	1	4
Mullaitivu	0	0	1	0	0	0	2	0	0	3	0	1	0	2	0	0	1	0	1	5	3	5	8
Kilinochchi	0	0	1	2	0	1	1	0	1	6	0	0	2	0	2	0	0	0	1	5	6	5	11
Total	32	39	139	198	192	232	233	138	39	1242	24	43	155	162	163	172	145	89	33	986	1242	986	2228

Table 19: Distribution of Treatment Outcome of All forms of TB by Districts in 2016

District	Total Number Registered	Cured		Treatment Completed		Treatment Success		Died						Failure		Lost to Follow up		Not Evaluated		Total
		No	Rate	No	Rate	No	Rate	Confirmed as not due to TB		All Other Deaths		All Deaths		No	Rate	No	Rate	No	Rate	
								No	Rate	No	Rate	No	Rate							
Colombo	2156	830	38.5	912	42.3	1742	80.8	40	1.9	103	4.8	143	6.6	16	0.7	163	7.6	92	4.3	2156
Gampaha	1083	477	44.0	429	39.6	906	83.7	44	4.1	46	4.2	90	8.3	10	0.9	40	3.7	37	3.4	1083
Kalutara	570	269	47.2	215	37.7	484	84.9	12	2.1	27	4.7	39	6.8	2	0.4	19	3.3	26	4.6	570
Kandy	566	181	32.0	294	51.9	475	83.9	9	1.6	33	5.8	42	7.4	11	1.9	15	2.7	23	4.1	566
Matale	161	65	40.4	71	44.1	136	84.5	6	3.7	7	4.3	13	8.1	1	0.6	3	1.9	8	5.0	161
Nuwara Eliya	271	75	27.7	144	53.1	219	80.8	14	5.2	10	3.7	24	8.9	5	1.8	11	4.1	12	4.4	271
Galle	419	210	50.1	150	35.8	360	85.9	13	3.1	12	2.9	25	6.0	4	1.0	17	4.1	13	3.1	419
Matara	240	113	47.1	116	48.3	229	95.4	1	0.4	2	0.8	3	1.3	6	2.5	1	0.4	1	0.4	240
Hambantota	121	36	29.8	70	57.9	106	87.6	10	8.3	0	0.0	10	8.3	0	0.0	0	0.0	5	4.1	121
Jaffna	291	88	30.2	160	55.0	248	85.2	1	0.3	28	9.6	29	10.0	2	0.7	7	2.4	5	1.7	291
Vavuniya	72	39	54.2	16	22.2	55	76.4	7	9.7	2	2.8	9	12.5	2	2.8	1	1.4	5	6.9	72
Batticaloa	141	65	46.1	51	36.2	116	82.3	6	4.3	9	6.4	15	10.6	1	0.7	3	2.1	6	4.3	141
Ampara	95	34	35.8	48	50.5	82	86.3	0	0.0	11	11.6	11	11.6	0	0.0	0	0.0	2	2.1	95
Kalmunai	187	40	21.4	123	65.8	163	87.2	0	0.0	11	5.9	11	5.9	0	0.0	10	5.3	3	1.6	187
Trincomalee	153	41	26.8	95	62.1	136	88.9	8	5.2	0	0.0	8	5.2	0	0.0	6	3.9	3	2.0	153
Kurunegala	429	188	43.8	167	38.9	355	82.8	8	1.9	35	8.2	43	10.0	4	0.9	14	3.3	13	3.0	429
Puttalam	199	86	43.2	89	44.7	175	87.9	3	1.5	7	3.5	10	5.0	3	1.5	5	2.5	6	3.0	199
Anuradhapura	252	153	60.7	88	34.9	241	95.6	4	1.6	3	1.2	7	2.8	2	0.8	0	0.0	2	0.8	252
Polonnaruwa	122	67	54.9	39	32.0	106	86.9	5	4.1	8	6.6	13	10.7	1	0.8	0	0.0	2	1.6	122
Badulla	234	92	39.3	118	50.4	210	89.7	1	0.4	3	1.3	4	1.7	7	3.0	3	1.3	10	4.3	234
Monaragala	105	45	42.9	50	47.6	95	90.5	2	1.9	0	0.0	2	1.9	3	2.9	0	0.0	5	4.8	105
Ratnapura	510	203	39.8	228	44.7	431	84.5	0	0.0	38	7.5	38	7.5	2	0.4	24	4.7	15	2.9	510
Kegalle	395	185	46.8	164	41.5	349	88.4	6	1.5	19	4.8	25	6.3	4	1.0	3	0.8	14	3.5	395
Mannar	38	19	50.0	11	28.9	30	78.9	0	0.0	3	7.9	3	7.9	2	5.3	2	5.3	1	2.6	38
Mullaitivu	35	15	42.9	18	51.4	33	94.3	0	0.0	0	0.0	0	0.0	0	0.0	1	2.9	1	2.9	35
Kilinochchi	41	21	51.2	15	36.6	36	87.8	3	7.3	0	0.0	3	7.3	0	0.0	1	2.4	1	2.4	41
Total	8886	3637	40.9	3881	43.7	7518	84.6	203	2.3	417	4.7	620	7.0	88	1.0	349	3.9	311	3.5	8886

Table 20: Distribution of Treatment Outcome of All Forms of New (PTB and EPTB) Cases by District in 2016

District	Total Number Registered	Cured		Treatment Completed		Treatment Success		Died						Failure		Lost to Follow up		Not Evaluated		Total
		No	Rate	No	Rate	No	Rate	Confirmed as not due to TB		All Other Deaths		All Deaths		No	Rate	No	Rate	No	Rate	
								No	Rate	No	Rate	No	Rate							
Colombo	1977	751	38.0	875	44.3	1626	82.2	37	1.9	90	4.6	127	6.4	14	0.7	137	6.9	73	3.7	1977
Gampaha	1027	450	43.8	419	40.8	869	84.6	41	4.0	41	4.0	82	8.0	9	0.9	34	3.3	33	3.2	1027
Kalutara	545	256	47.0	211	38.7	467	85.7	10	1.8	26	4.8	36	6.6	0	0.0	17	3.1	25	4.6	545
Kandy	532	164	30.8	282	53.0	446	83.8	9	1.7	30	5.6	39	7.3	11	2.1	13	2.4	23	4.3	532
Matale	156	62	39.7	69	44.2	131	84.0	6	3.8	7	4.5	13	8.3	1	0.6	3	1.9	8	5.1	156
Nuwara Eliya	255	70	27.5	137	53.7	207	81.2	14	5.5	9	3.5	23	9.0	5	2.0	8	3.1	12	4.7	255
Galle	396	196	49.5	147	37.1	343	86.6	13	3.3	11	2.8	24	6.1	4	1.0	14	3.5	11	2.8	396
Matara	225	101	44.9	114	50.7	215	95.6	1	0.4	2	0.9	3	1.3	5	2.2	1	0.4	1	0.4	225
Hambantota	113	33	29.2	69	61.1	102	90.3	8	7.1	0	0.0	8	7.1	0	0.0	0	0.0	3	2.7	113
Jaffna	276	86	31.2	152	55.1	238	86.2	1	0.4	26	9.4	27	9.8	2	0.7	5	1.8	4	1.4	276
Vavuniya	64	32	50.0	15	23.4	47	73.4	7	10.9	2	3.1	9	14.1	2	3.1	1	1.6	5	7.8	64
Batticaloa	135	61	45.2	51	37.8	112	83.0	6	4.4	8	5.9	14	10.4	1	0.7	3	2.2	5	3.7	135
Ampara	89	29	32.6	48	53.9	77	86.5	0	0.0	10	11.2	10	11.2	0	0.0	0	0.0	2	2.2	89
Kalmunai	172	34	19.8	119	69.2	153	89.0	0	0.0	9	5.2	9	5.2	0	0.0	8	4.7	2	1.2	172
Trincomalee	143	35	24.5	94	65.7	129	90.2	8	5.6	0	0.0	8	5.6	0	0.0	4	2.8	2	1.4	143
Kurunegala	404	171	42.3	165	40.8	336	83.2	7	1.7	33	8.2	40	9.9	4	1.0	12	3.0	12	3.0	404
Puttalam	188	80	42.6	87	46.3	167	88.8	3	1.6	6	3.2	9	4.8	3	1.6	4	2.1	5	2.7	188
Anuradhapura	238	142	59.7	86	36.1	228	95.8	4	1.7	2	0.8	6	2.5	2	0.8	0	0.0	2	0.8	238
Polonnaruwa	111	61	55.0	36	32.4	97	87.4	5	4.5	7	6.3	12	10.8	1	0.9	0	0.0	1	0.9	111
Badulla	218	81	37.2	116	53.2	197	90.4	1	0.5	3	1.4	4	1.8	7	3.2	2	0.9	8	3.7	218
Monaragala	99	43	43.4	49	49.5	92	92.9	2	2.0	0	0.0	2	2.0	3	3.0	0	0.0	2	2.0	99
Ratnapura	491	192	39.1	223	45.4	415	84.5	0	0.0	37	7.5	37	7.5	1	0.2	24	4.9	14	2.9	491
Kegalle	374	172	46.0	161	43.0	333	89.0	6	1.6	18	4.8	24	6.4	4	1.1	3	0.8	10	2.7	374
Mannar	38	19	50.0	11	28.9	30	78.9	0	0.0	3	7.9	3	7.9	2	5.3	2	5.3	1	2.6	38
Mullaitivu	32	13	40.6	18	56.3	31	96.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	3.1	32
Kilinochchi	34	17	50.0	13	38.2	30	88.2	3	8.8	0	0.0	3	8.8	0	0.0	1	2.9	0	0.0	34
Total	8332	3351	40.2	3767	45.2	7118	85.4	192	2.3	380	4.6	572	6.9	81	1.0	296	3.6	265	3.2	8332

Table 21: Distribution of Treatment Outcome of All New PTB Cases by District in 2016

District	Total Number Registered	Cured		Treatment Completed		Treatment Success		Died						Failure		Lost to Follow up		Not Evaluated		Total
		No	Rate	No	Rate	No	Rate	Confirmed as not due to TB		All Other Deaths		All Deaths		No	Rate	No	Rate	No	Rate	
								No	Rate	No	Rate	No	Rate							
Colombo	1390	751	54.0	364	26.2	1115	80.2	26	1.9	71	5.1	97	7.0	13	0.9	118	8.5	47	3.4	1390
Gampaha	775	450	58.1	201	25.9	651	84.0	29	3.7	38	4.9	67	8.6	8	1.0	27	3.5	22	2.8	775
Kalutara	373	256	68.6	59	15.8	315	84.5	10	2.7	23	6.2	33	8.8	0	0.0	12	3.2	13	3.5	373
Kandy	341	164	48.1	118	34.6	282	82.7	6	1.8	22	6.5	28	8.2	11	3.2	11	3.2	9	2.6	341
Matale	99	62	62.6	22	22.2	84	84.8	3	3.0	5	5.1	8	8.1	1	1.0	3	3.0	3	3.0	99
Nuwara Eliya	171	70	40.9	66	38.6	136	79.5	12	7.0	8	4.7	20	11.7	4	2.3	6	3.5	5	2.9	171
Galle	283	196	69.3	45	15.9	241	85.2	10	3.5	10	3.5	20	7.1	2	0.7	12	4.2	8	2.8	283
Matara	140	101	72.1	31	22.1	132	94.3	0	0.0	2	1.4	2	1.4	5	3.6	0	0.0	1	0.7	140
Hambantota	66	33	50.0	25	37.9	58	87.9	7	10.6	0	0.0	7	10.6	0	0.0	0	0.0	1	1.5	66
Jaffna	191	86	45.0	75	39.3	161	84.3	1	0.5	21	11.0	22	11.5	2	1.0	3	1.6	3	1.6	191
Vavuniya	50	32	64.0	6	12.0	38	76.0	5	10.0	1	2.0	6	12.0	2	4.0	1	2.0	3	6.0	50
Batticaloa	98	61	62.2	20	20.4	81	82.7	5	5.1	3	3.1	8	8.2	1	1.0	3	3.1	5	5.1	98
Ampara	69	29	42.0	29	42.0	58	84.1	0	0.0	10	14.5	10	14.5	0	0.0	0	0.0	1	1.4	69
Kalmunai	146	34	23.3	96	65.8	130	89.0	0	0.0	8	5.5	8	5.5	0	0.0	7	4.8	1	0.7	146
Trincomalee	106	35	33.0	61	57.5	96	90.6	6	5.7	0	0.0	6	5.7	0	0.0	3	2.8	1	0.9	106
Kurunegala	264	171	64.8	51	19.3	222	84.1	5	1.9	21	8.0	26	9.8	3	1.1	9	3.4	4	1.5	264
Puttalam	122	80	65.6	25	20.5	105	86.1	3	2.5	5	4.1	8	6.6	3	2.5	3	2.5	3	2.5	122
Anuradhapura	171	142	83.0	22	12.9	164	95.9	3	1.8	1	0.6	4	2.3	2	1.2	0	0.0	1	0.6	171
Polonnaruwa	82	61	74.4	11	13.4	72	87.8	4	4.9	5	6.1	9	11.0	1	1.2	0	0.0	0	0.0	82
Badulla	144	81	56.3	48	33.3	129	89.6	0	0.0	2	1.4	2	1.4	7	4.9	1	0.7	5	3.5	144
Monaragala	64	43	67.2	14	21.9	57	89.1	2	3.1	0	0.0	2	3.1	3	4.7	0	0.0	2	3.1	64
Ratnapura	310	192	61.9	71	22.9	263	84.8	0	0.0	28	9.0	28	9.0	1	0.3	13	4.2	5	1.6	310
Kegalle	273	172	63.0	71	26.0	243	89.0	6	2.2	14	5.1	20	7.3	4	1.5	3	1.1	3	1.1	273
Mannar	31	19	61.3	7	22.6	26	83.9	0	0.0	1	3.2	1	3.2	2	6.5	2	6.5	0	0.0	31
Mullaitivu	21	13	61.9	8	38.1	21	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	21
Kilinochchi	27	17	63.0	8	29.6	25	92.6	1	3.7	0	0.0	1	3.7	0	0.0	1	3.7	0	0.0	27
Total	5807	3351	57.7	1554	26.8	4905	84.5	144	2.5	299	5.1	443	7.6	75	1.3	238	4.1	146	2.5	5807

Table 22: Distribution of Treatment Outcome of New Sputum Positive PTB Cases by District in 2016

District	Total Number Registered	Cured		Treatment Completed		Treatment Success		Died						Failure		Lost to Follow up		Not Evaluated		Total
		No	Rate	No	Rate	No	Rate	Confirmed as not due to TB		All Other Deaths		All Deaths		No	Rate	No	Rate	No	Rate	
								No	Rate	No	Rate	No	Rate							
Colombo	1022	749	73.3	73	7.1	822	80.4	14	1.4	53	5.2	67	6.6	11	1.1	94	9.2	28	2.7	1022
Gampaha	562	450	80.1	33	5.9	483	85.9	20	3.6	26	4.6	46	8.2	7	1.2	22	3.9	4	0.7	562
Kalutara	297	256	86.2	3	1.0	259	87.2	7	2.4	18	6.1	25	8.4	0	0.0	10	3.4	3	1.0	297
Kandy	196	164	83.7	4	2.0	168	85.7	3	1.5	11	5.6	14	7.1	6	3.1	6	3.1	2	1.0	196
Matale	72	62	86.1	0	0.0	62	86.1	1	1.4	4	5.6	5	6.9	1	1.4	3	4.2	1	1.4	72
Nuwara Eliya	93	70	75.3	7	7.5	77	82.8	5	5.4	2	2.2	7	7.5	3	3.2	4	4.3	2	2.2	93
Galle	229	196	85.6	0	0.0	196	85.6	5	2.2	8	3.5	13	5.7	2	0.9	11	4.8	7	3.1	229
Matara	108	101	93.5	0	0.0	101	93.5	0	0.0	2	1.9	2	1.9	5	4.6	0	0.0	0	0.0	108
Hambantota	37	33	89.2	0	0.0	33	89.2	4	10.8	0	0.0	4	10.8	0	0.0	0	0.0	0	0.0	37
Jaffna	102	86	84.3	4	3.9	90	88.2	1	1.0	8	7.8	9	8.8	2	2.0	0	0.0	1	1.0	102
Vavuniya	43	32	74.4	1	2.3	33	76.7	4	9.3	1	2.3	5	11.6	2	4.7	0	0.0	3	7.0	43
Batticaloa	83	61	73.5	8	9.6	69	83.1	5	6.0	3	3.6	8	9.6	1	1.2	3	3.6	2	2.4	83
Ampara	34	29	85.3	0	0.0	29	85.3	0	0.0	5	14.7	5	14.7	0	0.0	0	0.0	0	0.0	34
Kalmunai	74	34	45.9	30	40.5	64	86.5	0	0.0	6	8.1	6	8.1	0	0.0	4	5.4	0	0.0	74
Trincomalee	51	35	68.6	8	15.7	43	84.3	4	7.8	0	0.0	4	7.8	0	0.0	3	5.9	1	2.0	51
Kurunegala	201	171	85.1	4	2.0	175	87.1	2	1.0	14	7.0	16	8.0	2	1.0	7	3.5	1	0.5	201
Puttalam	94	80	85.1	3	3.2	83	88.3	0	0.0	4	4.3	4	4.3	3	3.2	3	3.2	1	1.1	94
Anuradhapura	147	142	96.6	0	0.0	142	96.6	2	1.4	1	0.7	3	2.0	2	1.4	0	0.0	0	0.0	147
Polonnaruwa	67	61	91.0	0	0.0	61	91.0	1	1.5	4	6.0	5	7.5	1	1.5	0	0.0	0	0.0	67
Badulla	98	81	82.7	6	6.1	87	88.8	0	0.0	1	1.0	1	1.0	6	6.1	1	1.0	3	3.1	98
Monaragala	47	43	91.5	0	0.0	43	91.5	0	0.0	0	0.0	0	0.0	3	6.4	0	0.0	1	2.1	47
Ratnapura	230	192	83.5	5	2.2	197	85.7	0	0.0	20	8.7	20	8.7	1	0.4	10	4.3	2	0.9	230
Kegalle	191	172	90.1	0	0.0	172	90.1	4	2.1	7	3.7	11	5.8	4	2.1	3	1.6	1	0.5	191
Mannar	24	19	79.2	0	0.0	19	79.2	0	0.0	1	4.2	1	4.2	2	8.3	2	8.3	0	0.0	24
Mullaitivu	14	13	92.9	1	7.1	14	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	14
Kilinochchi	19	17	89.5	0	0.0	17	89.5	1	5.3	0	0.0	1	5.3	0	0.0	1	5.3	0	0.0	19
Total	4135	3349	81.0	190	4.6	3539	85.6	83	2.0	199	4.8	282	6.8	64	1.5	187	4.5	63	1.5	4135

Table 23: Distribution of Treatment Outcome of New Sputum Negative PTB Cases by District in 2015

District	Total Number Registered	Cured		Treatment Completed		Treatment Success		Died						Failure		Lost to Follow up		Diagnose Change / On Treatment/ Other		Total
		No	Rate	No	Rate	No	Rate	Confirmed as not due to TB		All Other Deaths		All Deaths		No	Rate	No	Rate	No	Rate	
								No	Rate	No	Rate	No	Rate							
Colombo	374	0	0.0	309	82.6	309	82.6	9	2.4	21	5.6	30	8.0	1	0.3	19	5.1	15	4.0	374
Gampaha	208	0	0.0	165	79.3	165	79.3	6	2.9	8	3.8	14	6.7	4	1.9	7	3.4	18	8.7	208
Kalutara	99	0	0.0	87	87.9	87	87.9	2	2.0	4	4.0	6	6.1	0	0.0	4	4.0	2	2.0	99
Kandy	226	0	0.0	186	82.3	186	82.3	4	1.8	8	3.5	12	5.3	0	0.0	7	3.1	21	9.3	226
Matale	34	0	0.0	26	76.5	26	76.5	0	0.0	7	20.6	7	20.6	0	0.0	0	0.0	1	2.9	34
Nuwara Eliya	61	0	0.0	42	68.9	42	68.9	2	3.3	4	6.6	6	9.8	1	1.6	5	8.2	7	11.5	61
Galle	71	0	0.0	65	91.5	65	91.5	2	2.8	1	1.4	3	4.2	0	0.0	0	0.0	3	4.2	71
Matara	42	0	0.0	37	88.1	37	88.1	0	0.0	3	7.1	3	7.1	0	0.0	0	0.0	2	4.8	42
Hambantota	30	0	0.0	25	83.3	25	83.3	0	0.0	2	6.7	2	6.7	1	3.3	1	3.3	1	3.3	30
Jaffna	57	0	0.0	50	87.7	50	87.7	1	1.8	5	8.8	6	10.5	1	1.8	0	0.0	0	0.0	57
Vavuniya	28	0	0.0	27	96.4	27	96.4	0	0.0	1	3.6	1	3.6	0	0.0	0	0.0	0	0.0	28
Batticaloa	27	0	0.0	10	37.0	10	37.0	0	0.0	3	11.1	3	11.1	0	0.0	0	0.0	14	51.9	27
Ampara	38	0	0.0	31	81.6	31	81.6	0	0.0	7	18.4	7	18.4	0	0.0	0	0.0	0	0.0	38
Kalmunai	109	0	0.0	90	82.6	90	82.6	2	1.8	3	2.8	5	4.6	0	0.0	6	5.5	8	7.3	109
Trincomalee	58	0	0.0	52	89.7	52	89.7	1	1.7	1	1.7	2	3.4	0	0.0	1	1.7	3	5.2	58
Kurunegala	116	0	0.0	99	85.3	99	85.3	1	0.9	8	6.9	9	7.8	0	0.0	3	2.6	5	4.3	116
Puttalam	32	0	0.0	24	75.0	24	75.0	2	6.3	2	6.3	4	12.5	0	0.0	2	6.3	2	6.3	32
Anuradhapura	20	0	0.0	18	90.0	18	90.0	0	0.0	2	10.0	2	10.0	0	0.0	0	0.0	0	0.0	20
Polonnaruwa	36	0	0.0	28	77.8	28	77.8	3	8.3	3	8.3	6	16.7	0	0.0	0	0.0	2	5.6	36
Badulla	47	0	0.0	44	93.6	44	93.6	2	4.3	0	0.0	2	4.3	0	0.0	1	2.1	0	0.0	47
Monaragala	11	0	0.0	8	72.7	8	72.7	2	18.2	0	0.0	2	18.2	1	9.1	0	0.0	0	0.0	11
Ratnapura	96	0	0.0	73	76.0	73	76.0	0	0.0	8	8.3	8	8.3	0	0.0	4	4.2	11	11.5	96
Kegalle	88	0	0.0	73	83.0	73	83.0	3	3.4	4	4.5	7	8.0	1	1.1	2	2.3	5	5.7	88
Mannar	4	0	0.0	4	100.0	4	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4
Mullaitivu	13	0	0.0	11	84.6	11	84.6	0	0.0	2	15.4	2	15.4	0	0.0	0	0.0	0	0.0	13
Kilinochchi	19	0	0.0	19	100.0	19	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	19
Total	1944	0	0.0	1603	82.5	1603	82.5	42	2.2	107	5.5	149	7.7	10	0.5	62	3.2	120	6.2	1944

Table 24: Distribution of Treatment Outcome of EPTB Cases by District in 2015

District	Total Number Registered	Cured		Treatment Completed		Treatment Success		Died						Failure		Lost to Follow up		Diagnose Change / On Treatment/ Other		Total
		No	Rate	No	Rate	No	Rate	Confirmed as not due to TB		All Other Deaths		All Deaths		No	Rate	No	Rate	No	Rate	
								No	Rate	No	Rate	No	Rate							
Colombo	638	0	0.0	536	84.0	536	84.0	13	2.0	25	3.9	38	6.0	1	0.2	24	3.8	39	6.1	638
Gampaha	281	0	0.0	251	89.3	251	89.3	8	2.8	6	2.1	14	5.0	0	0.0	8	2.8	8	2.8	281
Kalutara	167	0	0.0	149	89.2	149	89.2	2	1.2	5	3.0	7	4.2	1	0.6	1	0.6	9	5.4	167
Kandy	217	0	0.0	183	84.3	183	84.3	5	2.3	11	5.1	16	7.4	2	0.9	7	3.2	9	4.1	217
Matale	74	0	0.0	67	90.5	67	90.5	1	1.4	2	2.7	3	4.1	0	0.0	0	0.0	4	5.4	74
Nuwara Eliya	90	0	0.0	74	82.2	74	82.2	1	1.1	4	4.4	5	5.6	0	0.0	6	6.7	5	5.6	90
Galle	128	0	0.0	115	89.8	115	89.8	1	0.8	4	3.1	5	3.9	0	0.0	2	1.6	6	4.7	128
Matara	66	0	0.0	59	89.4	59	89.4	3	4.5	1	1.5	4	6.1	0	0.0	0	0.0	3	4.5	66
Hambantota	56	0	0.0	50	89.3	50	89.3	1	1.8	0	0.0	1	1.8	0	0.0	0	0.0	5	8.9	56
Jaffna	86	0	0.0	76	88.4	76	88.4	1	1.2	8	9.3	9	10.5	0	0.0	0	0.0	1	1.2	86
Vavuniya	21	0	0.0	15	71.4	15	71.4	0	0.0	1	4.8	1	4.8	0	0.0	0	0.0	5	23.8	21
Batticaloa	47	0	0.0	37	78.7	37	78.7	3	6.4	6	12.8	9	19.1	0	0.0	0	0.0	1	2.1	47
Ampara	21	0	0.0	19	90.5	19	90.5	0	0.0	2	9.5	2	9.5	0	0.0	0	0.0	0	0.0	21
Kalmunai	33	0	0.0	28	84.8	28	84.8	2	6.1	1	3.0	3	9.1	0	0.0	0	0.0	2	6.1	33
Trincomalee	27	0	0.0	24	88.9	24	88.9	0	0.0	1	3.7	1	3.7	0	0.0	1	3.7	1	3.7	27
Kurunegala	136	0	0.0	115	84.6	115	84.6	0	0.0	12	8.8	12	8.8	0	0.0	3	2.2	6	4.4	136
Puttalam	63	0	0.0	55	87.3	55	87.3	2	3.2	1	1.6	3	4.8	0	0.0	1	1.6	4	6.3	63
Anuradhapura	82	0	0.0	79	96.3	79	96.3	0	0.0	2	2.4	2	2.4	0	0.0	0	0.0	1	1.2	82
Polonnaruwa	27	0	0.0	26	96.3	26	96.3	1	3.7	0	0.0	1	3.7	0	0.0	0	0.0	0	0.0	27
Badulla	85	0	0.0	73	85.9	73	85.9	2	2.4	0	0.0	2	2.4	1	1.2	0	0.0	9	10.6	85
Monaragala	27	0	0.0	22	81.5	22	81.5	2	7.4	1	3.7	3	11.1	1	3.7	0	0.0	1	3.7	27
Ratnapura	186	0	0.0	158	84.9	158	84.9	0	0.0	13	7.0	13	7.0	0	0.0	11	5.9	4	2.2	186
Kegalle	100	0	0.0	86	86.0	86	86.0	1	1.0	5	5.0	6	6.0	4	4.0	1	1.0	3	3.0	100
Mannar	9	0	0.0	8	88.9	8	88.9	0	0.0	1	11.1	1	11.1	0	0.0	0	0.0	0	0.0	9
Mullaitivu	16	0	0.0	14	87.5	14	87.5	1	6.3	1	6.3	2	12.5	0	0.0	0	0.0	0	0.0	16
Kilinochchi	16	0	0.0	16	100.0	16	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	16
Total	2699	0	0.0	2335	86.5	2335	86.5	50	1.9	113	4.2	163	6.0	10	0.4	65	2.4	126	4.7	2699

Table 25: Distribution of Treatment Outcome of Re-Treatment TB Cases by District in 2016

District	Total Number Registered	Cured		Treatment Completed		Treatment Success		Died						Failure		Lost to Follow up		Not Evaluated		Total
		No	Rate	No	Rate	No	Rate	Confirmed as not due to TB		All Other Deaths		All Deaths		No	Rate	No	Rate	No	Rate	
								No	Rate	No	Rate	No	Rate							
Colombo	176	78	44.3	37	21.0	115	65.3	3	1.7	12	6.8	15	8.5	2	1.1	25	14.2	19	10.8	176
Gampaha	55	27	49.1	10	18.2	37	67.3	3	5.5	5	9.1	8	14.5	1	1.8	6	10.9	3	5.5	55
Kalutara	25	13	52.0	4	16.0	17	68.0	2	8.0	1	4.0	3	12.0	2	8.0	2	8.0	1	4.0	25
Kandy	34	17	50.0	12	35.3	29	85.3	0	0.0	3	8.8	3	8.8	0	0.0	2	5.9	0	0.0	34
Matale	5	3	60.0	2	40.0	5	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5
Nuwara Eliya	16	5	31.3	7	43.8	12	75.0	0	0.0	1	6.3	1	6.3	0	0.0	3	18.8	0	0.0	16
Galle	23	14	60.9	3	13.0	17	73.9	0	0.0	1	4.3	1	4.3	0	0.0	3	13.0	2	8.7	23
Matara	15	12	80.0	2	13.3	14	93.3	0	0.0	0	0.0	0	0.0	1	6.7	0	0.0	0	0.0	15
Hambantota	8	3	37.5	1	12.5	4	50.0	2	25.0	0	0.0	2	25.0	0	0.0	0	0.0	2	25.0	8
Jaffna	15	2	13.3	8	53.3	10	66.7	0	0.0	2	13.3	2	13.3	0	0.0	2	13.3	1	6.7	15
Vavuniya	8	7	87.5	1	12.5	8	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	8
Batticaloa	6	4	66.7	0	0.0	4	66.7	0	0.0	1	16.7	1	16.7	0	0.0	0	0.0	1	16.7	6
Ampara	6	5	83.3	0	0.0	5	83.3	0	0.0	1	16.7	1	16.7	0	0.0	0	0.0	0	0.0	6
Kalmunai	15	6	40.0	4	26.7	10	66.7	0	0.0	2	13.3	2	13.3	0	0.0	2	13.3	1	6.7	15
Trincomalee	10	6	60.0	1	10.0	7	70.0	0	0.0	0	0.0	0	0.0	0	0.0	2	20.0	1	10.0	10
Kurunegala	25	17	68.0	2	8.0	19	76.0	1	4.0	2	8.0	3	12.0	0	0.0	2	8.0	1	4.0	25
Puttalam	11	6	54.5	2	18.2	8	72.7	0	0.0	1	9.1	1	9.1	0	0.0	1	9.1	1	9.1	11
Anuradhapura	14	11	78.6	2	14.3	13	92.9	0	0.0	1	7.1	1	7.1	0	0.0	0	0.0	0	0.0	14
Polonnaruwa	11	6	54.5	3	27.3	9	81.8	0	0.0	1	9.1	1	9.1	0	0.0	0	0.0	1	9.1	11
Badulla	16	11	68.8	2	12.5	13	81.3	0	0.0	0	0.0	0	0.0	0	0.0	1	6.3	2	12.5	16
Monaragala	6	2	33.3	1	16.7	3	50.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	50.0	6
Ratnapura	19	11	57.9	5	26.3	16	84.2	0	0.0	1	5.3	1	5.3	1	5.3	0	0.0	1	5.3	19
Kegalle	21	13	61.9	3	14.3	16	76.2	0	0.0	1	4.8	1	4.8	0	0.0	0	0.0	4	19.0	21
Mannar	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Mullaitivu	3	2	66.7	0	0.0	2	66.7	0	0.0	0	0.0	0	0.0	0	0.0	1	33.3	0	0.0	3
Kilinochchi	7	4	57.1	2	28.6	6	85.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	14.3	7
Total	550	285	51.8	114	20.7	399	72.5	11	2.0	36	6.5	47	8.5	7	1.3	52	9.5	45	8.2	550

Table 26: Distribution of Treatment Outcome of Other TB Cases by District in 2015

District	Total Number Registered	Cured		Treatment Completed		Treatment Success		Died						Failure		Lost to Follow up		Diagnose Change / On Treatment/ Other		Total		
		No	Rate	No	Rate	No	Rate	Confirmed as not due to TB		All Other Deaths		All Deaths		No	Rate	No	Rate	No	Rate			
								No	Rate	No	Rate	No	Rate									
Colombo	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Gampaha	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Kalutara	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Kandy	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Matale	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Nuwara Eliya	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Galle	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Matara	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Hambantota	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Jaffna	4	0	0.0	3	75.0	3	75.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0.0	1	25.0	4	
Vavuniya	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	0	0
Batticaloa	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	0	0
Ampara	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	0	0
Kalmunai	1	0	0.0	1	100.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	1	1
Trincomalee	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	0	0
Kurunegala	4	3	75.0	0	0.0	3	75.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0.0	1	25.0	4	4
Puttalam	3	0	0.0	3	100.0	3	100.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	3	3
Anuradhapura	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Polonnaruwa	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Badulla	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Monaragala	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Ratnapura	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Kegalle	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Mannar	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Mullaitivu	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Kilinochchi	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Total	12	3	0.0	7	0.0	10	83.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.0	12

Table 27: Distribution of Sputum Conversion of New PTB Cases at the End of the Intensive Phase by District in 2016

DISTRICT	Total Number Registered	Negative		Positive		Died		Defaulted		Transferred out		No result		Total
		No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	
COLOMBO	1024	866	84.6	5	0.5	58	5.7	20	2.0	0	0.0	75	7.3	1024
GAMPAHA	545	452	82.9	43	7.9	31	5.7	13	2.4	0	0.0	6	1.1	545
KALUTARA	294	265	90.1	2	0.7	19	6.5	4	1.4	0	0.0	4	1.4	294
KANDY	196	179	91.3	2	1.0	9	4.6	2	1.0	0	0.0	4	2.0	196
MATALE	72	64	88.9	2	2.8	4	5.6	2	2.8	0	0.0	0	0.0	72
NUWARAELIYA	93	82	88.2	1	1.1	4	4.3	2	2.2	0	0.0	4	4.3	93
GALLE	208	179	86.1	4	1.9	8	3.8	10	4.8	0	0.0	7	3.4	208
MATARA	106	99	93.4	3	2.8	2	1.9	0	0.0	0	0.0	2	1.9	106
HAMBANTOTA	36	30	83.3	2	5.6	4	11.1	0	0.0	0	0.0	0	0.0	36
JAFFNA	102	80	78.4	6	5.9	7	6.9	0	0.0	0	0.0	9	8.8	102
VAVUNIYA	43	32	74.4	6	14.0	4	9.3	0	0.0	0	0.0	1	2.3	43
BATICALOA	83	71	85.5	0	0.0	8	9.6	0	0.0	0	0.0	4	4.8	83
AMPARA	34	25	73.5	5	14.7	4	11.8	0	0.0	0	0.0	0	0.0	34
KALMUNAI	74	69	93.2	0	0.0	4	5.4	1	1.4	0	0.0	0	0.0	74
TRINCOMALEE	51	43	84.3	1	2.0	1	2.0	1	2.0	0	0.0	5	9.8	51
KURUNEGALA	201	172	85.6	4	2.0	13	6.5	1	0.5	0	0.0	11	5.5	201
PUTTALAM	94	84	89.4	3	3.2	2	2.1	2	2.1	0	0.0	3	3.2	94
ANURADAPURA	147	140	95.2	4	2.7	3	2.0	0	0.0	0	0.0	0	0.0	147
POLONNARUWA	67	61	91.0	1	1.5	5	7.5	0	0.0	0	0.0	0	0.0	67
BADULLA	98	83	84.7	9	9.2	1	1.0	2	2.0	0	0.0	3	3.1	98
MONARAGALA	47	44	93.6	3	6.4	0	0.0	0	0.0	0	0.0	0	0.0	47
RATNAPURA	230	222	96.5	2	0.9	6	2.6	0	0.0	0	0.0	0	0.0	230
KEGALLE	191	176	92.1	3	1.6	4	2.1	1	0.5	0	0.0	7	3.7	191
MANNAR	24	19	79.2	1	4.2	0	0.0	3	12.5	0	0.0	1	4.2	24
MULLAITIVU	14	9	64.3	1	7.1	0	0.0	0	0.0	0	0.0	4	28.6	14
KILINOCHCHI	19	16	84.2	0	0.0	2	10.5	0	0.0	0	0.0	1	5.3	19
TOTEL	4093	3562	87.0	113	2.8	203	5.0	64	1.6	0	0.0	151	3.7	4093

Table 28: Distribution of Sputum Conversion of Retreatment PTB Cases at the End of the Intensive Phase by District in 2016

DISTRICT	Total Number Registered	Negative		Positive		Died		Defaulted		Transferred out		No result		Total
		No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	
COLOMBO	149	110	73.8	6	4.0	5	3.4	8	5.4	0	0.0	20	13.4	149
GAMPAHA	43	30	69.8	2	4.7	4	9.3	4	9.3	0	0.0	3	7.0	43
KALUTARA	22	18	81.8	0	0.0	3	13.6	0	0.0	0	0.0	1	4.5	22
KANDY	20	16	80.0	1	5.0	2	10.0	0	0.0	0	0.0	1	5.0	20
MATALE	3	3	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3
NUWARAELIYA	10	7	70.0	0	0.0	1	10.0	1	10.0	0	0.0	1	10.0	10
GALLE	15	13	86.7	1	6.7	0	0.0	1	6.7	0	0.0	0	0.0	15
MATARA	14	12	85.7	1	7.1	0	0.0	0	0.0	0	0.0	1	7.1	14
HAMBANTOTA	6	5	83.3	0	0.0	0	0.0	0	0.0	0	0.0	1	16.7	6
JAFFNA	7	4	57.1	0	0.0	1	14.3	1	14.3	0	0.0	1	14.3	7
VAVUNIYA	7	7	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	7
BATICALOA	4	4	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4
AMPARA	5	4	80.0	1	20.0	0	0.0	0	0.0	0	0.0	0	0.0	5
KALMUNAI	8	8	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	8
TRINCOMALEE	5	3	60.0	0	0.0	0	0.0	2	40.0	0	0.0	0	0.0	5
KURUNEGALA	22	20	90.9	0	0.0	0	0.0	1	4.5	0	0.0	1	4.5	22
PUTTALAM	9	6	66.7	1	11.1	0	0.0	0	0.0	0	0.0	2	22.2	9
ANURADAPURA	11	11	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	11
POLONNARUWA	8	7	87.5	0	0.0	1	12.5	0	0.0	0	0.0	0	0.0	8
BADULLA	14	11	78.6	1	7.1	0	0.0	0	0.0	0	0.0	2	14.3	14
MONARAGALA	6	2	33.3	2	33.3	0	0.0	0	0.0	0	0.0	2	33.3	6
RATNAPURA	13	13	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	13
KEGALLE	14	12	85.7	0	0.0	0	0.0	0	0.0	0	0.0	2	14.3	14
MANNAR	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
MULLAITIVU	2	2	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2
KILINOCHCHI	4	3	75.0	0	0.0	0	0.0	0	0.0	0	0.0	1	25.0	4
TOTEL	421	331	78.6	16	3.8	17	4.0	18	4.3	0	0.0	39	9.3	421

Table 29: Distribution of Sputum Conversion of Other History Known Cases PTB Cases at the End of the Intensive Phase by District in 2016

DISTRICT	Total Number Registered	Negative		Positive		Died		Defaulted		Transferred out		No result		Total
		No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	
COLOMBO	2	1	50.0	0	0.0	0	0.0	0	0.0	0	0.0	1	50.0	2
GAMPAHA	1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0	1
KALUTARA	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
KANDY	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
MATALE	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NUWARAELIYA	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
GALLE	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
MATARA	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
HAMBANTOTA	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
JAFFNA	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
VAVUNIYA	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
BATICALOA	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
AMPARA	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
KALMUNAI	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
TRINCOMALEE	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
KURUNEGALA	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
PUTTALAM	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
ANURADAPURA	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
POLONNARUWA	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
BADULLA	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
MONARAGALA	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
RATNAPURA	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
KEGALLE	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
MANNAR	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
MULLAITIVU	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
KILINOCHCHI	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
TOTEL	3	1	33.3	0	0.0	0	0.0	0	0.0	0	0.0	2	66.7	3

Figure 21

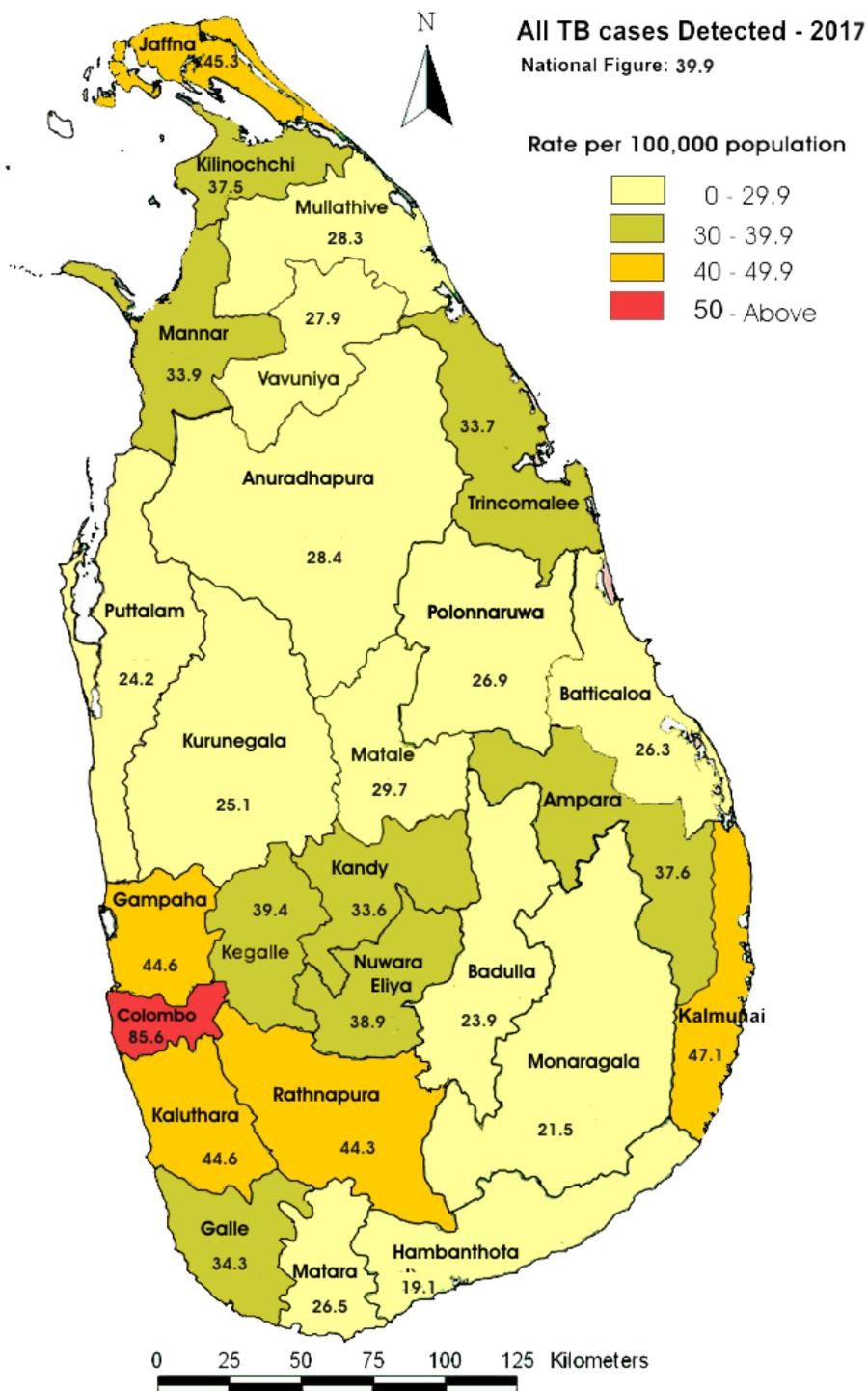


Figure 22

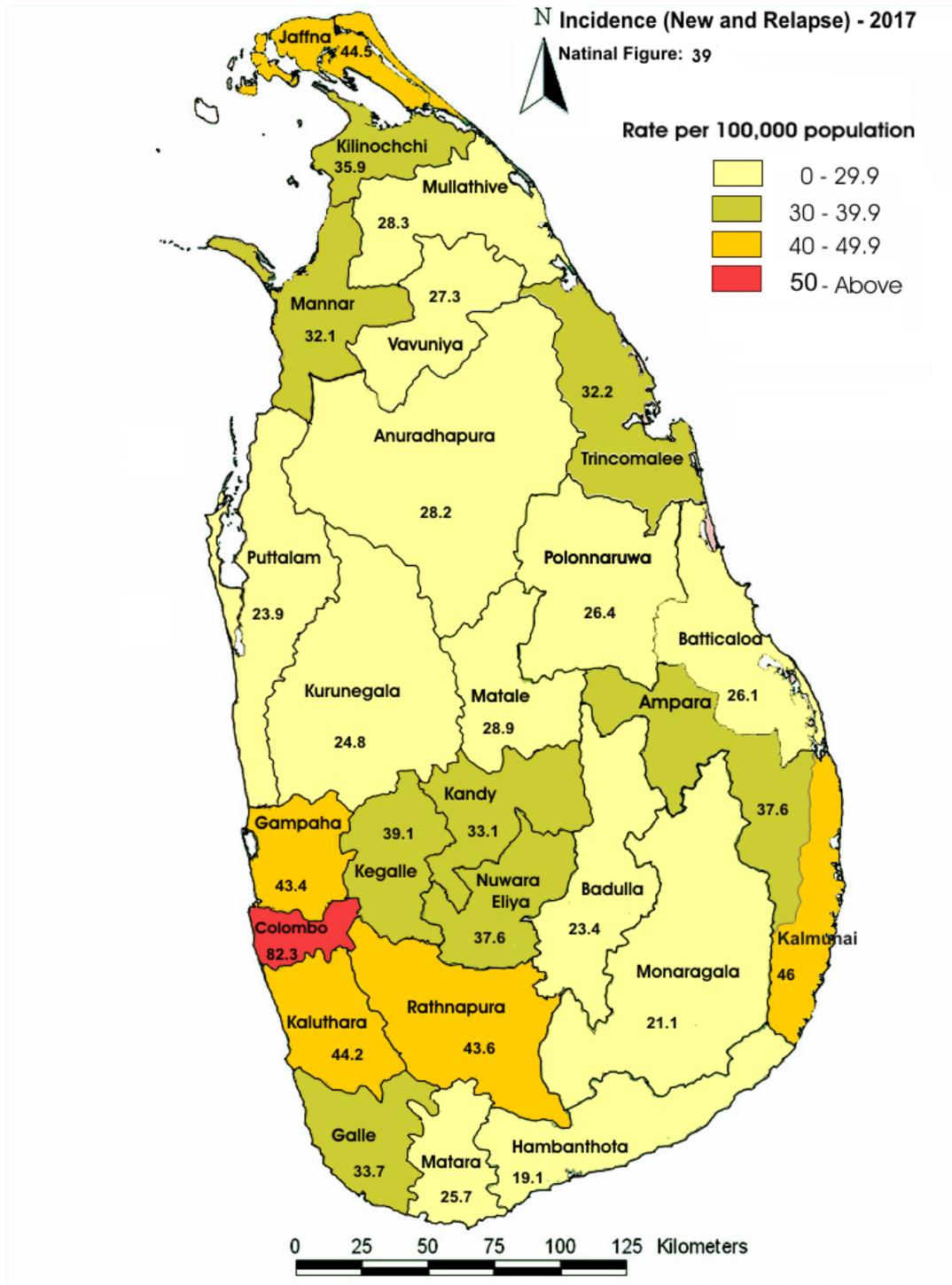


Figure 23

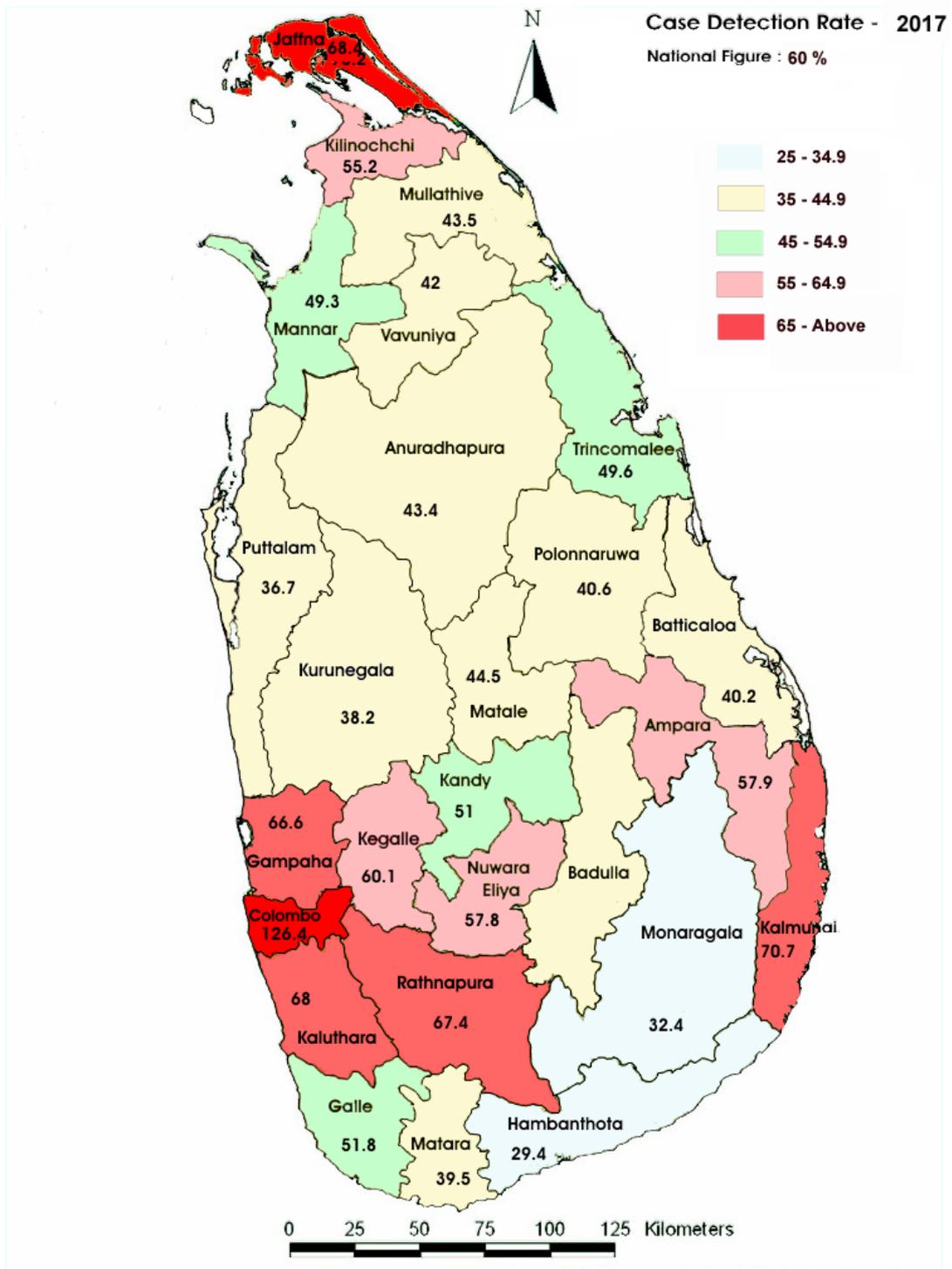
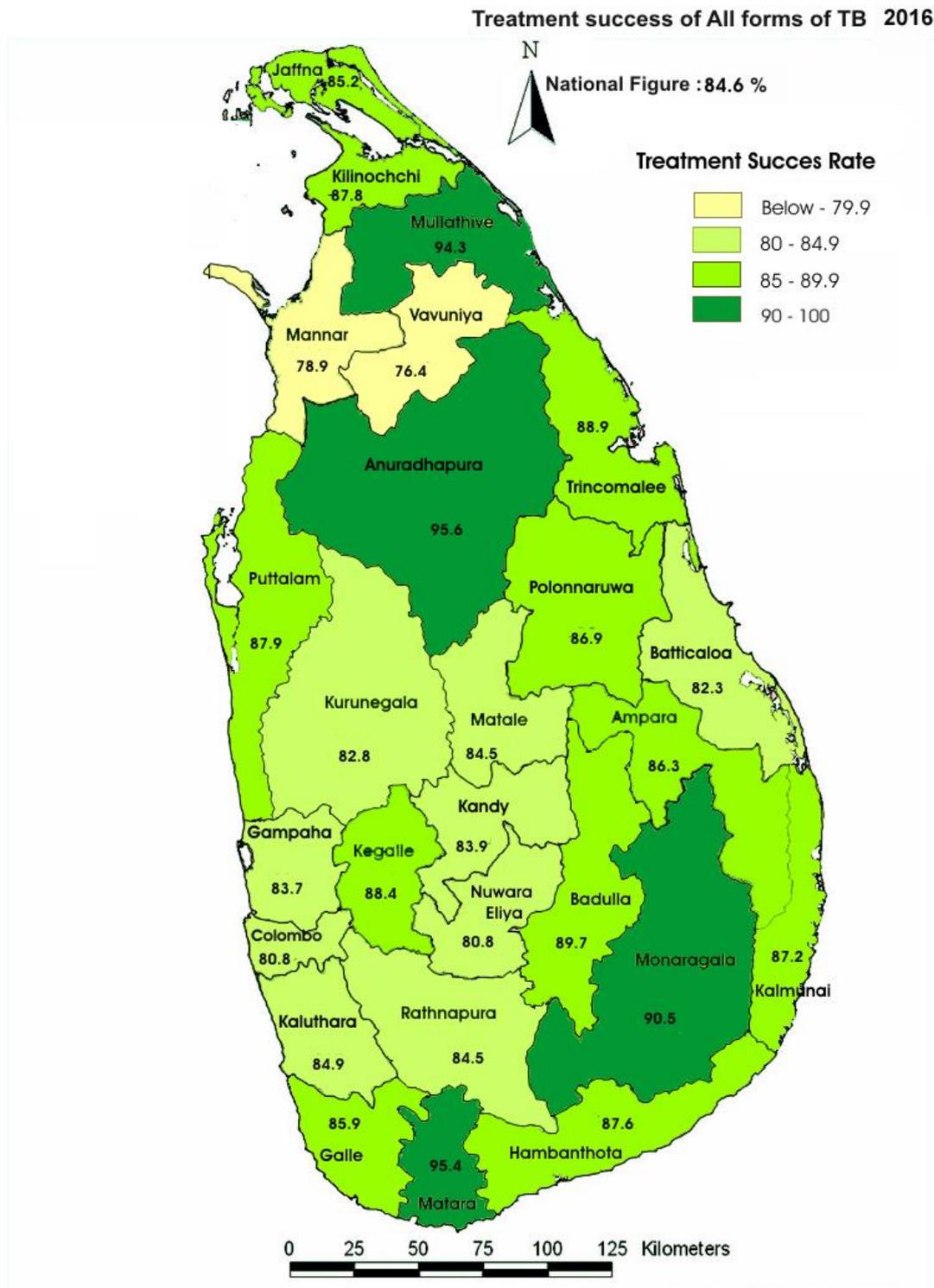


Figure 24



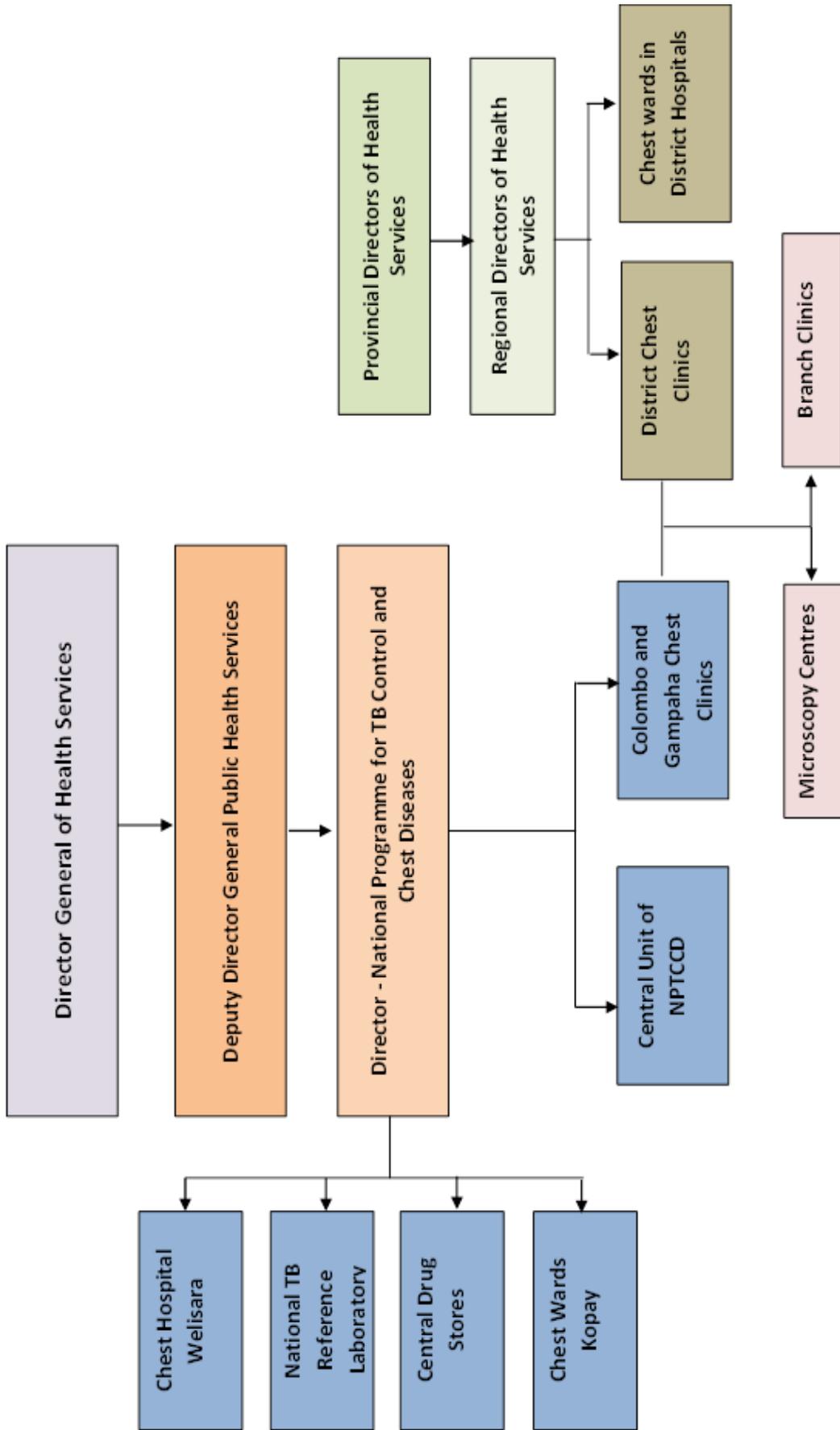


Figure 25: Organizational Structure of National TB Control Program (2017)