

Annual Report 2016



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

❖ Advisory Panel

- Dr.Kanthi Ariyaratne - Director

❖ Writing Panel

- Dr. Nirupa Pallewatte - Consultant Community Physician
- Dr. Priyadharshini Samarasinghe - Consultant Community Physician
- Dr. Chandima Hemachandra - Registrar in Community Medicine
- Janaka Thilakaratne - Medical Records Officer(Acting)

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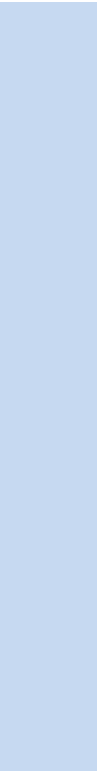
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List of Abbreviations

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

It is with great pleasure, I am presenting the Annual Report of the National Programme for Tuberculosis Control and Chest Diseases – 2015 which contains the important data on status of Tuberculosis in Sri Lanka in 2016.

In this year many new ventures were launched to increase the case detection, to improve the case holding and technological and management advances were introduced to the programme to improve the performance. I am confident that the results of these interventions will be reflected as positive outcomes in the near future.

I am thankful to the Secretary, Ministry of Health, Director General of Health Services and Deputy Director General (Public Health Services I) for the guidance given to us. I do highly appreciate the support rendered by staff of NPTCCD, District TB Control Officers (DTCOs), consultants and all other members of our team in both Centre and periphery for the control of TB.

I am particularly thankful to GFATM, WHO and SEARO for the support rendered in most of our activities.

I appreciate the staff of the Health Information Management Unit for compiling this report and panel of writers for making this task a success.

Dr. Kanthi Ariyaratne

Director,

NPTCCD

Preface

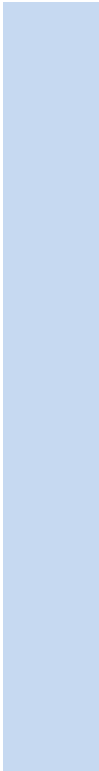
Progress, Activity and Administration Report is an annual publication of the National Programme for Tuberculosis Control and Chest Diseases.

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 2015 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 2015 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, culture laboratories in Kandy 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 2016, Rs.254 million was allocated from the government funds and it was mainly used for payment of salaries and wages and for major constructions. 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 2016, 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
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.

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 Xpert 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 a 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*”.

$$\text{Case Detection Rate} = \frac{\text{Total number of all forms (new / relapse) of TB cases notified during the specified year}}{\text{Estimated total number of incidence cases of TB for the same year}} \times 100$$

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.

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

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.

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

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 2016, 9305 cases of all forms of Tuberculosis were notified to the center by the form H 816 A (Table 6). In contrast to this, registered TB cases reported to the NPTCCD by TB 08 were 9575 (Table 9).

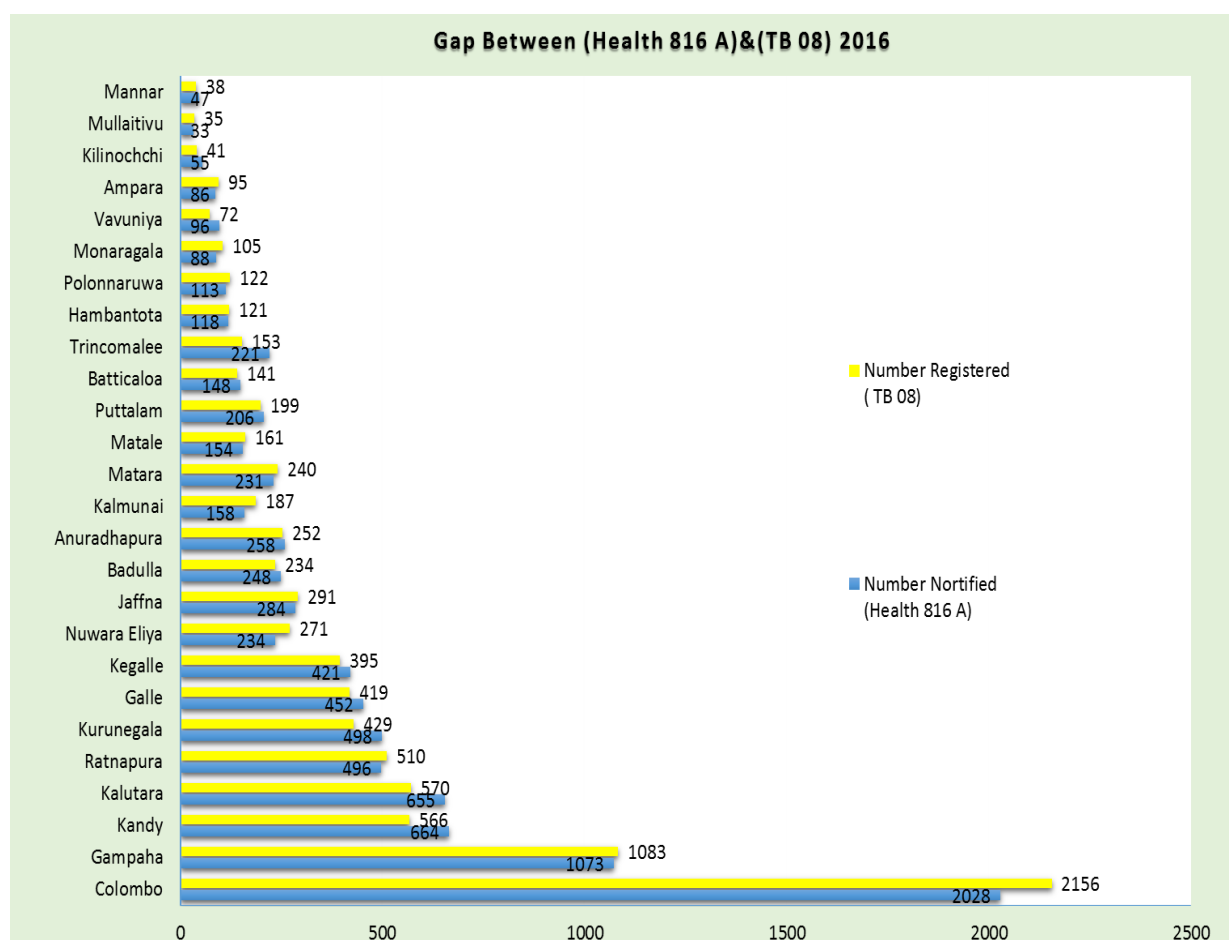


Figure 1: Case Detection and Notification of TB by District in 2016

➤ TB Death Notification (H 814)

During the year 2016, 253 TB deaths were notified by H 814 (Table 7).

Incidence of Tuberculosis

The incidence (new and relapse) rate of TB in Sri Lanka in 2016 was 40.9 (8332 new and 328 relapse cases) per 100,000 population (Table 9). There was a significant decrease in incidence rate when compared with the incidence rate of year 2015, which was 44.5 (8990 new and 303 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.

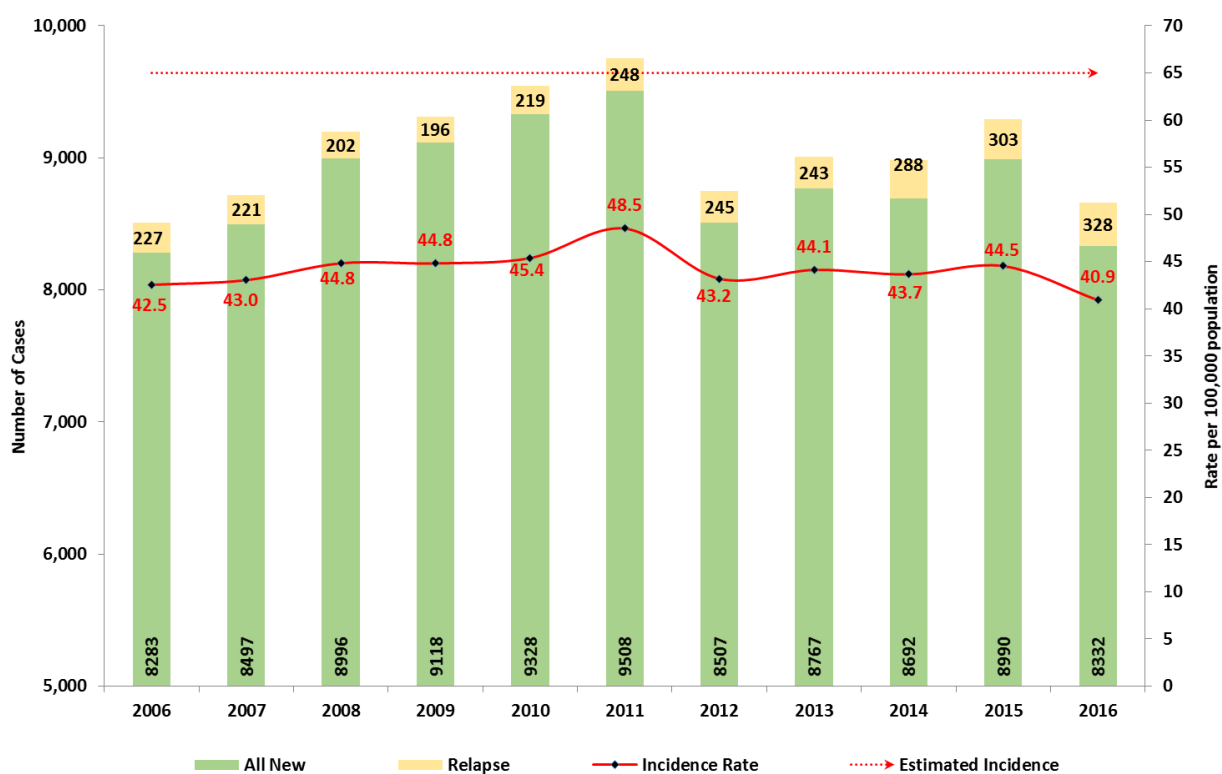


Figure 2: Incidence Rate of TB from 2006 – 2016

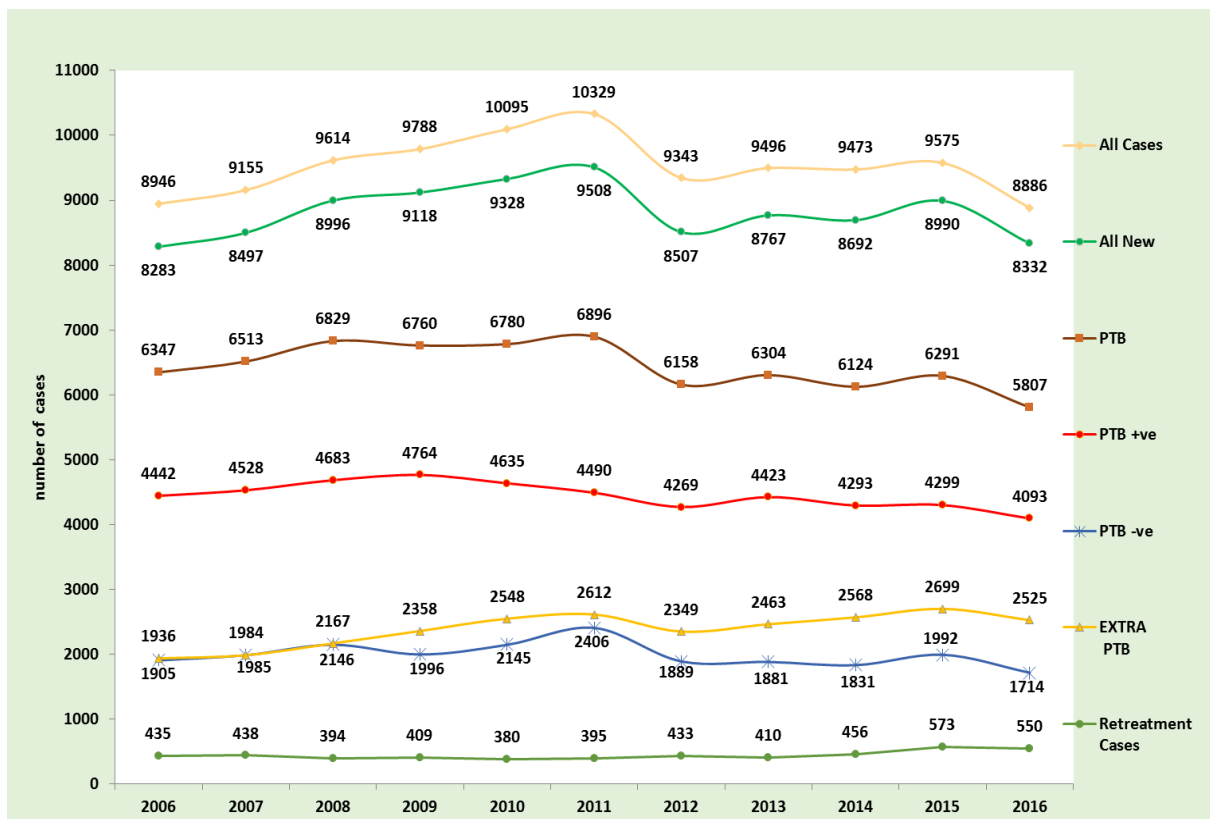
Case Detection

The total number of all forms of TB cases reported from DCCs was 8886. When compared to 2015, there was a decrease of all forms of TB in 2016 (Figure 2). Out of this, 8332 (93.8%) were new cases, 550 (6.2%) were previously treated cases and 4(0.04%) were cases with unknown treatment history.

Out of all new cases, 4093 (49.1%) were Bacteriology conformed TB cases. Of this 3996(97.6%) were sputum positive PTB, 95 (2.3%) cases were sputum negative culture positive TB, and 2(0.05%) cases were WRD positive. There were 1714 (20.6%) cases of clinically diagnosed PTB and 2525 (30.3 %) cases of EPTB (Figure 3). There were 5807 cases of new pulmonary TB and out of it, 4093 (70.5%) were smear positive.

Out of the previously treated cases 421(76.5%) bacteriologically confirmed PTB, 64(11.6%) clinically diagnosed PTB and 65(11.8%) were EPTB cases.

Figure 3: Case Detection of TB by Type in 2006 - 2016



There was high disparity of detection of TB cases between districts (Figure 4). The highest number of TB cases was reported from Colombo 2156 (24.3%). High numbers of cases were reported from Gampaha 1083(12.2%), Kalutara 570(6.4%), Kandy 566 (6.4%), Ratnapura 510(5.7%) and Kurunegala 429(4.8%) districts respectively.

Colombo district also accounted for highest number of relapse cases, 98 (29.9%) of total relapse cases and 47 (48.9%) of total lost to follow up cases (Table 9). Lowest number of TB cases (35) has been reported from Mullathive district.

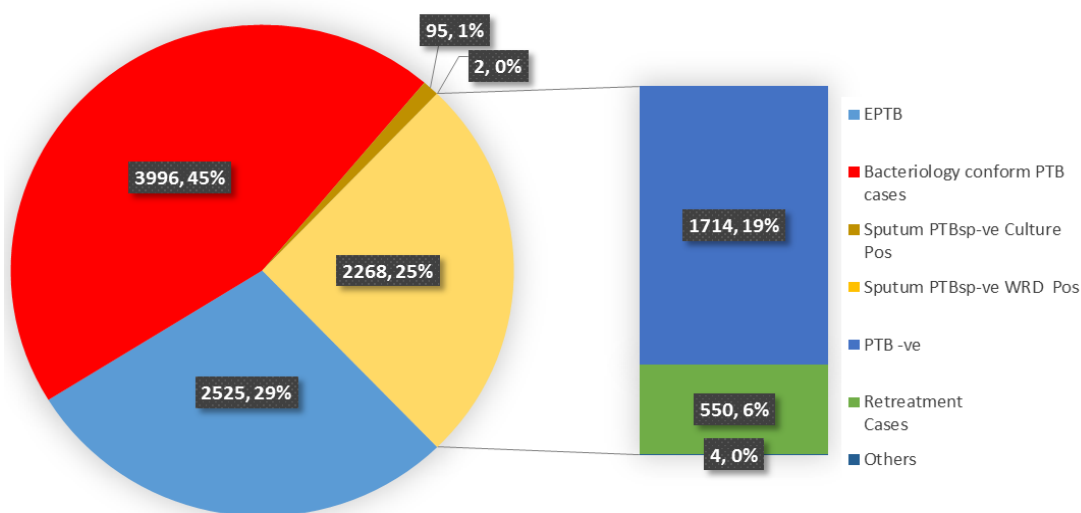


Figure 4: Case Detection of TB by Type in 2016

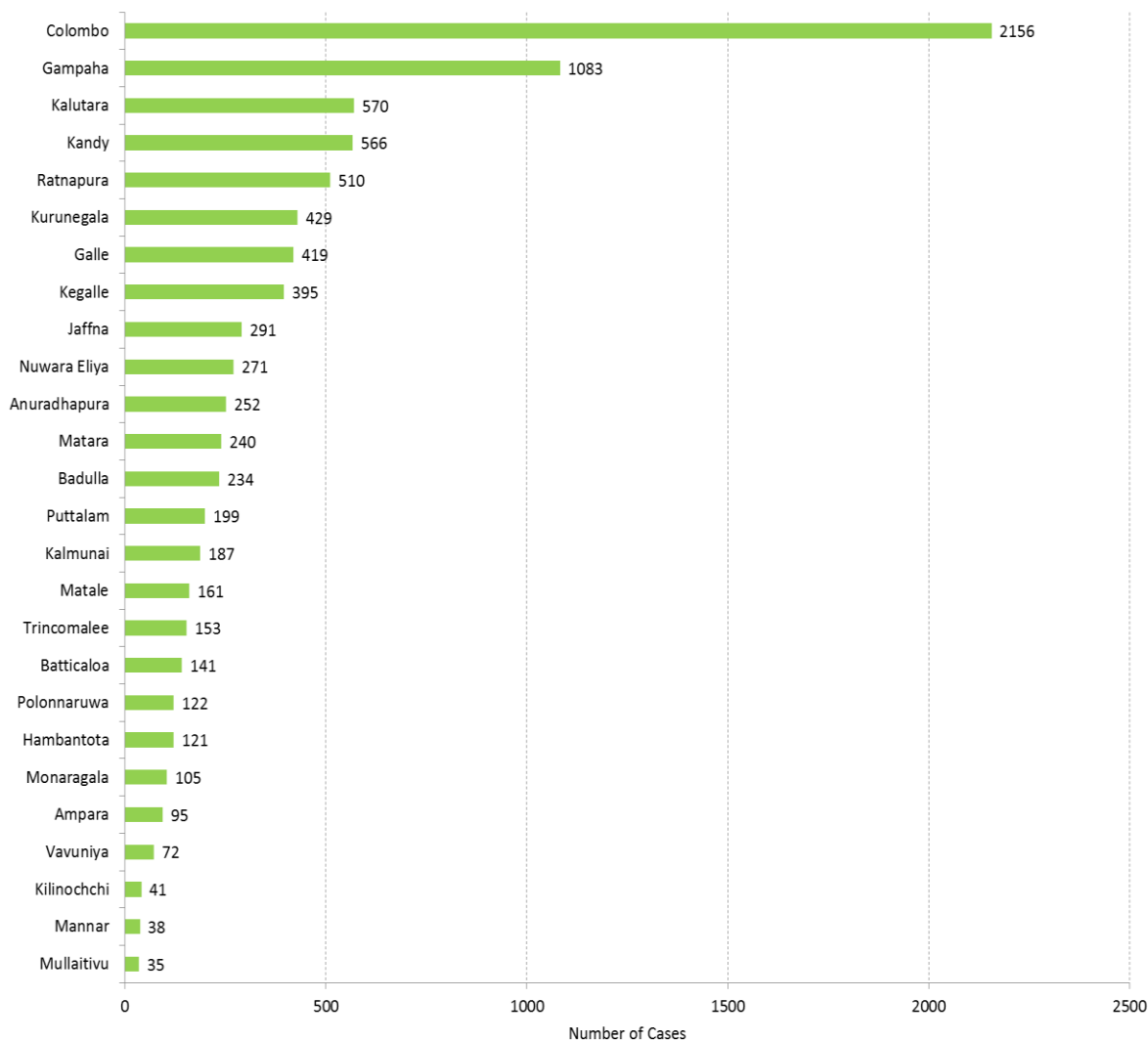


Figure 5: TB Case Detection by District of Registration in 2016

New TB Cases

There was a disparity of distribution of new cases among districts (Figure 5). More than 60% of the total cases were bacteriologically confirmed in Polonnaruwa(60.4%) ,Batticaloa (61.5%), Anuradhapura (61.8%), Mannar (63.2%) and Vavuniya(67.2%) districts, while in Hambanthota (31.9%), Trincomalee(35.7%) ,Nuwara Eliya(35.6%), Kandy(36.8%), Jaffna(37%) and Ampara(38%) 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 Ampara and Trincomalee districts.

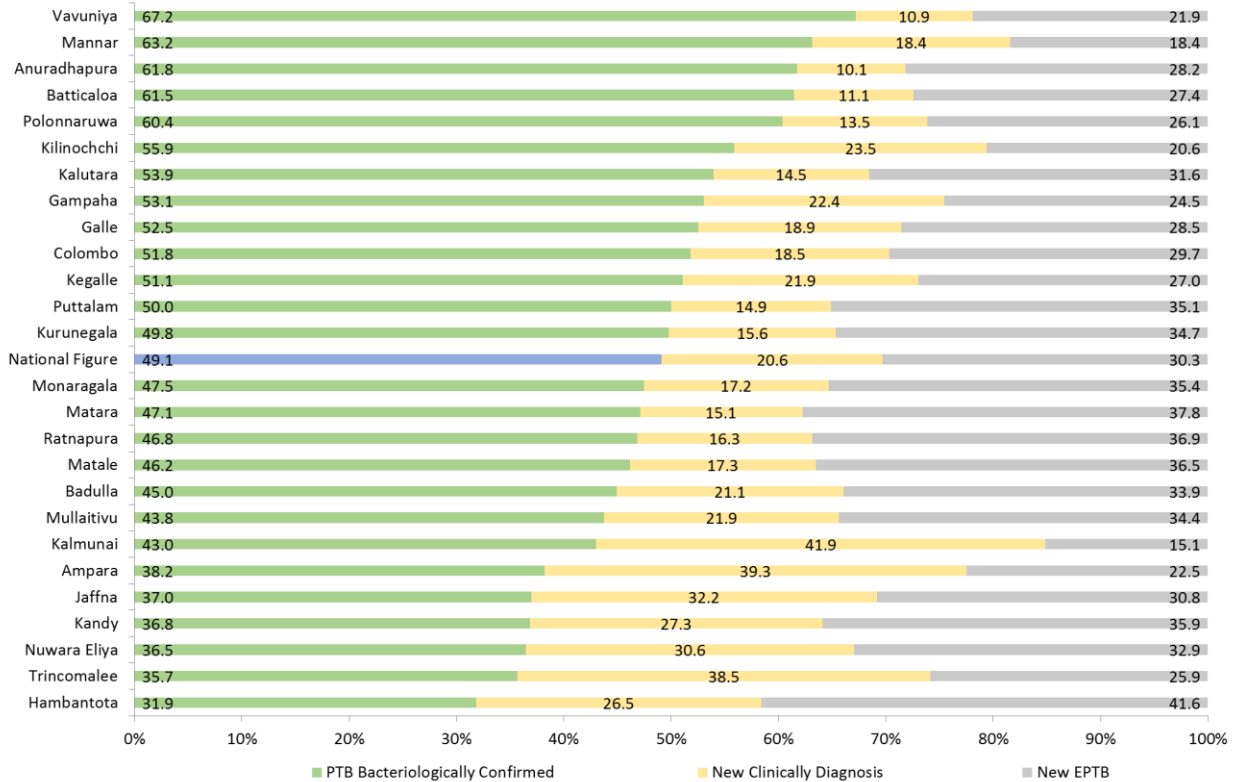


Figure 6: Percentage Distribution of New Cases of TB by Type and District in 2016

The highest number 1024 and rate (42.8 per 100,000 population) of bacteriologically confirmed pulmonary TB cases were reported from Colombo district and this accounts for 25% of national figure. Second highest number of bacteriologically confirmed pulmonary TB cases was reported from Gampaha (545 though rate was 23.0 per 100,000 population (Figure 6).

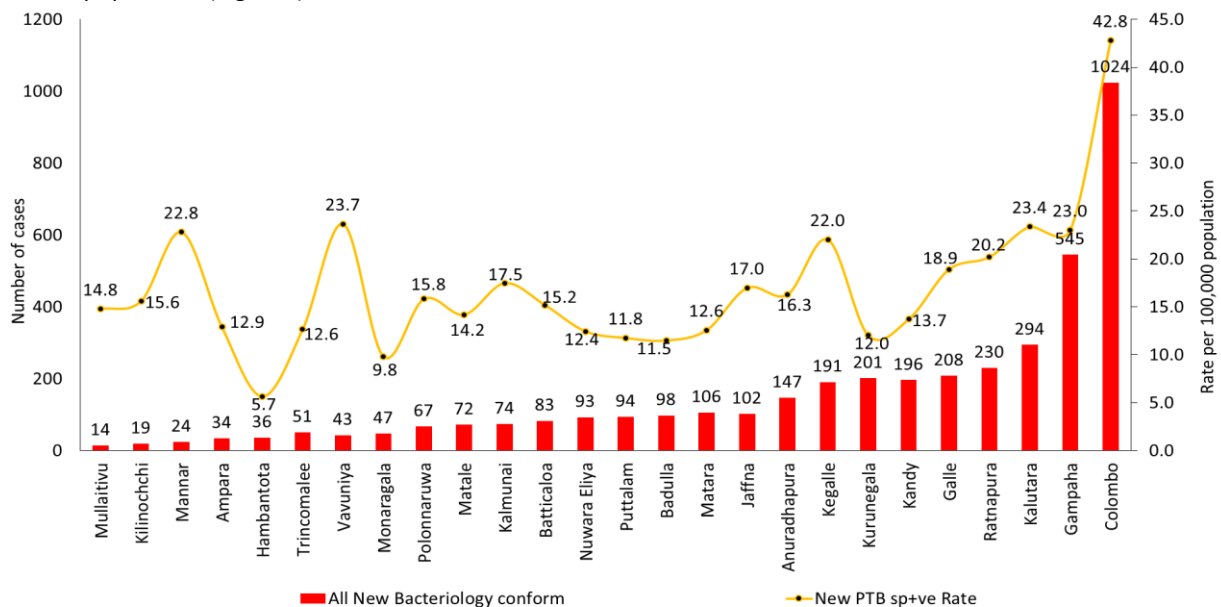


Figure 7: Distribution of Bacteriology confirmed cases New TB Cases Detection by Districts in 2016

High numbers of cases were reported from Kalutara (294), Ratnapura (230) and Galle (208) districts respectively. However, higher bacteriologically confirmed rates per 100,000 population were reported from Vavuniya (23.7) and Kaluthara (23.4) districts (Figure 6).

Clinically Diagnosed New Pulmonary TB

Total of 1714 cases of new clinically diagnosed pulmonary TB cases were reported in 2016. The highest number of clinically diagnosed cases was reported from Colombo district 366 (15.3 per 100,000 population). However, highest rates were reported from Kalmunai (17 per 100,000 population), Jaffna (14.8 per 100,000 population), Trincomalee (13.6 per 100,000 population) and Ampara (13.3 per 100,000) respectively. The number of clinically diagnosed cases detected were more than the bacteriologically confirmed in Trincomalee and Ampara districts (Figure 5).

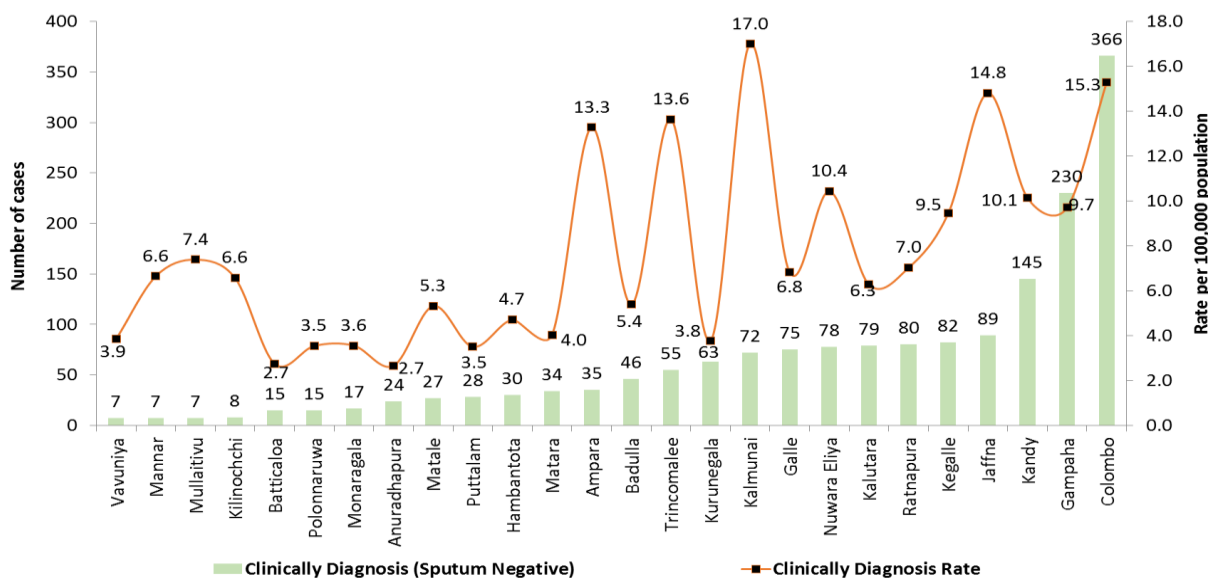
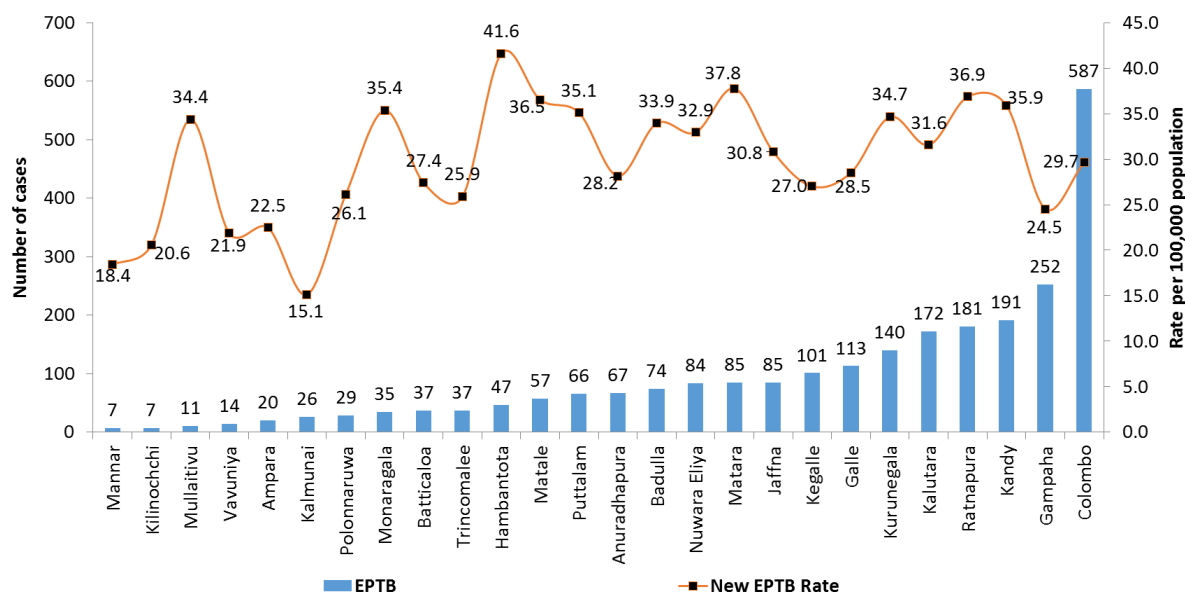


Figure 8: Distribution of Smear Negative New TB Cases Detection by Districts in 2016

Extra Pulmonary TB

New EPTB Case Detection

Total of 2525 cases of new extra pulmonary TB were reported in 2016. Colombo District accounted for highest number (587) of EPTB cases. The highest rate (41.6 per 100,000 population) of EPTB was reported from Hambantota district (Figure 8).



Sites of EPTB Cases

Out of all EPTB cases, tuberculous of respiratory tract confirmed by bacteriologically and histologically (ICD code A 15) , accounted for 302 cases (11.9%), and 682 (26.9%) were cases of tuberculosis of respiratory tract, not confirmed by bacteriologically or histologically (ICD code A16). In addition, there were 163 (6.4%) cases of Tuberculosis of nervous system, 1243(49%) cases of Tuberculosis of other organs , 34 (1.3%) cases of Tuberculosis of other specified organs were reported in 2016 (Table 2).

Table 9: Distribution of All Cases of Extra Pulmonary Tuberculosis by Site in 2016

ICD-10 Code	Site	Total	Percentage
A15: Respiratory tuberculosis, bacteriologically and histologically confirmed		302	11.9
A15.4	Tuberculosis of intrathoracic lymph nodes	83	3.3
A15.6	Tuberculous pleurisy	209	8.2
A15.8	Other respiratory tuberculosis (mediastinal, nasopharyngeal, nose, sinus [any nasal])	7	0.3
A15.9	Respiratory tuberculosis unspecified	3	0.1
A16: Respiratory tuberculosis, not confirmed bacteriologically or histologically		682	26.9
A16.3	Tuberculosis of intrathoracic lymph nodes	85	3.4
A16.4	Tuberculosis of larynx, trachea and bronchus	273	10.8
A16.5	Tuberculous pleurisy	313	12.3
A16.8	Other respiratory tuberculosis (mediastinal, nasopharyngeal, nose, sinus [any nasal])	5	0.2
A16.9	Respiratory tuberculosis unspecified	6	0.2
A17: Tuberculosis of nervous system		163	6.4
A17.0	Tuberculous meningitis	101	4.0
A17.1	Meningeal tuberculoma	15	0.6
A17.8	Other tuberculosis of nervous system	26	1.0
A17.9	Tuberculosis of nervous system, unspecified	21	0.8
A18: Tuberculosis of other organs		1243	49.0
A18.0	Tuberculosis of bones and joints	0	0.0
	Spinal TB (Includes Vertebral Column - M49.0*)	188	7.4
	Tuberculosis of other bones and joints (Excluding spinal TB)	91	3.6
A18.1	Tuberculosis of genitourinary system	75	3.0
A18.2	Tuberculous peripheral lymphadenopathy (TB adenitis)	541	21.3
A18.3	Tuberculosis of intestines, peritoneum and mesenteric glands	114	4.5
A18.4	Tuberculosis of skin and subcutaneous tissue	87	3.4
A18.5	Tuberculosis of eye	143	5.6
A18.6	Tuberculosis of ear	2	0.1
A18.7	Tuberculosis of adrenal glands	2	0.1
Tuberculosis of other specified organs		34	1.3
A18.8	Pericardium	34	1.3
Tuberculosis of other sites		113	4.5
	Neck Abscess	2	0.1
	Breast	5	0.2
	Palatal Mucosa	1	0.0
	Site not specified	105	4.1
Total		2537	100.0

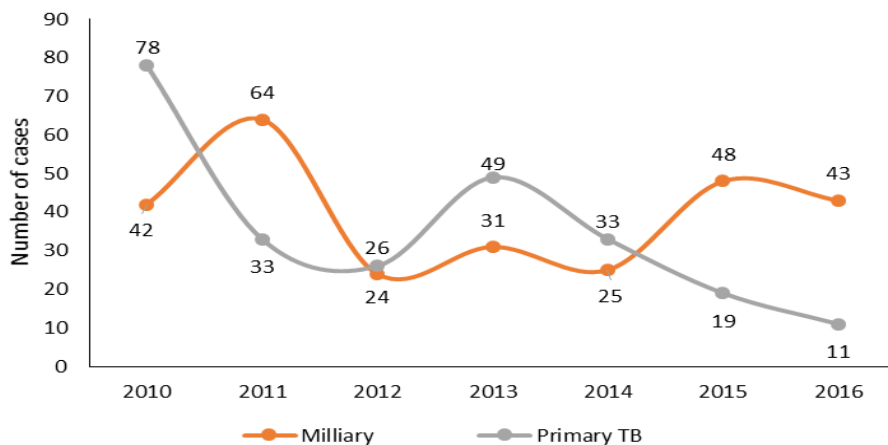


Figure 10: Distribution of Miliary and Primary TB in 2010-2016

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

The highest number (1699, 20.4 %) of new TB cases was in 55-64 age group. The lowest number was in 0-14 age group (263 cases, 3.2 %). Out of 8332 all new cases, 4810 (59.7 %) were in the productive age group of 15-54. More males (5473, 65.7%) were detected than the females (2859, 34.3%). The highest number of new TB cases among males was found in the age group of 55-64 years (21.8%) of 5473 male cases, while that in the females was in the same age group 55-64 (17.7%) of 2859 female cases (Table 13). The number detected among females was slightly higher than the males in the age group of 0-14 years.

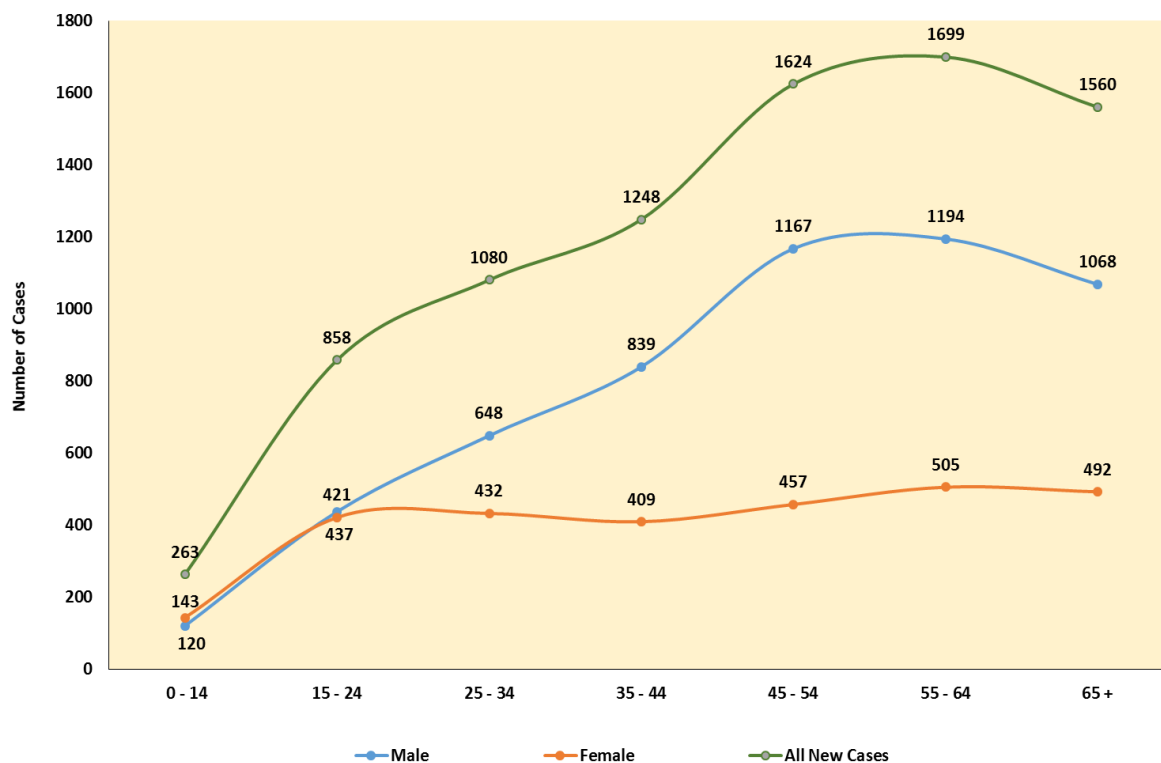


Figure 11: Distribution of All New Cases of TB by Age Group in 2016

Re-Treatment TB Cases

In 2016, 550 (6.2%) re-treatment cases were reported. Three hundred and twenty eight relapses, 103 treatment after Failure, 96 treatment after lost to follow up cases and 23 other previously treated cases accounted for the total of 550 (Table 9).

The highest number of re-treatment cases 176 (32%) was reported from Colombo district and the second highest number was from Gampaha district 55(10%). The total number of retreatment cases in 2016 was less than in 2015 (573).

Among Relapse cases the higher numbers were reported from Colombo, Kandy, Gampaha, Kurunegala ,Kalutara and Galle districts respectively (Table 9).

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

Colombo (47, 26.7 %) and Gampaha (12, 21.8 %) were the districts which reported higher numbers of treatment after lost to follow up cases. Colombo (98 ,55.7 %) district contributed a significant number of cases for the national figure (Table 9).In Kandy(19 ,55.9 %), Gampaha (18 ,32.7 %) and Kurunegala (17,68%) district, Relapse cases contributed to all the total of Retreatment cases. There was'nt any re-treatment cases reported in Mannar District (Figure 10).

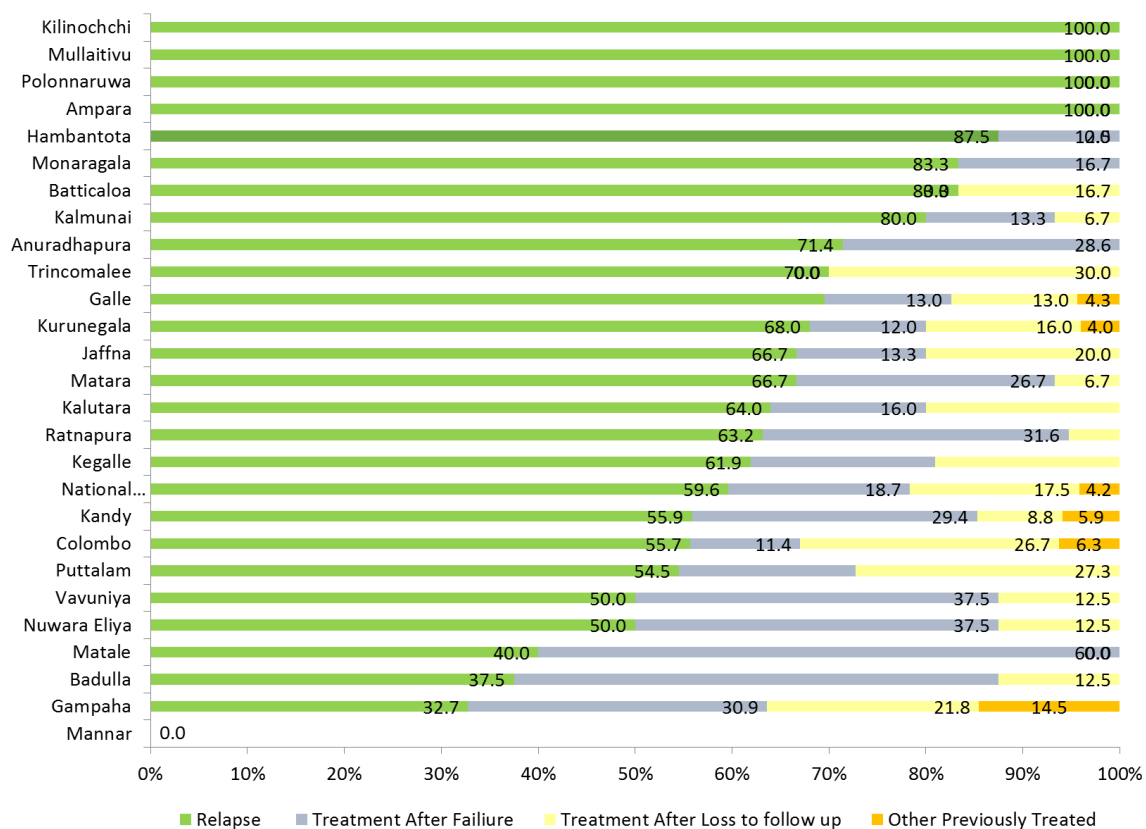


Figure 12: Proportion of Re-Treatment Categories by District in 2016

Multi Drug Resistant Tuberculosis (MDR-TB)

	2010	2011	2012	2013	2014	2015	2016
Number of laboratory confirmed MDRTB patients	8	12	5	4	13	13	17
Number enrolled in treatment in the same year	4	5	4	4	11	13	17
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%)

Multidrug Resistant TB

The incidence of MDR-TB is low in Sri Lanka when compared to other countries in the SEARO region. Seventeen cases of MDR-TB were reported in year 2016 and all 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.

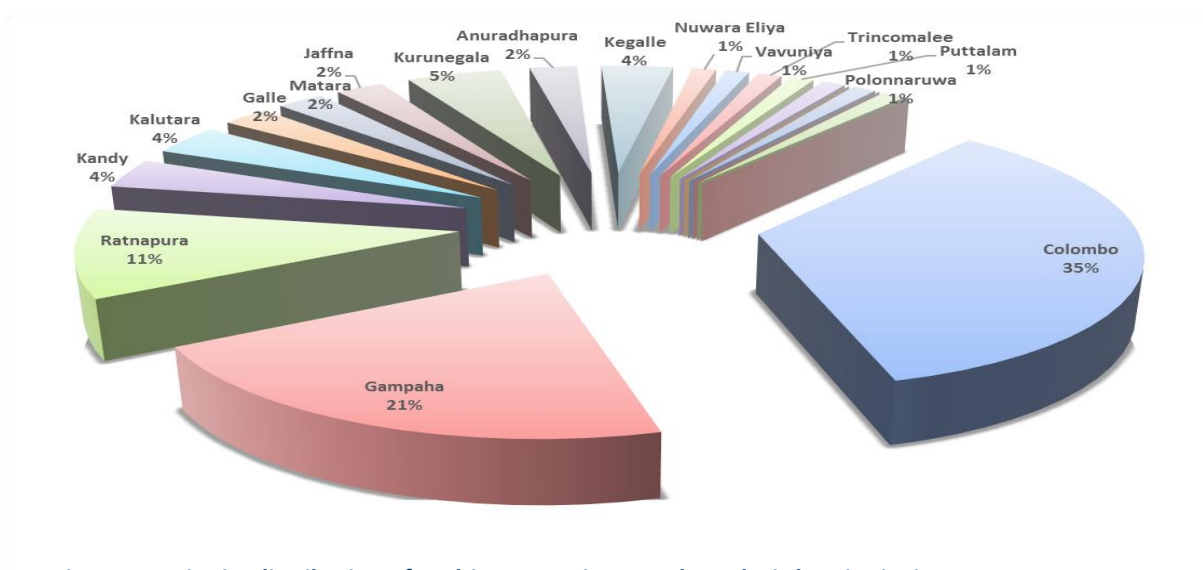


Figure 13: District distribution of Multi Drug Resistant Tuberculosis by District in 2016

Table No: Enrolment of MDRTB cases for treatment from 2006-2016

TB/HIV Co-Infection

HIV testing of all TB patients was made mandatory since 2013. In 2016, 7952 (89.5%) TB patients were screened for HIV. Of these patients, 5 patients were found positive. In addition, there were 7 patients with known HIV status at the time of diagnosis of TB contributing to the total of 12 patients with HIV/ TB co-infection in 2016.

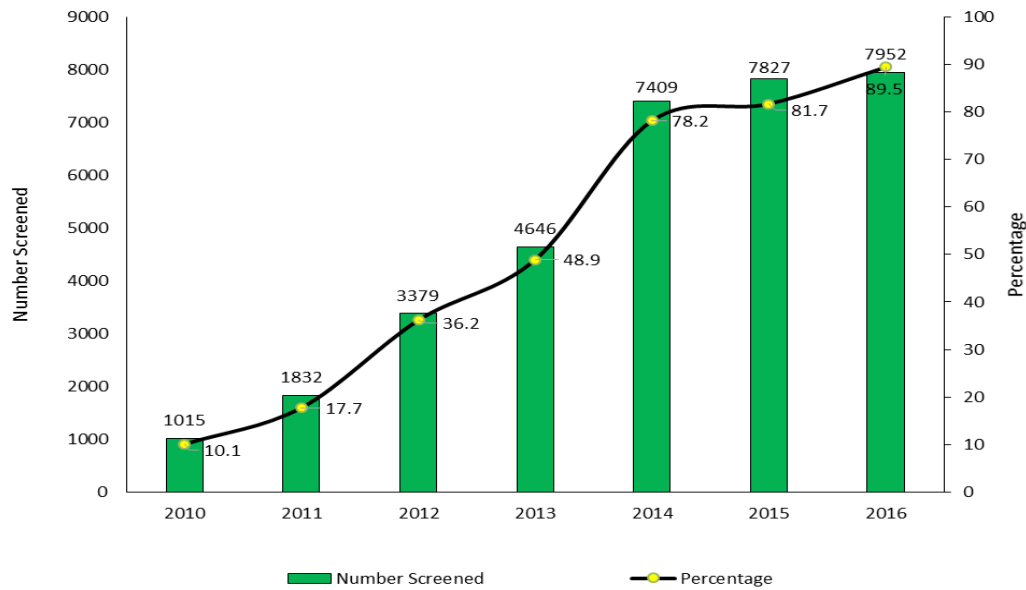


Figure 14: Percentages and Numbers of TB/HIV screening 2010-2016

Treatment Outcome of Tuberculosis

TB among Health Care Workers

In 2016, 99 health care workers had been diagnosed with TB. The majority of them (29, 29.3%) were reported from Colombo District. A higher numbers were reported from Kandy (13) and Gampaha (13) districts.

TB among Foreign Nationals

In 2016, 7 foreign nationals with TB were reported to NPTCCD from Gampaha, (2), Jaffna (3), Vauniya (2) districts.

Treatment Outcome

Outcome data presented below were based on the information provided according to the previous classification for cohort of patients registered in 2015.

Treatment Outcome of All Forms TB Cases

Total number of cases registered for treatment in 2015 was 9575. Out of this, outcome of 368 (3.8%) were not evaluated and in this report, outcome was presented for the rest of the cases (Table 18).

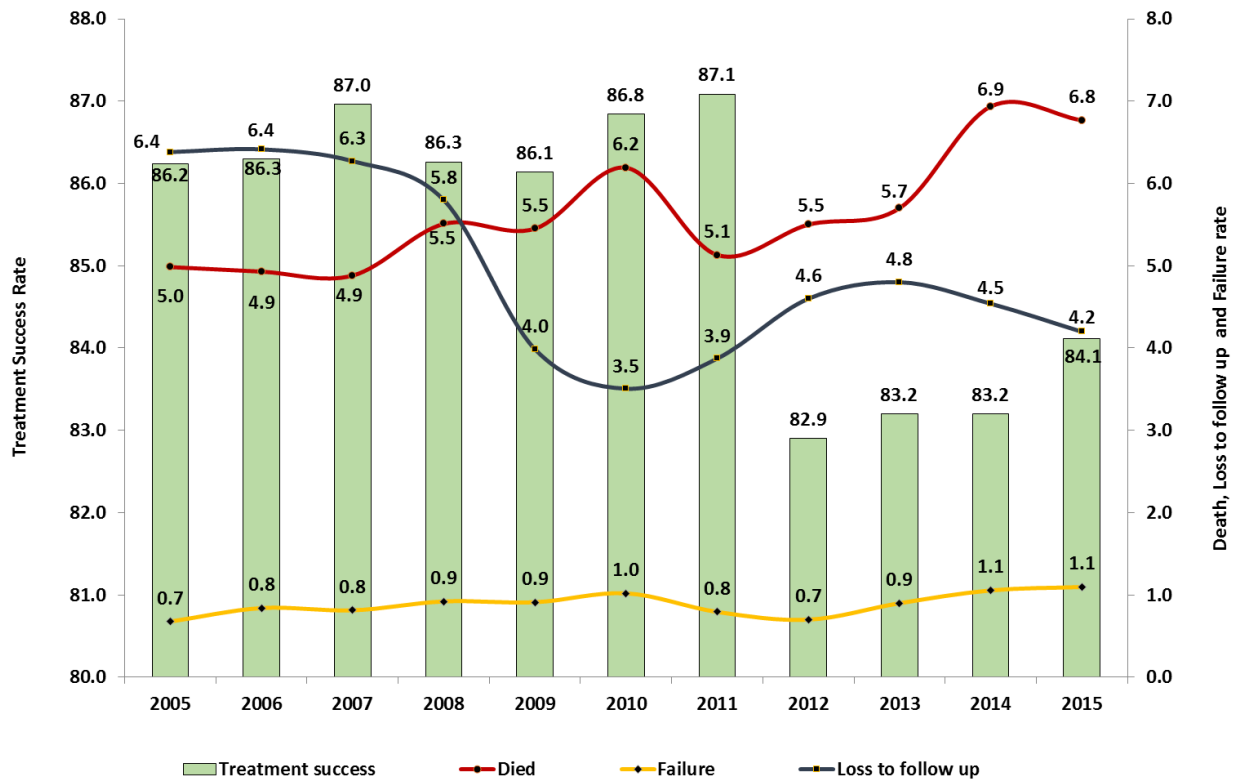


Figure 15: Treatment Outcome of All Forms of TB Cases from 2005-2015

➤ Treatment Success Rate (TSR)

The cure rate among registered cases was 39% (3736 cases) and a further 45.1% (4316 cases) completed treatment, accounting for an overall treatment success rate of 84.1% (8052 cases).

TSR in 2015 was increased when compared to TSR in 2014 which was 83.2% (7902 cases) (Figure 11). There were 10 districts with treatment success rate below the global target of 85% as well as National figure of TSR. These districts were Vauniya (84.7%), Kandy (84.3%), Gampaha (83.7%), Rathnapura(83.5%), Puttalam (83.4%), Kalmunai(80.8%), Colombo(80.5%), Mullaitivu (80.5%), Nuwara-Eliya(80.1%) and Baticoloa (74.3%). Anuradhapura (55.2%) district shows highest cure rate and the Mullathive district showed lowest cure rate (17.1%) and Mulathive(64.8%) district showed the highest treatment completed rate (64.8%) compared to the other districts (Figure 12).

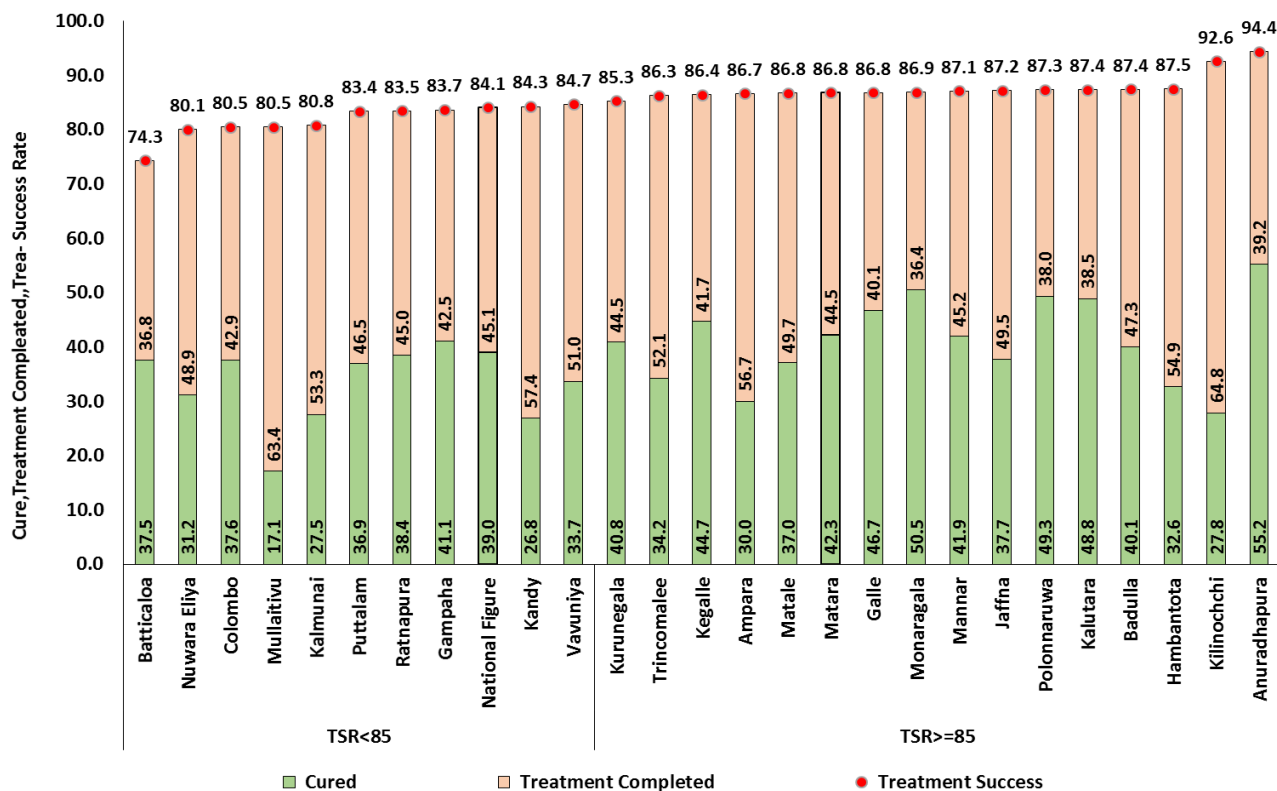


Figure 16: Treatment Success Rate of All Forms of TB According To Districts in 2015

➤ Treatment Failure Rate

The treatment failure rate was 1.1% in 2015 and this figure is same as year 2014. An increase of treatment failure rate have been observed when compared to 2012 and 2013 in contrast to the slightly decreasing trend observed since 2010 to 2012. Gampaha district accounted for the highest failure rate 29(2.7%). Monaragala 2(1.9%), Nuwara-Eliya 5(1.6%), Puttalam 5(2.7%) and Anuradhapura 4 (1.6%) also accounted for the high failure rates (Table 18).

➤ Lost to Follow Up Rate

The Lost to Follow Up rate was 4.2% in Sri Lanka in 2015 and there was a slight decrease (4.5%) when compared year 2014. The highest Lost to Follow Up rate was reported in Colombo 168 (7.4%). Rathnapura 35(5.9%), Kalmunai 14(5.8%) and Gampaha 54 (5.1%) also accounted for high Lost to Follow Up rates (Table 18).

➤ Death Rate

There were 648 (6.8%) deaths among the cohort of TB patients registered in year 2015. The highest number of deaths (157, 6.9%) were reported from Colombo district. More than forty deaths were reported in Kurunegala (42, 8.5%), Rathnapura (42, 7.1%), Kandy (43, 6.2%) and Gampaha (59, 5.5%) districts. Though number of deaths were very low, the highest death rate was reported from Mullathive District (7, 17.1%). Five districts showed the death rate above the 5% (Table 18).

Treatment Outcome of New PTB Cases

➤ Treatment Success Rate

In 2015, 6291 new PTB cases were registered for treatment. Of these cases 190 (3%) were in the category of not been evaluated.

The cure rate among registered cases was 3467 (55.1%) and a further 1843 (29.3%) completed treatment, giving an overall treatment success rate of 5310 (84.4%). The lowest treatment success rate was shown in Batticaloa district 69 (74.2%). Colombo, Gampaha, Kandy, Nuwara-Eliya, Vavuniya, Kalmunai, Puttalam, Rathnapura, and Mullathive districts were below the global target 85% of TSR (Table 20).

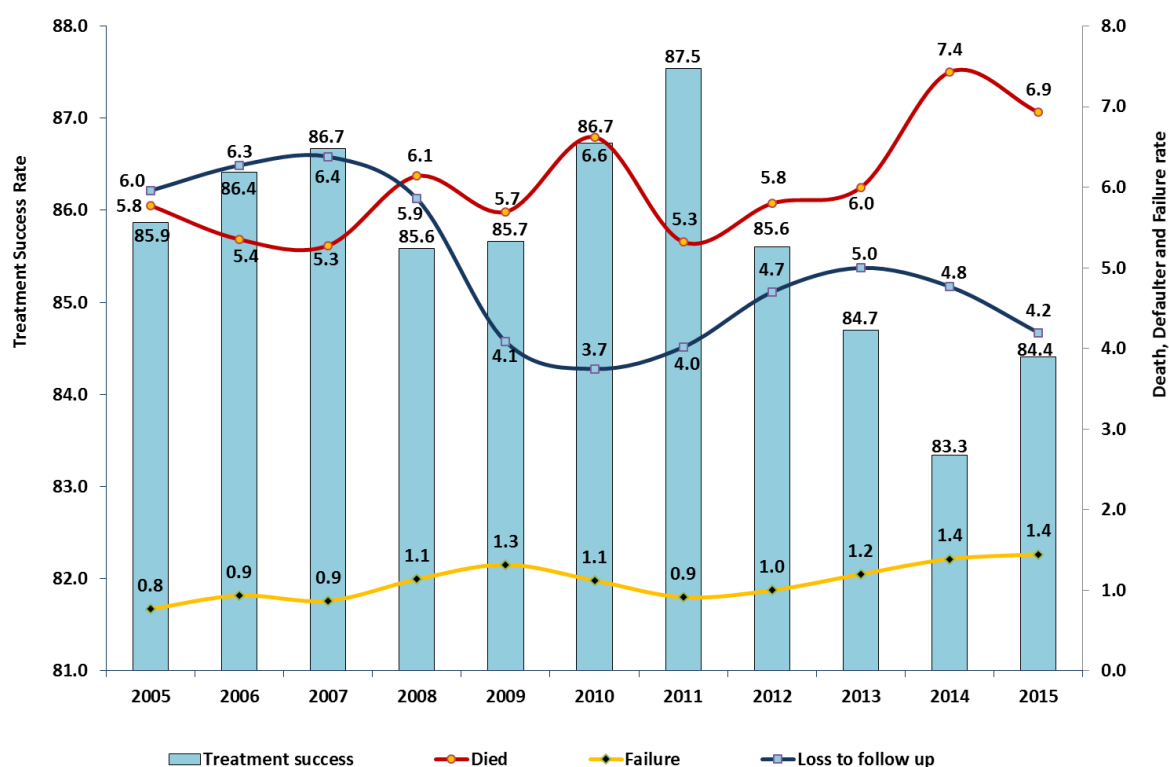


Figure 17: Treatment Outcome of New Pulmonary TB Cases from 2005-2015

➤ Treatment Failure Rate

Treatment failure rate among all new PTB cases was 91 (1.4%). A gradual increasing trend of treatment failure rate have been observed since 2011. The highest rate 3 (6.8%) of all new PTB cases was reported from Vavuniya District (Table 20).

➤ Lost to Follow Up Rate

The Lost to Follow Up rate was 292(4.8 %) among all new cases. The highest Lost to Follow Up rate was reported in Colombo 106 (7.4%).

Mannar 1 (5.9%), Kalmunai 11 (5.7%) and Rathnapura 21 (5.5%) also accounted for high Lost to Follow Up rates which are above the global target of 5% (Table 20).

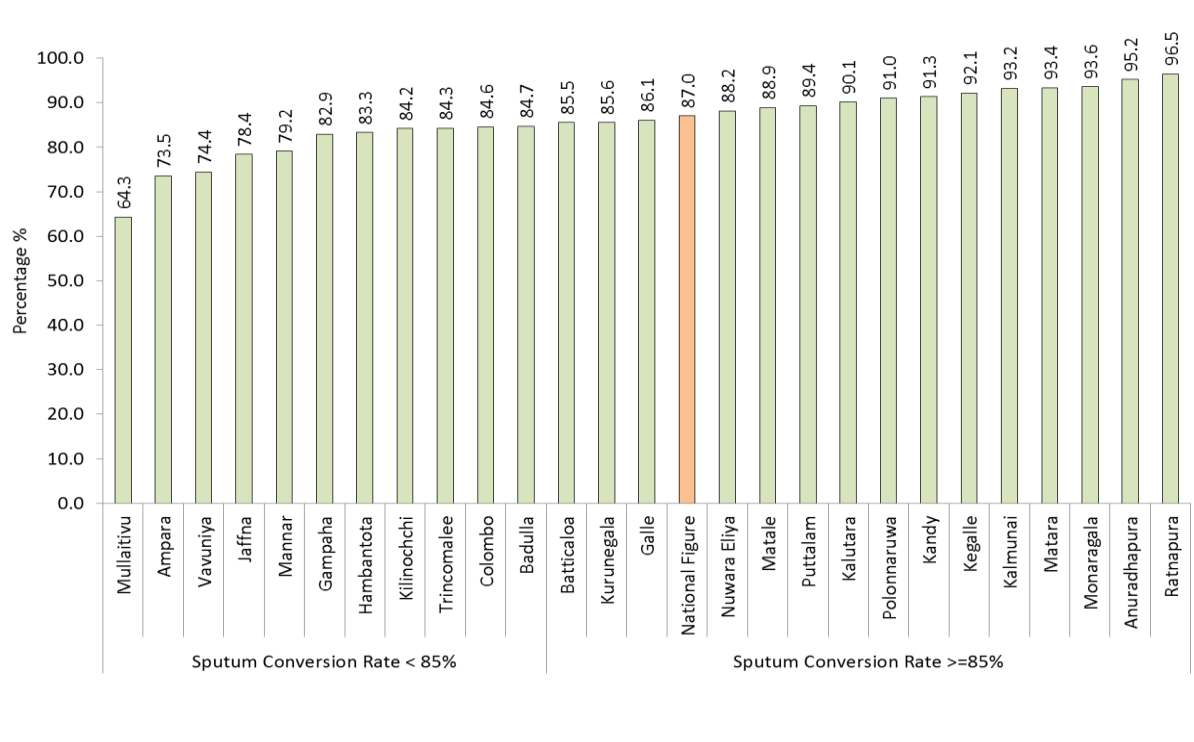
➤ Death Rate

The death rate was 436 (6.9%) among all new PTB cases and the highest death rate (5, 20%) was in Mullathive District. Ampara (9, 14.1%), Matale (13, 12%), Polonnaruwa (13, 12%) and Puttalam (11, 10%) districts also showed higher death rates (Table 20).

Treatment Outcome of New Bacteriology Confirmed cases

➤ Sputum Conversion Rate

Sputum conversion rate at the end of intensive phase for Sri Lanka was 87.0% in 2016 and varied from lowest of Mullathive (64.3%) to highest of Rathnapura (96.5%) (Figure 14).



Treatment Success Rate

In 2015, 4347 new sputum positive cases were registered for treatment. The cure rate among registered cases was 3467(79.8%) and a further 240 (5.5%) completed treatment (no laboratory confirmation of cure), giving an overall treatment success rate of 3707 (85.3%). This was an increase in comparison to 2014 where the treatment success rate was 83.9%. The failure rate remained low at 1.9% with 8 Districts not having any single case of treatment failure. The Loss to follow up rate was 4.6 % with only 7 Districts having lost to follow up rates above 5% (WHO target < 5%) and with 6 Districts were not having any single case of lost to follow up.(Figure 15).

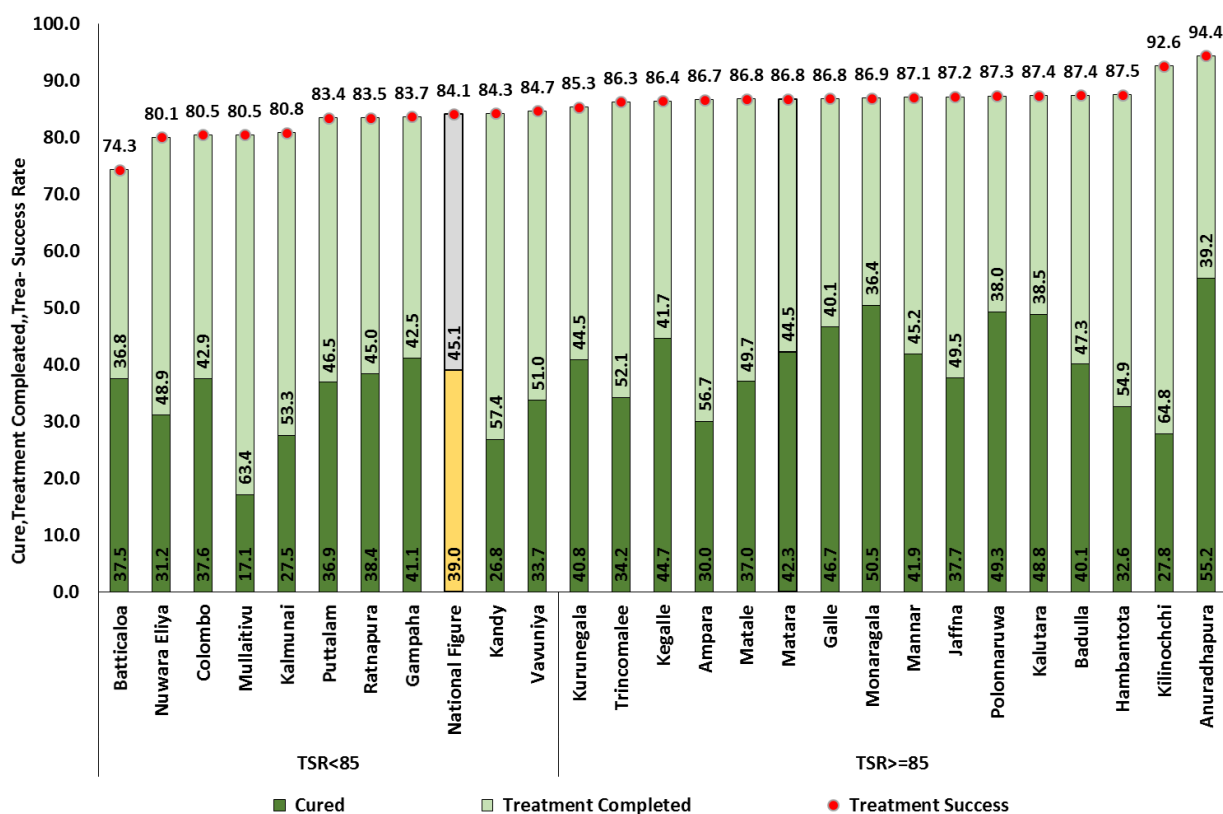


Figure 19: Treatment Success Rates of New Smear Positive Cases by Districts in 2015

➤ Treatment Failure Rate

The failure rate among new Bacteriology Confirmed patients was 1.9%. Eight districts had not reported any treatment failures in 2015. The highest failure rate was 24(4.8%) which was reported from Gampaha district (Table 21) The failure rate among new sputum smear positive cases was (1.9%, 81) in 2015.

➤ Lost to Follow Up Rate

The Lost to Follow Up rate among new Bacteriology Confirmed patients was 4.6%. The Lost to Follow Up rate among new sputum smear positive cases was 202 (4.6%) in 2015. The highest Lost to Follow Up rate was reported in 87 (8.2%) Colombo district. Higher Lost to Follow Up rates were reported from Mannar 1(7.7%), Hambantota 3 (6%), Kalmunai 5(5.9%) Rathnapura 17(5.9%), Galle 13(5.3%) and Gampaha 28(5.6%) while six districts reported zero lost to follow up rates (Table 21).

➤ Death Rate

The death rate 287(6.6%) in 2015 was decreased when compared with 2014 316(7.4%). The highest death rate was reported from Mullaitivu District 3(25%). Kalmunai 11 (12.9%), Vavuniya 5(11.4%), Matara 10(9.9%), Polonnaruwa 7(9.7%), and Puttalam 7(9%) also account for higher death rates (Table 21).

Treatment Outcome of previously treated Patients

In 2015, of the 632 registered retreatment cases, only 270(42.7%) cases were cured while other 158 (25%) cases had completed treatment giving a treatment success rate of 67.7% (428 cases). The low treatment success rate in this group was mainly due to the high lost to follow up rate (11.2% 71 cases,) and high death rate (10%,63 deaths). In addition, there were 8(1.3%) of treatment failures among retreatment cases in 2015. Another 62 (9.8%) were not evaluated (Table 24).

Treatment Outcome of Sputum Negative and Culture Positive Cases

In 2015, 166 new sputum negative culture positive cases were registered for treatment. The cure rate among registered cases was 114(68.7%) and a further 43 (25.9%) completed treatment (no laboratory confirmation of cure), giving an overall treatment success rate of 94.6% (157 cases).

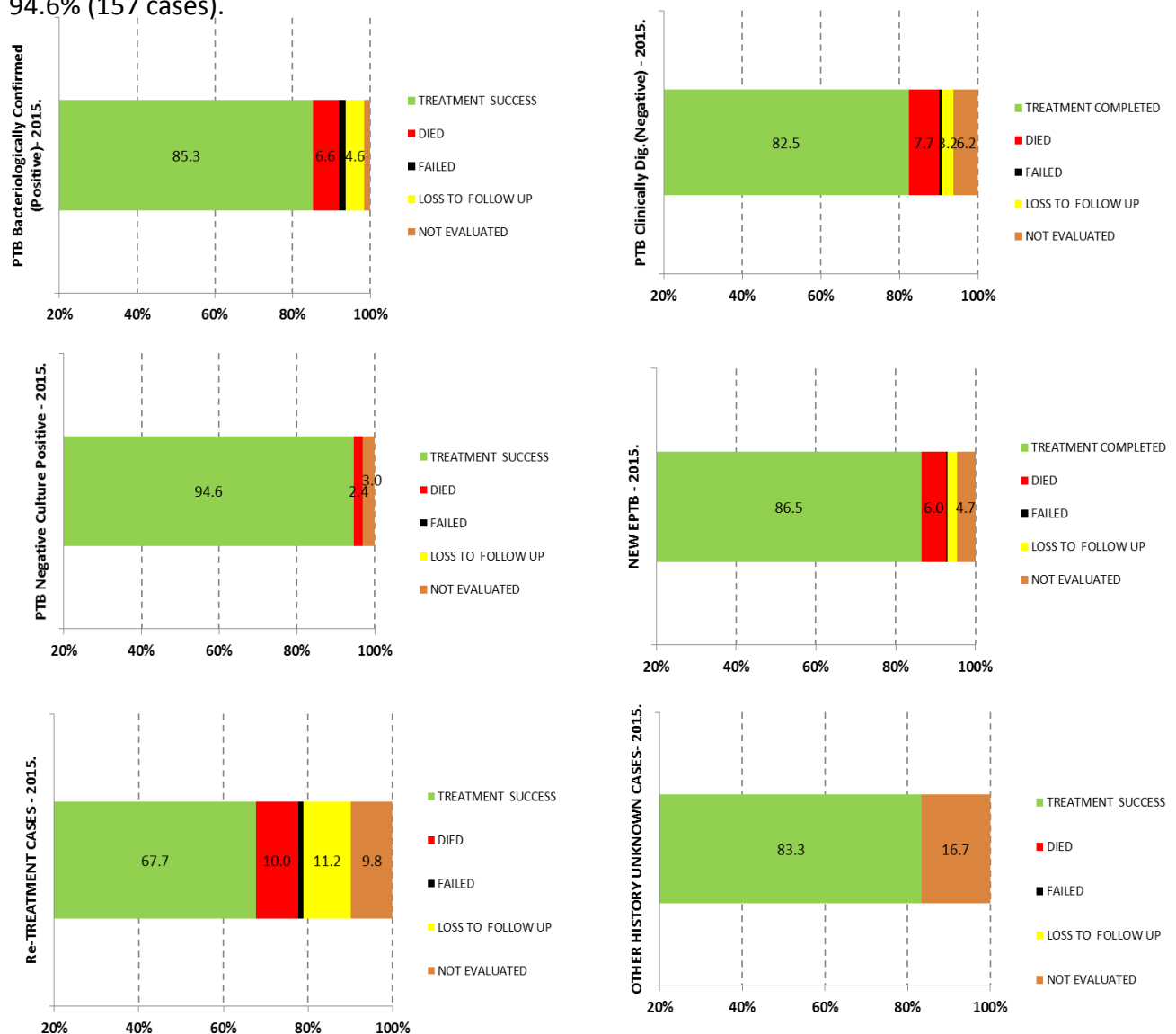


Figure 20: Treatment Outcome Summary of TB Patients (New Smear Positive, New Smear Negative New EPTB, Re-Treatment and Other history unknown cases in 2015)

DOTS Coverage

Population coverage of DOTS in the country is 100% since 2010 (Figure 17).

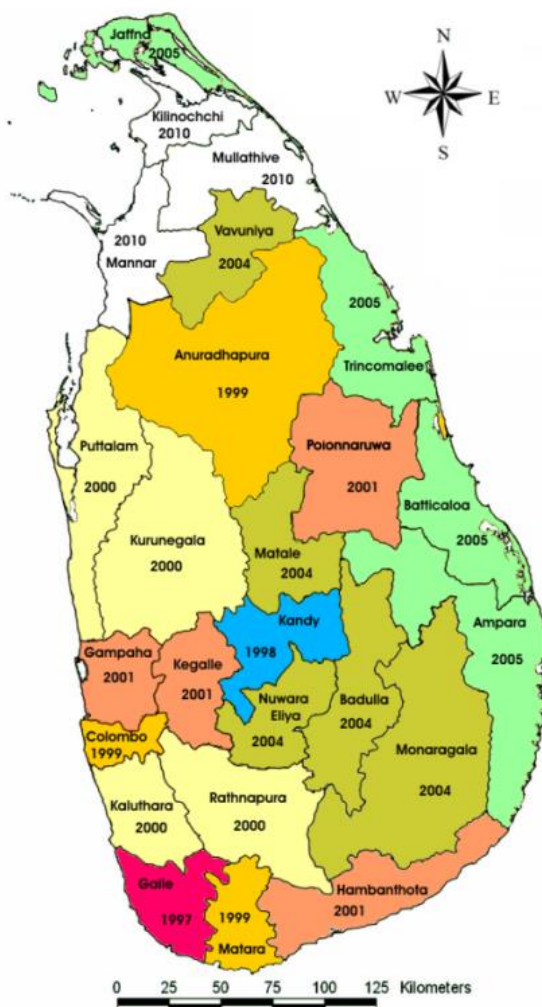
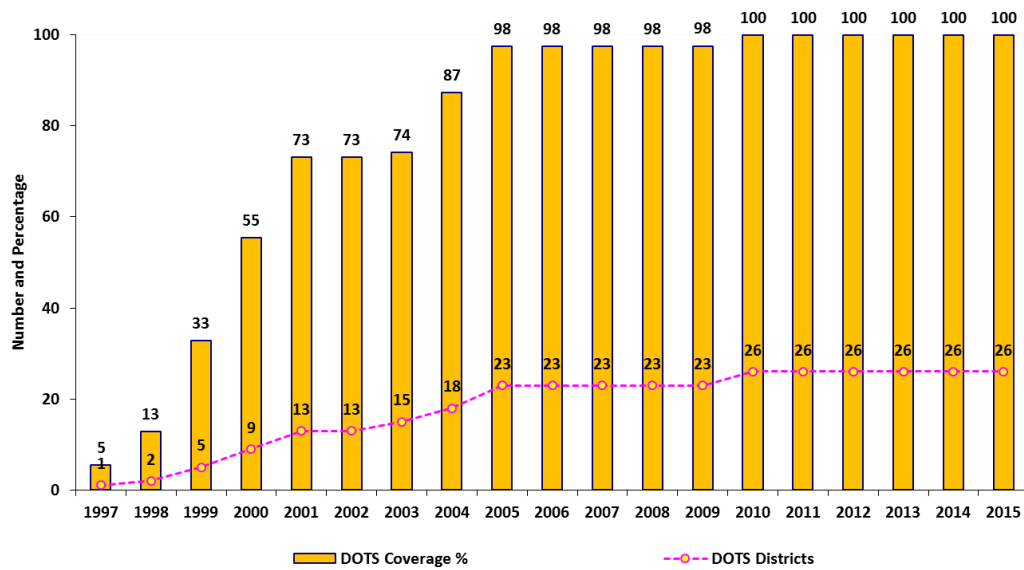


Figure 21: DOTS Coverage from 1997-2015 with Map of Year Achieved

PART II

Activity Report

Several important activities were carried out in 2016 in view of improving the quality of services provided by the NPTCCD

Tuberculosis

- The NPTCCD has revised the existing National Manual for Tuberculosis Control in view of incorporating new advances in TB diagnostics and revised TB definitions. External technical expertise was obtained in this regard.
- Key three year plans i.e Monitoring and Evaluation Plan for NPTCCD, Programmatic management of Drug Resistant TB services expansion plan and Gene Xpert expansion plan were prepared as supportive documents for programme management and planning.
- Initiatives were taken to promote Operational Research. A 12 member research committee was established and its main aims were to promote research on TB and take evidence based approaches in TB control. The committee consists of experienced researchers from the fields of Medicine, Pediatrics, Respiratory Medicine, Public Health, Microbiology and Sociology.
- For the first time in the NPTCCD history proposals for research on TB were called. Out of the 13 proposals received, five research projects were selected after a thorough independent review and funded through the GFATM project.
- NPTCCD has initiated a long felt need of a Drug Resistant survey and research protocol was finalized. Consultant Microbiologist is the principal investigator of this study.
- NPTCCD has taken steps to conduct a Knowledge Attitudes & Practices survey on TB among general population.
- Green Light Committee and Global Drug Facility annual missions were carried out successfully. Useful recommendations were given to improve anti TB drug management.
- 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. Expansion of WHO recommended diagnostics (WRDS) services was carried out.

- External Quality Assurance of microscopy centers and DCC laboratories were further continued.
- 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.
- 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
- Bi-monthly DTCO reviews were conducted regularly at the central level to monitor and evaluate district chest clinic activities.
- Exhibitions



- 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

➤ Art Completions



- A regular supervisory visits were conducted by the team from central unit of the NPTCCD and NTRL 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.
- World TB day was commemorated on 24th March 2016 in Colombo under the theme of “4000 undetected, Reach, Treat, and Cure for all” with the participation of large number of different stakeholders.





Respiratory Diseases

- The newly formulated unit for control of respiratory diseases was further equipped by appointing a medical officer for respiratory health.
- A media seminar on Asthma was conducted for large number of media personnel at the Health Education Bureau of Ministry of Health. In parallel to Asthma day several radio & television programmes also conducted.
- World Asthma Day was celebrated in 14th May 2016 with collaboration of College of Pulmonologists of Sri Lanka targeting school children

Major Challenges

Activities

Following activities were implemented under the key strategies of the National Programme for Tuberculosis Control and Chest Diseases in 2016.

The following factors were identified as major challenges.

The following factors were identified as major challenges for TB control.

1. Maintaining trained health man power for TB control and addressing the maldistribution of human resources
2. Reaching the unreached population groups such as population groups with limited access to services i.e. urban poor, estate workers, drug addicts
3. Providing TB care services for prisoners, 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
6. Reduction of TB deaths
7. Overcoming the TB-related stigma
8. Provision of social benefits and nutritional support for TB patients and their families
9. Financial sustainability of the National Tuberculosis Programme
10. Addressing 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 2016, 211,661 new patients were registered at District Chest Clinics. Out of these patients, (78,668 ,37.2 %) were self-referrals. Others included referrals from general health institutions or private practitioners (53,061,25.1%), contacts of TB patients (14,263, 6.7%) and persons came for medical examinations (65,669, 31%).

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.

Table 3: Utilization of TB/Respiratory Curative Care Facilities in 2016

Health Facility	Total OPD Attendance (First Visits)	No of beds	Inward patients			
			TB		Non TB	
			Male	Female	Male	Female
Chest Clinics	211,661					
Chest Wards						
PGH Badulla		37	64	37	871	438
TH Batticaloa		16	34	15	122	114
DGH Kalutara		60	154	70	536	375
DH Kopay		20	150	67	0	0
DGH Matale		39	79	21	592	236
DH Eheliyagoda		38	92	36	0	0
BH Cheddikkulam		56	26	5	1480	1202
TH Anuradhapura		36	86	20	484	396
Total		302	685	271	4085	2761

*Information for Kurunagala and Puttalam not available

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 2016.

Year	Laboratory	Number of tests performed	Number of specimens with +ve results
2016	NTRL	2765	

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.

In 2016, 22590 slides were checked for EQA and 24(1.73%) false positives and 26(0.12%) false negatives were identified (Table 5).

Initial Reading	No. of slides checked	True	Low	High	Percentage of discordance
+ve slides	1385	1361	7	17	1.73
-ve slides	21205	21179	8	18	0.12

Table 5: EQA Results of Sputum Smear Microscopy in 2016

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	: 12,988
✓ Number of Large Films	: 82,313
✓ Total	: 95,301
✓ Digital Films	: 20,089

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 Miliary 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 1622 revaccinations carried out in chest clinics.

Detailed Tables

Table 6: Notification of New TB Cases in Sri Lanka from 2005 – 2016

Year	PTB		EPTB		Total		PTB Positive	
	No	Rate	No	Rate	No	Rate	No	Rate
2005	7927	40.1	1521	7.7	9448	47.9	5241	26.5
2006	6771	33.9	1831	9.2	8602	43.0	4892	24.5
2007	6845	33.8	1969	9.7	8814	43.5	4805	23.7
2008	7041	34.3	2173	10.6	9214	44.9	4941	24.1
2009	7271	35.0	2372	11.4	9643	46.4	5186	25.0
2010	7055	33.5	2430	11.6	9485	45.1	4925	23.4
2011	6789	33.5	2420	11.9	9209	45.4	4465	22.0
2012	6169	30.4	2353	11.6	8522	42.1	4276	21.1
2013	6062	29.7	2166	10.6	8228	40.3	4342	21.3
2014	5818	28.3	2525	12.3	8343	40.6	4108	20.0
2015	6117	29.3	2650	12.7	8767	42.0	4250	20.4
2016	6005	28.4	2711	12.8	8716	41.2	4323	20.4

Source: Health 816 A

Table 7: Annual Mortality of All TB Cases from 2004-2016

Year	Mortality	
	Number	Rate per 100,000 population
2004	422	2.2
2005	446	2.3
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

Table 8: Distribution Rates of all TB cases by District of Residence in 2016

District	Estimated Mid-Year Population	No. of Cases Detected	No. of Cases Per 100,000 Population
Colombo	2,393,142	2156	90.1
Gampaha	2,369,606	1083	45.7
Kalutara	1,258,728	570	45.3
Kandy	1,430,195	566	39.6
Matale	507,588	161	31.7
Nuwara Eliya	747,370	271	36.3
Galle	1,099,912	419	38.1
Matara	843,316	240	28.5
Hambantota	636,853	121	19.0
Jaffna	600,876	291	48.4
Vavuniya	181,766	72	39.6
Batticaloa	546,791	141	25.8
Ampara	263,484	95	36.1
Kalmunai	423,538	187	44.2
Trincomalee	403,423	153	37.9
Kurunegala	1,671,821	429	25.7
Puttalam	799,710	199	24.9
Anuradhapura	902,930	252	27.9
Polonnaruwa	423,574	122	28.8
Badulla	853,066	234	27.4
Monaragala	478,459	105	21.9
Ratnapura	1,138,787	510	44.8
Kegalle	867,686	395	45.5
Mannar	105,306	38	36.1
Mullaitivu	94,761	35	36.9
Kilinochchi	121,770	41	33.7
Total	21164458	8886	42.0

Table 9: All TB Case Detection by District of Registration in 2016

District	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					
Colombo	1024	366	587	1977	80	9	9	98	19	0	1	20	44	3	0	47	6	1	4	11	149	13	14	176	2	0	1	3	2156
Gampaha	545	230	252	1027	14	2	2	18	17	0	0	17	12	0	0	12	0	4	4	8	43	6	6	55	1	0	0	1	1083
Kalutara	294	79	172	545	13	0	3	16	4	0	0	4	5	0	0	5	0	0	0	0	22	0	3	25	0	0	0	0	570
Kandy	196	145	191	532	9	3	7	19	8	2	0	10	2	1	0	3	1	1	0	2	20	7	7	34	0	0	0	0	566
Matale	72	27	57	156	1	0	1	2	2	0	1	3	0	0	0	0	0	0	0	0	3	0	2	5	0	0	0	0	161
Nuwara Eliya	93	78	84	255	5	2	1	8	4	0	2	6	1	1	0	2	0	0	0	0	10	3	3	16	0	0	0	0	271
Galle	208	75	113	396	9	2	5	16	3	0	0	3	3	0	0	3	0	1	0	1	15	3	5	23	0	0	0	0	419
Matara	106	34	85	225	9	1	0	10	4	0	0	4	1	0	0	1	0	0	0	0	14	1	0	15	0	0	0	0	240
Hambantota	36	30	47	113	5	0	2	7	1	0	0	1	0	0	0	0	0	0	0	0	6	0	2	8	0	0	0	0	121
Jaffna	102	89	85	276	3	5	2	10	2	0	0	2	2	1	0	3	0	0	0	0	7	6	2	15	0	0	0	0	291
Vavuniya	43	7	14	64	4	0	0	4	3	0	0	3	0	0	1	1	0	0	0	0	7	0	1	8	0	0	0	0	72
Batticaloa	83	15	37	135	4	0	1	5	0	0	0	0	0	0	1	1	0	0	0	0	4	0	2	6	0	0	0	0	141
Ampara	34	35	20	89	5	1	0	6	0	0	0	0	0	0	0	0	0	0	0	0	5	1	0	6	0	0	0	0	95
Kalmunai	74	72	26	172	7	5	0	12	1	1	0	2	0	1	0	1	0	0	0	0	8	7	0	15	0	0	0	0	187
Trincomalee	51	55	37	143	4	2	1	7	0	0	0	0	1	2	0	3	0	0	0	0	5	4	1	10	0	0	0	0	153
Kurunegala	201	63	140	404	15	1	1	17	3	0	0	3	4	0	0	4	0	0	1	1	22	1	2	25	0	0	0	0	429
Puttalam	94	28	66	188	5	0	1	6	2	0	0	2	2	1	0	3	0	0	0	0	9	1	1	11	0	0	0	0	199
Anuradhapura	147	24	67	238	7	1	2	10	4	0	0	4	0	0	0	0	0	0	0	0	11	1	2	14	0	0	0	0	252
Polonnaruwa	67	15	29	111	8	2	1	11	0	0	0	0	0	0	0	0	0	0	0	0	8	2	1	11	0	0	0	0	122
Badulla	98	46	74	218	5	1	0	6	8	0	0	8	1	0	1	2	0	0	0	0	14	1	1	16	0	0	0	0	234
Monaragala	47	17	35	99	5	0	0	5	1	0	0	1	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	105
Ratnapura	230	80	181	491	7	2	3	12	6	0	0	6	0	1	0	1	0	0	0	0	13	3	3	19	0	0	0	0	510
Kegalle	191	82	101	374	8	1	4	13	4	0	0	4	2	1	1	4	0	0	0	0	14	2	5	21	0	0	0	0	395
Mannar	24	7	7	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38
Mullaitivu	14	7	11	32	2	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	3	0	0	0	0	35
Kilinochchi	19	8	7	34	4	2	1	7	0	0	0	0	0	0	0	0	0	0	0	0	4	2	1	7	0	0	0	0	41
Total	4093	1714	2525	8332	238	42	48	328	96	3	4	103	80	12	4	96	7	7	9	23	421	64	65	550	3	0	1	4	8886

Table 10: Distribution of New Cases of TB by Province in 2016

Province	Number of Patients													
	PTB Bacteriologically Confirmed	Rate	PTB Clinically Diagnosed	Rate	EPTB	Rate	All New	Rate	Re-treatment	Rate	Previous Treatment History Unknown	Rate	All TB	Rate
Western	1863	30.9	675	11.2	1011	16.8	3549	58.9	256	4.3	4	0.1	3809	63.3
Central	361	13.4	250	9.3	332	12.4	943	35.1	55	2.0	0	0.0	998	37.2
Sabaragamuwa	421	21.0	162	8.1	282	14.1	865	43.1	40	2.0	0	0.0	905	45.1
Southern	350	13.6	139	5.4	245	9.5	734	28.4	46	1.8	0	0.0	780	30.2
North Western	295	11.9	91	3.7	206	8.3	592	24.0	36	1.5	0	0.0	628	25.4
Eastern	242	14.8	177	10.8	120	7.3	539	32.9	37	2.3	0	0.0	576	35.2
Northern	202	18.3	118	10.7	124	11.2	444	40.2	33	3.0	0	0.0	477	43.2
North Central	214	16.1	39	2.9	96	7.2	349	26.3	25	1.9	0	0.0	374	28.2
Uva	145	10.9	63	4.7	109	8.2	317	23.8	22	1.7	0	0.0	339	25.5
Total	4093	19.3	1714	8.1	2525	11.9	8332	39.4	550	2.6	4	0.0	9575	45.2

Table 11: Distribution of new cases of TB by Age and Type in 2016

Age Group	Number of Patients							
	Smear Positive	Rate	Smear Negative	Rate	EPTB	Rate	All New	Rate
0 - 14	24	0.4	75	1.3	164	2.9	263	4.7
15 - 24	403	10.2	105	2.7	350	8.9	858	21.8
25 - 34	494	14.3	170	4.9	416	12.0	1080	31.2
35 - 44	661	24.1	184	6.7	403	14.7	1248	45.6
45 - 54	920	54.7	300	17.8	404	24.0	1624	96.5
55 - 64	865	78.4	401	36.4	433	39.3	1699	154.1
65 +	726	27.6	479	18.2	355	13.5	1560	59.4
Total	4093	19.3	1714	8.1	2525	11.9	8332	39.4

Table 12: Distribution of New Cases of TB by Age and Sex in 2016

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	2,880,483	120	4.2	2,730,215	143	5.2	5,610,698	263	4.7
15 - 24	1,738,065	437	25.1	2,201,104	421	19.1	3,939,169	858	21.8
25 - 34	1,739,717	648	37.2	1,724,903	432	25.0	3,464,620	1080	31.2
35 - 44	1,130,182	839	74.2	1,608,499	409	25.4	2,738,681	1248	45.6
45 - 54	857,161	1167	136.1	825,414	457	55.4	1,682,575	1624	96.5
55 - 64	586,255	1194	203.7	516,413	505	97.8	1,102,668	1699	154.1
65 +	1,337,594	1068	79.8	1,288,453	492	38.2	2,626,047	1560	59.4
Total	10,269,457	5473	53.3	10,895,001	2859	26.2	21,164,458	8332	39.4

Table 13: Age and Sex Distribution of All New TB Cases by District in 2016

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	20	20	104	139	202	304	259	135	61	1244	24	24	121	93	109	125	125	87	25	733	1244	733	1977
Gampaha	4	6	50	84	113	144	145	109	45	700	2	8	43	51	45	52	64	45	17	327	700	327	1027
Kalutara	1	10	23	40	64	86	68	48	18	358	0	3	23	39	35	33	31	16	7	187	358	187	545
Kandy	6	5	23	31	53	70	72	69	14	343	4	6	29	27	21	29	38	24	11	189	343	189	532
Matale	1	2	14	13	25	23	14	12	3	107	2	0	9	5	8	5	11	6	3	49	107	49	156
Nuwara Eliya	1	0	17	23	26	34	28	24	2	155	5	5	16	16	12	16	12	17	1	100	155	100	255
Galle	0	0	22	35	31	55	57	43	15	258	3	0	24	12	22	20	25	19	13	138	258	138	396
Matara	2	0	9	18	18	29	34	18	11	139	0	4	9	12	9	14	14	15	9	86	139	86	225
Hambantota	0	2	6	7	13	22	20	8	6	84	1	1	4	3	10	3	2	5	0	29	84	29	113
Jaffna	0	3	17	23	29	27	36	32	11	178	0	3	12	16	10	12	20	20	5	98	178	98	276
Vavuniya	0	1	2	7	6	8	13	7	0	44	0	0	4	3	5	2	3	3	0	20	44	20	64
Batticaloa	1	1	10	6	10	14	25	14	8	89	0	0	8	5	8	13	6	4	2	46	89	46	135
Ampara	0	0	2	6	6	10	17	14	5	60	0	1	2	4	3	4	2	10	3	29	60	29	89
Kalmunai	1	0	5	11	13	18	36	26	6	116	1	2	8	11	7	8	13	5	1	56	116	56	172
Trincomalee	0	0	6	8	18	14	27	20	7	100	2	3	3	6	3	2	13	10	1	43	100	43	143
Kurunegala	1	2	17	32	41	69	70	32	18	282	1	4	14	29	14	22	24	7	7	122	282	122	404
Puttalam	2	1	10	15	20	30	30	19	5	132	0	3	8	10	6	6	12	11	0	56	132	56	188
Anuradhapura	0	3	15	22	25	29	45	22	9	170	3	1	11	11	7	15	12	7	1	68	170	68	238
Polonnaruwa	0	1	9	7	8	22	20	15	3	85	0	0	1	5	2	5	7	4	2	26	85	26	111
Badulla	3	6	20	23	26	22	24	7	3	134	7	3	13	15	17	12	11	4	2	84	134	84	218
Monaragala	5	0	11	11	9	17	10	6	2	71	1	3	4	8	2	2	2	5	1	28	71	28	99
Ratnapura	1	4	28	44	45	69	78	36	18	323	2	4	33	26	23	29	24	24	3	168	323	168	491
Kegalle	1	3	11	33	29	37	54	47	14	229	0	4	19	21	23	25	28	23	2	145	229	145	374
Mannar	0	0	1	4	2	8	5	3	0	23	1	0	0	3	4	3	1	3	0	15	23	15	38
Mullaitivu	0	0	1	4	4	4	2	4	3	22	0	1	2	1	4	0	2	0	0	10	22	10	32
Kilinochchi	0	0	4	2	3	2	5	10	1	27	0	1	1	0	0	0	3	1	1	7	27	7	34
Total	50	70	437	648	839	1167	1194	780	288	5473	59	84	421	432	409	457	505	375	117	2859	5473	2859	8332

Table 14: Age and Sex Distribution of Smear Positive New TB Cases by District in 2016

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	53	83	138	205	150	84	27	742	0	3	41	32	48	62	55	32	9	282	742	282	1024
Gampaha	0	1	29	45	73	97	85	56	21	407	0	2	30	16	18	19	27	22	4	138	407	138	545
Kalutara	0	0	8	25	38	49	44	29	9	202	0	0	9	15	15	18	22	9	4	92	202	92	294
Kandy	0	2	7	11	26	34	38	22	5	145	0	1	6	10	9	10	9	5	1	51	145	51	196
Matale	0	0	7	4	19	12	5	4	2	53	0	0	5	2	2	2	4	3	1	19	53	19	72
Nuwara Eliya	0	0	9	12	10	20	6	8	0	65	0	2	8	9	1	4	1	3	0	28	65	28	93
Galle	0	0	11	17	17	33	37	27	9	151	0	0	11	3	9	8	13	8	5	57	151	57	208
Matara	0	0	5	9	10	19	12	10	4	69	0	0	6	7	5	3	5	5	6	37	69	37	106
Hambantota	0	1	2	1	4	8	8	3	4	31	0	0	0	1	3	0	1	0	0	5	31	5	36
Jaffna	0	1	5	9	13	15	14	10	3	70	0	0	5	6	3	6	6	5	1	32	70	32	102
Vavuniya	0	0	1	5	3	6	10	4	0	29	0	0	3	0	4	2	3	2	0	14	29	14	43
Batticaloa	0	0	5	3	5	12	17	10	5	57	0	0	5	4	2	8	3	3	1	26	57	26	83
Ampara	0	0	1	1	4	6	6	8	1	27	0	0	1	0	1	1	1	1	2	7	27	7	34
Kalmunai	0	0	0	4	8	12	17	17	2	60	0	0	2	2	2	1	5	2	0	14	60	14	74
Trincomalee	0	0	1	3	8	4	13	6	3	38	0	0	2	0	1	1	5	4	0	13	38	13	51
Kurunegala	0	0	5	12	26	43	39	17	8	150	0	1	9	15	5	7	6	3	5	51	150	51	201
Puttalam	0	0	3	9	10	23	15	12	3	75	0	0	3	3	1	3	6	3	0	19	75	19	94
Anuradhapura	0	1	10	11	20	18	31	15	6	112	0	1	8	7	5	4	8	2	0	35	112	35	147
Polonnaruwa	0	1	4	4	7	16	15	8	1	56	0	0	1	2	1	1	3	2	1	11	56	11	67
Badulla	0	2	12	14	15	12	10	2	1	68	0	1	8	4	8	3	4	2	0	30	68	30	98
Monaragala	0	0	6	6	3	8	8	4	1	36	0	0	2	5	0	0	1	3	0	11	36	11	47
Ratnapura	0	0	14	18	21	44	40	20	11	168	0	2	15	9	9	11	4	11	1	62	168	62	230
Kegalle	0	0	8	22	14	29	29	20	5	127	0	0	13	6	7	11	13	13	1	64	127	64	191
Mannar	0	0	0	3	2	4	4	2	0	15	0	0	0	3	2	2	1	1	0	9	15	9	24
Mullaitivu	0	0	1	0	2	2	1	1	2	9	0	0	2	0	3	0	0	0	0	5	9	5	14
Kilinochchi	0	0	1	2	1	2	3	7	1	17	0	0	0	0	0	0	2	0	0	2	17	2	19
Total	1	10	208	333	497	733	657	406	134	2979	0	13	195	161	164	187	208	144	42	1114	2979	1114	4093

Table 15: Age and Sex Distribution of Smear Negative New TB Cases by District in 2016

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	4	7	12	17	25	45	57	33	23	223	3	2	17	16	14	27	29	27	8	143	223	143	366
Gampaha	1	4	7	17	14	23	29	37	14	146	0	2	5	12	9	14	20	14	8	84	146	84	230
Kalutara	0	2	3	3	8	17	10	7	7	57	0	0	3	6	3	1	2	6	1	22	57	22	79
Kandy	3	0	5	5	6	19	21	28	6	93	3	3	5	5	5	10	9	10	2	52	93	52	145
Matale	0	0	1	1	2	3	6	4	1	18	1	0	2	1	1	1	2	0	1	9	18	9	27
Nuwara Eliya	1	0	1	3	7	5	13	10	2	42	4	1	1	4	3	8	7	8	0	36	42	36	78
Galle	0	0	1	8	7	9	8	7	4	44	1	0	2	0	3	6	4	10	5	31	44	31	75
Matara	1	0	1	3	2	4	6	3	3	23	0	0	0	1	1	3	2	3	1	11	23	11	34
Hambantota	0	0	2	2	4	6	7	1	2	24	0	0	2	0	1	1	1	1	0	6	24	6	30
Jaffna	0	0	3	4	8	8	14	14	7	58	0	0	1	3	3	4	9	9	2	31	58	31	89
Vavuniya	0	0	0	0	1	0	3	2	0	6	0	0	0	0	0	0	0	1	0	1	6	1	7
Batticaloa	0	0	0	0	1	0	3	2	2	8	0	0	0	0	2	2	2	0	1	7	8	7	15
Ampara	0	0	1	3	0	2	6	5	4	21	0	1	0	1	1	2	0	8	1	14	21	14	35
Kalmunai	0	0	3	2	2	5	16	9	4	41	0	1	4	5	4	7	6	3	1	31	41	31	72
Trincomalee	0	0	2	2	6	6	8	8	4	36	2	1	0	1	1	1	6	6	1	19	36	19	55
Kurunegala	1	0	1	5	4	7	13	4	6	41	1	0	0	4	1	5	8	3	0	22	41	22	63
Puttalam	2	1	1	1	4	2	5	4	0	20	0	0	1	0	1	1	0	5	0	8	20	8	28
Anuradhapura	0	0	1	3	2	3	7	3	1	20	0	0	0	0	1	1	0	2	0	4	20	4	24
Polonnaruwa	0	0	0	1	0	3	4	4	2	14	0	0	0	0	0	1	0	0	0	1	14	1	15
Badulla	2	3	2	3	2	3	9	2	1	27	7	1	0	4	2	2	2	0	1	19	27	19	46
Monaragala	2	0	0	1	2	4	1	1	0	11	1	1	1	0	0	1	0	2	0	6	11	6	17
Ratnapura	0	0	6	9	6	6	13	5	4	49	1	0	3	2	4	8	9	4	0	31	49	31	80
Kegalle	1	0	1	4	4	4	14	16	5	49	0	1	3	6	4	6	7	6	0	33	49	33	82
Mannar	0	0	0	0	0	2	0	1	0	3	1	0	0	0	1	1	0	1	0	4	3	4	7
Mullaitivu	0	0	0	2	0	1	1	2	0	6	0	0	0	0	1	0	0	0	0	1	6	1	7
Kilinochchi	0	0	1	0	1	0	2	1	0	5	0	1	0	0	0	0	0	1	1	3	5	3	8
Total	18	17	55	99	118	187	276	213	102	1085	25	15	50	71	66	113	125	130	34	629	1085	629	1714

Table 16: Age and Sex Distribution of All New PTB Cases by District in 2016

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	5	8	65	100	163	250	207	117	50	965	3	5	58	48	62	89	84	59	17	425	965	425	1390
Gampaha	1	5	36	62	87	120	114	93	35	553	0	4	35	28	27	33	47	36	12	222	553	222	775
Kalutara	0	2	11	28	46	66	54	36	16	259	0	0	12	21	18	19	24	15	5	114	259	114	373
Kandy	3	2	12	16	32	53	59	50	11	238	3	4	11	15	14	20	18	15	3	103	238	103	341
Matale	0	0	8	5	21	15	11	8	3	71	1	0	7	3	3	3	6	3	2	28	71	28	99
Nuwara Eliya	1	0	10	15	17	25	19	18	2	107	4	3	9	13	4	12	8	11	0	64	107	64	171
Galle	0	0	12	25	24	42	45	34	13	195	1	0	13	3	12	14	17	18	10	88	195	88	283
Matara	1	0	6	12	12	23	18	13	7	92	0	0	6	8	6	6	7	8	7	48	92	48	140
Hambantota	0	1	4	3	8	14	15	4	6	55	0	0	2	1	4	1	2	1	0	11	55	11	66
Jaffna	0	1	8	13	21	23	28	24	10	128	0	0	6	9	6	10	15	14	3	63	128	63	191
Vavuniya	0	0	1	5	4	6	13	6	0	35	0	0	3	0	4	2	3	3	0	15	35	15	50
Batticaloa	0	0	5	3	6	12	20	12	7	65	0	0	5	4	4	10	5	3	2	33	65	33	98
Ampara	0	0	2	4	4	8	12	13	5	48	0	1	1	1	2	3	1	9	3	21	48	21	69
Kalmunai	0	0	3	6	10	17	33	26	6	101	0	1	6	7	6	8	11	5	1	45	101	45	146
Trincomalee	0	0	3	5	14	10	21	14	7	74	2	1	2	1	2	2	11	10	1	32	74	32	106
Kurunegala	1	0	6	17	30	50	52	21	14	191	1	1	9	19	6	12	14	6	5	73	191	73	264
Puttalam	2	1	4	10	14	25	20	16	3	95	0	0	4	3	2	4	6	8	0	27	95	27	122
Anuradhapura	0	1	11	14	22	21	38	18	7	132	0	1	8	7	6	5	8	4	0	39	132	39	171
Polonnaruwa	0	1	4	5	7	19	19	12	3	70	0	0	1	2	1	2	3	2	1	12	70	12	82
Badulla	2	5	14	17	17	15	19	4	2	95	7	2	8	8	10	5	6	2	1	49	95	49	144
Monaragala	2	0	6	7	5	12	9	5	1	47	1	1	3	5	0	1	1	5	0	17	47	17	64
Ratnapura	0	0	20	27	27	50	53	25	15	217	1	2	18	11	13	19	13	15	1	93	217	93	310
Kegalle	1	0	9	26	18	33	43	36	10	176	0	1	16	12	11	17	20	19	1	97	176	97	273
Mannar	0	0	0	3	2	6	4	3	0	18	1	0	0	3	3	3	1	2	0	13	18	13	31
Mullaitivu	0	0	1	2	2	3	2	3	2	15	0	0	2	0	4	0	0	0	0	6	15	6	21
Kilinochchi	0	0	2	2	2	2	5	8	1	22	0	1	0	0	0	0	2	1	1	5	22	5	27
Total	19	27	263	432	615	920	933	619	236	4064	25	28	245	232	230	300	333	274	76	1743	4064	1743	5807

Table 17: Age and Sex Distribution of New EPTB Cases by District in 2016

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	15	12	39	39	39	54	52	18	11	279	21	19	63	45	47	36	41	28	8	308	279	308	587
Gampaha	3	1	14	22	26	24	31	16	10	147	2	4	8	23	18	19	17	9	5	105	147	105	252
Kalutara	1	8	12	12	18	20	14	12	2	99	0	3	11	18	17	14	7	1	2	73	99	73	172
Kandy	3	3	11	15	21	17	13	19	3	105	1	2	18	12	7	9	20	9	8	86	105	86	191
Matale	1	2	6	8	4	8	3	4	0	36	1	0	2	2	5	2	5	3	1	21	36	21	57
Nuwara Eliya	0	0	7	8	9	9	9	6	0	48	1	2	7	3	8	4	4	6	1	36	48	36	84
Galle	0	0	10	10	7	13	12	9	2	63	2	0	11	9	10	6	8	1	3	50	63	50	113
Matara	1	0	3	6	6	6	16	5	4	47	0	4	3	4	3	8	7	7	2	38	47	38	85
Hambantota	0	1	2	4	5	8	5	4	0	29	1	1	2	2	6	2	0	4	0	18	29	18	47
Jaffna	0	2	9	10	8	4	8	8	1	50	0	3	6	7	4	2	5	6	2	35	50	35	85
Vavuniya	0	1	1	2	2	2	0	1	0	9	0	0	1	3	1	0	0	0	0	5	9	5	14
Batticaloa	1	1	5	3	4	2	5	2	1	24	0	0	3	1	4	3	1	1	0	13	24	13	37
Ampara	0	0	0	2	2	2	5	1	0	12	0	0	1	3	1	1	1	1	0	8	12	8	20
Kalmunai	1	0	2	5	3	1	3	0	0	15	1	1	2	4	1	0	2	0	0	11	15	11	26
Trincomalee	0	0	3	3	4	4	6	6	0	26	0	2	1	5	1	0	2	0	0	11	26	11	37
Kurunegala	0	2	11	15	11	19	18	11	4	91	0	3	5	10	8	10	10	1	2	49	91	49	140
Puttalam	0	0	6	5	6	5	10	3	2	37	0	3	4	7	4	2	6	3	0	29	37	29	66
Anuradhapura	0	2	4	8	3	8	7	4	2	38	3	0	3	4	1	10	4	3	1	29	38	29	67
Polonnaruwa	0	0	5	2	1	3	1	3	0	15	0	0	0	3	1	3	4	2	1	14	15	14	29
Badulla	1	1	6	6	9	7	5	3	1	39	0	1	5	7	7	7	5	2	1	35	39	35	74
Monaragala	3	0	5	4	4	5	1	1	1	24	0	2	1	3	2	1	1	0	1	11	24	11	35
Ratnapura	1	4	8	17	18	19	25	11	3	106	1	2	15	15	10	10	11	9	2	75	106	75	181
Kegalle	0	3	2	7	11	4	11	11	4	53	0	3	3	9	12	8	8	4	1	48	53	48	101
Mannar	0	0	1	1	0	2	1	0	0	5	0	0	0	0	1	0	0	1	0	2	5	2	7
Mullaitivu	0	0	0	2	2	1	0	1	1	7	0	1	0	1	0	0	2	0	0	4	7	4	11
Kilinochchi	0	0	2	0	1	0	0	2	0	5	0	0	1	0	0	0	1	0	0	2	5	2	7
Total	31	43	174	216	224	247	261	161	52	1409	34	56	176	200	179	157	172	101	41	1116	1409	1116	2525

Table 18: Distribution of Treatment Outcome of All forms of TB by Districts 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	2264	851	37.6	971	42.9	1822	80.5	61	2.7	96	4.2	157	6.9	22	1.0	168	7.4	95	4.2	2264
Gampaha	1065	438	41.1	453	42.5	891	83.7	24	2.3	35	3.3	59	5.5	29	2.7	54	5.1	32	3.0	1065
Kalutara	633	309	48.8	244	38.5	553	87.4	16	2.5	22	3.5	38	6.0	4	0.6	24	3.8	14	2.2	633
Kandy	693	186	26.8	398	57.4	584	84.3	10	1.4	33	4.8	43	6.2	6	0.9	26	3.8	34	4.9	693
Matale	189	70	37.0	94	49.7	164	86.8	2	1.1	14	7.4	16	8.5	1	0.5	1	0.5	7	3.7	189
Nuwara Eliya	321	100	31.2	157	48.9	257	80.1	5	1.6	11	3.4	16	5.0	5	1.6	16	5.0	27	8.4	321
Galle	471	220	46.7	189	40.1	409	86.8	11	2.3	15	3.2	26	5.5	1	0.2	17	3.6	18	3.8	471
Matara	220	93	42.3	98	44.5	191	86.8	5	2.3	14	6.4	19	8.6	3	1.4	1	0.5	6	2.7	220
Hambantota	144	47	32.6	79	54.9	126	87.5	3	2.1	2	1.4	5	3.5	2	1.4	5	3.5	6	4.2	144
Jaffna	273	103	37.7	135	49.5	238	87.2	4	1.5	21	7.7	25	9.2	4	1.5	1	0.4	5	1.8	273
Vavuniya	98	33	33.7	50	51.0	83	84.7	3	3.1	5	5.1	8	8.2	0	0.0	1	1.0	6	6.1	98
Batticaloa	152	57	37.5	56	36.8	113	74.3	7	4.6	10	6.6	17	11.2	0	0.0	3	2.0	19	12.5	152
Ampara	90	27	30.0	51	56.7	78	86.7	0	0.0	11	12.2	11	12.2	0	0.0	0	0.0	1	1.1	90
Kalmunai	240	66	27.5	128	53.3	194	80.8	6	2.5	14	5.8	20	8.3	0	0.0	14	5.8	12	5.0	240
Trincomalee	146	50	34.2	76	52.1	126	86.3	3	2.1	4	2.7	7	4.8	1	0.7	5	3.4	7	4.8	146
Kurunegala	497	203	40.8	221	44.5	424	85.3	1	0.2	41	8.2	42	8.5	6	1.2	13	2.6	12	2.4	497
Puttalam	187	69	36.9	87	46.5	156	83.4	4	2.1	10	5.3	14	7.5	1	0.5	9	4.8	7	3.7	187
Anuradhapura	250	138	55.2	98	39.2	236	94.4	0	0.0	7	2.8	7	2.8	4	1.6	1	0.4	2	0.8	250
Polonnaruwa	142	70	49.3	54	38.0	124	87.3	7	4.9	7	4.9	14	9.9	2	1.4	0	0.0	2	1.4	142
Badulla	262	105	40.1	124	47.3	229	87.4	7	2.7	3	1.1	10	3.8	4	1.5	3	1.1	16	6.1	262
Monaragala	107	54	50.5	39	36.4	93	86.9	9	8.4	2	1.9	11	10.3	2	1.9	0	0.0	1	0.9	107
Ratnapura	593	228	38.4	267	45.0	495	83.5	0	0.0	42	7.1	42	7.1	2	0.3	35	5.9	19	3.2	593
Kegalle	412	184	44.7	172	41.7	356	86.4	13	3.2	17	4.1	30	7.3	6	1.5	4	1.0	16	3.9	412
Mannar	31	13	41.9	14	45.2	27	87.1	0	0.0	3	9.7	3	9.7	0	0.0	1	3.2	0	0.0	31
Mullaitivu	41	7	17.1	26	63.4	33	80.5	1	2.4	6	14.6	7	17.1	0	0.0	0	0.0	1	2.4	41
Kilinochchi	54	15	27.8	35	64.8	50	92.6	1	1.9	0	0.0	1	1.9	0	0.0	0	0.0	3	5.6	54
Total	9575	3736	39.0	4316	45.1	8052	84.1	203	2.1	445	4.6	648	6.8	105	1.1	402	4.2	368	3.8	9575

Table 19: Distribution of Treatment Outcome of All Forms of New (PTB and 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	2073	786	37.9	918	44.3	1704	82.2	51	2.5	86	4.1	137	6.6	20	1.0	130	6.3	82	4.0	2073
Gampaha	987	394	39.9	442	44.8	836	84.7	22	2.2	29	2.9	51	5.2	28	2.8	43	4.4	29	2.9	987
Kalutara	597	290	48.6	238	39.9	528	88.4	12	2.0	21	3.5	33	5.5	4	0.7	20	3.4	12	2.0	597
Kandy	654	177	27.1	376	57.5	553	84.6	10	1.5	32	4.9	42	6.4	5	0.8	21	3.2	33	5.0	654
Matale	182	65	35.7	93	51.1	158	86.8	2	1.1	14	7.7	16	8.8	1	0.5	1	0.5	6	3.3	182
Nuwara Eliya	305	96	31.5	149	48.9	245	80.3	5	1.6	11	3.6	16	5.2	5	1.6	16	5.2	23	7.5	305
Galle	446	209	46.9	180	40.4	389	87.2	11	2.5	14	3.1	25	5.6	1	0.2	15	3.4	16	3.6	446
Matara	209	84	40.2	98	46.9	182	87.1	5	2.4	12	5.7	17	8.1	3	1.4	1	0.5	6	2.9	209
Hambantota	136	41	30.1	78	57.4	119	87.5	3	2.2	2	1.5	5	3.7	2	1.5	4	2.9	6	4.4	136
Jaffna	257	96	37.4	131	51.0	227	88.3	4	1.6	20	7.8	24	9.3	4	1.6	1	0.4	1	0.4	257
Vavuniya	93	32	34.4	48	51.6	80	86.0	2	2.2	5	5.4	7	7.5	0	0.0	1	1.1	5	5.4	93
Batticaloa	140	52	37.1	54	38.6	106	75.7	6	4.3	10	7.1	16	11.4	0	0.0	3	2.1	15	10.7	140
Ampara	85	24	28.2	50	58.8	74	87.1	0	0.0	11	12.9	11	12.9	0	0.0	0	0.0	0	0.0	85
Kalmunai	227	62	27.3	123	54.2	185	81.5	6	2.6	13	5.7	19	8.4	0	0.0	11	4.8	12	5.3	227
Trincomalee	139	46	33.1	76	54.7	122	87.8	3	2.2	4	2.9	7	5.0	1	0.7	4	2.9	5	3.6	139
Kurunegala	475	183	38.5	221	46.5	404	85.1	1	0.2	41	8.6	42	8.8	6	1.3	12	2.5	11	2.3	475
Puttalam	173	63	36.4	83	48.0	146	84.4	4	2.3	10	5.8	14	8.1	1	0.6	6	3.5	6	3.5	173
Anuradhapura	242	132	54.5	97	40.1	229	94.6	0	0.0	7	2.9	7	2.9	4	1.7	1	0.4	1	0.4	242
Polonnaruwa	135	63	46.7	54	40.0	117	86.7	7	5.2	7	5.2	14	10.4	2	1.5	0	0.0	2	1.5	135
Badulla	250	99	39.6	120	48.0	219	87.6	7	2.8	3	1.2	10	4.0	4	1.6	3	1.2	14	5.6	250
Monaragala	104	52	50.0	39	37.5	91	87.5	8	7.7	2	1.9	10	9.6	2	1.9	0	0.0	1	1.0	104
Ratnapura	571	213	37.3	267	46.8	480	84.1	0	0.0	39	6.8	39	6.8	2	0.4	32	5.6	18	3.2	571
Kegalle	392	175	44.6	170	43.4	345	88.0	13	3.3	14	3.6	27	6.9	6	1.5	3	0.8	11	2.8	392
Mannar	26	11	42.3	12	46.2	23	88.5	0	0.0	2	7.7	2	7.7	0	0.0	1	3.8	0	0.0	26
Mullaitivu	41	7	17.1	26	63.4	33	80.5	1	2.4	6	14.6	7	17.1	0	0.0	0	0.0	1	2.4	41
Kilinochchi	51	15	29.4	35	68.6	50	98.0	1	2.0	0	0.0	1	2.0	0	0.0	0	0.0	0	0.0	51
Total	8990	3467	38.6	4178	46.5	7645	85.0	184	2.0	415	4.6	599	6.7	101	1.1	329	3.7	316	3.5	8990

Table 20: Distribution of Treatment Outcome of All New 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	1435	786	54.8	382	26.6	1168	81.4	38	2.6	61	4.3	99	6.9	19	1.3	106	7.4	43	3.0	1435
Gampaha	706	394	55.8	191	27.1	585	82.9	14	2.0	23	3.3	37	5.2	28	4.0	35	5.0	21	3.0	706
Kalutara	430	290	67.4	89	20.7	379	88.1	10	2.3	16	3.7	26	6.0	3	0.7	19	4.4	3	0.7	430
Kandy	437	177	40.5	193	44.2	370	84.7	5	1.1	21	4.8	26	5.9	3	0.7	14	3.2	24	5.5	437
Matale	108	65	60.2	26	24.1	91	84.3	1	0.9	12	11.1	13	12.0	1	0.9	1	0.9	2	1.9	108
Nuwara Eliya	215	96	44.7	75	34.9	171	79.5	4	1.9	7	3.3	11	5.1	5	2.3	10	4.7	18	8.4	215
Galle	318	209	65.7	65	20.4	274	86.2	10	3.1	10	3.1	20	6.3	1	0.3	13	4.1	10	3.1	318
Matara	143	84	58.7	39	27.3	123	86.0	2	1.4	11	7.7	13	9.1	3	2.1	1	0.7	3	2.1	143
Hambantota	80	41	51.3	28	35.0	69	86.3	2	2.5	2	2.5	4	5.0	2	2.5	4	5.0	1	1.3	80
Jaffna	171	96	56.1	55	32.2	151	88.3	3	1.8	12	7.0	15	8.8	4	2.3	1	0.6	0	0.0	171
Vavuniya	72	32	44.4	33	45.8	65	90.3	2	2.8	4	5.6	6	8.3	0	0.0	1	1.4	0	0.0	72
Batticaloa	93	52	55.9	17	18.3	69	74.2	3	3.2	4	4.3	7	7.5	0	0.0	3	3.2	14	15.1	93
Ampara	64	24	37.5	31	48.4	55	85.9	0	0.0	9	14.1	9	14.1	0	0.0	0	0.0	0	0.0	64
Kalmunai	194	62	32.0	95	49.0	157	80.9	4	2.1	12	6.2	16	8.2	0	0.0	11	5.7	10	5.2	194
Trincomalee	112	46	41.1	52	46.4	98	87.5	3	2.7	3	2.7	6	5.4	1	0.9	3	2.7	4	3.6	112
Kurunegala	339	183	54.0	106	31.3	289	85.3	1	0.3	29	8.6	30	8.8	6	1.8	9	2.7	5	1.5	339
Puttalam	110	63	57.3	28	25.5	91	82.7	2	1.8	9	8.2	11	10.0	1	0.9	5	4.5	2	1.8	110
Anuradhapura	160	132	82.5	18	11.3	150	93.8	0	0.0	5	3.1	5	3.1	4	2.5	1	0.6	0	0.0	160
Polonnaruwa	108	63	58.3	28	25.9	91	84.3	6	5.6	7	6.5	13	12.0	2	1.9	0	0.0	2	1.9	108
Badulla	165	99	60.0	47	28.5	146	88.5	5	3.0	3	1.8	8	4.8	3	1.8	3	1.8	5	3.0	165
Monaragala	77	52	67.5	17	22.1	69	89.6	6	7.8	1	1.3	7	9.1	1	1.3	0	0.0	0	0.0	77
Ratnapura	385	213	55.3	109	28.3	322	83.6	0	0.0	26	6.8	26	6.8	2	0.5	21	5.5	14	3.6	385
Kegalle	292	175	59.9	84	28.8	259	88.7	12	4.1	9	3.1	21	7.2	2	0.7	2	0.7	8	2.7	292
Mannar	17	11	64.7	4	23.5	15	88.2	0	0.0	1	5.9	1	5.9	0	0.0	1	5.9	0	0.0	17
Mullaitivu	25	7	28.0	12	48.0	19	76.0	0	0.0	5	20.0	5	20.0	0	0.0	0	0.0	1	4.0	25
Kilinochchi	35	15	42.9	19	54.3	34	97.1	1	2.9	0	0.0	1	2.9	0	0.0	0	0.0	0	0.0	35
Total	6291	3467	55.1	1843	29.3	5310	84.4	134	2.1	302	4.8	436	6.9	91	1.4	264	4.2	190	3.0	6291

Table 21: Distribution of Treatment Outcome of New Sputum Positive 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	1061	786	74.1	73	6.9	859	81.0	29	2.7	40	3.8	69	6.5	18	1.7	87	8.2	28	2.6	1061
Gampaha	498	394	79.1	26	5.2	420	84.3	8	1.6	15	3.0	23	4.6	24	4.8	28	5.6	3	0.6	498
Kalutara	331	290	87.6	2	0.6	292	88.2	8	2.4	12	3.6	20	6.0	3	0.9	15	4.5	1	0.3	331
Kandy	211	177	83.9	7	3.3	184	87.2	1	0.5	13	6.2	14	6.6	3	1.4	7	3.3	3	1.4	211
Matale	74	65	87.8	0	0.0	65	87.8	1	1.4	5	6.8	6	8.1	1	1.4	1	1.4	1	1.4	74
Nuwara Eliya	154	96	62.3	33	21.4	129	83.8	2	1.3	3	1.9	5	3.2	4	2.6	5	3.2	11	7.1	154
Galle	247	209	84.6	0	0.0	209	84.6	8	3.2	9	3.6	17	6.9	1	0.4	13	5.3	7	2.8	247
Matara	101	84	83.2	2	2.0	86	85.1	2	2.0	8	7.9	10	9.9	3	3.0	1	1.0	1	1.0	101
Hambantota	50	41	82.0	3	6.0	44	88.0	2	4.0	0	0.0	2	4.0	1	2.0	3	6.0	0	0.0	50
Jaffna	114	96	84.2	5	4.4	101	88.6	2	1.8	7	6.1	9	7.9	3	2.6	1	0.9	0	0.0	114
Vavuniya	44	32	72.7	6	13.6	38	86.4	2	4.5	3	6.8	5	11.4	0	0.0	1	2.3	0	0.0	44
Batticaloa	66	52	78.8	7	10.6	59	89.4	3	4.5	1	1.5	4	6.1	0	0.0	3	4.5	0	0.0	66
Ampara	26	24	92.3	0	0.0	24	92.3	0	0.0	2	7.7	2	7.7	0	0.0	0	0.0	0	0.0	26
Kalmunai	85	62	72.9	5	5.9	67	78.8	2	2.4	9	10.6	11	12.9	0	0.0	5	5.9	2	2.4	85
Trincomalee	54	46	85.2	0	0.0	46	85.2	2	3.7	2	3.7	4	7.4	1	1.9	2	3.7	1	1.9	54
Kurunegala	223	183	82.1	7	3.1	190	85.2	0	0.0	21	9.4	21	9.4	6	2.7	6	2.7	0	0.0	223
Puttalam	78	63	80.8	4	5.1	67	85.9	0	0.0	7	9.0	7	9.0	1	1.3	3	3.8	0	0.0	78
Anuradhapura	140	132	94.3	0	0.0	132	94.3	0	0.0	3	2.1	3	2.1	4	2.9	1	0.7	0	0.0	140
Polonnaruwa	72	63	87.5	0	0.0	63	87.5	3	4.2	4	5.6	7	9.7	2	2.8	0	0.0	0	0.0	72
Badulla	118	99	83.9	3	2.5	102	86.4	3	2.5	3	2.5	6	5.1	3	2.5	2	1.7	5	4.2	118
Monaragala	66	52	78.8	9	13.6	61	92.4	4	6.1	1	1.5	5	7.6	0	0.0	0	0.0	0	0.0	66
Ratnapura	289	213	73.7	36	12.5	249	86.2	0	0.0	18	6.2	18	6.2	2	0.7	17	5.9	3	1.0	289
Kegalle	204	175	85.8	11	5.4	186	91.2	9	4.4	5	2.5	14	6.9	1	0.5	0	0.0	3	1.5	204
Mannar	13	11	84.6	0	0.0	11	84.6	0	0.0	1	7.7	1	7.7	0	0.0	1	7.7	0	0.0	13
Mullaitivu	12	7	58.3	1	8.3	8	66.7	0	0.0	3	25.0	3	25.0	0	0.0	0	0.0	1	8.3	12
Kilinochchi	16	15	93.8	0	0.0	15	93.8	1	6.3	0	0.0	1	6.3	0	0.0	0	0.0	0	0.0	16
Total	4347	3467	79.8	240	5.5	3707	85.3	92	2.1	195	4.5	287	6.6	81	1.9	202	4.6	70	1.6	4347

Table 22: 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 23: 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 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	191	65	34.0	53	27.7	118	61.8	10	5.2	10	5.2	20	10.5	2	1.0	38	19.9	13	6.8	191
Gampaha	83	39	47.0	23	27.7	62	74.7	2	2.4	3	3.6	5	6.0	2	2.4	11	13.3	3	3.6	83
Kalutara	43	19	44.2	9	20.9	28	65.1	1	2.3	7	16.3	8	18.6	1	2.3	4	9.3	2	4.7	43
Kandy	53	15	28.3	21	39.6	36	67.9	0	0.0	7	13.2	7	13.2	0	0.0	2	3.8	8	15.1	53
Matale	11	6	54.5	3	27.3	9	81.8	0	0.0	2	18.2	2	18.2	0	0.0	0	0.0	0	0.0	11
Nuwara Eliya	15	6	40.0	1	6.7	7	46.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	8	53.3	15
Galle	35	12	34.3	12	34.3	24	68.6	0	0.0	0	0.0	0	0.0	2	5.7	7	20.0	2	5.7	35
Matara	11	7	63.6	2	18.2	9	81.8	0	0.0	1	9.1	1	9.1	0	0.0	0	0.0	1	9.1	11
Hambantota	7	4	57.1	0	0.0	4	57.1	0	0.0	1	14.3	1	14.3	0	0.0	0	0.0	2	28.6	7
Jaffna	22	6	27.3	9	40.9	15	68.2	4	18.2	2	9.1	6	27.3	0	0.0	1	4.5	0	0.0	22
Vavuniya	3	1	33.3	0	0.0	1	33.3	0	0.0	1	33.3	1	33.3	0	0.0	0	0.0	1	33.3	3
Batticaloa	14	7	50.0	2	14.3	9	64.3	1	7.1	1	7.1	2	14.3	0	0.0	0	0.0	3	21.4	14
Ampara	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
Kalmunai	10	6	60.0	2	20.0	8	80.0	0	0.0	1	10.0	1	10.0	0	0.0	1	10.0	0	0.0	10
Trincomalee	9	4	44.4	1	11.1	5	55.6	0	0.0	2	22.2	2	22.2	0	0.0	2	22.2	0	0.0	9
Kurunegala	23	10	43.5	6	26.1	16	69.6	0	0.0	1	4.3	1	4.3	1	4.3	1	4.3	4	17.4	23
Puttalam	10	7	70.0	2	20.0	9	90.0	0	0.0	0	0.0	0	0.0	0	0.0	1	10.0	0	0.0	10
Anuradhapura	12	10	83.3	1	8.3	11	91.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	8.3	12
Polonnaruwa	6	6	100.0	0	0.0	6	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	6
Badulla	15	7	46.7	1	6.7	8	53.3	0	0.0	0	0.0	0	0.0	0	0.0	1	6.7	6	40.0	15
Monaragala	2	1	50.0	0	0.0	1	50.0	0	0.0	1	50.0	1	50.0	0	0.0	0	0.0	0	0.0	2
Ratnapura	22	8	36.4	4	18.2	12	54.5	0	0.0	3	13.6	3	13.6	0	0.0	2	9.1	5	22.7	22
Kegalle	18	13	72.2	2	11.1	15	83.3	0	0.0	1	5.6	1	5.6	0	0.0	0	0.0	2	11.1	18
Mannar	6	1	16.7	4	66.7	5	83.3	1	16.7	0	0.0	1	16.7	0	0.0	0	0.0	0	0.0	6
Mullaitivu	2	2	100.0	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2
Kilinochchi	5	5	100.0	0	0.0	5	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5
Total	632	270	42.7	158	25.0	428	67.7	19	3.0	44	7.0	63	10.0	8	1.3	71	11.2	62	9.8	632

Table 25: 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		
		Confirmed as not due to TB		All Other Deaths		All Deaths		No	Rate	No	Rate	No	Rate	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	0	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	
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	0	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

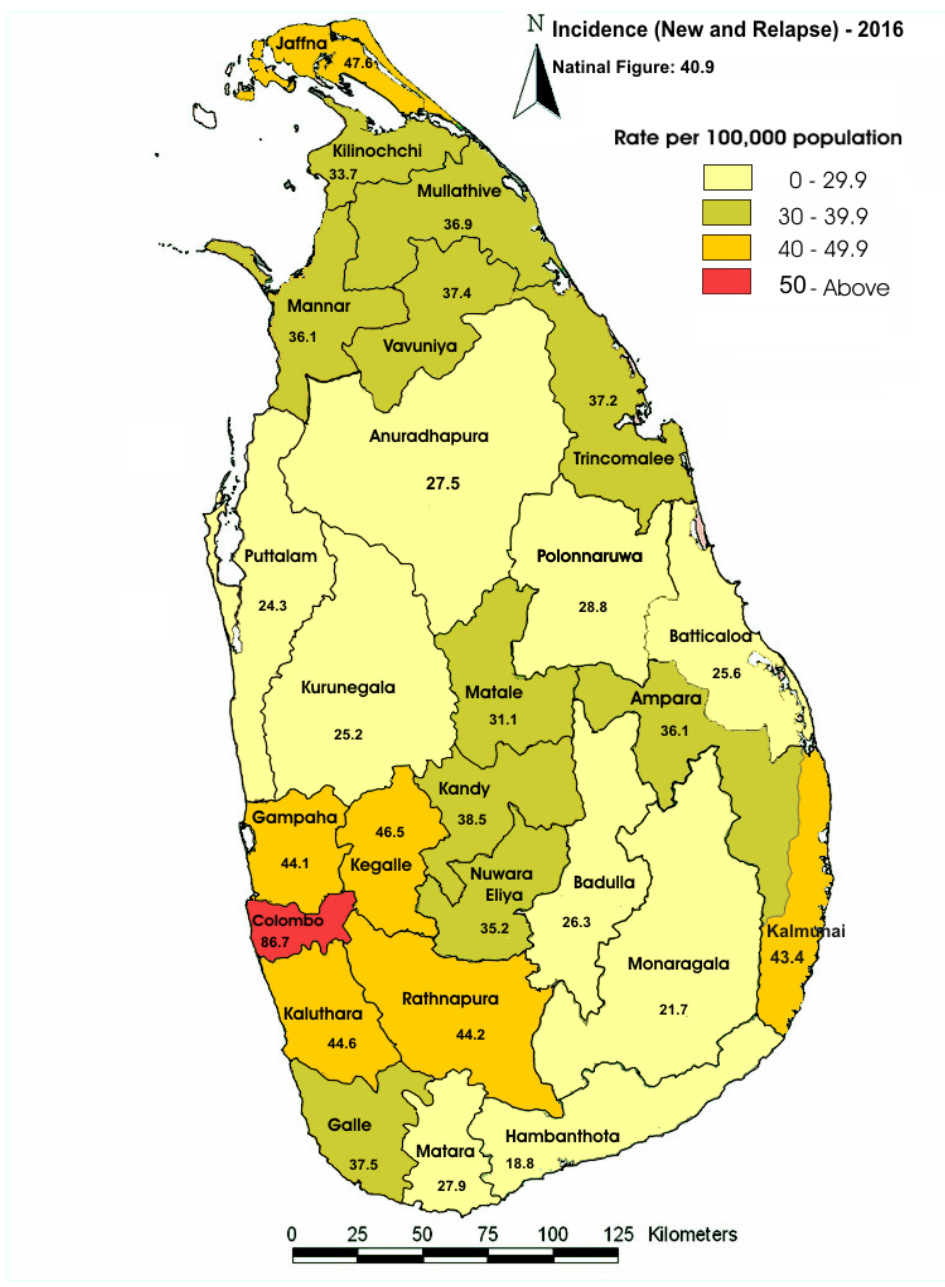
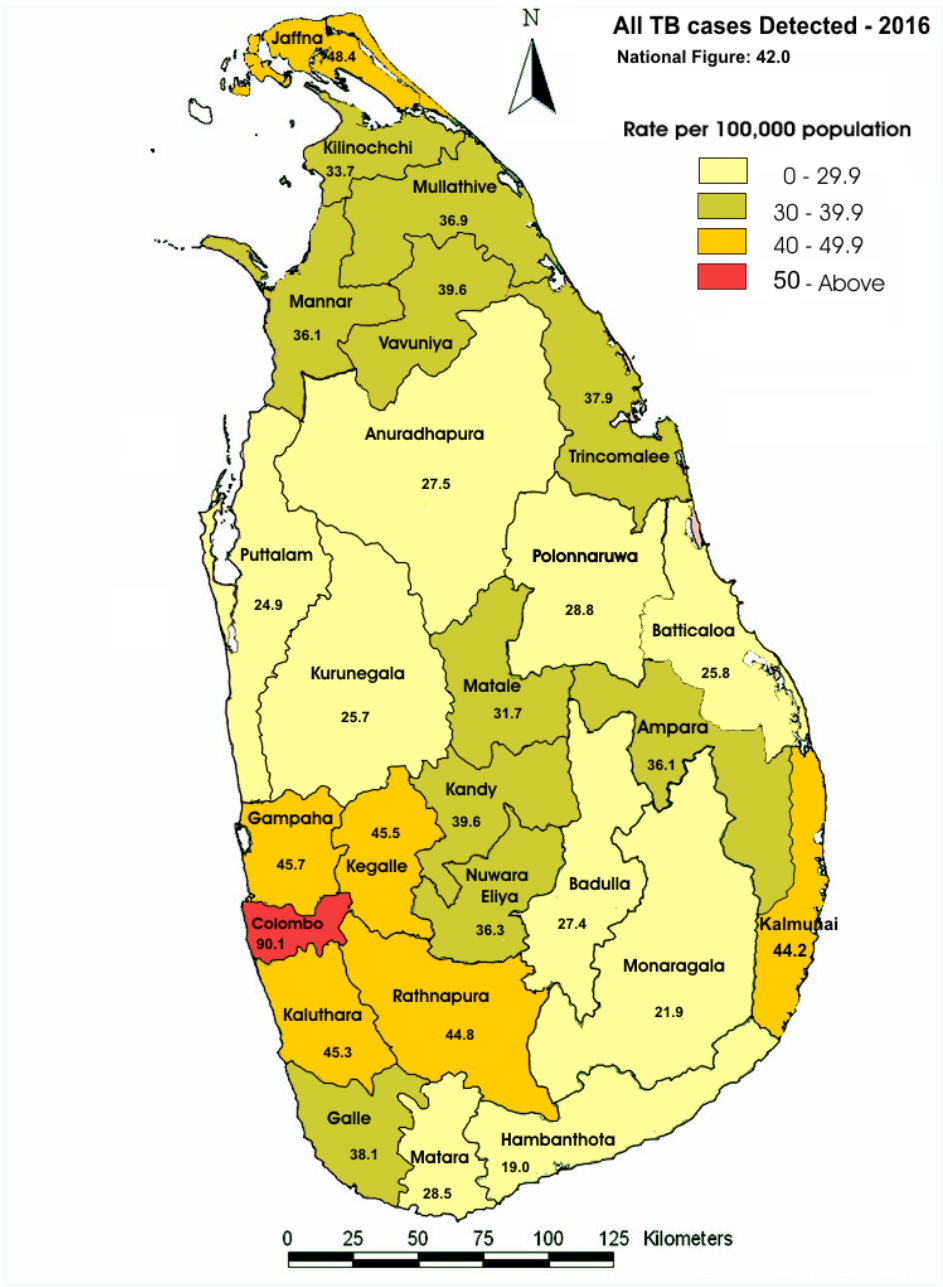
DISTRICT	Total Number Registered	Negative		Positive		Died		Defaulted		Transferred out		No result		Total
		No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	
COLOMBO	1024	866	84.6	5	0.5	58	5.7	20	2.0	0	0.0	75	7.3	1024
GAMPAHA	545	452	82.9	43	7.9	31	5.7	13	2.4	0	0.0	6	1.1	545
KALUTARA	294	265	90.1	2	0.7	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

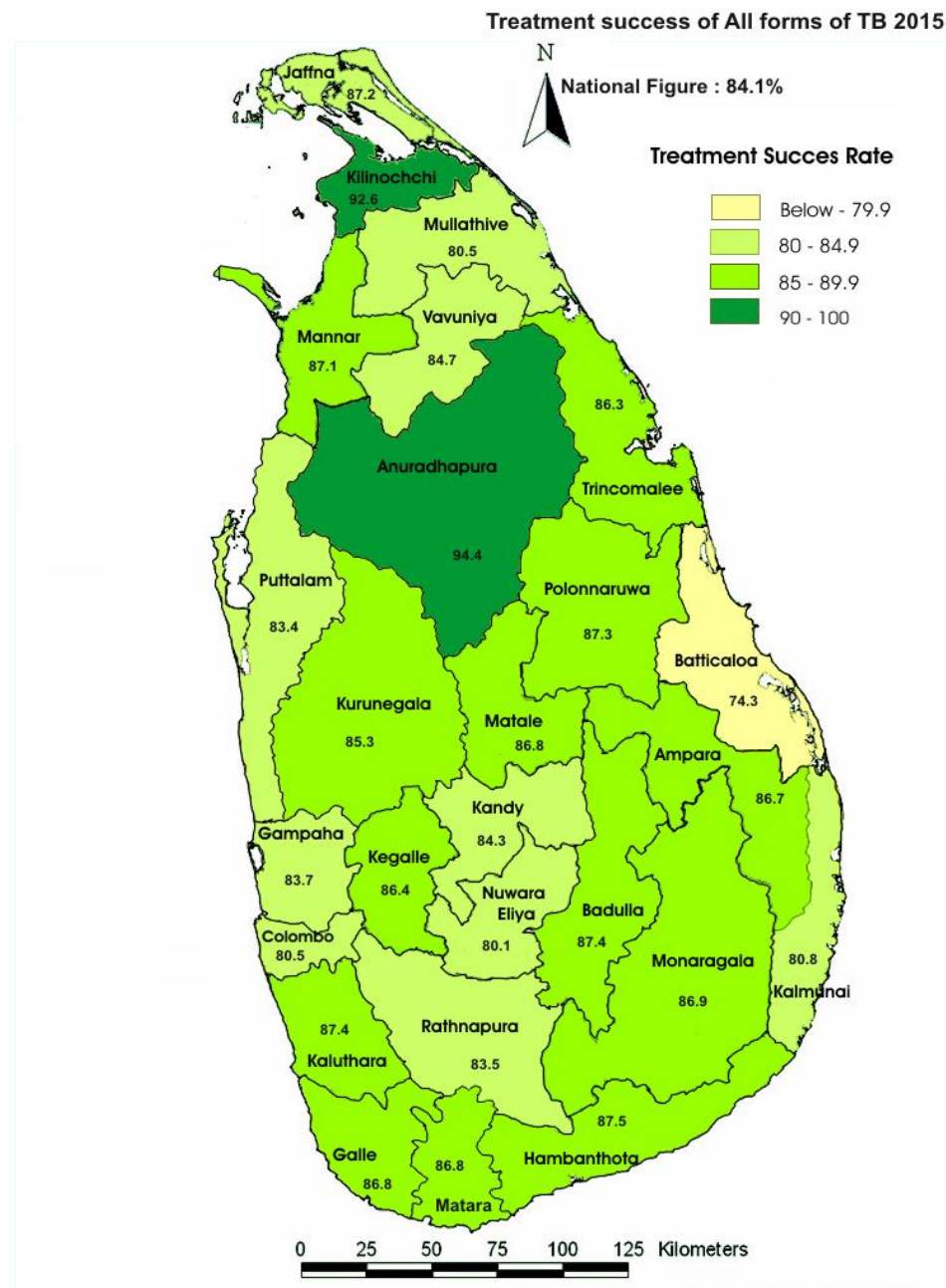
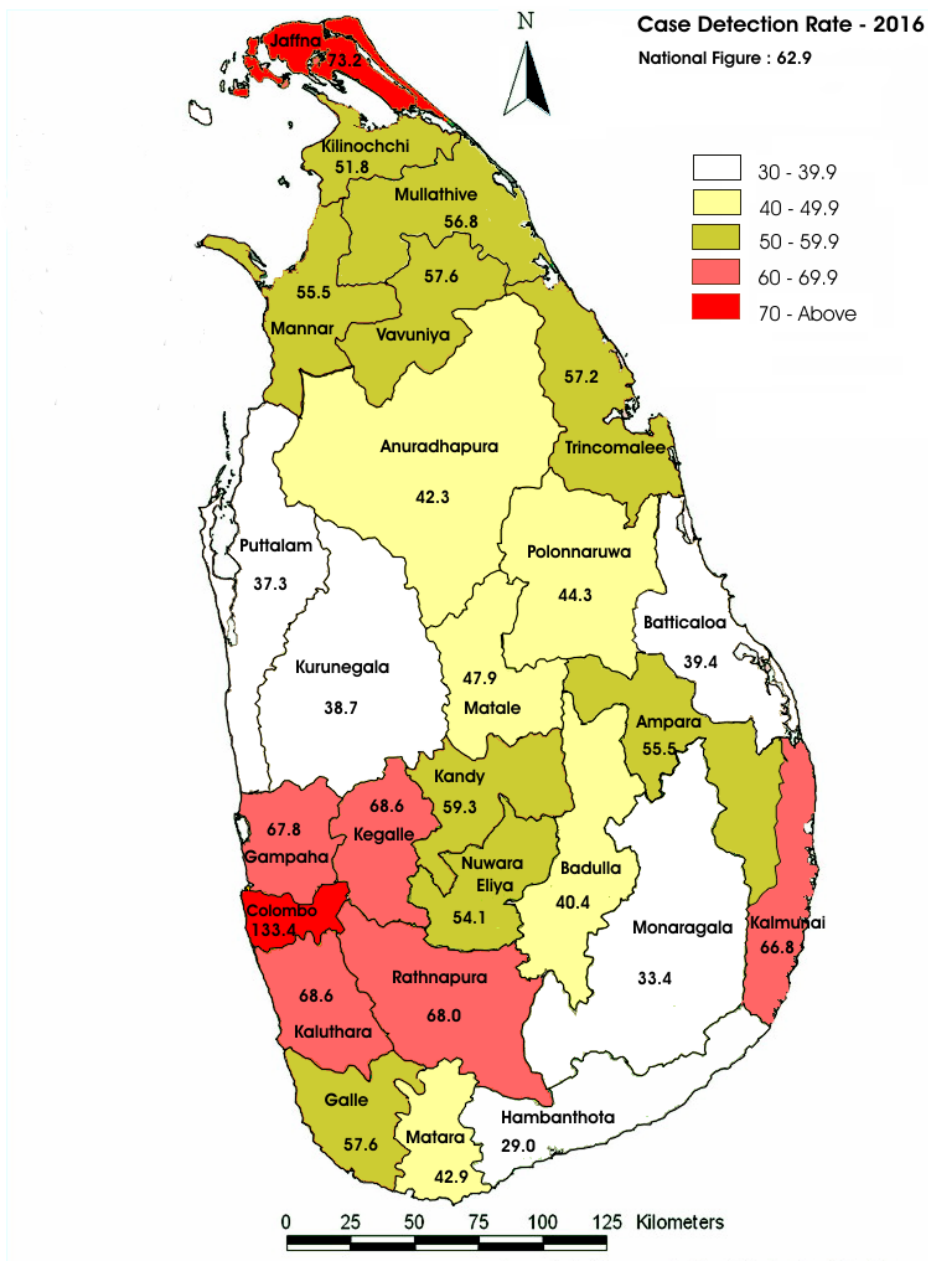
Table 27: Distribution of Sputum Conversion of Retreatment PTB Cases at the End of the Intensive Phase by District in 2016

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 27: 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





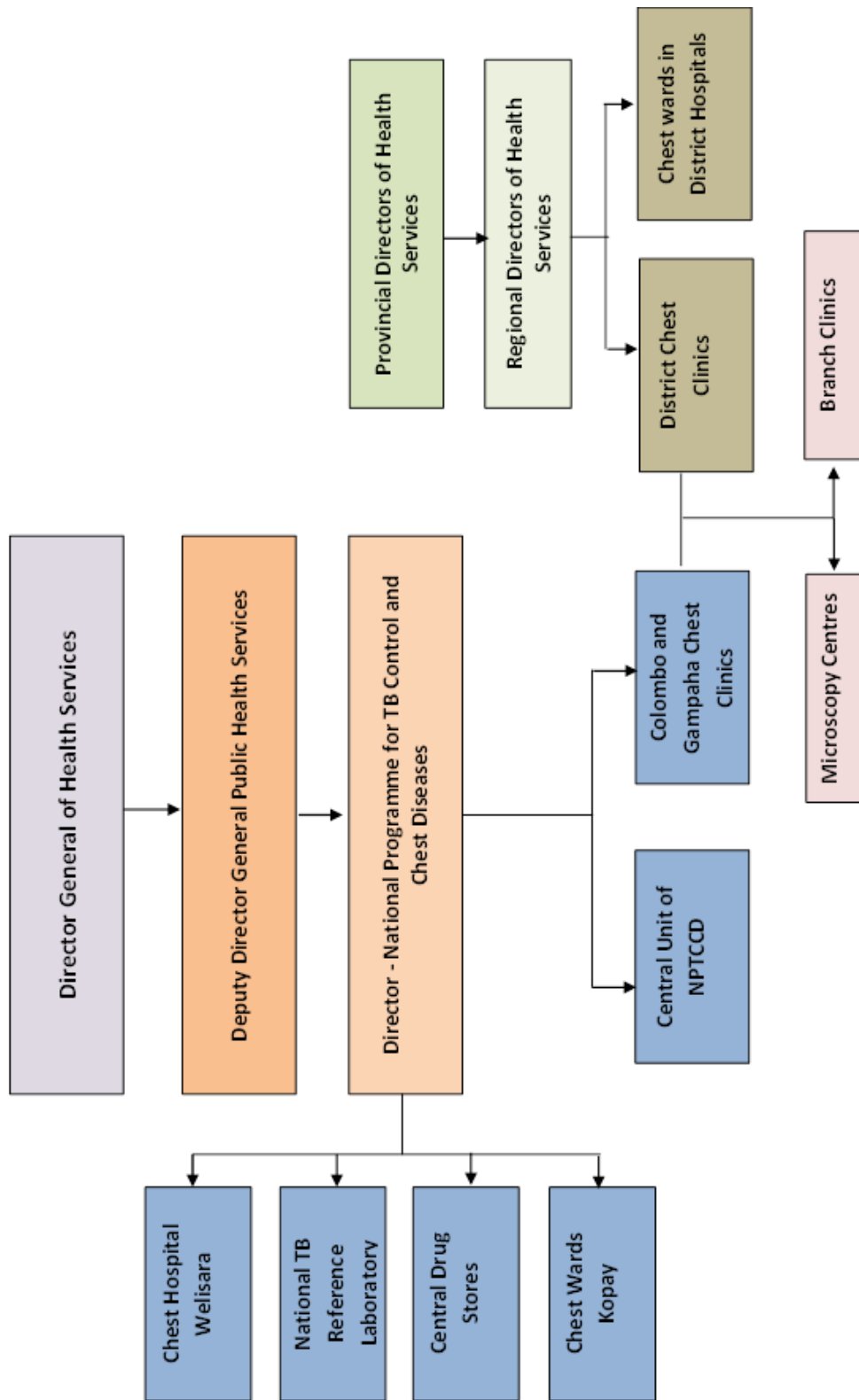


Figure 22: Organizational Structure of National TB Control Program (2015)