

NATIONAL TUBERCULOSIS PROGRAMME
MYANMAR

ANNUAL REPORT
2008

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Abbreviations

ACSM	Advocacy, communication and social mobilization
AD	Assistant Director
AFB	Acid Fast Bacilli
AIDS	Acquired Immunodeficiency Syndrome
ARTI	Annual Risk of Tuberculosis Infection
AZG	ARTSEN ZONDER GRENZEN
BCG	Bacille Calmette Guerin
BHS	Basic Health Staff
CDR	Case detection rate
CNR	Case notification rate
DD	Deputy Director
DHIS	District Health Information Software
DOH	Department of Health
DOT	Directly Observed Treatment
DOTS	Directly Observed Treatment Short Course
DRS	Drug resistant survey
DST	Drug Sensitivity Testing
S/DTO	State/Divisional TB Officer
ELISA	Enzyme-Linked Immuno -solvent Assay
EPI	Expanded Programme on Immunization
EMB	Ethambutol
EQA	External Quality Assessment
FDC	Fixed-dose combination
GDF	Global Drug Facility
GLC	Green Light Committee
GPs	General Practitioners
HIV	Human Immunodeficiency Virus

HA	Health Assistant
IEC	Information, Education, Communication
INH	Isoniazid
IOM	International Organization for Migration
IPT	Isoniazid Preventive Therapy
IUALTD	International Union Against Tuberculosis and Lung Diseases
JATA	Japan Anti-Tuberculosis Association
JICA	Japan International Cooperation Agency
KAP	Knowledge Attitude and Practice
LHV	Lady Health Visitor
LQAS	Lot Quality Assurance Sampling
MDR-TB	Multidrug - resistant tuberculosis
MIDCP	Major Infectious Diseases Control Project
MMA	Myanmar Medical Association
MMCWA	Myanmar Maternal and Child Welfare Association
MO	Medical Officer
MOH	Ministry of Health
MWAF	Myanmar Women Affairs Federation
MRCS	Myanmar Red Cross Society
MRTV	Myanmar Radio and Television
MS	Medical Superintendent
MSF	Medecins Sans Frontieres
MWs	Midwives
NAP	National AIDS Programme
NGOs	Non Governmental Organization
NTP	National Tuberculosis Programme
NTRL	National Tuberculosis Reference Laboratory
OI	Opportunistic infection
PHS II	Public Health Supervisor II

PSI	Population Services International
QC	Quality Control
RHC	Rural Health Centre
RMP	Rifampicin
RIT	Research Institute of Tuberculosis
SCC	Sputum collection center
SM	Streptomycin
SOP	Standard Operating Procedure
STD	Sexually Transmitted Disease
STLS	Senior Tuberculosis Laboratory Supervisor
TB	Tuberculosis
TL	Team leader
TOT	Training of Trainers
TSG	Technical Strategic Group
TSR	Treatment Success Rate
TV	Television
TMOs	Township Medical Officers
UN	United Nations
UNHCR	United Nations High Commissioner for Refugees
UTI	Union Tuberculosis Institute
WHO	World Health Organization
XDR-TB	Extensively Drug Resistant Tuberculosis
3DF	Three Diseases Fund

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NATIONAL TUBERCULOSIS PROGRAMME

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1. Introduction

Tuberculosis (TB) is one of the major public health problems in Myanmar. Annual Risk of Tuberculosis Infection (ARTI) was 1.66% (0.83/1000 population were sputum smear positive) according to the findings of tuberculin survey conducted in 1972. Sputum positive point prevalence was 1.042/1000 population according to Nation-wide survey carried out in 1994. World Health Organization (WHO) estimates the ARTI as 1.5%.

National Tuberculosis Programme (NTP) has been established since 1966. NTP is running with 14 State and Divisional TB Centers with (101) TB teams at district and township levels in 2008.

TB control activities have been integrated with Primary Health Care since 1978. The standard regimen containing injection Streptomycin and Isoniazid was replaced with Short Course Chemotherapy and introduced in 18 townships and 8 State and Divisional TB Centers in 1994. NTP rapidly expanded the townships up to 144 townships in 1995, another 9 townships in 1996 (total 153 townships) and no further expansion in 1997 and 1998. In 1997, NTP adopted WHO recommended Directly Observed Treatment Short Course (DOTS) strategy. In 1999, NTP covering 64.9% of country population in 168 townships and implementing DOTS strategy through primary health care approach, in co-ordination with the other governmental sectors and non governmental organizations such as Myanmar Women Affairs Federation (MWAFF), Myanmar Maternal and Child Welfare Association (MMCWA), Myanmar Medical Association (MMA) and Myanmar Red Cross Society (MRCS) etc. In 2000, DOTS coverage extended up to 71% (covered 231 out of 324 townships). In 2001, NTP covered 259 townships (80% out of total townships) and covered 90% of population. In 2002, NTP covered 310 townships (95.7% of total townships) and 95% of population. All 325 townships are implementing DOTS strategy since 2003.

TB control activities were implemented according to 5-year National TB Strategic Plan and 'Stop TB Strategy' to achieve the global targets within the framework of Millennium Development Goals (MDGs). This annual report aims to record the Myanmar TB situation and to evaluate strength and weakness, challenges to overcome for the better achievement.

2. Objectives of NTP

2.1 General objectives

- To reduce the mortality, morbidity and transmission of TB, until it is no longer a public health problem
- To prevent the development of drug resistant TB
- To have halted by 2015 and begun to reverse incidence of TB

2.2 Specific Objectives

The objectives are set towards achieving the MDGs, 2015.

- To reach and thereafter sustain the targets - achieving at least 70% case detection and successfully treat at least 85% of detected TB cases under DOTS (MDGs, Goal 6, Target 8, Indicator 24)
- To reach the interim targets of halving TB deaths and prevalence by 2015 from the 1990 situation. (MDGs, Goal 6, Target 8, Indicator 23)

3. Progress of the Stop TB Strategy

The new Stop TB Strategy, which was recommended by WHO in 2006 has been initiated in Myanmar since 2007 to achieve the MDGs, 2015.

Activities as planned in 5-Year National Strategic Plan for TB Control (2006-2010) are reviewed and revised to be in line with national health plan, new Stop TB Strategy and global plan and drafted the second 5-year National Strategic Plan (2011-2015).

The (2006-2010) plan has been implemented with the support of the government and funding from (WHO, Global Drug Facility (GDF), International facility for the purchase of drugs and laboratory commodities for HIV/AIDS, malaria and tuberculosis (UNITAID), Japan International Cooperation Agency (JICA), Global Fund, Three Diseases Fund (3DF), Japan Anti-TB Association (JATA), United States Agency for International Development (USAID) and Union.

There are 6 components in the **Stop TB strategy**:

1. Pursuing high quality DOTS expansion and enhancement
2. Addressing TB/HIV, MDR-TB and other challenges
3. Contributing to health system strengthening
4. Engaging all care providers
5. Empowering patients and communities
6. Enabling and promoting research

NTP Myanmar is implementing those strategies and achieved global TB control targets in 2006 and maintained the achievement 2006 onwards.

(1) Pursue high-quality DOTS expansion and enhancement

NTP, Myanmar ensures the quality of the 5 components of the DOTS strategy. The government increased the budget for TB control gradually. Case finding activities have been improved by introduction of EQAS (External Quality Assurance System) since 2006. TB patients are treated with WHO recommended treatment regimens using Fixed Dose Combination of first line anti-TB drugs (FDC) and Patient's kit under close supervision of Basic Health Staff (BHS). The drugs and supplies could distribute according to schedule without interruption. GDF supports first line anti-TB drugs since 2002 till 2008. Exceptionally, GDF will continue the support for one year requirement of the country (for 2009) while NTP develop the transitional and sustainability plan for uninterrupted anti-TB drug supplies for the country exceptionally.

NTP strengthened the program management and supervision activities. Computerized reporting system was introduced with the support of WHO. Standard Operating Procedure (SOP) for drug and supplies management, laboratory external quality assurance system and guideline for childhood TB management, multi-drug resistant TB (MDR-TB) management were developed.

Related trainings for drug and supplies management, laboratory EQA system, childhood TB management and MDR-TB management were provided.

NTP is taking a step to decentralize DOTS unit or microscopy center up to some of the Station Hospitals with quality assurance system. The case finding activities were improved by means of mobile teams, sputum collection points, initial home visit and contact tracing. Case holding system was improved by introducing

innovative activities: quarterly cohort review meeting and quarterly review meeting at low performance townships with high defaulter rate.

Partner's involvement in Public-Public Mix DOTS (PPM) and Public-Private Mix (PPM) DOTS could enhance the NTP's case finding. The expansion of EQA townships was carried out in phase wise manner and adequate funding is needed for regular supervision.

There is a great challenge to have a secure drug supplies beyond 2009 to maintain the current achievement and to cover increased case load due to better TB control performance at all levels. The partners meeting on "Sustainable first line anti-TB drugs supply in Myanmar" was held on 1st December, 2008, chaired by Professor Kyaw Myint, Minister for Health at Nay Pyi Taw to find out the solutions.



Partners meeting on sustainable first line anti-TB Drugs supply chaired by Professor Kyaw Myint, Minister for Health

(2) Address TB/HIV, MDR-TB and other challenges

Human Immuno Deficiency Virus (HIV) co-infection rate for TB patients was provided by National AIDS Programme (NAP) from routine HIV Surveillance. HIV sero-positive among new TB patients is 11.1% in 10 sentinel sites in 2008.

Guideline for TB-HIV collaborative activities was developed in 2000 and updated. TB/HIV collaborative activities are conducting with 2 models. One is an Integrated HIV Care for TB patients project (IHC) in collaboration with UNION, Total (Yatana) Oil Company, NAP and NTP. IHC project was started with 5 townships (5 townships in Mandalay district, Mandalay Division) in 2005 and expanded to Patheingyi and Amarapura townships in Mandalay Division and Pakkoku township in Magway Division in 2007.

The other model as a minimum package of TB/HIV interim policy and activities is implementing in the area where NAP could provide ART. The technical

assistance is provided by WHO. This model is implementing in Myitkyina (Kachin State), Taunggyi (Southern Shan State) and Lashio (Northern Shan State), where Voluntary Confidential Counseling and HIV testing (VCCT) service is providing in TB clinics as well as Co-trimoxazole Preventive Therapy (CPT). Isoniazid Preventive Therapy (IPT) pilot project is preparing to be implemented in 2009 in collaborative with NAP with the technical support of WHO.

MDR-TB among new and previously treated patients was 4% and 15.5% respectively (2002-03) from country wide drug resistant-TB survey. The second national drug resistant TB survey was conducted in 2007 and results showed 4.2% and 10% of new and previously treatment TB patients were MDR-TB respectively.

The study on drug resistant patterns of Category II failure patients was conducted for the formulation of national drug resistant-TB treatment regimen. National guideline for management of drug-resistant TB was developed and applied to Green Light Committee (GLC) for second line anti-TB drugs for the management of drug resistant TB (DR-TB) in 2007 and approved in 2008.

The MDR-TB management pilot project includes 5 townships each from Yangon Division (Hlaing, Hlaingthayar, Shwepyitha, Insein and Mayangone) and Mandalay Division (Aungmyaythazan, Chanmyathazi, Chanayethazan, Mahaaungmyay and Pyigyitagon). The clinical management of MDR-TB (DR-TB) patients is based at 2 TB hospitals (Aungsan and Patheingyi). DOTS-PLUS pilot project started in July, 2009.

State/Divisional/District/Township level TB coordinators are coordinating with authorities from prison, hospital TB ward and provide TB diagnosis and treatment.

Special activities were set at the Myanmar-Thailand border for improvement of TB control in border area: Myawaddy in Kayin State and Tachileik in Shan State (East). Meeting for proposal development of cross border health activities was held in Pataya, Thailand in November, 2008.

Table 1. TB/HIV collaborative activities (2008)

	Mandalay 7 townships	Myitkyina township	Taunggyi township	Lashio township	Pakkoku township	Total
No. of registered TB patients (>14 years)	3002	1004	493	624	510	5633
No. of VCCT accepted & HIV tested	2865	594	194	311	328	4292
% of VCCT tested	95%	75%	39%	50%	64%	76%
No. of HIV sero positive among tested	723	143	36	27	68	997
% of HIV positive among tested TB patients	25.2%	24%	18.5%	8.6%	20.7%	23%
No. of TB/HIV patients started or continued on CPT	846*	132	29	43*	68	1118*
No. of TB/HIV patients started or continued on ART	470	110	0	22	48	650
No. of HIV positive cases registered	5763	19	177	242	83	6354
Among those registered: No. screened for TB	462	5	31	242	29	769
No. started TB treatment	360	2	22	10	13	407

* No. of patients on CPT is more than HIV positive detected was due to some patients who tested and positive from other places.

Table 1 shows VCCT service provided in TB clinics of 11 township and about 23% of TB patients above 14 years were HIV positive. Only 12% of the registered HIV positive cases had been referred for TB screening and 52% of referred cases were put on anti-TB treatment. However, the recording and reporting is needed to be improved in this area. TB/HIV collaborative activities were evaluated with partners on 15-1-2009.

(3) Contribute to health system strengthening

NTP organization structure was expanded as necessary. There was only 7 State/Divisional TB Centers in 1982 and expanded to 14 State/Divisional TB centers in 2007 and covering the 17 States and Divisions. In line with the human resource development plan, NTP is conducting several trainings on "Management of TB at district level" for Township Medical Officer (TMOs) and TB coordinators, "Management of TB for Health Facility Staff" for BHS, "Leadership and Management" training for Township Medical Officers (TMO) and TB team leaders, "prepared kit training" for TMO and TB coordinators, new recruit training for sputum smear for AFB microscopy and EQA training for laboratory supervisors.

All the township laboratories were equipped with binocular microscopes and sputum microscopy centers were expanded to some station health Units. The facility for culture and drug sensitivity testing is upgraded in Upper Myanmar TB laboratory, Mandalay with the support of 3DF and UNION.

(4) Engage all care providers

Public-Private Mix DOTS is implementing with Myanmar Medical Association (MMA), Population Services International (PSI) and JICA, Major Infectious Diseases Control Project (MIDCP). Some Private Practitioners (PPs) use the scheme I which educate about TB and refer the TB suspected patients to TB center. Some PPs prefer to use the scheme II, act as a DOT provider. PSI organizes the PPs and running the "Sun Quality Clinics" as a DOT unit. Private hospitals are not involved under PPM-DOTS schemes yet.

PSI is implementing PPM-DOTS in 123 townships (in 13 States/Divisions) with 86 accredited laboratories (39 private lab. and 71 public lab.). 544 PPs were trained by PSI together with NTP and out of which 504 PPs are implementing DOTS. MMA is implementing mostly scheme I in 19 townships after provision of training to 525 PPs. Advocacy, Communication and Social Mobilization activities are implementing at 6 townships in 2 State/Divisions.

Public-Private-Mix (MMA, PPM-DOTS project) is implementing DOTS at 516 clinics in 23 townships by using 23 public laboratories and 4 private laboratories (in Pyay, Kyaukse, Pakokku and Magway). There were 4 townships (Pyay, Magway, Pakokku and Aungmyaethazan) scaled up to scheme III and the rest are practicing scheme I and scheme II.

International Organization for Migration (IOM) is implementing PPM-DOTS in 6 townships in Mon State with 6 accredited public laboratories.

Myanmar Maternal and Child Welfare Association (MMCWA) is one of the organizations which involve as a care provider. About 33% of TB patients were directly observed by members of MMCWA.

MRCS trained their members to take part in TB suspected patients referral, case holding as DOT providers and defaulter tracing.

Malteser International trained community volunteers for TB/HIV prevention and control activities in Buthedaung and Maungtau townships of Rakhine State.

AZG (MSF-Holland) has been implementing DOTS strategy especially for TB/HIV co-infected patients. AZG covers patient support and incentives since 2004. AZG was one and only partner involving in preparation of MDR-TB management and implementation of DOTS-PLUS pilot project.

Pact Myanmar trained community volunteers and Advocacy Communication and Social Mobilization activities are conducted for community awareness.

Public-Private Mix DOTS is implementing in 4 hospitals (New Yangon General Hospital (YGH), Thingungyun Sanpya General Hospital, East Yangon General Hospital, West Yangon General Hospital. ISTC (International Standards for TB Care) has been introduced in 2008.

NTP is also coordinating with hospitals under Ministry of Defense, Ministry of Labor, Ministry of Home Affairs and Ministry of Railway.

(5) Empower people with TB and communities

People with TB are not yet organized for their involvement in TB control. JATA supported activities to involve registered TB patients in TB control was started in 6 townships in 2008. TB registered patients serve as informers in the communities and referring the TB suspected patients to TB centers for diagnosis.

NTP is conducting nation wide Knowledge, Attitude and Practice (KAP) survey to explore the knowledge, attitude and practice of communities related to TB. Base on the findings of KAP survey, NTP will develop the appropriate Advocacy, Communication and Social Mobilization (ACSM) strategy for the country.

NTP has conducted World TB Day/Week commemoration ceremony and activities every year since 1996. Community involvement was strengthened by providing training for DOT provider who is identified from community volunteers and local NGO members. MMA also trained DOT providers selected from community.

(6) Enable and promote research

Research on "Factors for defaulting anti-TB treatment among new pulmonary TB patients in Thanutpin, Yaksauk, Amarapura and Maubin townships in 2006" was conducted in 2008 with the support of Major Infectious Diseases Control Project (MIDCP, JICA). Second Nation-wide Drug Resistant TB Survey (DRS) (2007-2008) was conducted. Preparation for National TB prevalence survey to be conducted in 2009 was started in 2008.

Operational researches depending on the problems are conducted as necessary in collaboration with Department of Medical Research and academic Institutions.

4. Activities of NTP

1. Intensification of health education by using multi-media to increase community awareness about TB
2. BCG immunization to all children under one year
3. Implementing Directly Observed Treatment (DOT) up to grass-root level
4. Early case detection through direct sputum microscopy of chest symptomatic patients attending health services and contact tracing
5. Regular supervision and monitoring of NTP activities at all levels
6. Strengthening partnership
7. Capacity building
8. Promotion of operational research

Above activities were adopted in National Strategic Plan for TB control (2006-2010). Those activities are reviewed and revised in National Strategic Plan for (2011-2015) to be in line with the National Health Plan and new STOP TB STRATEGY as WHO recommended. It was drafted in 2008 together with implementing partners with the technical assistance of WHO.

4.1 Health education

4.1.1 IEC materials dissemination

Community awareness concerning TB was accelerated through promoting health education sessions and conducting advocacy meetings at all levels. The IEC materials: pamphlets (230,000), TB stickers (5,800), posters (20,000), World TB Day Tool kit (500), TB knowledge books (15,000) and T shirt (1900) were produced and distributed through state/divisional TB centers to all townships up to grass-root level.

4.1.2 World TB Day and week activities, 2008

World TB Day commemoration ceremony was held on 24.3.2008 at central and at all States and Divisions with the support of WHO. In 2008, 28 townships held World TB Day commemoration ceremony with their own effort was reported. The Slogan for the year 2008 was "I am stopping TB". (တီဘီကင်းစင်ကြွာတစ်ခွင် လူတိုင်းတာဝန်ပင်)



World TB Day commemoration ceremony (2008), Nay Pyi Taw



World TB Day commemoration ceremony (2008), Nay Pyi Taw

The central level World TB Day commemorative ceremony was carried out on 24th March, 2008 at the Assembly Hall of Ministry of Health, Nay Pyi Taw. Professor Dr. Mya Oo, Deputy Minister for Health, Ministry of Health delivered the opening

speech and Dr. Hans H. Kluge, Medical Officer (TB), team leader of 3DF Unit, WHO Myanmar, read out the message from the Regional Director of WHO South East Asia Region. Video clip developed by Health Education Bureau and JICA (MIDCP) and television (TV) spot developed by PSI were presented in the ceremony. The mini exhibitions were presented by NTP, JICA and PSI. 450 invitees from MOH, DOH, other ministries, WHO and UN agencies and implementing partners attended the ceremony.

The main activities carried out during World TB week were funded by MOH, 3DF and WHO.

- 1) Community based activities such as health education talk about TB at township level up to Rural Health Centers (RHCs) were carried out by BHS. The activity was followed by identification of TB suspects, referral to the Township TB Diagnostic centre, contact tracing and missed dose tracing in their responsible area.
- 2) Dissemination of knowledge about TB was given through mass media: television, news papers and journals. Health education programme as discussion session, interviews with Myanmar Radio and Television (MRTV) and Myawaddy televisions were broadcasted.
- 3) Mobile team activities were conducted in 9 townships of 8 States/Divisions namely Kawa in Bago Division (East), Pindaya in Shan (South), Tanyan in Shan (North), Thandwe in Rakhine State, Shwegu in Kachin State, Yinmarbim in Sagaing Division, Thayetchaung in Tanintharyi Division and Yesakyo and Pauk in Magway Division.



World TB Week activities, 2008

As a contribution from implementing partners: MIDCP (JICA) supported (20,000) posters, and (1,000) PPM-DOTS pamphlets for NTP. PSI contributed TV spots and conducted the TB awareness campaign in 20 selected townships. As World TB Week activities, International Organization for Migration (IOM) conducted the active case finding with mobile unit in their functioning area. World Vision International supported 20,000 pamphlets, Pact Myanmar also disseminated the TB information through their out reach workers in Kyaukpadaung, Nyaung U, Magway

and Chauk townships. MMA organized the World TB Day ceremony in 23 townships implementing PPM-DOTS. MRCS provided 100 stickers, 100 ballpens, towels, soaps, vitamins and nutrition supports. MMCWA donated the medicines to Aung San TB Hospital. MWAf contribute for lunch to TB patients from Aung San TB Hospital.

NTP provided 200,000 pamphlets, 5,700 stickers, 15,000 TB knowledge books and 1,900 T shirts.



World TB Day Commemoration ceremony and Health talk



Health talks



4.2 BCG immunization

BCG immunization started in 1951 to those who were tuberculin test negative. In 1963, Freeze Dried BCG Vaccine was introduced and direct BCG vaccination has been implemented since 1969. BCG Vaccination has been integrated into Expanded Programme on Immunization (EPI) and the BCG team of NTP has been integrated into State and Divisional Health Department since 1978. The BCG technicians and BCG supervisors are responsible for training of BHS, supervision and evaluation on immunization activities of BHS in each and every State and Division. BCG coverage in 2008 was 89%. (Source: EPI programme)

Table 2. BCG coverage (2005-2008)

State/Division	2005	2006	2007	2008
Ayeyarwaddy Division	75%	64%	85%	84%
Bago Division (East)	74%	81%	89%	94%
Bago Division (West)	90%	90%	94%	86%
Chin State	99%	119%	93%	63%
Kachin State	89%	108%	95%	89%
Kayah State	81%	83%	83%	96%
Kayin State	60%	63%	85%	85%
Magway Division	85%	89%	90%	92%
Mandalay Division	68%	75%	86%	77%
Mon State	86%	80%	94%	92%
Rakhine State	106%	76%	92%	107%
Sagaing Division	88%	83%	91%	94%
Shan State (East)	42%	38%	85%	83%
Shan State (North)	60%	68%	70%	75%
Shan State (South)	84%	71%	83%	83%
Taninthayi Division	93%	91%	97%	97%
Yangon Division	61%	65%	94%	92%
Union	76%	76%	89%	89%

Data source: EPI

4.3. Case detection

WHO estimates the Annual Risk of Tuberculosis Infection (ARTI) for Myanmar is 1.5%. The TB prevalence survey conducted in Yangon Division (2006) showed 229/100,000 population. The incidence was estimated as 171/100,000 population

which is 2.26 times higher than the current estimates using for all townships. The national estimate is based on the smear positive national TB prevalence survey conducted in 1994 (104/100,000 population). Therefore, the national estimates should be revised after the technically sound national TB prevalence survey, which will be conducted in 2009.

The Case Detection Rate (CDR) of new smear positive cases for 2008 was 90%. 13% of detected new sputum smear positive cases and 12.7% of all TB cases were contributed by other reporting unit apart from NTP. Private sector through franchising approach of PSI contributed 10% of new smear positive TB cases and 8% of all TB cases notified to NTP. Hospitals contributed 1.3% and 2.8% of new smear positive and all TB cases reported to NTP respectively. AZG contributed 1.6% of new smear positive cases and 1.7% of all reported TB patients to NTP.



Active case finding using mobile team

Passive case finding is carried out in the DOTS townships. Chest symptomatic TB suspects from community are referred to the microscopy centers for sputum microscopy. Sputum smear microscopy plays an important role in NTP not only for diagnosis of TB but also to monitor the progress of TB patients during treatment and to determine the cure of TB patients at the end of treatment. Active case finding using mobile teams are also conducted as World TB Week activities.

The diagnosis for TB is mainly done by sputum smear microscopy. Sputum Culture is available only at National TB Reference Laboratory (NTRL, Yangon) and Upper Myanmar TB Laboratory (Mandalay). NTRL could perform Drug Sensitivity Testing (DST) since 2001.

With the Bridging Funding of 3DF, a 45 KVA generator and a large Incubator, hot and cold rooms (incubation room and chemical storage room) were equipped for Upper Myanmar TB Laboratory, Mandalay. After that new DST laboratory was established in Mandalay. Essential preparations for DOTS - Plus Project, Nationwide Drug Resistant Survey and National TB prevalence survey were carried out.



3DF supported Cold room and Hot room, installed in Mandalay

Case finding activities are strengthened by radiological examination. All State and Divisional TB Centers except Eastern Shan State and Kayah State have the X-ray facility. One miniature X-ray machine is installed at each Tuberculosis Diagnostic and referral Centers (one in Yangon General Hospital Extension compound, Union Tuberculosis Institute (Aungmye) and the other in Mandalay General Hospital compound).

4.4. Laboratory performance

Routinely NTP collect three sputum specimens for the diagnosis and two specimens for follow-up in all laboratories. Ziehl Neelsen staining is using in all TB laboratories and Fluorescence microscopy is using only in Latha TB Diagnostic and Referral center, Yangon and Diagnostic and referral center, Mandalay with high workload. Township laboratory performances are closely monitored by State and Divisional Senior TB Laboratory Supervisors (STLS).

Maintaining the quality of AFB Microscopy

In 1999, the NTP developed the framework for the implementation of quality assessment activities using conventional method in which all positive slides and 10% of the negative slides examined were checked. This method induced the increased workload for STLS.

After a pilot study of External Quality Assessment on Lot Quality Assurance System (EQA-LQAS) at Yangon and Mandalay Division, workshops and trainings were given to (20) STLS assigned by Ministry of Health to reinforce this work. The National Guidelines on EQA-LQAS for AFB Microscopy was developed in October 2007 and orientation training was given in February, 2008 to State/Divisional TB Officers, Pathologist/Laboratory Officers from State and Divisional Hospitals and STLS for proper random selection of six slides per month and send to State and Divisional TB Centers for blinded re-checking. Timely reporting to peripheral laboratories and supervisory visits for corrective actions are also important components of this new EQA system. The quarterly supervisory visits by Microbiologists were done where there were major errors. STLSs are responsible for routine supervision and to the townships with major errors.

Laboratory of Mandalay Divisional TB Centre took responsibility of Kachin State, Sagaing, Magway and Mandalay Divisions. Feed-back together with comments were sent back from State and Divisional level to township level and copied to central NTP. The INGOs (PSI and AZG) laboratories performing AFB Microscopy are also sent QC slides to either Lower or Upper Myanmar TB laboratory.

Panel slides were sent to STLS at State and Divisional TB centers and Hospitals twice a year from National Health Laboratory (NHL) / NTP. Training for newly recruited STLS (5 days) and refresher training for existing STLS (2 days) were provided. Laboratory annual evaluation meeting was held once a year.

EQA system was successfully established with the technical and financial support of JICA (MIDCP).

53 townships, 2 hospitals and 1 diagnostic and referral center are under EQA. EQA has been introduced in Yangon, Mandalay, Magway, Bago Division (East), Ayeyarwaddy, Shan State (South) and Mon State in 2007. EQA expanded to 325 townships in 2008 after orientation training by using the National Guidelines on EQA-LQAS for AFB Microscopy. Technicians from State/Divisional TB centers or Medical Technologists from the State/Divisional General Hospital laboratories are responsible for quality control (QC). Some townships sent QC slides straightly to National TB Reference Laboratory (NTRL) for their convenience sake.

The quality control results were getting worse in Yangon, Sagaing, Magway, Ayeyarwaddy, Kachin, Kayah and Shan State (East) compared to 2007. Table 4 shows 2.8% of the slides checked for quality control had major errors. **57% of errors were false negative.** It is needed to closely monitor by the responsible microbiologists for the corrective action in time on those false negative slides and supervision to the townships with major errors and on-the-job training should be provided. In some cases, refresher training on sputum smear microscopy will be needed.

Table 3. Quality assessment report of National TB Reference Laboratory on State and Divisional laboratories in 2008

State/Division	Township	No. of slides received at NTRL			No. of slides examined			
					TRUE		FALSE	
		(+)ve	(-)ve	Total	(+)ve	(-)ve	(+)ve	(-)ve
Tanintharyi	Dawei	4	14	18	4	14	0	0
	Myeik	1	17	18	1	17	0	0
	Kawthaung	2	4	6	2	4	0	0
	Thayetchaung	2	17	19	2	17	0	0
	Pulaw	18	29	47	18	29	0	0
Ayeyarwaddy	Pyapon	27	45	72	27	45	0	0
	Kyaiklatt	10	62	72	10	62	0	0
	Daydaye	9	51	60	8	51	0	0
Bago (West)	14 sites	217	857	1074	212	840	5	17
Magway	Magway	7	29	36	7	29	0	0
Yangon	48 sites *	597	2296	2893	589	2225	8	71

* 48 sites = 34 townships, 1 Station Hospital, 8 Hospitals, 2 Diagnostic centers, 3 partners (AZG, PSI, Insein Jail)

Table 4. Quality assessment of State/Divisional TB Laboratories on peripheral laboratories, 2008

State/Divisional TB Centre examined QC slides	Responsible State/Division to examine QC slides	No. of slides examined					Concordance (%)
		Total	TRUE		FALSE		
			(+)ve	(-)ve	(+)ve	(-)ve	
Myitkyina	Kachin	1234	293	868	18	55	96
Mandalay	Mandalay	3462	483	2160	9	38	98
Monywa	Sagaing and Chin	2081	464	1506	96	15	94.6
Magway	Magway	1608	261	1305	8	34	97
Taunggyi	Shan (South)	1740	245	1495	0	0	100
Loikaw	Kayah	175	10	165	4	2	96
Kyaingtong	Shan (East)	506	183	253	70	0	80
Lashio	Shan (North)	462	188	274	0	0	100
Mawlamyine	Mon	650	149	439	2	6	86
Mawlamyine	Kayin	476	126	342	5	3	83
Myeik	Tanintharyi	278	89	189	0	0	100
Bago	Bago (East)	915	275	631	3	6	98.3
Sittwe	Rakhine	1186	483	695	1	7	99.3
Patheingyi	Ayeyarwaddy	1754	686	979	11	78	92

Sputum collection centers (SCCs)

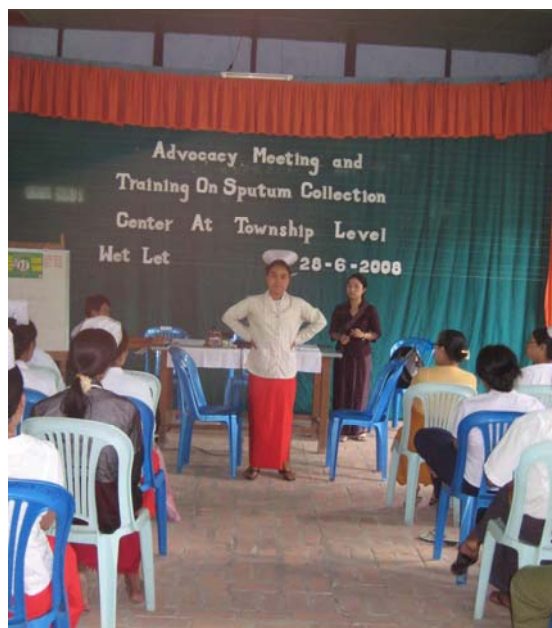
NTP is intended to decentralize the sputum microscopy center to Station Hospitals. Due to lack of laboratory technician posts at peripheral areas, it is not possible to have microscopy services at all station hospitals. NTP identified and established sputum collection centers at rural health centers as the possible solution for this.

Case finding activities were strengthened by setting of sputum collection centers. In 2008, 30 SCCs functioning in 7 States and Divisions were funded by 3DF.

Advocacy meetings were conducted at Township level and one day training was provided to local Basic Health Staff including laboratory technician of selected SCC sites. Materials such as table, chair, ice box, ice packs and stationery were supplied. Transportation cost was also reimbursed to assigned messengers who transported sputum specimens to township laboratories.

Table 5. Sputum collection centers established in (30) sites

State/Division	Total site	Sputum Collection Centers	
		Township	SH / RHC
Yangon Division	1	Thanlyin	Thapyaykan RHC
Kayah State	2	Demawsoe Farusoe	6 miles RHC Tawkhu RHC
Southern Shan State	6	Hopone Ywangan Loilem Namsam Mongshu Hsiseng	Namkote RHC Myaing SHU Maingpon SHU Kholem RHC Wunsawt RHC Naungmon RH
Magway Division	2	Taungtwingyi Pwintphyu	Satthwar RHC Mezali RHC
Ayeyarwaddy Division	1	Kyonpyaw,	Wegyi RHC
Mandalay Division	3	Patheingyi Patheingyi PyinOoLwin	Dahuttaw RHC Sinywagyi RHC Pyinsa RHC
Sagaing Division	15	Monywa Minkin Kyunhla Banmauk Htigyink Myinmu Wetlet Taze Khamti Wuntho Pinlebu Pale Kalaywa Mawleik Ahyardaw	Nyaungphyupin SH Maukkataw RHC Miepinraung RHC Kyaunglei SH Ahletaw SH Tawchaung SH Moaksoe chone RHC Ywama RHC Kaungmein SH Gyoetaung SH Michaung inn SH Chinpyit RHC Thetkaikyin RHC Panbar RHC Maleba SH
Total	30	29	30



Advocacy meeting and training on sputum microscopy center in Wetlet township

The performance report received at the central NTP was very limited for the Year 2 of 3DF. About 7.6% (10/131) of TB suspected cases reported to central NTP were sputum smear positive and put on anti-TB treatment. This innovative activities needs to evaluate thoroughly on its effectiveness and efficiency.

Human resource situation in TB laboratories

The human resource at the NTRL and Upper Myanmar TB Laboratory is limited to be able to perform the culture and DST work, quality check, supportive supervisory visits and training as necessary.

At the NTRL and Upper Myanmar TB Lab. of Mandalay will need at least 15 lab. technicians each for the rapid test which will be introduced in 2009. Those people will be responsible for the routine laboratory work, culture and drug sensitivity testing and quality control and doing the rapid test. At the same time there will be adhoc studies and surveys which will use the laboratory.

State and Divisional TB Laboratories: Sittwe, Monywa, Myeik, Lashio, Magway, Kyaingtong, Myitkyina and Loikaw have no sanction posts for a Grade I lab. technician. All State and Divisional level TB laboratories should be appointed at least one Grade I and II lab. technicians.

Those townships with TB team have one Grade II lab. technician. Townships without TB team use a lab. technician either from NTP or general health services/ township hospital for sputum for AFB microscopy.

For easy accessibility of TB suspects and follow-up patients for sputum examination, expansion of TB Microscopy services is suggested. Public Health Supervisors II (PHS II) or natives (10th. Standard passed) from that place should be trained for sputum for AFB Microscopy.

Table 6. Essential Human Resources for TB Laboratories

Category of staff		NTRL		Mandalay		Remarks
		Posted	Required	Posted	Required	
1	Sr. Consultant Microbiologist	0	1	0	0	To oversee TB lab activities of the entire country
2	Consultant Microbiologist	1	1	0	1	To supervise existing as well as newer diagnostics being introduced
3	Microbiologist/ Medical Officer	1	2	1	2	looking after the work of Microbiologists
4	Medical technologist	2	4	0	4	For culture and DST section, Media Prep. Liquid culture, LiPA, QA & training sections
5	Grade I lab. technician	5	6	3	6	For solid culture, solid DST, Liquid culture, LiPA, QA section and stains & reagent preparation
6	Grade II lab. technician	0	4	4	4	For routine microscopy, random blinded rechecking, to assist in media, stains and reagent preparation
7	Electrician	0	1	0	1	For maintaining the equipments
8	Computer assistant	0	1	0	1	For maintaining the database, data entry and assist in analysis and generating periodic programme related lab reports
9	Clerk	1	2	1	2	One each for Registration of specimen and stores, also perform data entry,
10	Lab. attendant	1	3	2	3	cleaning and washing,
11	Watchman	0	1	0	1	Security
	Total	11	26	11	25	



Laboratory supervision

NTP is preparation to establish new diagnostic tools for TB diagnosis with the support of Foundation for Innovative New Diagnostics (FIND) in 2009. Therefore,

NTP required 26 laboratory persons for Lower Myanmar TB Laboratory (Yangon) and 25 laboratory persons for Upper Myanmar TB Laboratory (Mandalay) as an essential human resource to be able to function the rapid test for TB diagnosis.

4.5. Treatment

In 2008, altogether 325 townships were implementing DOTS strategy.

Township Medical Officers (TMOs) and TB coordinators of DOTS townships take all the responsibilities of TB control activities. In townships with TB team, team leaders (Medical Officer or Health Assistant) are serving as TB co-ordinators and where there are no TB teams, Township Medical Officers or assigned health personnel are serving as TB co-ordinators.

For each and every patient, there is a DOT provider. DOT providers are selected either local BHS or Voluntary Health Workers or members of Non Governmental Organization (NGOs), especially Myanmar Women Affairs Federation (MWAFF), MMCWA, MMA, MRCS or family members of the TB patients. All BHS and some pre-selected NGO members are trained when the particular township started the DOTS strategy implementation. DOT providers from community could serve as close to the patient as possible to ensure that patient's adherence to the full course of treatment.

The drug adherence is aimed to improve when NTP introduced 4-Fixed Dose Combination (FDC) in 2004. BHS are assigned as DOT supervisors and decentralization of the anti-TB drugs distribution is strengthened. Pre-packed patient kits were introduced to 38 townships since 2007. The effective utilization of pre-packed patient kits is also needed to be evaluated in 2009 for further expansion.

Paediatric formulation for management of TB in children was supported by UNITAID through GDF in 2007 and was distributed in 2008. Standard Operation Procedure for management of TB in children was developed and distributed to TMOs, TB coordinators and paediatricians in trainings at Central / State/Divisional levels.



DOT at clinic



Patients waiting area (Infection control)

4.6. Supervision, monitoring and evaluation

4.6.1. Supervision and monitoring

State and Divisional TB Centers are led by State and Divisional TB Officers and they give technical support to the State and Divisional level, district and township level TB control activities. They also give training, on the job training, supervision, monitoring and feed back to improve the TB control activities for the achievement of the NTP's objectives at State and Divisional level. NTP activities are closely supervised by Central Supervisory Committee for prevention and control of TB chaired by Minister for Health, Ministry of Health.

Regular monitoring of patients' progress is carried out at every DOTS townships. Desk top monitoring on case finding, sputum conversion and treatment outcomes through quarterly reports is carried out at all levels. Feed-back mechanism from top to bottom using quarterly assessment form was carried out.

Supervisory visits were conducted by Central/State/Divisional and District/Township level supervisors. Laboratory supervision was strengthened by recruiting STLS from general health services.

NTP could made 590 supervisory visits to district and township level and 621 visits to either station hospitals or RHC in 2008 with the support of WHO, CERF and 3DF. Microbiologists and STLS could supervise 31 townships with major errors according to feed back from laboratory EQA system.



Joint supervisory visits to PPM and TB/HIV sites

Table 7. Reported supervisory visits to township laboratories with major error (2008)

State/Division	Townships
Yangon Division	Hmawbi, South Okalapa, Taikkyi, Bahan, Botataung, Thaketa, Shwepyithar, Aungmye Tharazan, Sintgaing, Pyigyitagon, Pyawbwe, Chanmyathazi, Pyigyitagon, Yamethin, Nyaung Oo, Myittha
Ayeyarwaddy Division	Kyaunggone, Kangyidaunt, Nyaungdone
Bago Division	Gyobingauk, Nattalin, Zegon, Shwedaung, Thegone, Paukkaung,
Sagaing Division	Monywa
Mandalay Division	Aungmyaytharzan, Sintgaing, Pyigyitagon, Pyawbwe, Chanmyathazi, Pyigyitagon, Yamethin, Nyaung Oo, Myittha
Mon State	Mudon
Kayin State	Kyarinseikkyi
Rakhine State	Kyauktaw
Kachin State	Pharkant (Karmaing)

Table 8. Reported supervisory visits (2008)

Central /State /Division	No. of supervisory visits to District /township level	No. of supervisory visits to SHU and RHCs
Central	39	0
Yangon Division	99	0
Ayeyarwaddy Division	26	33
Bago Division	58	60
Magway Division	81	88
Taninthayi Division	21	11
Sagaing Division	65	101
Mandalay Division	20	42
Mon State	19	84
Kayin State	15	44
Kayah State	16	10
Rakhine State	36	41
Kachin State	29	35
Chin State	2	0
Shan State (E)	17	2
Shan State (S)	31	54
Shan State (N)	16	16
Total visits	590	621

4.6.2. Evaluation

Evaluation meetings were carried out to assess the TB control activities and achievement by State/Divisions and to identify the problems and constraints facing in different localities at different levels and to seek for the possible solutions and plan for the future.

4.6.2.1. National annual TB evaluation workshop on NTP activities of 2007



Opening speech by Dr. Win Myint, Director General, DOH

National annual TB evaluation workshop was held at meeting room of Disease Control Building, Nay Pyi Taw from 29-10-2008 to 30-10-2008 with the support of WHO. 90 invitees attended the meeting.

The opening speech was delivered by Dr. Win Myint, Director General, DOH. He mentioned that "TB is re-emerging disease and one of the top priority diseases in National Health Plan (2006-2010). TB program has specific targets in Millennium Development Goal. DOTS strategy is implementing in all 325 townships in Myanmar and NTP has already achieved the targets 70/85 since 2006. Although Myanmar achieved the targets, some townships could not reach the targets yet. For those areas he highlighted to NTP needs to use the special strategies and activities such as sputum collection centers, mobile team and passive case finding as well as active case finding rather than routine activities. All townships have to carry out the planning, implementation and evaluation of TB control activities based on data to achieve the targets and he urged to sustain the achievements. Finally, he said to be able to make the relevant recommendations for next year from this workshop"

Officials from Department of Health, responsible persons from HMIS, Department of Health Planning, NTP central office staff, Medical Superintendent from TB hospitals, State/Divisional Health Directors, State/Divisional TB Officers and District TB team leaders doctors, representatives from WHO and implementing partners attended the workshop.

Recommendations of Central Annual TB Evaluation Workshop

1. To improve case finding and case holding activities of low performance townships by using different approaches
2. To implement special activities in areas facing difficulties to do routine activities
3. To conduct township monthly coordination meeting
4. To improve collaboration with all partners and conduct partner's meeting
 - monthly and as necessary at township level
 - half yearly at State/Division level
 - yearly at Central level
5. To expand the sites for joint TB/HIV prevention and control activities at the townships where TB and STD/AIDS teams are functioning
6. To strengthen monitoring and supervision at all levels. (State/Divisional Health Directors, District Medical Officer, Township Medical Officer and Partners)
7. To expand EQA sites by phase wise manner

4.6.2.2. TB evaluation meetings

State/Divisional TB evaluation meetings were carried out at all States/Divisions. The activities were conducted with the support of WHO. It was meant for biannual, however, the budget was inadequate to hold meeting twice.

JICA (MIDCP) also supported for Half yearly Divisional TB evaluation meeting for Yangon and Mandalay Divisions. JICA also supported Township quarterly evaluation meetings conducted at 10 low performance townships of Yangon and Mandalay Divisions.

The other townships were also conducting Township quarterly TB evaluation meeting without cost.

According to the reports received at NTP central unit, the meetings were held in 17 townships in Yangon Division, 5 townships in Kayah State, 15 townships in Ayeyarwaddy Division, 15 townships in Mon/Kayin States, 22 townships in Magway Division, 1 township in Chin State, 7 townships in Southern Shan State.

Cohort review meetings were also conducted in 30 low performance townships funded by 3DF.

One half yearly national level TB evaluation meeting with State/Divisional TB officers was held in August, 2008.



Half year TB evaluation workshop with State/Divisional TB Officers in Nay Pyi Taw

Table 9. TB Evaluation meetings at State Divisional level

State/Divisional level	Date	No. of participants	Remarks
Kachin State	11.3.09	45	
Kayah State	2008	-	No report received
Chin State	21.3.09	13	
Shan State (South)	19.3.09	40	
Shan State (East)	-	-	No report received
Shan State (North)	23.3.09	45	
Mon State	22.3.09	25	
Kayin State	11.3.09	26	
Rakhine State	22.2.09	38	
Mandalay Division	12.10.07/1.10.08	60	2 times conducted with JICA support
Yangon Division	20.9.07/14.3.08	87	
Sagaing Division	6.3.09	75	
Magway Division	6.12.08	52	
Bago Division (East)	5.12.08	28	
Bago Division (West)	18.11.08	28	
Ayeyarwaddy Division	7.3.09	52	
Taninthayi Division	3.3.09	25	

Yangon Division: First half year evaluation was held on 20-9-2007 to 21-9-2007 at Yangon Divisional Health Office and made the following Recommendations:

1. To accommodate PPM-DOTS activities in low CDR townships.
2. To carry out field supervision for active case finding should be done if necessary.
3. To maintain decreased defaulter rate in some townships.
4. To conduct counseling in township with high failure and case fatality rates.
5. To trace the outcomes of transferred out patients.
6. For laboratory quality control, random slide selection has to be done by district TB team leader or TMO or TB coordinator.
7. To cover Thingangyun laboratory under quality control system of NTP.

Second half year evaluation was held on 14-3-2008 at Yangon Divisional Health Office with the support of JICA (MIDCP). The following Recommendations were made:

1. To increase case detection in every township.
2. To improve Treatment Success Rate (TSR) of 85% in townships, which are not yet reach target.
3. To follow the standardized drug distribution system in all townships.
4. To train new recruit lab. technicians.
5. To monitor and supervise every township by the responsible supervisors.

Mandalay Division: The first meeting was held on 12-10-2007 at Mandalay Divisional Health Office with the support of JICA (MIDCP). The TB control activities conducted in Mandalay Division were evaluated for first half year of 2007.

Recommendations were as follows:

1. To develop TB microplan by BHS for 2008.
2. To advocate about the TB control to local authorities, GP doctors involved.
3. To improve partnership as much as possible for TB control.
4. To involve old TB patients in TB control.
5. To display TB control achievement (monitoring chart) at every township.
6. To expand social mobilization activity up to grass root level.
7. To distribute DOTS related video clip up to village level.
8. To assign a DOT-provider for every TB patient and to be supervised by the responsible BHS.
9. To do active case finding at low CDR townships in coordination with Divisional TB officer.
10. To ensure proper storage and maintenance of anti-TB drugs.

The second evaluation meeting was held on 1-10-2008

Bago Division (East) : The meeting as held on 5.12.08 at meeting room of Divisional Health Director Office in Bago with support of WHO.

Recommendations were as follows:

1. To carry out active case detection by mobile team, sputum collection point for hard to reach areas.
2. To conduct quarterly evaluation at township level regularly.
3. To carry out initial home visit, contact tracing and early missed dose tracing.
4. To conduct monthly meeting and Continue Medical Education (CME).
5. To do pre-treatment health education to every TB patient.
6. To organize and advocate PPs at all levels.

Bago Division (West): The meeting was held on 5.12.08 at meeting room of Divisional Health Director Office in Pyay with support of WHO.

Recommendations were as follows:

1. To carry out active case detection by mobile team, sputum collection point for hard to reach areas.
2. To conduct quarterly evaluation at township level regularly.
3. To carry out initial home visit, contact tracing and early missed dose tracing.
4. To conduct monthly meeting and CME.
5. To do pre-treatment health education to every TB patient.
6. To organize and advocate PPs at all levels.

Magway Division: The meeting was held on 6.12.08 at meeting hall of Divisional Health Director Office in Magway with support of WHO.

Recommendations were as follows:

1. To strengthen IEC activities through BHS for community awareness raising.
2. To do monthly initial home visit and contact tracing activities continuously.
3. To ensure DOT by assigning DOT provider for each and every TB patient.
4. To enforce monitoring and supervision at all levels.
5. To do regular monitoring and supervision for laboratory performance by TMO.

Sagaing Division: The meeting was held on 6.3.08 at meeting room of Divisional Health Director Office with support of WHO.

Recommendations were as follows:

1. To follow the Standard Operating Procedure (SOP) for Drug and supplies Management.
2. To conduct monthly meeting and CME.
3. To do pre-treatment health education to every TB patient.

Tanintharyi Division: The meeting was held on 3.3.09 at meeting room of Divisional Health Director Office with support of WHO.

Recommendations were as follows:

1. To increase CDR
 - (a) To promote the community awareness by giving widespread health education about TB with the IEC materials support.
 - (b) To promote contact tracing by educating family members of TB patients.
 - (c) To collect 3 sputum specimens from all symptomatic patients to examine sputum for AFB.
2. To increase cure rate more than 85%
 - (a) To give proper health education to patients at first visit and follow- up visits.
 - (b) To trace the TB patient who are seem to be absent (or) lost before defaulter by the help of BHS/ NGOs/ others.
3. To increase follow up sputum examination
 - (a) To inform BHS the timing of follow up sputum collections/examination by township TB coordinator at the end of monthly meeting.
 - (b) To carry out sputum smear collection by BHS.
 - (c) To sent the sputum cups with ice box by BHS.
4. To reduce defaulter rate
 - (a) To give defaulter tracing training to BHS/INGO/ Others
 - (b) To find the patients who missed doses as soon as recording (not more than 1-2 days missing from daily regimen) and put under DOT again.
 - (c) To take proper history especially patient's address at initial visit.

Shan (South) State: The meeting was held on 14.7.08 at meeting room of State Health Director Office with support of WHO.

Recommendations were as follows:

1. To develop the action plan for low performance townships with strategies according to accessibility status of different locations.
2. To scale up sputum collection points for hard to reach and remote areas.
3. To do cohort review meetings in townships with high defaulter.
4. To do active case finding in low CDR townships.
5. To give training on management of TB control at health facility.

Mon State: The meeting was held on 22.3.09 at meeting hall of State Health Director funded by WHO.

Recommendations were as follows:

1. To update the township microplan based on weaknesses.
2. To do proper health education and counseling.
3. To do initial home visit and contact tracing.
4. To increase community awareness by promoting health education with IEC materials.
5. To instruct BHS how to identify TB suspects and how to collect sputum.
6. To do quarterly evaluation meeting at township level.

7. To monitor and supervise TB coordinator, lab technician and BHS.
8. To carry out regular supportive supervision to township/SHU/RHC.
9. To supply anti TB drugs to patients through BHS.
10. To do missed dose tracing and defaulter tracing regularly.

Kayin State : The meeting was held on 11.3.09 at meeting hall of State Health Director funded by WHO.

Recommendations were as follows:

1. To do initial home visit and contact tracing.
2. To increase community awareness by promoting health education with IEC materials.
3. To do quarterly evaluation meeting at township level.
4. To supply anti TB drugs to patients through BHS.
5. To carry out regular supportive supervision to township/SHU/RHC.
6. To expand AFB microscopy units to remote areas
e.g. Kyeikfon SH in Kyarinseikkyi, Dawlan RHC in Hlaingbwe
7. To do missed dose tracing and defaulter tracing regularly.

Kachin State: The meeting was held on 11.3.09 at meeting hall of State Health Director funded by WHO.

Recommendations are as follows:

1. To ensure DOT provider for every patient.
2. To do early missed dose tracing.
3. To do pre-treatment and repeated health education to TB patients.
4. To conduct initial home visit and regular supervision of DOT supervisor to patient.

Ayeyarwaddy Division: The evaluation meeting was held on 7.3.09 at meeting hall of Divisional Health Director funded by WHO.

Recommendations are as follows:

1. To improve the case finding and case holding of low performance townships with different approaches which are most appropriate for the local situation.
2. To strengthen supervision, monitoring and evaluation.
3. To strengthen community involvement in TB control for improvement of community awareness on TB.
4. To improve the reporting mechanism for Public-Private Mix DOTS and Public-Public Mix DOTS.
5. To strengthen the collaboration with partners and have partners forum at all levels.

Shan (North) State: The evaluation meeting was held on 23.3.09 at meeting hall of State Health Director funded by WHO.

Recommendations are as follows:

1. To conduct biannual evaluation workshop at state level.
2. To draw microplan at township level.
3. To conduct supportive supervision in accordance with plan and follow up actions to be taken.
4. To manage supplies and equipment properly in line with SOP.
5. To plan comprehensive training course as needed.

6. To motivate health care workers at each and every level in terms of appreciation, rewards, incentives etc:

Rakhine State: The evaluation meeting was held on 22.2.09 at meeting hall of State Health Director funded by WHO.

Recommendations were as follows:

1. To increase drug distribution and supervision through BHS.
2. To maintain good quality of drugs management.
3. To supervise the township TB coordinators to have valid data at the time of drug distribution.
4. To collect QC slides by TMO, or TMO assigned person.
5. To increase health education.



TB evaluation meetings at State/Divisional level

4.7. Co-ordination and collaboration with other health sectors and NGOs

The NTP co-ordinates with the other health sectors such as Laboratory, Medical Care and AIDS/STD Prevention and Control Programme to accelerate the NTP activities. TB/HIV co-infection has an impact on NTP. The NTP and NAP have been closely collaborated in prevention and control activities of TB and HIV/AIDS since 1998. TB/HIV collaborative prevention and control activities for TB and HIV/AIDS are implementing in Myitkyina, Taunggyi and Lashio with the support of WHO. Voluntary Confidential Counseling and HIV testing is providing at TB centers.

Integrated HIV Care for TB patients (IHC) Project was initiated in Mandalay covering 7 townships (Aungmyaethazan, Chanmyathazi, Chanayethazan, Mahaaungmyay, Pyigyitagon, Amarapura and Patheingyi townships in Mandalay District) and extended to Pakokku township of Magway Division. The project is supported by the Union and Total Yadanar oil company.

State/Divisional TB Officers were trained on TB/HIV prevention and control activities. District TB team leaders were trained together with team leaders from HIV/STD teams. Cross referral between TB and STD/HIV teams are carried out where 3 teams exist in the same township.

NTP also co-ordinates with the NGOs such as, MWAF, MMCWA, MMA and MRCS in DOTS implementation. International NGOs co-operating with NTP are

Union, MSF (Holland), PSI, Japan Anti-TB Association (JATA), World Vision, Pact Myanmar, Malteser and IOM. JICA is supporting the NTP activities in some townships as a bilateral co-operation agency. In 2008, we received reports from MDM although it was not coordinating / cooperating in the past. However, MDM is treating TB patients especially for intravenous drug users.



PPM-DOTS in TB control

NTP trained 20 Private Practitioners (PP) as trainers for Public Private Mix-DOTS since 2005 in collaboration with MMA. In 2005, MMA trained 65 PPs in Yangon and Bago (East) Divisions. In 2006, 213 PPs were trained in Mandalay, Bago (West), Sagaing, Magway Divisions and northern Shan and Mon States.

MMA trained PPs from 19 townships up to 2007 and 398 PPs were practicing scheme I and 22 PPs were practicing scheme II (South Okkalapa, Pyay and Aungmyaetharzan and Kyaukse townships). In 2008 MMA trained 525 PPs and among them 461 PPs are implementing scheme I, 35 PPs for scheme II and 18 PPs for scheme III.

MMA referred 7,979 TB suspects and 6,840 (86%) reached the TB centers. Out of which 6,840 (100%) got the feedback from TB centers. Among TB suspect referral who underwent sputum for AFB examination, 1,577 (39%) were smear positive TB and other 2,359 (59%) were put on anti-TB treatment.

PPM-DOTS Scheme I was also supported by MIDC Project (JICA) and implementing in North Okkalapa township (started in November, 2006) and PyinOoLwin township, Mandalay Division (started since January 2007). Tamwe township in Yangon Division and Pyigyitagon township in Mandalay Division were extended in 2007.

Population Services International (PSI) started the collaboration with NTP in March 2004. Up till 2008, PSI ran the Sun Quality Clinics with 544 trained PPs in 123 townships of 13 States/Divisions. New TV spot related to TB was also aired every year.

Table 10. Contribution of MMA PPM-DOTS (2008)

Sr. No	Townships	All PPs	PPM PPs			No of referral	No of feedback	Smear (+)	Treated for TB	Non TB
			Scheme							
			I	II	III					
1	Insein	62	25			497	379	95	210	169
2	Kyimyindine	55	19			123	89	30	68	21
3	North Dagon	47	24			367	321	67	137	184
4	South Dagon	51	17			208	160	59	137	23
5	South Okkalapa	110	19	11		485	438	142	325	113
6	Shwepyitha	39	25			250	221	91	130	91
7	Thaketa	107	23			376	294	84	183	111
8	Thanlyin	33	32			442	365	90	186	179
9	Bago	65	24	11		807	744	142	411	333
10	Pyay	52	13	15	10	644	620	113	331	289
11	Mawlamyine	63	22			296	196	49	162	34
12	Taikkyi		12			263	198	62	125	73
13	Hpa-an		24			269	215	37	185	30
14	Aungmyaethazan	70	24			306	288	66	134	154
15	Chanayethazan	80	27			173	157	71	147	10
16	Chanmyathazi	49	18			286	275	80	100	175
17	Mahaangmyay	64	17			339	288	67	111	177
18	Kyaukse	27	17	11		571	550	117	416	134
19	Lashio	32	19			321	250	71	189	61
20	Magway	51	16		3	357	296	79	160	136
21	Monywa	61	21			176	140	42	71	69
22	Pakkoku		6		5	250	239	49	117	122
23	Myingyan		17			173	117	33	61	56
Total		1118	461	48	18	7979	6840	1736	4096	2744

Table 11. Contribution of PSI (2004-2008)

Years	TB suspected cases screened	Cat I (+)	Cat I (Neg. & EP)	Cat II	Cat III	Total
2004	3530	840	256	199	927	2222
2005	11048	2262	571	396	2311	5540
2006	19798	3560	1200	556	4116	9432
2007	17687	3837	1694	589	4023	10143
2008	17051	4137	1921	598	3683	10339

PPM-DOTS of PSI contributed 10% of smear positive cases and 8% of all registered TB patients nationally. MMA PPM-DOTS project contributed 4.2% of smear positive TB patients and 3.1% of all TB patients of the townships' registered TB patients. JICA-MIDC project supported PPM-DOTS contributed 1% of smear positive TB cases and 0.1% of all TB patients of the townships' case load.

Table 12. Contribution of JICA-MIDCP (2008)

Years	TB suspected cases screened	Cat I (+)	Cat I (Neg. & EP)	Cat II	Cat III	Total
2008	588	76	69	5	41	191

PPM-DOTS (MMA, PSI and JICA) contributed 14.4% and 11.4% of union total new smear positive TB cases and all TB cases.

NTP started collaboration with MARTSEN ZONDER GRENZEN (MSF-Holland) since 2001 in Waingmaw and Moemauk townships in Kachin State. Then Kachin State TB center, NTP supported the Anti-TB drugs to AZG in November, 2004. Currently, AZG is functioning in Kachin, Northern Shan States, Yangon Division and Rakhine State. AZG mainly focused for HIV co-infected TB patients. Thazin clinics provide not only diagnosis and treatment, but also food and patients support during the treatment. AZG contributed 1.6% and 1.7% of union total new smear positive and all TB patients.

Public-Public Mix DOTS has been launched in 4 specialist hospitals (New YGH, East and West YGH, Thingungyun Sanpya General Hospital) in Yangon with the 3DF bridging fund since May 2007. Public-Public Mix DOTS initiative as a pilot phase aims to strengthen the TB control services through establishing a system link between public hospitals and public TB centers. Advocacy meetings were conducted and followed by the training of 53 hospitals staff on TB control and PPM-DOTS. Hospital DOTS Committees were formed for each hospital chaired by Medical Superintendent and members from heads of clinical disciplines. Assistant Medical Superintendent was assigned as a PPM TB-Coordinator. Roles of laboratory technicians, nurses, medical social workers and pharmacist were identified.

PPM-DOTS in hospitals had identified four options to implement.

Option 1: Diagnosis of TB cases + prescription of treatment regimen in hospital followed by referral to Health Center for DOT, with clinical follow-up at hospital.

Option 2: Same as Option 1 without clinical follow-up at hospital.

Option 3: diagnosis of TB cases + start Directly Observed Treatment (DOT) in hospital followed by referral to Health Center during treatment.

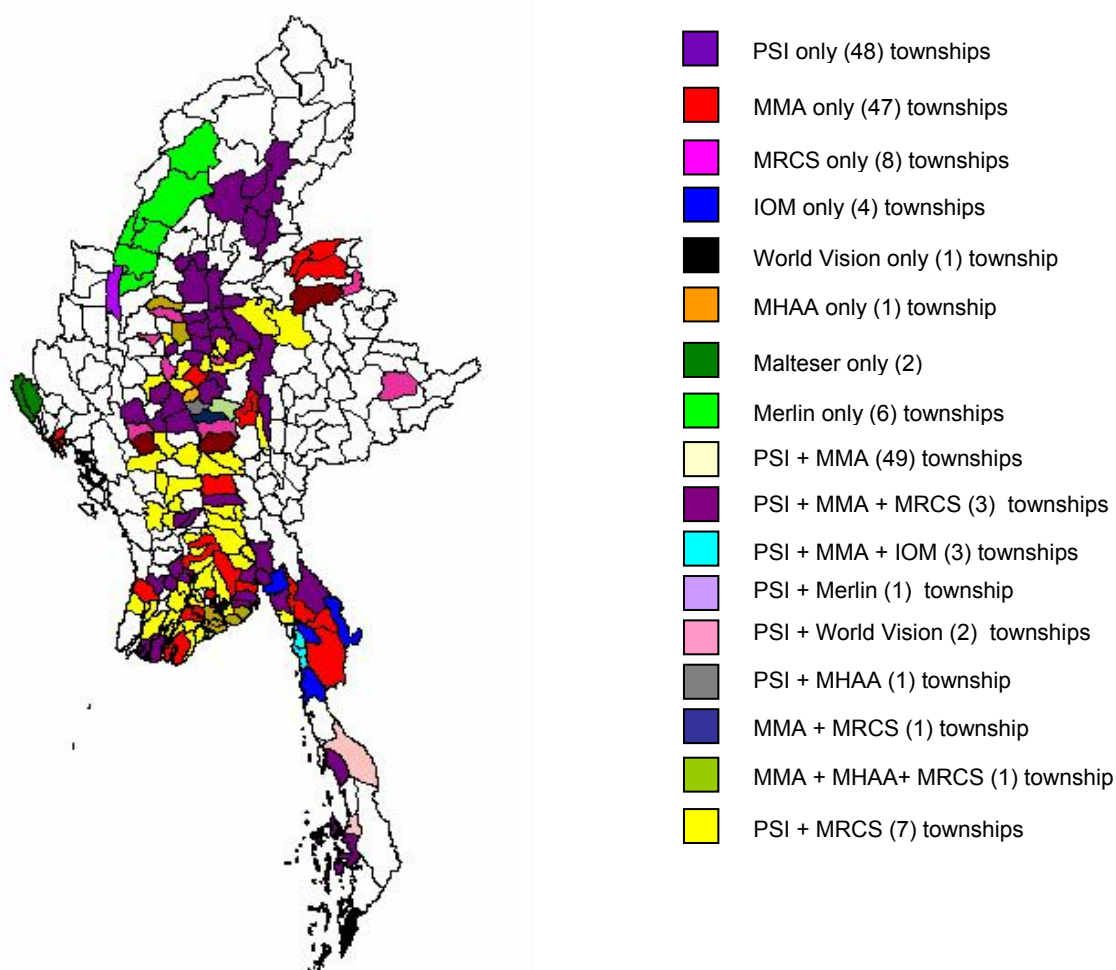
Option 4: Diagnosis of TB case and provide full treatment (DOT) at hospital.

Currently all hospitals are practicing option 3 and 4. DOT corner had been identified and renovated in all hospitals for counseling, health education and DOT activities. NTP and WHO conducted joint monitoring and supervisory visits regularly.

TB hospitals (Aungsan and Patheingyi), Waibagi Specialist Hospital and Specialist Hospital (Mingaladon) are also collaborating with NTP. Workers TB hospital under the Ministry of Labor is also collaborating with NTP: NTP supplies drugs and reports need to send back to NTP central.

Table 13. Implementing partners and activities

NGOs	Area Coverage and activities
MWAF	Case finding, provide health education and provide DOT in all townships
MCWA	Case finding, provide health education and provide DOT in all townships
MMA	PPM-DOTS in 23 Townships, all townships are practicing scheme I, some PPs from 4 townships are practicing scheme II and scheme III started in 3 townships (List of township see in table 10)
MRCS	5 Townships in Yangon Division Multiplier Training (Peer Education) for Red Cross Volunteers Comprehensive IEC Campaign Defaulter Tracing Case Detection and Referral Home Based Care and Support World TB Day Celebration
Bilateral agency	Area Coverage and activities
JICA	Support Divisional TB control activities in Yangon and Mandalay Divisions (76 townships)
INGOs	Area Coverage and activities
PSI	Total no. of 544 PPs functioning in 123 townships of 13 States/Divisions, 39 private labs are using for TB control apart from existing public labs.
Pact Myanmar	Building the commitment to community self-action in health and development Community based TB Case finding and Management System Building the access to resource and service, functioning in dry zone of Myanmar. (Magway Division – Magway, Minbu, Myothit, Salin, Aunglan, Pwintbyu, Chauk, Seikbyu, Mandalay Division – Kyaukpadaung, Myingyan, Sagaing Division – Htigyaik, Pale)
World Vision International	Case finding and provide nutritional support to Childhood TB cases in Hlaingthayar (Yangon Division), Loikaw (Kayah State), Thanphyuzayat (Mon State), Dewei, Myeik (Taninthayi Division).
AZG (MSF - Holland)	Treatment of TB and TB/ HIV patients (Yangon Division, Shan (North), Rakhine & Kachin States)
Malteser	TB case finding and treatment of TB patients in Rakhine state (Buthedaung, Maungdaw townships)
JATA	Support Township TB control activities in 3 Townships from Yangon Division and 3 Townships from Mandalay Division
IUATLD	Support Integrated TB/HIV care in 7 Townships of Mandalay district and Pakkoku township of Magway Division
AHRN	Capacity building, training, IEC materials and support to treatment in Shan & Kachin states, Yangon, Mandalay and Sagaing Divisions.
IOM	Case finding activities with decentralized sputum collection centers in Mon State, 6 townships (76 villages in Mawlamyine, Belin, Ye, Kyaikmaraw, Mudon, Thanbyuzayat townships)
Care Myanmar	Improve case finding and case holding activities , Support for TB/HIV patients esp. home based care, PPM, IEC in Sagaing Chin, Rakhine, Shan (N), Kayah, & Mon states (3DF funded TB control activities were not continued in year 2)



**Figure 1. Township coverage by implementing partners in TB control
(Planned in Global Fund Round 9 proposal)**



Technical Strategic Group (TSG – TB) meeting at Nay Pyi Taw

Capacity building

NTP integrated the TB control activities to primary health care services. Trainings on Management of TB at District level and health facility using the translated and revised WHO modules have been conducted since 2006 with the support of GFATM, JICA and WHO. Those trainings were continued in 2008 with the support of 3DF.

New recruit laboratory technicians and for those needed for refresher training were given as required. Regular training on TB control was given at Universities for nurses and Training Schools of midwives and lady health visitors.

At the end of 2008, Training on Leadership and Management, Laboratory trainings, Township level TB control management trainings altogether 216 trainings (including 126 BHS training courses) were conducted under the funding of 3DF. NTP provided total 228 trainings funded by WHO, 3DF, CERF and JICA. Childhood TB Management, National framework for MDR-TB Management and Dissemination Seminar on Childhood TB management were also conducted under 3DF.



Opening session of "Training on Management of TB for township TB coordinators" conducted at Nay Pyi Taw

Table 14. Training Activities of National Tuberculosis Programme (2008)

Sr. No	Type of training	Date	Venue	Participants	Funding
1	Training on management of TB for health facility staff (3 days)				
	II	4.2.08	Deik- U	30	3DF
	II	7.2.08	Tanintharyi	47	3DF
	II	7.2.08	Namtu & Manton	30	3DF
	II	7.2.08	Pyawbwe	31	3DF
	II	9.2.08	Deik- U	30	3DF
	II	15.2.08	Pyawbwe	31	3DF
	II	18.2.08	Yedashe	30	3DF
	II	18.2.08	Phakant	30	3DF
	II	19.2.08	Phasaung	14	3DF
	II	20.2.08	Kunhein	30	3DF
	II	20.2.08	Shwebo	33	3DF
	II	21.2.08	Kyaukphyu	33	3DF
	II	21.2.08	Phakant	60	3DF
	II	23.2.08	Yedashe	29	3DF
	II	26.2.08	Kyaukphyu	31	3DF
	II	27.2.08	Namkhan	31	3DF
	II	27.2.08	Dedaye	33	3DF
	II	3.3.08	Dedaye	34	3DF
	II	3.3.08	Tharyarwaddy	36	3DF
	II	4.3.08	Bawlake	19	3DF
	II	5.3.08	Kunlon & Hopan	30	3DF
	II	10.3.08	Thayetchaung	37	3DF
	II	10.3.08	Hpa- an	30	3DF
	II	10.3.08	TadaOo	29	3DF
	II	10.3.08	Ywangan	32	3DF
	II	10.3.08	Taninthayi	30	3DF
	II	13.3.08	TadaOo	30	3DF
	II	17.3.08	Yinmarbin	33	3DF
	II	26.3.08	Shadaw	23	3DF
	II	5.4.08	Kanpatlet	30	3DF
	II	7.4.08	Tharyarwaddy	36	3DF
	II	7.4.08	Pinlaung	30	3DF
	II	20.4.08	Yambwe	30	3DF
	II	21.4.08	Hakha	31	3DF
	II	23.4.08	Belin	24	3DF
	II	24.4.08	Mindat	30	3DF
	II	24.4.08	Falam	33	3DF
	II	26.4.08	Yambye	31	3DF
	II	27.4.08	Mindat	30	3DF
	II	28.4.08	Hpa- an	30	3DF
	II	28.4.08	Yephyu	27	3DF
	II	28.4.08	Tanai	30	3DF
	II	30.4.08	Yebyu	30	3DF
	II	12.5.08	Katha	32	3DF
	II	12.5.08	Paungde	30	3DF
	II	13.5.08	Muse	30	3DF
	II	14.5.08	Ye	30	3DF
	II	14.5.08	Mahaaungmyae	31	3DF

Sr. No	Type of training	Date	Venue	Participants	Funding
1	Training on management of TB for health facility staff (3 days)				
	II	14.5.08	Phekon	30	3DF
	II	15.5.08	Paungde	35	3DF
	II	15.5.08	Katha	30	3DF
	II	17.5.08	Chauk	30	3DF
	II	19.5.08	Banmauk	32	3DF
	II	20-5-08	Chauk	30	3DF
	II	20-5-08	Mongton	22	3DF
	II	21.5.08	Yamethin	30	3DF
	II	21.5.08	Ye	30	3DF
	II	23.5.08	Chauk	30	3DF
	II	25.5.08	Moemeik	32	3DF
	II	26.5.08	Mongyaung	36	3DF
	II	26.5.08	Nattalin	30	3DF
	II	27.5.08	Hopone	30	3DF
	II	29.5.08	Nattalin	36	3DF
	II	30.5.08	Yamethin	30	3DF
	II	31.5.08	Hsiseng	30	3DF
	II	3.6.08	Mongyeh	30	3DF
	II	3.6.08	Mabein	44	3DF
	II	3.6.08	Moemauk	30	3DF
	II	5.6.08	Chanayetharzan	38	3DF
	II	6.6.08	Moemauk	33	3DF
	II	9.6.08	Aungmyaetharzan	32	3DF
	II	9.6.08	Mansi	29	3DF
	II	12.6.08	Pyigyitagon	22	3DF
	II	12.6.08	Khin Oo	31	3DF
	II	15.6.08	Khin Oo	32	3DF
	II	15.6.08	Pindaya	29	3DF
	II	16.6.08	Myaepon	33	3DF
	II	16.6.08	Chanmyatharzi	44	3DF
	II	18.6.08	Ye	30	3DF
	II	19.6.08	Chanmyatharzi	36	3DF
	II	20.6.08	Mongyan	27	3DF
	II	21.6.08	Myaepon	33	3DF
	II	24.6.08	Oktwin	38	3DF
	II	25.6.08	Mongpyin	26	3DF
	II	25.6.08	Kutkai	31	3DF
	II	27.6.08	Yatsauk	30	3DF
	II	28.6.08	Kutkai	32	3DF
	II	30.6.08	Kangyidaunt	42	3DF
	II	6.7.08	Kangyidaunt	28	3DF
	II	8.7.08	Kangyidaunt	44	3DF
	II	8.7.08	Zalun	33	3DF
	II	14.7.08	Hlaingbwe	30	3DF
	II	14.7.08	Kyaukkyi	33	3DF
	II	14.7.08	Yesagyo	30	3DF
	II	15.7.08	Laikha	30	3DF
	II	17-7-08	Yesagyo	30	3DF
	II	20-7-08	Yesagyo	28	3DF
	II	21.7.08	Amarapura	32	3DF
	II	22.7.08	Linkhae	30	3DF

Sr. No	Type of training	Date	Venue	Participants	Funding
1	Training on management of TB for health facility staff (3 days)				
	II	23.7.08	Hlaingbwe	30	3DF
	II	28.7.08	Zalun	32	3DF
	II	31.7.08	Zalun	30	3DF
	II	29.7.08	Kani	42	3DF
	II	29.7.08	Mongshu	31	3DF
	II	30.7.08	Amarapura	22	3DF
	II	25.8.08	Laymyethna	30	3DF
	II	30.8.08	Laymyethna	29	3DF
	II	22.9.08	Demawso	32	3DF
	II	2.10.08	Pruso	45	3DF
	II	20.10.08	Nyaunglaybin	33	3DF
	II	23.10.08	Nyaunglaybin	34	3DF
	II	1.11.08	Moenai	30	3DF
	II	12.11.08	Pinlaung	30	3DF
	II	24.11.08	Sagaing	40	3DF
	II	27.11.08	Sagaing	37	3DF
	II	2.12.08	Moegaung	37	3DF
	II	8.12.08	Moegaung	30	3DF
	II	8.12.08	Kawkayeik	30	3DF
	II	8.12.08	Kawa	35	3DF
	II	11.12.08	Kawa	35	3DF
	II	15.12.08	Kawkayeik	30	3DF
	II	25.12.08	Myaing	30	3DF
	II	28.12.08	Myaing	37	3DF
	II	29.12.08	Kyaunsu	34	3DF
	II	29.12.08	Phekon	30	3DF
	II	29.12.08	Ann	30	3DF
	Sub total			3999	
2	Training of District Health Information Software (DHIS)	29.4.08	Nay Pyi Taw	30	WHO
3	PPM DOTS training				
	II	11.1.08	Pakokku	21	3DF
	II	7.6.08	Myeik	60	3DF
	II	9.7.08	Magway	15	3DF
	II	21.7.08	Monywa	15	3DF
	II	15.8.08	Magway	60	3DF
	II	3.12.08	Pakokku	4	3DF
	Sub total			175	
4	Training on TB drug management				
	II	18.2.08	Lashio	32	3DF
	II	22.2.08	Hpa-an	21	3DF
	II	26.2.08	Bago	32	3DF
	II	27.2.08	Myeik	30	3DF
	II	3.3.08	Magway	33	3DF
	II	5.3.08	Sagaing	41	3DF
	II	12.3.08	Kyaingtong	20	3DF
	II	13.3.08	Myitkyina	20	3DF
	II	16.3.08	Sittwe	20	3DF
	II	18.3.08	Taunggyi	21	3DF

Sr. No	Type of training	Date	Venue	Participants	Funding
	II	20.3.08	Yangon	35	3DF
	II	1.4.08	Mandalay	36	3DF
	II	4.4.08	Pathein	29	3DF
	II	25.4.08	Loikaw	20	3DF
	Sub total			390	
5	Training on management of Childhood TB				
	II	26.5.08	Hpa-an	13	3DF
	II	4.6.08	Mandalay	62	3DF
	II	5.6.08	Myeik	30	3DF
	II	6.6.08	Kyaingtong	20	3DF
	II	11.6.08	Bago(west)	28	3DF
	II	18.6.08	Bago(East)	32	3DF
	II	27.6.08	Mawlamyine	20	3DF
	II	30.6.08	Sittwe	31	3DF
	II	25.7.08	Pathein	52	3DF
	II	26.7.08	Monywa	79	3DF
	II	18.5.08	Taunggyi	37	3DF
	II	4.8.08	Magway	55	3DF
	II	9.7.08	Lashio	53	3DF
	II	27.5.08	Myitkyina	30	3DF
	II	26.8.08	Yangon	95	3DF
	Sub total			637	
6	G.P & Volunteer training				
		12.2.08	Monywa	30	Care
		24.2.08	Monywa	25	Care
	Sub total			55	
7	Training on Management of TB at district level for TMO, TB team leaders and TB coordinators				
	II	25.2.08	Nay Pyi Taw	40	3DF
	II	22.4.08	Mandalay	28	3DF
	II	7.7.08	Mandalay	22	3DF
	II for PPM Township Coordinators	18.8.08	Yangon	30	3DF
	II for TMO, TB team leaders and TB coordinators	24.11.08	Taunggyi	27	
	II	15.12.08	Monywa	30	WHO
	Sub total			177	
8	Training on Lab: technicians for new recruit & refresher for sputum microscopy				
	New recruit training	21.6.08	Yangon (NHL)	18	3DF
	Refresher training	28.4.08	Yangon	30	3DF
	II	4.8.08	Mandalay	20	JICA
	II	28.8.08	Mandalay	17	3DF
	II	10.3.08	Sittwe	25	3DF
	Sub total			110	
9	Training on MDR-TB management (DOTS - Plus)				
	II	21.7.08	Aungmye TBH	17	3DF
	II	3.8.08	Patheingyi TBH	19	3DF
	Sub total			36	

Sr. No	Type of training	Date	Venue	Participants	Funding
10	Training on health leadership and management for TMOs				
	II	5.8.08	Magway	30	3DF
	II	18.8.08	Mandalay	30	3DF
	Sub total			60	
11	Training on cohort review for TMO and TB coordinators				
	Training of trainers	14.2.08	Yangon	30	3DF
	Cohort review training	28.2.08	Myeik	25	3DF
	II	3.3.08	Sagaing	18	3DF
	II	4.3.08	Mawlamyine	40	3DF
	II	5.3.08	Magway	8	3DF
	II	11.3.08	Lashio	15	3DF
	II	13.3.08	Pyay	22	3DF
	II	15.3.08	Myitkyina	24	3DF
	II	16.3.08	Taunggyi	15	3DF
	II	18.3.08	Sittwe	22	3DF
	II	2.4.08	Patheingyi	39	3DF
	II	17.11.08	Mandalay	38	3DF
	Sub total			296	
12	Training for sputum Collection Centers (SCC)				
	II	28.2.08	Taungdwingyi	25	3DF
	II	7.3.08	Pwintphyu	25	3DF
	II	13.3.08	Ywangan	25	3DF
	II	31.3.08			
	II	& 1.4.08	Kyarinseikkyi	50	3DF
	II	7.4.08	Namsan	34	3DF
	II	8.4.08	Loilem	32	3DF
	II	9.4.08	Hopone	26	3DF
	II	10.4.08	Hsiseng	26	3DF
	II	10.6.08	Htigyaik	25	3DF
	II	14.6.08	Banmauk	25	3DF
	II	16.6.08	Wuntho	25	3DF
	II	19.6.08	Kyunhla	25	3DF
	II	20.6.08	Khamti	25	3DF
	II	17.6.08	Pinlebu	25	3DF
	II	22.6.08	Myinmu	25	3DF
	II	23.6.08	Mawleik	25	3DF
	II	23.6.08	Monywa	25	3DF
	II	24.6.08	Kalaywa	25	3DF
	II	25.6.08	Taze	25	3DF
	II	25.6.08	Minkin	25	3DF
	II	27.6.08	Ayardaw	25	3DF
	II	28.6.08	Wetlet	25	3DF
	II	27.6.08	Pale	25	3DF
	II	27.7.08	Pakokku	25	CERF
	II	29.7.08	Saw	25	CERF
	II	30.7.08	Chauk, Myothit, Mindone, Minhla, Htilin	125	CERF

Sr. No	Type of training	Date	Venue	Participants	Funding
	II	31.7.08	Taungdwingyi, Yenanchaung, Natmauk, Pauk, Yesagyo, Myaing, Seikphyu, Minbu, Pwintphyu, Salin, Saytoketaya, Thayet, Aunglan, Ngape, Sinpaungwe, Kanma, Gantgaw	425	CERF
	II	1.8.08	Mongshu	31	3DF
	II	27.9.08	Demawso	11	3DF
	II	29.9.08	Pruso	8	3DF
	Sub total			1268	
13	Refresher SCC training	7.4.08	Patheingyi and PyinOoLwin	5	
14	Training on microscope repair	3.3.08	Yangon	25	3DF
15	Advocacy meeting on PPM – DOTS with local authority				
	II	25.3.08	Bago	53	3DF
	II	15.7.08	Pyay	25	3DF
	II	24.3.08	Myeik	60	3DF
	II	13.8.08	Mandalay	60	3DF
	II	15.8.08	Magway	60	3DF
	II	25.3.08	Yangon	450	3DF
	II	24.3.08	Pathein	50	3DF
	II	5.8.08	Sagaing	103	3DF
	II	24.3.08	Mawlamyine	35	3DF
	II	24.3.08	Hpa-an	120	3DF
	II	24.3.08	Kyaingtong	300	3DF
	II	24.3.08	Lashio	50	3DF
	II	24.3.08	Taunggyi	20	3DF



Cohort review training in Patheingyi



Training on Management of TB for TB coordinators at Nay Pyi Taw

Table 15. International trainings/meetings/Workshops attended by NTP staff

Sr.	Name and Designation	Duration	Country	Attended training/ workshop/ meeting
1	Dr. Win Maung, DD (NTP) Dr. Thandar Lwin, AD (NTP)	21.4.08 to 25.4.08	Bali, Indonesia	Regional workshop on planning and budgeting for NTP
2	Dr. Thin Thin Htay, District TB Team Leader, Thandwe District, Rakhine State	11.5.08 to 2.8.08	Tokyo, Japan	Training on Stop TB Action
3	Dr. Win Maung, DD (NTP)	3.8.08 to 8.8.08	Mexico city, Mexico	XVII International AIDS Conference
4	Daw San Yee, Director (Nursing) Dr. Htar Htar Oo, AD (NTP) Dr. Tin Mi Mi Khaing, STBO, Southern Shan State Dr. Thin Thin Yee, DTBO, Bago Div.	18.8.08 to 21.8.08	Srilanka	Workshop on Health System Strengthening
5	Dr. Win Maung, DD (NTP) Dr. Wint Wint Nyunt, Microbiologist, NTRL	15.10.08 to 20.10.08	Paris, France	39 th Union conference
6	Dr. Win Maung, DD (NTP)	25.11.09 to 27.11.08	Thailand	Thailand - Myanmar Cross Border meeting
7	Dr. Tin Tin Mar, Microbiologist, NTRL Dr. San Mya, Microbiologist, NHL	24.11.08 to 5.12.08	Bangkok Thailand	Training Course for Culture and DST for TB
8	Dr. Yin Yin, MS, Ag San TB Hospital, Dr. Tin Mi Mi Khaing, DTBO/M.S, Yangon Division	1.12.08 to 4.12.08	Male, Maldives	30th meeting of National Programme Managers
9	Dr. San Htay, District TB Team Leader, Northern district, Yangon Division Dr. Thin Thin Nwe, District TB Team Leader, Mandalay	9.12.08 to 19.12.08	Nepal	Training on MDR-TB management
10	Dr. Ohmar Myint, Medical Officer, NTP (Central), Dr. Kyaw San Win, District TB Team Leader, Myingyan District, Dr. Khin Hnin Sett, District TB Team Leader, Kyaukphyu District	8.12.08 to 19.12.08	Bangalore, India	Two weeks Training on DOTS

4.9. Special occasions

4.9.1. Partners Meeting on sustainable TB drug supply in Myanmar

"Partners Meeting on sustainable TB drug supply in Myanmar" chaired by Minister for Health was held on 1.12.08 at Royal Kumudra Hotel, Nay Pyi Taw, aiming to mobilize funding to fill up the critical gap of first line TB drugs in Myanmar for 2010 and the first half of 2011. The sustainability plan for first line anti-TB drugs was developed and distributed among potential donors.

The meeting was chaired by Minister for Health Professor Kyaw Myint and attended by Deputy Ministers for Health Professor Mya Oo and Professor Paing Soe, Directors General and Deputy Directors General of Departments, Officials from Department of Health under the MoH, Ambassadors of United Kingdom and Australia, Charge d' Affaires of United States of America, Economic Officer of Japan Embassy, First Secretary of Embassy of United Kingdom, First Secretary of Embassy of Australia, Country Representative (WHO), Country Representative (UNICEF), UN Resident Representative/UN Resident Coordinator, Country Director (UNDP), Country Coordinator (UNAIDS), Global Drug Facility (GDF) Monitoring Mission headed by Chief of GDF, President and Chief Executive Officer of Population Services International, Director (IUATLD), General Manager of Total Company, Representatives from JICA Myanmar Office, Country Directors/ Representatives/ Coordinators of INGOs who are involved in the TB Control Program in Myanmar.



Opening speech by HE Professor Kyaw Myint, Minister for Health

Minister for Health delivered the opening address. In his opening address, he highlighted the progress made by the NTP, the crucial role of the donors and partners in all the achievements gained by NTP and importance of the uninterrupted supply of anti-TB drugs. He also emphasized that the Government will cost match minimum 3% of the cost of first-line anti-TB drugs for 2010 and incrementally 1%

every year there after. He also pointed out that with phasing out of GDF in end of 2009, there will be a need to identify sources for TB drugs to start procurement by mid 2009.

After the opening address of HE Minister for Health, Country Representative of WHO Professor Adik Wibowo delivered the opening remarks. She pointed out the achievement of the NTP including reaching the Global TB targets 1 among the 5 countries out of the 22 high burden countries, scaling up of PPM DOTS, TB/HIV Pilot Project expansion, introduction of Isoniazid Preventive Therapy, planning to implement DOT-PLUS Pilot Project in 2009, production and publication of National Guidelines on Management of Childhood TB, implementation of Community DOTS in hard to reach areas with the support of FIDELIS and CERF. She expressed her heart felt thanks to GDF for supplying first-line anti-TB drugs to Myanmar so that NTP and its Partners could provide the drugs to all TB patients free of charge. She mentioned that it is the basic rights of all TB patients, regardless of age, sex, urban or rural dwellers to receive anti-TB drugs free of charge. She emphasized the various consequences of the interruption of anti-TB drug supply. She also encouraged to discuss frankly any possible support for the TB drug supply requirement especially for 2010 and buffer stock for 2009.

According to the agenda, acting Director General of Department of Health, Dr Win Myint presented on the TB Control Activities and the TB Drug Situation of Myanmar. In his presentation, he highlighted the progress of TB Control Activities with facts and figures with tables and graphs. He clearly showed the first-line anti-TB drug cost, probable funding, and the funding gap year-wise.

It was followed by the presentation of the GDF Monitoring Mission by Mr. Robert Matiru, Chief of GDF. He presented the achievements of TB Control Programme at all levels. He mentioned that in 2009, US \$ 2.5 million for the first-line anti-TB drugs plus grant for 100% of Paediatric needs including 20% buffer will be available from GDF. He also urged to ensure uninterrupted supply of TB drugs beyond 2009. The recommendations made as follows:

Recommendations

1. To ensure long term sustainable funding for major components of the Five Year National Strategic Plan for TB Control in Myanmar such as procurement of quality assured drugs, laboratory and other consumables, regular monitoring and supervision and provision of trainings, from donors and funding mechanisms, including a Global Fund Round 9 application;
 - a. expand the consortium of donors to develop a concrete, time bound action plan for funding the gap of first-line TB drugs in the short and long term
2. To increase government funding for the procurement of first-line anti-TB drugs to cover not less than 3% of anti-TB drug needs; such funding should be additional to the overall TB control program budget with an annual increment
3. To urgently seek time bound commitment/funds to avoid any critical shortfall of first-line anti-TB drugs for 2009 – 2010 including a buffer stock, prior to long term financing being secured
4. The GDF should expedite its 2009 TB drug grant commitment so that stocks are replenished by end of Quarter 2, 2009

The meeting came to an end at 12:00 noon with the closing remarks by HE Minister for Health.

4.9.2. Global Drug Fund (GDF) mission

GDF monitoring mission was led by Mr. Robert Matiru and accompanied by Ms. Nigor Silton Mouzafarava and Mr. Edin Karahasanovic visited to Myanmar during 24.11.08 to 29.11.08. The mission monitored the progress of second term third year of support from GDF.



Courtesy call of GDF mission

Recommendations of the GDF mission were:

1. Urgently seek funds to avoid any gap in first line anti -TB drug needs for the short term (2009-2010).
2. Increase government funding for the procurement of first line anti- TB drugs such funding should be additional to the overall TB control program budget with and annual increment.
3. Secure long term, multi-year sustainable funding from donors & financing mechanisms, including the Global Fund (Round 9), for the major components of the NTP, particularly procurement of quality assured TB drugs.
4. Allocate & assign additional human resources to fill the vacant posts in order to fully implement the Stop TB strategy at all levels.
5. Approve additional sanctions for establishment of new microscopy & sputum collection centers in remote areas to increase access to diagnostic services & ease financial burden on rural population.
6. Further improve coordination of TB case detection, diagnosis & case holding activities with Government Ministries and social security departments.
7. Ensure rapid scale up of MDR-TB and TB-HIV activities from 2010, subject to availability of additional, dedicated funding. (*Enhance coordination of TB-HIV activities)
8. Secure funding & conduct prevalence survey in early 2009.



Monitoring and supervision of GDF Mission

4.9.3. FIDELIS project continued with CERF funding and expanded to Magway Division

FIDELIS project in Sagaing Division (Reaching the unreached) was completed in 2008. However, most of the activities in the Sagaing Division continued and expanded to Magway Division with the funding from Central Emergency Response Fund (**CERF**) of United Nations in 2008.

CERF Project started from 1st July to 31st December, 2008 in Sagaing and Magway Divisions. In Sagaing Division project covered 32 out of 37 townships excluding Homalin, Khamti, Lahel and Nanyun townships and covered all (25) townships in Magway Division.

Activities implemented were as followings:

1. Advocacy meeting at Divisional level
2. Advocacy meeting at Township level
3. Health education activity
4. Sputum collection center activity
5. Initial home visit and contact tracing
6. Home visit at the end of initial phase
7. Monthly meeting at township level
8. Quarterly meeting at Divisional level
9. Supervision at all levels

Achievements

Sagaing Division

1. Identified and sputum examined TB suspected patients were 13,879 in CEREF Project period, 3848 more suspected cases were identified than 1st quarter 2008 (10031).
2. Substantial increase in number of the registered TB patients (4,367 patients) during the project period compared to 3,738 patients registered in 1st half year 2008.

3. 2,880 health talks carried out by BHS at all rural health centers, sub centers, village tracts and many villages. Total 281,263 attendances had awareness about sign and symptom of TB, mode of spread of TB infection, free of charge diagnostic and treatment and importance of Directly Observed Treatment Short Course (DOTS) strategy.
4. Sputum collection centers from 18 townships sent sputum specimens to township laboratory for microscopy. 1,772 patients for diagnosis and 245 cases for follow up examination had used the sputum collection centers. Among diagnosed cases, 117 were AFB positive, which contributed the 7% of all AFB (+) cases.
5. Basic Health Staff conducted the supervisory visit to TB patient's homes at least two times for AFB positive cases and one time for all other types of TB patients, total 5,600 initial home visits and 2,000 home visits at the end of initial phase of treatment were conducted.
6. Divisional Health Director, Divisional TB officer and District level Officers also visited two times per month to townships and supervised the TB control activities.

Magway Division (July to December, 2008)

1. Advocacy meeting, Quarterly meeting at Divisional level was conducted.
2. Advocacy meetings at township level were conducted and 3000 participants attended.
3. Training on Sputum Collection Center at township level was conducted and 625 participants attended.
4. Supervisory visits from division to township were conducted for 51 times.
5. CDR improved only 1.5% due to the activities during 2 quarters of 2008. TB health talks were provided to 24% of 4934 villages and wards. Community awareness activities covered the 2.5% of total population (4,367,232). Sputum collection centers and contact tracing contributed 32% and 6% of all suspects examined respectively. Sputum collection centers and contact tracing contributed 13% and 6% of all smear positive cases in Magway Division. 21% of all follow-up examinations used sputum collection centers. The project was stopped when the funding ended.

4.9.4. Restore and maintain TB control in Nargis affected areas

Cyclone Nargis struck Myanmar on 2nd and 3rd May, 2008, sweeping through the Ayeyarwaddy and Yangon Divisions. As a result, 47 townships have been declared by the government as affected areas and out of which, 7 townships in the delta region were the worst. A total number of 2 million have been affected by the cyclone.

For TB control programme, all affected townships are DOTS townships. NTP received report on 162 TB patients among 723 registered TB patients from Laputta, Bogalay and Ngaputaw were missing. The prompt and corrective actions were taken to restore and maintain the TB control situation in Nargis affected areas with the support of WHO and CERF with the guidance of MoH and DoH. 3 combined public health mobile teams were organized and sent to Bogalay, Ngaputaw and Laputta townships. Each team was organized with 15 team members and led by Dr. Moe

Zaw, Assistant Director, NTP, Dr. Tin Maung Aye, Regional Officer, Leprosy and Dr. Saw Thein, Divisional TB Officer, Ayeyarwaddy Division.

The main objectives were to trace back and resume the treatment for missing TB and leprosy patients, provision of food and vitamin supplement, to find out new TB, leprosy and malaria patients and put on treatment, to provide primary health care services like EPI, Antenatal, post natal care, nutrition promotion, environmental sanitation and infectious diseases surveillance in hard to reach areas, to coordinate with other NGOs and INGOs and UN agencies and to assess and maintain health care services.

The activities started on 11-6-08 as conducting advocacy meeting with TMOs and BHS. The mobile team activities started on 12-6-08 and completed on 17-6-08.

The achievement were : 3 mobile teams could cover health care of 144729 people from 69 villages (33 in Laputta, 24 in Bogalay and 12 in Ngaputaw) out of 90 planned (76%) and conducted 46 health talks. During one week, mobile teams could screened 229 patients for TB using sputum smear examination and identified 13 new TB patients.

Missing TB patients were traced.

Table 16. Status of missing TB patients after mobile team activity

Township	Reg. TB patients	No. of missing TB patients	No. of investigated patients	No. of treatment resumed patients	Died			Refused for treatment	Still missing
					Before Nargis	During Nargis	After Nargis		
Laputta	245	100	73	27	6	34	1	0	32
Bogalay	280	38	33	16	2	7	0	0	13
Ngaputaw	198	24	22	13	5	0	0	3	3
Total	723	162	128	56	13	41	1	3	48



Public Health Mobile Team in action

After this assessment, NTP developed the quick guideline for BHS to be able to manage TB in all Nargis affected areas. The NTP focused on the crucial activities to improve and maintain the TB control in 7 most seriously affected townships in

Ayeyarwaddy Division and put up proposal to WHO. The capacity building activities, supervisory visits, mobile team missions to hard to reach areas and community based health education and awareness raising programme were successfully implemented with the funding from WHO (33,639 USD).

4.9.5. Three Diseases Fund (3DF)

Following the withdrawal of GFATM in August, 2005, a consortium of donors (Australia, EC, the Netherlands, Norway, Sweden and the United Kingdom) agreed to work together and developed the concept of the Three Diseases Fund (3DF) and offered Myanmar to continue the critical activities related to three diseases. Coordinating Body (CB) and Technical Strategic Groups (TSG) were organized and developed the 3-year operational plan and Expression of Interest in line with 5-year national strategic plan together with implementing partners.

Total funding for TB under Bridge fund 3DF (2007) was 257,155 USD for NTP component and 347,570 USD for WHO component altogether 604,725 USD received for critical TB control activities.

Bridge Fund (3DF) supported capacity building of lab. technicians and BHS working at the grass root level which is the basic needs for quality of DOTS implementation. The software and data management training was an essential input for central NTP to be able to manage the programme. The support on local drug transportation cost was helpful for the uninterrupted drug supply to the end users. The low performance townships were focused to improve both case detection and case holding by introducing mobile team activities, initial home visits and contact tracing, sputum collection centers, quarterly township cohort review meetings, quarterly evaluation meetings. Community involvement activities were started in Myawaddy at Thailand-Myanmar border, Public-Public Mix DOTS initiated in 4 tertiary hospitals in Yangon. The guideline on childhood TB management, draft guideline for counseling for TB, national framework to manage MDR-TB were also developed and printed/distributed. For MDR-TB management, upgrading of Upper Myanmar TB Laboratory, Mandalay was completed and 2nd drug resistant survey was initiated. TB/HIV sentinel surveillance started. As supplies and equipment: training aids, computers and accessories for X-ray units were also supported.



District Health Information Software (DHIS) training in Nay Pyi Taw

3DF bridging fund was followed by the first year full funding started from (1-9-07) to (31-8-08). The TB control activities funded by 3DF covered all 325 townships. Total 3DF funding for TB control was 1.8 million USD, out of which NTP received 1.08 million USD, MMA received 0.5 million USD and WHO received 0.22 million USD for Year 1.

Table 17. TB control activities under 3DF (Sept. 2007 to Aug, 2008)

Activities under NTP component	Target	Achievement
Purpose 1. To Sustain and improve the quality of DOTS services to reach all TB patients		
1. To consolidate, maintain and expand the DOTS programme in low performance townships and maintenance of DOTS countrywide		
Training on TB counseling for social workers/ counselors/ nurses	Yangon Mandalay	50%
Training on management of TB at health facility level for township TB coordinators	Pyinmana Yangon Mandalay	100%
Training on management of TB at health facility level for BHS at RHC	100 courses	100%
Training on management of TB at district level for new recruit TMO, TB team leaders, TB coordinators	Yangon Mandalay	100%
Training courses on cohort review for TMO and TB coordinators	TOT and 10 courses	100%
Training on laboratory service for TB control	3 courses	100%
Training on microscope repair	1 course	100%
Drug management training for District and township health staff at respective S/D	14 courses	100%
Training of TMO on leadership and management	Mandalay Magway	100%
Printing of training materials and new document for laboratory and childhood TB management		76%
Human resource support from WHO (1 Finance assistant, 2 clerks and 2 computer assistants for NTP central unit)	5 persons for one year	100%
2. To enhance supervision, monitoring and surveillance of DOTS programme		
Supervisory visits to 200 township health facilities (2 visits/ year were planned)	Target was reset to 370.	72%
Supervisory visits to 100 rural health facilities (2 visits/ year were planned)	Target was reset to 1630.	27%
Supervisory visits to 17 S/D laboratories (Once/ year)	17 S/D TB labs.	35%
State/Divisional level to township lab. (220 townships - 4 visits/year were planned)	Target was reset to 410 times	44%
Supervision of microbiologists to township with major errors (100 visits were planned)	Target was reset to 50 times.	50%
Evaluation meetings in 200 townships (4 meetings / year were planned)	Target was reset to 660 times.	61%
Quarterly cohort review meetings (60 meetings were planned due to delay in starting date in 30 low performance townships)	60 meetings	70%
3. To consolidate, maintain and expand community-based DOTS in high risk and hard to reach areas		

Activities under NTP component	Target	Achievement
Mobile unit missions to remote & hard to reach areas	5 sites in 7 townships	100%
Establishment of Sputum collection points (advocacy and training)	30 points in 28 townships	100%
Initial home visit to TB patients	13290 TB patients were targeted to be visited in 30 low performance townships	35%
Supervisory supportive visit to DOTS services in 2 border townships	Myawaddy Tarchileik	75%
4. To ensure uninterrupted supply of Global Drug Facility drugs and strengthen service delivery infrastructure		
Maintenance of Laboratories in Yangon and Mandalay	2 laboratories	100%
Procurement of essential equipment for ware house		100%
Transport GDF drugs to townships	325 townships for 4 quarters	100%
Procurement of drugs, laboratory supplies and binocular microscopes		100%
Purpose 2. To improve the treatment success rate among all detected TB patients including those with TB/HIV and MDR-TB		
1. Implement DOTS-Plus pilot project for MDR-TB management		
Implementation of DOTS-PLUS Pilot Project for MDR-TB management (Procurement of 2 nd line anti-TB drugs was reprogrammed to procurement of 1 st line anti-TB drugs)		80%
Training on MDR-TB counseling for social workers/counselors/nurses in Yangon and Mandalay		33%
Purpose 3. To maintain the case detection rate of the estimated new smear positive TB cases above 70%		
1. Consolidate and maintain Public-Public Partnership for DOTS		
PPM at 4 hospitals	4 hospitals	100%
Annual PPM evaluation meeting	1 meeting	100%
PPM advocacy meetings at State/Divisional level		70%
IEC production		100%
Purpose 4. To measure both progress with programme implementation and the impact of interventions towards more accurately determining progress towards the MDGs		
1. To measure progress towards global targets and to assess TB TB/HIV epidemiology		
TB/HIV sentinel surveillance	10 sites	100%
Activities conducted under reprogrammed budget		
Childhood TB management training	16 sites	100%
Training on management of TB for health facility staff in 5 townships of Mandalay District	6 courses	100%

Table 18. Indicators and targets of five years strategic plan (2006-2010)

No	Indicator	Base line		Target	Achievement		
		Value	Year		Year 1 (2006)	Year 2 (2007)	Year 3 (2008)
1.	% of DOTS Covered Population	95 %	2005	95 %	95%	95%	95%
2.	Case Detection Rate	83 %	2004	At least 70%	86%	89%	90%
3.	Treatment Success Rate	82 %	2004	At least 85%	85%	85%	85%
4.	Proportion of sputum smear positive cases out of all pulmonary TB cases	52 %	2003	52%	52%	54%	52%
5.	No. of new smear positive cases detected under DOTS	31,405	2004	66,405	40,241	42,588	41,248
6.	No. of additional microscopy centers established	0	2004	30	30	0	0
7.	No. of microscopy centers under quality control	194	2003	260	268	290 (53 townships under EQA & 237 townships under routine QC system)	405 lab. (346 public lab. and 59 private lab.)
8.	No. of deaths (all forms of TB) per 100,000 population	27	2005	26	17	13	12.3
9.	No. of health facilities where both TB and HIV services are available	7	2005	17	7	11	11
10.	No. of partners (NGOs, CBOS, public, private and others participating in a national stop TB partnership)	15	2005	20	15	15	15
11.	No. of MDR-TB patients enrolled on treatment	0	2005	0	0	0	0

5. Manpower situation of NTP

NTP has 101 vertical TB teams under the 14 State/Divisional TB centers. 47 District TB teams (40 are led by Team Leader medical doctors and 7 led by Health Assistant) and 54 Township TB teams (led by team leader Health Assistants) are implementing TB control activities as well as providing technical support, supervision and monitoring, evaluation of TB control activities at township level.

Currently, one Senior Consultant Microbiologist and one Junior Consultant Microbiologist are vacant. One State TB Officer in Kayah State is also vacant after recently filled up of State TB Officer post for Eastern Shan State. 12 Medical Officers (4 at NTP central, 2 at Yangon Divisional TB Center, 2 at Mandalay Divisional TB Center, Bahmaw, Mindat, Falam and Loikaw TB Centers) are vacant. 10 team leaders (H.A), 11 trained nurses, 4 radiographers and 45 Grade II Lab. technicians are vacant. Vacancies of radiographer should be replaced and needed to be attached in the State/Divisional TB centers where X-ray machines were equipped without sanction posts.

Post graduated course on TB and Chest Diseases (Dip.Med.Sc) has trained 55 doctors in the period of 1998-2008. Majority are posted in NTP and some are working in TB hospitals.

6. Drugs, laboratory equipment situation and transport facilities of NTP

Drugs, laboratory supplies and equipment for National Tuberculosis Programme are mainly supplied by WHO, GDF, 3DF and Ministry of Health. Quarterly drug distribution system is using in NTP. Central TB medical store, Yangon distributes to Upper and Lower Myanmar stores according to case load. Upper Myanmar store has to distribute nine State and Divisional TB Centers (Mandalay, Magway, Shan (S), Shan (E), Shan (N), Kayah, Chin, Kachin and Sagaing) and Lower Myanmar store distributes seven State and Divisional TB Centers (Yangon, Ayeyarwaddy, Mon, Kayin, Bago, Rakhine and Tanintharyi). Upper and Lower Myanmar stores distribute to State and Divisional level according to case load of their quarterly reports. The State and Divisional level distributes to townships quarterly according to their case load of previous quarter. At township level, TMOs distribute monthly to RHC level. Implementing partner: PSI collects drugs from Lower Myanmar TB store, Yangon and distribute to their PPM Scheme III clinics and AZG (MSF-Holland) collects drugs from the either State/Divisional level or township level where they are implementing.

Standard Operating Procedure (SOP) for Drug and supplies management was developed and conducted training on drug and supplies management for TMOs and TB coordinators in 2008. Drug transportation cost were provided by 3DF (from airport warehouse to central TB store, central store to Upper/Lower Myanmar stores, Upper/Lower Myanmar stores to State/Divisional level TB stores and up to township level).

Laboratory equipment like slides, slide boxes and stains are distributed from State and Divisional TB Centers to DOTS townships. 5 Binocular microscopes were supported by JICA in 2008.

Table 19. Nikon Binocular microscopes (MIDCP-JICA) distributed in 2008

State/ Division	Township/ hospital distributed	No. distributed
Yangon Division	Tarmwe	1
	Hlaing	1
	Dawbone	1
	Aung San TB Hospital	1
Magway Division	Pakokku TB Center	1
Total		5

GFATM supported 2 X-ray machines (500mA) and 11 X-ray machines (63-200mA) are functioning except in Mon State (Mawlamyine) and Rakhine State (Sittwe) due to the low voltage of available electricity. Provision of a generator for

those 2 State TB centers is one of the solutions for the X-ray machine to be able to function.

For data management, 14 new desktop computers/printers were already supported by 3DF and distributed to State/Divisional TB centers and central NTP office.

7. Budget and external support

7.1. Budget

Government budget for NTP

Government budget was only 14 million Kyats in 1995-1996, and it increased to (474.8) million Kyats in 2008-2009. 74.7 million Kyats were used for drugs purchase in 2008-2009, which increases from only 0.78 million Kyats in 1995-1996.

Table 20. Government budget for NTP

Year	Regular Budget (Kyats in thousands)	Drugs purchase (Kyats in thousands)	Total (Kyats in thousands)
1995-1996	13,711	782	14,493
1996-1997	14,527	1,614	16,141
1997-1998	16,017	5,000	21,017
1998-1999	18,777	19,600	38,377
1999-2000	20,509	25,000	45,509
2000-2001	62,747	30,000	92,747
2001-2002	68,470	35,000	103,470
2002-2003	74,349	35,000	109,349
2003-2004	109,667	35,000	144,667
2004-2005	129,300	35,000	164,300
2005-2006	119,955	55,000	174,955
2006-2007	361,974	55,000	416,974
2007-2008	373,126	74,700	447,826
2008-2009	400,146	74,700	474,846

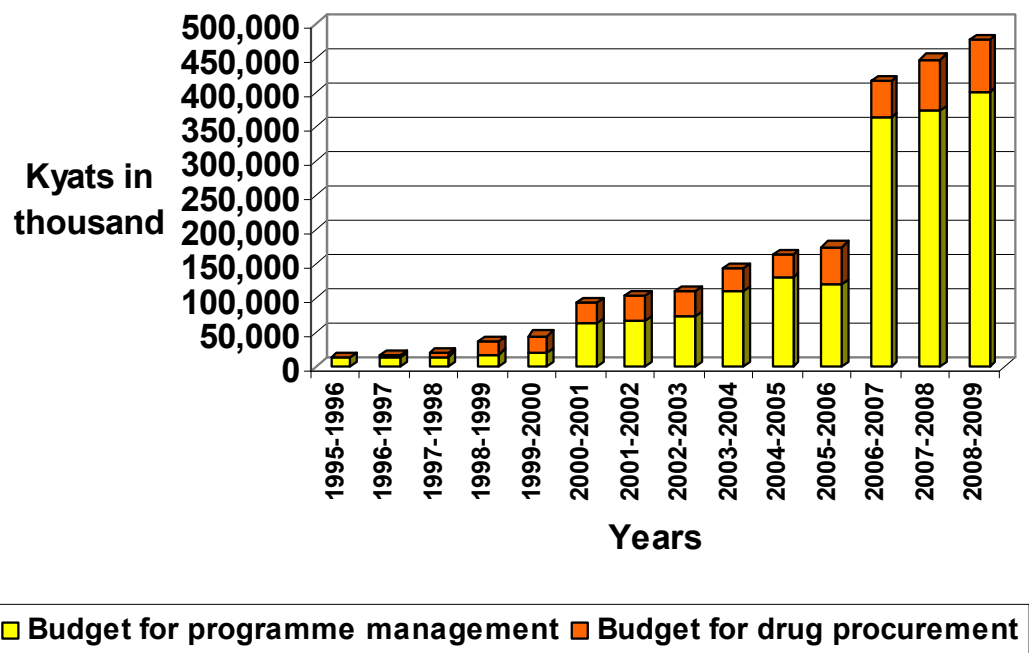


Figure 2. Government contribution for NTP (1995 – 2008)

Table 21. External support for NTP, Myanmar (2008)

2008	Gov.	WHO	GDF	JICA	JATA	3DF	Union	Total
First line anti-TB drugs	166,000	55,000	1,000,000					1,221,000
Staff working for TB control	889,213	21,600			2,100	32,600		945,513
Routine programme management and supervision activities		112,500		52,000	6,380	514,866		685,746
Lab. supplies and equipment for smears culture and DST		10,000				257,642		267,642
PAL								0
PPM				5,000		22,400		27,400
Collaborative TB/HIV activities		4,800				2,000	200,000	206,800
Second line drugs for MDR-TB						185,000		185,000
Management of MDR-TB						49,500		49,500
Community involvement						8,000		8,000
ACSM		15,000		3,000				18,000
Operation research								0
Surveys		18,000		9,000		16,000		43,000
Other technical assistant				23,000				23,000
Total	1,055,213	236,900	1,000,000	92,000	8,480	1,088,008	200,000	3,680,601

7.2. External technical support

Technical support was provided by WHO and JICA/JATA for NTP, Myanmar.



Technical assistance from JICA on community based DOTS

Table 22. International visitors in 2008

S.N	Name and Designation	Duration	Remarks
1.	Dr. Philippe Clevenberg	31.1.08 to 31.12.08	IHC project
2.	Mrs. Akiko Fujiki	29.2.08 to 5.3.08	EQA for sputum smear microscopy
3.	Dr. Katsunori Osuga	10.3.08 to 15.3.08	For MIDCP activities
4.	Dr. John Mac Arthur	8.4.09 to 9.4.08	USAID
5.	Dr. Othman Eltayeb Mrs. Norah Joy Stoops Mr. Gregory Rowels	29.4.08 to 5.5.08	District Health Information Software (DHIS) training
6.	Mrs. Nigorsultan Mouzafav	21.7.08 to 25.7.08	Regional Support Officer, GDF
7.	Dr. Punnet Dewan	3.8.08 to 7.8.08	Medical Officer, TB, SEARO
8.	Dr. Ikushi Onozarki	11.8.08 to 25.8.08	WHO
9.	Dr. N. Yamada	13.8.08 to 20.8.08	For TB prevalence survey, Yangon Division
10.	Dr. Nils Billo		Executive Director (IUATLD)
11.	Dr. N. Ishikawa	29.9.08 to 3.10.08	Community based DOTS
12.	Mr. Robert Matiru Ms. Nigorsultan Mouzafav Mr. Edin Karahasannvic	21.11.08	Manager, WHO, Head Quarter Financial Officer, WHO, SEARO WHO, Head Quarter
13.	Dr. Antoine Pievson	9.12.08 to 31.12.08	Fund for innovative New Diagnosis (FIND)
14.	Dr. Rageswari Ramachandran		WHO, SEARO
15.	Mr. H. Yamazaki	7.12.08 to 27.12.08	EQA for sputum smear microscopy

8. Research

NTP conducted several researches and presented in internal and international research congress. The abstracts of the presented posters, published paper are recorded.

NTP is currently conducting a TDR/WHO granted research “Drug resistant patterns among category II failure patients attending different TB centers Myanmar”. The protocol was applied to TDR and approved in 2008. It is a 2-year project and will be completed in 2009.

8.1. Abstracts of research conducted and presented

National Tuberculosis Programme (NTP), Myanmar Reached the World Health Assembly/Stop TB Partnership 70/85 targets

Win Maung¹, Myo Zaw¹, Bo Myint¹, Ti Ti¹, Thandar Lwin¹, Hans H. Kluge²

¹National Tuberculosis Programme, Myanmar ; ²WHO Country Office Myanmar

Setting:

Myanmar ranks 21 among 22 TB high-burden countries. In November 2003, DOTS was implemented in all 325 townships.

Objective:

To measure progress towards 70/85 targets.

Methods:

Epidemiological analysis by NTP/ WHO experts and cohort analysis on case finding and treatment outcomes.

Findings:

Political commitment towards sound TB control is high. The Minister for Health chairs the multi-sectoral Country Coordinating Body which overlooks the national response against AIDS, TB, Malaria. Technical strategy Group TB developed the Five Year Strategic Plan (2006-2010) and National Operational Plan (2006-2009) in line with the global Stop TB Strategy.

Case detection and treatment success rate among new smear positive patients increased from 62% and 81% (2001) to 86% and 85% (2006) respectively. Case notification rate for new sputum smear-positive patients increased from 21,161 (2001) to 40,241 (2006). TBHIV sentinel surveillance in 2006 reported 10% co-infection. With support of new 3Diseases Fund, NTP is now targeting 30 low performing townships not reaching the 70/85 targets. A second national drug resistance survey is being completed. Global Drug Facility finishes its support by end 2009.

Conclusion:

NTP Myanmar now reached the 70/85 targets thanks to high political commitment, external technical assistance and pooled resource mobilization. TB drug sources need to be identified urgently to keep the momentum gained by the NTP and partners.

Establishment of Sputum Collection Centers in Myanmar

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Abstract

Setting: Sputum Acid Fast Bacilli (AFB) microscopy is the core element of DOTS strategy and it should be decentralized up to rural health center (RHC) in hard to reach area of Myanmar. NTP, Myanmar established the sputum collection center at the seven RHCs of five townships in three Divisions.

Objectives: To introduce sputum collection centers to the RHCs in hard to reach area aiming to lessen the transport difficulties for the patients and to assess the feasibility of sputum collection centers establishment. Townships were selected with low case detection rate and with either high transportation cost or long traveling distance to township laboratory.

Methods: It was an intervention study without control. The health staff and local authority at the township level were advocated about sputum collection center and followed by training to the Basic Health Staff from the selected RHCs. Close supervision was done by Township Medical Officer and quarterly supervision was done by microbiologist. Study period was one year from August 2006 to July 2007.

Results: Sputum collection centers were drained from 319 villages with population of 0.2 million. 360 TB suspected patients and 142 TB patients used sputum collection centers. Sputum positivity rate for TB diagnosis was 14.4% and TB suspect examination rate was 169/100,000 population. Case detection rate of those RHCs increased compared to previous year. Total time, traveling distance and cost saved by using sputum collection center were 1,520 hours, 7,661 miles and 1,311 USD respectively.

Conclusion: The awareness on established sputum collection centers are needed to improve for better utilization. It is leading to increase case detection and sputum collection center could be upgraded into sputum microscopy center.

Reaching the unreached in Sagaing Division, Myanmar through FIDELIS project

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Setting

Sagaing with 5,358,576 people, sharing vast border with India, extremely hard to reach due to transportation, communication and language barriers, geographical and climatic conditions, with many ethnic minorities and indigenous groups.

Objective

To reach one of the most remote population groups in Myanmar by pilot testing, monitoring and evaluating innovative community-based TB case detection and treatment strategies.

Design

1,110 volunteers or traditional healers (average 1 per village tract) over 37 townships and 126 trained medical officers (MOs) were trained to identify each about 45 TB suspects or 56,280 TB suspects in total and to identify an anticipated 5,628 new sputum smear positive patients. Other components included: enhancing commitment of local authorities and partners, improving community awareness through school programme, increasing supervisory visits, providing motivation and incentives for additional infectious cases detected, additional microscopy centres and sputum collection points.

Results (1st January to 31st December, 2007)

TB suspects and new sputum smear-positive patients increased from 21,837 and 2356 (2006) to 38,167 and 3638. 1080 volunteers, 120 MOs and 37 laboratory technicians trained. 75 sputum collection points and 10 additional microscopy centers established and 10 new microscopists assigned. 97% of townships was covered by advocacy meetings. Essay competition for TB control was conducted in schools of all 37 townships.

Conclusion

Although FIDELIS could not meet its target, great achievement was obtained that leads to FIDELIS approaches being practical and replicable for targeted community.

Strengthening Hospital DOTS linkage system between Public Hospitals and Health Facilities by PPM-DOTS

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Abstract

Setting: In 2007, Public-Public Mix DOTS (PPM-DOTS) was initiated in Myanmar with 3 Diseases Fund Support. The PPM project aims to strengthen the link between Public Hospitals and Township Health Departments within the framework of DOTS strategy.

Objectives:

1. Integration of public hospitals into NTP through incorporation of DOTS components
2. To integrate hospital laboratories into the NTP Quality Control network

3. Creation of a TB control network by establishing a referral link between public hospital and township health department/ township TB team and to recommend a set of guidelines.

Process: Public-Public Mix DOTS project has been implemented in four tertiary public general hospitals in Yangon as a pilot project. All four hospitals are implementing one of the following schemes: (1) to diagnose TB cases, starts DOT in hospital, followed by referral to Township Health Department after discharge or (b) full TB treatment (DOT) at the hospital for patients residing in near by townships.

Results: In New Yangon General Hospital patients enrolled on treatment increased by 27.2% in 6 months time (from 125 in year 2006 to 159 in 2007). In East Yangon General Hospital number of TB cases admitted to the hospital increased by 83% in 7 months period compared with same period in 2006 (166 to 307). In Thingungyun Sanpya Hospital a total of 426 patients started treatment, and then referred to their respective townships for continuation of their treatment. The hospital received feedback from 92% of the referred patients – while no such data were available before project implementation. Quality control under the NTP is now established in all 4 hospitals.

Conclusion: The Public-Public Mix DOTS pilot projects showed preliminary good results, increased supervision and standardization of indicators in necessary for further improvement.

Engaging general practitioners in TB control through Public-Private Mix DOTS in Myanmar

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Abstract

Setting:

72% of TB patients seek medical care in the private sector as first point of contact in Myanmar. Public – Private Mix DOTS (PPM DOTS) scaled up through the Myanmar Medical Association (MMA) since 2006 with support from 3 Diseases Fund (3DF).

Objectives:

1. To contribute to the NTP in case detection.
2. To promote public health orientation among MMA members.
3. To organize and train general practitioners for quality TB services.
4. To actively participate and strengthening PPM partnership.
5. To promote community awareness on TB

Methods:

MMA PPM DOTS is implemented in 23 townships under stewardship of National Tuberculosis Programme (NTP) and technical assistance of WHO.

Scheme I for PPM DOTS includes health education and referral of suspected TB patients, Scheme II, referral and DOT; Scheme III: NTP approves the clinic as DOTS centre.

Results:

Increased number of GPs implementing PPM DOTS from 26 in 2002 to 474 in 2007, which enhances their awareness on NTP guidelines, reflected in increase case detection rate of their practicing townships.

451 GPs are using in Scheme I, 20 GPs practicing Scheme II and 3 GPs practicing Scheme III. The contribution of GPs to NTP case detection of new smear positive patients, during 10 months of 3DF project period, was 20.3% in their respective townships.

Conclusion:

PPM DOTS activities greatly increased case detection rate and improved case management. Each health care provider benefited from the cross linkage between GP and NTP. The lessons learnt provide an evidence based foundation for expansion to other townships.

Above abstracts were presented in 38th World Conference for Lung Health held in Paris, France.

Service factors related to defaulting TB treatment in Myanmar

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Abstract

This qualitative study was conducted in collaboration with Department of Medical Research (Lower Myanmar), JICA (MIDC Project) and Myanmar National TB Programme in 4 townships in Myanmar. It aimed to describe factors for defaulting TB treatment among new pulmonary TB patients. In-depth interviews (IDIs) were conducted with 11 defaulted TB patients. 18 Key Informant interviews (KIIs) were conducted with Township Medical Officers (TMOs), TB coordinators, midwives and General Practitioners. Majority of the IDI respondents received health education prior to their anti TB treatment by health staff. Although health staff explained key messages of TB, the provision of information and health education was probably hindered by shortage of health manpower, increased workload and difficulty in communication with different ethnic groups pointed out by key informants. Time spent for doing health education session and content of the session were different and it deepened on type of TB patients. A few IDI respondents were not traced and sought by health personnel. Majority of DOT providers were family members but many defaulted TB patients took the drugs by themselves. DOT supervisor was the key persons responsible for patient regularly taking drugs, allowing adequate time spent to discuss with family members and checking the blisters. It is essential to ensure frequent supervision on DOT provider in order to improve their capacity. The findings highlighted that ensuring effective, complete pre treatment HE for every TB patients with reference to BHS guideline, conducting initial home visit for every TB patient, motivation BHS for effective DOT, enhancing early missed dose tracing and

practicing repeated HE through out the treatment course were essential for reducing defaulter rates and more effective TB control.

The findings of this qualitative research will be presented as a poster in 40th World conference on Lung Health (2009), Cancun, Mexico and Myanmar Health Research Congress (2009).

Researching the un-reached by mobile team activity during World TB week in Myanmar

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¹Natinal TB Programme, Department of Health

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Objective:

Mobile team activities were conducted in 7 townships during World TB Week 2008 aiming at hard to reach areas, those are under access to the primary health care facilities including sputum microscopy service due to transport difficulties.

Method:

Activities included rising community awareness, screening for TB among population, performing sputum microscopy for TB suspect and providing Tb treatment. TB team, BHS and local volunteers are involved in these activities.

Result:

74 villages were visited by mobile teams and 66 health talks were given by using media (video), TB pamphlets and posters. Health talks were conducted at school, health center, local authorities' house, video shop and monk compounds and given by BHS. 14,082 villagers attended the health education sessions. 39% of the respective townships was covered by mobile team activity and the population coverage was 42%. A total of 1,648 TB suspects identified and 1,628 (98.8%) undergone sputum examination. Total sputum smear positive cases was 32 and positivity rate among TB suspect was 2% (11.4% in Tanyan, 6.6% in Kawa, 1.8% in Yinmarbin, 1.3% in Pauk, 0.8% in Pindaya, 0.8% in Thayetchaung and 0.8% in Yatsauk townships).

It is highlighted that mobile team activities were effective to raise awareness of community about TB and to motivate BHS for TB control. Preparatory visit, coordination between Township Medical Officer and TB team, cooperation of local authority and provision of health care for minor ailments while screening TB suspects and crucial for success of mobile team activities.

This research finding was presented by Dr. Moe Zaw in 1st SEA Regional Conference, held in India. The paper won the third prize.

Cohort review meeting: Effective case management strategy for TB control at Township level in Myanmar

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²Department of Medical Research (Lower Myanmar)

³World Health Organization, country office, Myanmar

Background

A Cohort Review Meeting is a quarterly meeting with the Supervisors and Basic Health Staff to discuss difficult patients in peer review manner.

Objective:

To systematic review of the management of TB patients, to increase staff accountability for follow up TB patients for completion of their treatments, to improve TB case management, to indicate staff training and professional education needs and to motivate the staff and reveal programme strength and weakness.

Method:

Quarterly cohort review meetings included the participation of DOT supervisors to discuss and act upon TB patients with unfavorable treatment outcome (failure, treatment interruption, default). The meetings were guided by TMO and township TB coordinator with the technical assistance of central NTP, Yangon Divisional TB center and WHO staff.

Result:

The cure rate for new smear positive cases treated in Shwepyithar increased from 51% in 2002 to 70% in 2005 and in Hlaingthayar township, 49% in 2002 to 80% in 2005 respectively. The Treatment Success Rates also increased from 53% in 2002 to 87% in 2005 in Shwepyithar township and 60% in 2002 to 82% in 2005 in Hlaingthayar township respectively. The review of the quality of case holding in these low performance townships highlighted the need for strengthening the transfer out mechanism and to reduce the defaulter rate. Based on this pilot experience, NTP develop quarterly cohort review guidelines and conduct trainings for BHS in order to expand this important activity to other low performance townships with the financial support from 3 Disease Fund and technical assistance from WHO.

Estimation of disease burden due to tuberculosis at township level, Yangon

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Tuberculosis kill 5,000 people a day and between 2 and 3 million people each year, 98% of whom live in the developing world. Tuberculosis continues to be a major public health problem in Myanmar because its high morbidity and mortality. Myanmar

is one of the 22 high burden countries with 133,000 registered tuberculosis patients in 2007, and estimated 10% of which were co-infected with TB/HIV. Especially in countries where tuberculosis imposes a major public health problem, HIV/AIDS lay the double burden for the country's health system. Information on disease burden of tuberculosis is necessary for programme planners to effectively manage resources, and for monitoring of National TB Control Programme and also to measure the long-term impact of TB control activities. The objective of the study is to estimate the disease burden of tuberculosis in a high prevalence township in Yangon in terms of Disabilities-adjusted Life Years (DALYs). The study area was Insein township, the following available data sources were used for analysis: (1) case notification at the township level, (2) data on prevalence of pulmonary TB from prevalence survey 2006 (survey using X-ray and questionnaire screening and followed by sputum smear microscopy, sputum culture if TB suspected in screening), (3) township vital registrations. Calculations were based on those of Global Burden of Disease study 2002 methodology. Burden of disease due to TB morbidity was calculated in terms of Years Lived with Disability (YLD) and TB mortality was calculated in terms of Years Life Loss (YLL). YLD per 1000 was 35.8 for males and 20.7 for females. Total YLL per 1000 was 34.6 for males and 18.7 for females. Detailed DALY for various age groups were estimated based on YLD and YLL.

This finding was presented in Myanmar Health Research Congress, 2008.

Research – cum action: Fostering Referral and Health Education of Public Private Mix DOTS through Operational Research

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** Myanmar Medical Association (MMA) PPM DOTS-TB Project,

***National TB Programme, Department of Health

Abstract

The study was conducted in 4 townships among 23 townships where Myanmar Medical Association (MMA) implements Public-Private Mix-DOTS (PPM DOTS). It aimed to find out the underlying reasons for not attending township TB center by TB suspect referred from general practitioners (GP) clinics. It also identified potential areas for possible intervention to foster Scheme I of PPM-DOTS (referral and health education). It was an operational research using both quantitative and qualitative methods. Document review, key informant interviews and in-depth interviews were conducted. Only 25% of routine reports mentioned drop outs issue. All drop outs had heard about TB and one third could answer symptoms of TB. All stated that they got TB information from old TB patients and one third got it from printed materials and TV spots. Most common reasons for drop out were psycho-economic factors, relief of symptoms and limited pre-referral health education and recording errors. Recording errors occurred when TB suspects did not bring or not show referral letter; and feed back was not sent to GPs and thus recorded as drop out cases in GPs register. Recording complete address of TB suspects and providing necessary information about public sector before referral was crucial. Inadequate pre-referral health education at GP clinic before referral was identified as a key operational barrier for success of Scheme I. Based on these research findings, National TB

Programme and MMA TB Project encourage GPs for providing pre-referral health education; revise health education materials and guideline for systematic recording and reporting; and continue providing patient incentives for TB suspects.

This research finding was presented in Myanmar Health Research Congress and won 1st prize.

8.2. HIV prevalence among new TB patients

It was reported from the routine sentinel surveillance of NAP conducted in 10 selected sites according to the schedule. The intake period for serum collection among new TB patients was up most 3 months and collected 150 serum specimens.

Table 23. HIV prevalence among new TB patients, sentinel surveillance

Sr. No	Sentinel sites	2005	2006	2007	2008
1	Yangon	11.30%	8.70%	8.70%	4.67%
2	Pyay	16.70%	10.70%	3.30%	16.67%
3	Bago		11%	10.70%	9.33%
4	Hpa-an	3.30%	3.30%	6.70%	8.67%
5	Nyaung U	9%	9%	7.30%	6.67%
6	Magway		1%	6%	8.67%
7	Monywa		23%	16.10%	28.77%
8	Myeik			15.30%	7.33%
9	Pathein		6%	9.30%	7.33%
10	Mawlamyine		15%	14.70%	13.33%
Total		10.30%	10.90%	9.80%	11.10%

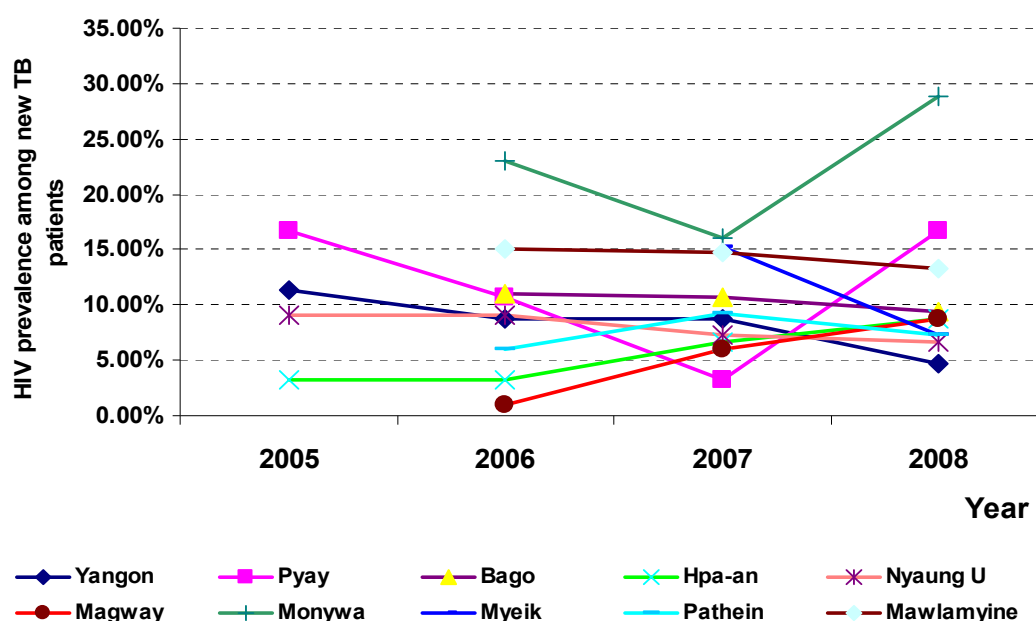


Figure 3. HIV prevalence among new TB patients (2005-2007)

The findings are supportive for both NAP and NTP to focus on scale up of TB/HIV collaborative activities where HIV prevalence among TB patients is high. Monywa and Pyaw districts need to have routine surveillance and TB/HIV preventive and control activities.

NTP is planning to conduct in 5 additional sentinel sites for 2009. The new sites are Pyinmana, Hinthada, Sittwe, Loikaw and Tarchileik townships.

9. Constraints

9.1. Pursuing high-quality DOTS expansion and enhancement

- Insecure supply of first line anti-TB drugs
- Limitation of human resource development
- Inadequate access to TB services
- Limitation in supervision
- Constraints in ensuring patient support

9.2. Addressing TB/HIV, MDR-TB and other challenges

- Inadequate resources to scale up of TB/HIV collaborative activities
- Limitation in diagnosis and treatment of MDR-TB
- Lack of infection control policy and plan for any health facilities

9.3. Contributing to health system strengthening

- Limitation in health financing
- Limited service delivery in hard to reach area
- Weak coordination mechanism at State/Divisional level and below

9.4. Engaging all care providers

- Limited skills of health care providers outside the NTP

9.5. Empowering people with TB, and communities

- Low community awareness

9.6. Enabling and promoting research

- Insufficient Operational Researches

10. Comments and Recommendations on NTP activities for 2008

This annual report based on the State and Divisional TB Centre annual reports and quarterly reports from DOTS townships received during 2008 and reports from other reporting units.

10.1. Case finding and case notification

NTP targeted to achieve 70% case detection of estimated new smear positive patients in the community. In 2008, NTP covered 53,752,810 populations in 325 DOTS townships. These townships were estimated to have 53,753 smear positive TB patients including 45,789 new smear positive TB patients. The estimated new smear positive TB patients and all smear positive TB patients were modified for Yangon Division according to the findings of Yangon Divisional TB prevalence survey conducted in 2006. For the other States/Divisions and Union estimates we calculated the estimated new smear positive TB patients as 75/100,000 population and only Yangon Division was revised as 170/100,000 population based on the survey results.

NTP detected 47,303 smear positive cases including 41,248 new smear positive cases. NTP achieved **case detection rate of new smear positive cases 90% from 314 townships in 17 States and Divisions**.

The Case Detection Rates (CDRs) were high above target in 11 States/Divisions [Kachin State (109%), Shan State (East) (106%), Bago Division (West) (101%), Mon state (94%), Yangon Division (90%), Rakhine State (90%), Ayeyarwaddy Division (84%), Kayin State (81%), Bago Division (East) (79%), Mandalay Division (70%) and Kayah (70%)]. Low CDR were found in Shan State (South) (46%) and Chin State (41%).

There are 16,300 reported TB cases from **other reporting units** as Aung San TB Hospital, Patheingyi TB Hospital, Waibargi Special Diseases Hospital, Defense Hospital (Pyin Oo Lwin), 1000 bedded General Hospital (Nay Pyi Taw), New Yangon General Hospital, Thingungyun Sanpya General Hospital, Yangon General Hospital (East), (West) and INGOs: PSI, AZG and Medecins du monde. Out of them 5,351 were new smear positive TB patients.

However, Case Detection Rate of new smear positive increased from 78% (only NTP) to **90%** (41248/45789) after adding the case finding of other reporting units.

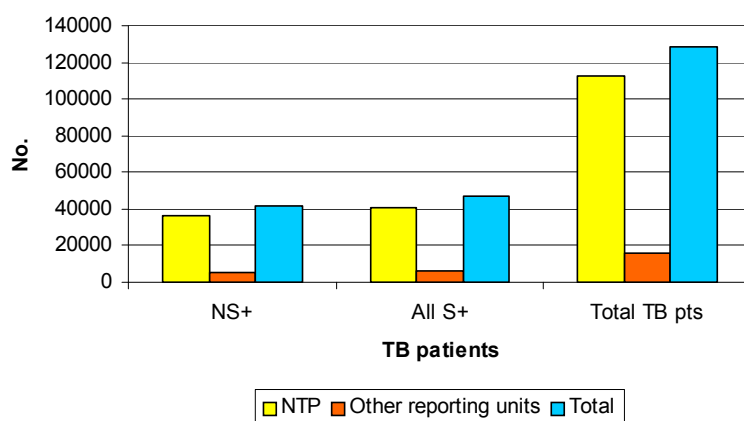


Figure 4. Number of TB patients contributed by NTP and other reporting units

Table 24. CDRs of States/Divisions for 2008

State/Division	CDR for 2008	
	Only NTP	NTP + other reporting units
Kachin State	109	135
Kayah State	70	70
Chin State	41	41
Sagaing Division	59	68
Magway Division	68	75
Mandalay Division	70	86
Shan State (S) State	46	46
Shan State (E) State	106	119
Shan State (N) State	55	71
Kayin State	81	84
Taninthayi Division	69	73
Bago Division	88	99
Mon State	94	94
Rakhine State	90	91
Yangon Division	90	112
Ayeyarwaddy Division	84	90
CDR	78	90

National Tuberculosis Programme

Yangon Division detected (24.5%) of new smear positive cases out of total new smear positive cases, followed by Ayeyarwaddy Division (14%), Mandalay Division (10%).

Out of all notified smear positive TB cases, 9.1% of smear positive pulmonary TB cases were relapse cases. Treatment after default contributed 1.3% of smear positive TB patients.

34.2% of total notified TB cases were contributed by smear negative TB cases. Extra-pulmonary TB cases were also treated and contributed 26.7% of all notified TB cases. Among extra-pulmonary TB cases, 70% was primary complex cases (childhood TB) and 1.6% was treated for TB meningitis. Primary complex cases (24,038) contributed 18.6% of all notified TB cases.

Table 25. Proportions of state/divisional new sputum smear positive and smear positive TB patients out of NTP total (2008)

Sr.No.	States / Divisions	% of DOTS covered Townships in each State / Division	% of new smear (+) patients out of total new smear(+)TB cases	% of smear (+) patients out of total smear(+) TB cases
1	Kachin State	18/18=100%	3.2%	3.3%
2	Kayah State	7/7=100%	0.4%	0.5%
3	Chin State	9/9=100%	0.4%	0.5%
4	Sagaing Division	37/37=100%	7.9%	7.7%
5	Magway Division	25/25=100%	6.2%	6.1%
6	Mandalay Division	31/31=100%	10.2%	10.2%
7	Shan State (South)	21/21=100%	2.2%	2.2%
8	Shan State (East)	10/10=100%	1.5%	1.6%
9	Shan State (North)	24/24=100%	3.0%	3.0%
10	Kayin State	7/7=100%	3.1%	2.9%
11	Tanintharyi Division	10/10=100%	2.3%	2.2%
12	Bago Division (East)	14/14=100%	5.3%	5.4%
13	Bago Division (West)	14/14=100%	4.8%	4.6%
14	Mon State	10/10=100%	5.0%	5.0%
15	Rakhine State	17/17=100%	6.2%	6.0%
16	Yangon Division	45/45=100%	24.5%	25.6%
17	Ayeyarwaddy Division	26/26=100%	13.8%	13.3%
Union Total		325/325=100%	100%	100%

Table 26. Categories of case detection rates in States and Divisions (2008)

CDR					Total
≥ 70%	60 - 69%	50 - 59%	40 - 49%	<40%	
Kachin Kayah Mandalay Shan (East) Kayin Bago (East) Bago (West) Mon, Rakhine Yangon, Ayeyarwaddy	Magway Tanintharyi	Sagaing Shan (North)	Chin Shan (South)		
11	2	2	2	0	17

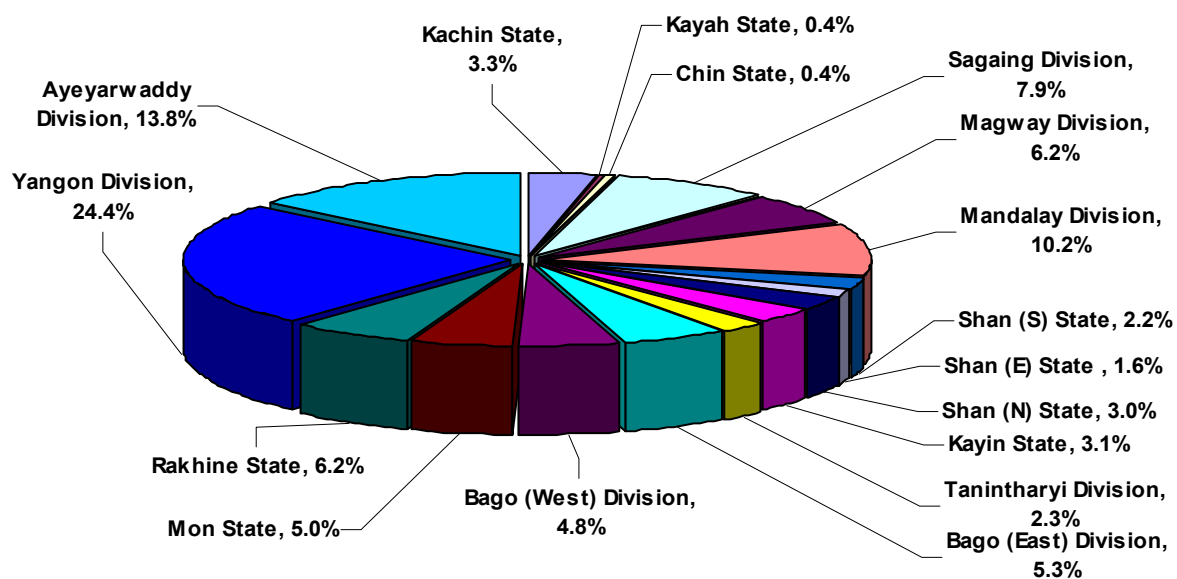


Figure 5. Proportions of state/divisional new smear positive TB cases out of all new smear positive TB patients notified to NTP (2008)

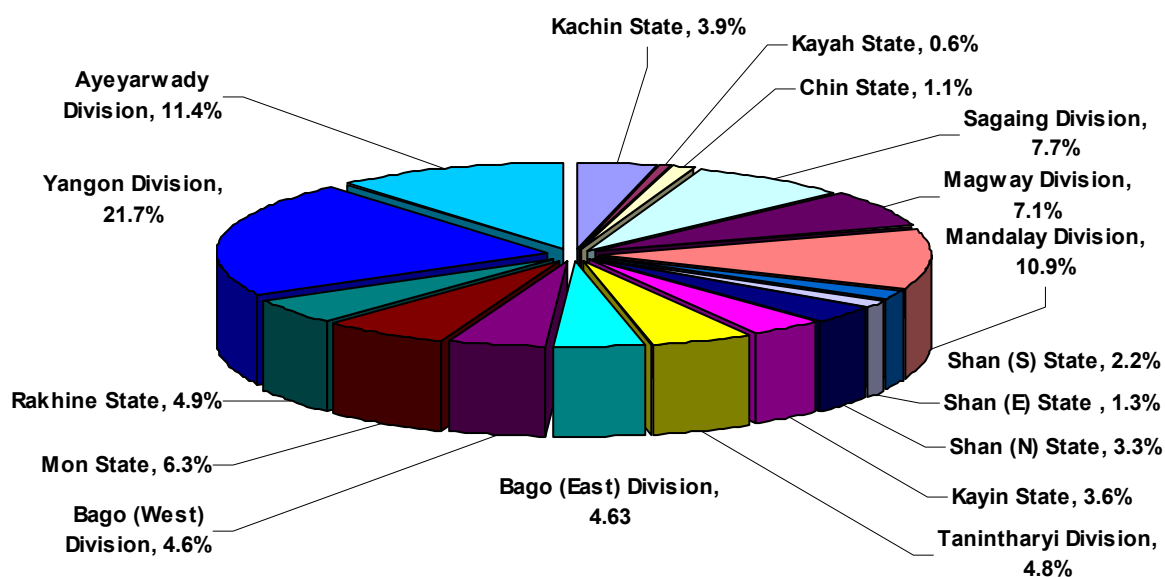


Figure 6. Proportions of state/divisional all TB patients out of total all types of TB patients notified to NTP (2008)

Table 27. Categories of Township CDR by States and Divisions (2008)

Sr No.	State/ Division	No. of township with CDR					Total no. of township	No. of townships not sent report received
		≥ 70%	60-69%	50-59%	40-49%	<40%		
1	Kachin State	9	1	1	0	2	13	5
2	Kayah State	3	1	0	2	1	7	
3	Chin State	1	0	2	1	5	9	
4	Sagaing Division	9	7	5	9	7	37	
5	Magway Division	12	4	3	2	4	25	
6	Mandalay Division	14	3	4	5	5	31	
7	Shan State (South)	4	2	3	3	9	21	
9	Shan State (East)	7	0	0	0	2	9	1
8	Shan State (North)	7	2	1	2	7	19	5
10	Kayin State	3	0	2	0	2	7	
11	Tanintharyi Division	4	1	0	1	4	10	
12	Bago Division (East)	6	5	3	0	0	14	
13	Bago Division (West)	13	0	1	0	0	14	
14	Mon State	8	1	0	1	0	10	
15	Rakhine State	11	2	3	1	0	17	
16	Yangon Division	27	4	6	5	3	45	
17	Ayeyarwaddy Division	18	4	2	0	2	26	
Total		156	37	36	32	53	314	11
		50%	12%	11%	10%	17%	100%	

In 2008, CDRs of 314 townships were evaluated and 53 townships (17%) had CDRs less than 40% and 156 townships (50%) achieved the target (≥70%).

The case notification rate of **all forms of TB cases and new smear positive TB cases from 314 townships plus other reporting units** were 240/100,000 population and 77/100,000 population.

As State and Divisional wise, the case notification rates of **all TB cases** were high in Yangon Division (422/100,000 population), Tanintharyi Division (340/100,000), Kachin State (314/100,000 population) and Mon State (276/100,000 population).

The case notification rate of **new smear positive cases** was high in Yangon Division (151/100,000 population), Kachin State (82/100,000 population), however, Chin State (31/100,000 population) and Southern Shan State (34/100,000 population) had low case notification rate for new smear positive cases.

Table 28. TB case notification rates by States and Divisions (2008)

Sr. No.	States / Divisions	Case notification rates of new smear (+) TB patients notified to NTP	Case notification rates of all smear (+) TB patients notified to NTP	Case notification rates of all TB patients notified to NTP
1	Kachin State	82/100,000 pop:	95/100,000 pop:	314/100,000 pop:
2	Kayah State	53/100,000 pop:	65/100,000 pop:	235/100,000 pop:
3	Chin State	31/100,000 pop:	37/100,000 pop:	244/100,000 pop:
4	Sagaing Division	45/100,000 pop:	50/100,000 pop:	136/100,000 pop:
5	Magway Division	51/100,000 pop:	57/100,000 pop:	182/100,000 pop:
6	Mandalay Division	53/100,000 pop:	60/100,000 pop:	176/100,000 pop:
7	Shan State (South)	34/100,000 pop:	39/100,000 pop:	125/100,000 pop:
8	Shan State (East)	79/100,000 pop:	93/100,000 pop:	214/100,000 pop:
9	Shan State (North)	42/100,000 pop:	48/100,000 pop:	142/100,000 pop:
10	Kayin State	61/100,000 pop:	66/100,000 pop:	227/100,000 pop:
11	Tanintharyi Division	52/100,000 pop:	58/100,000 pop:	340/100,000 pop:
12	Bago Division (East)	59/100,000 pop:	69/100,000 pop:	163/100,000 pop:
13	Bago Division (West)	76/100,000 pop:	84/100,000 pop:	227/100,000 pop:
14	Mon State	71/100,000 pop:	80/100,000 pop:	276/100,000 pop:
15	Rakhine State	68/100,000 pop:	75/100,000 pop:	166/100,000 pop:
16	Yangon Division	151/100,000 pop:	181/100,000 pop:	422/100,000 pop:
17	Ayeyarwaddy Division	63/100,000 pop:	69/100,000 pop:	163/100,000 pop:
Pop. of 314 townships = 53,752,810		77/100,000 pop.	88/100,000 pop.	240/100,000 pop.
Union population in 325 townships = 58,758,909		70/100,000 pop.	81/100,000 pop.	219/100,000 pop.

The proportion of sputum smear positive pulmonary TB cases to all pulmonary TB cases was 51% and the ratio of new sputum smear positive TB cases to new sputum smear negative TB cases was 0.9:1.

Proportion of sputum smear positive pulmonary TB cases of all pulmonary TB cases was high above 64% in Shan State (East), 62% in Sagaing Division and 60% in Rakhine. Kayin State, Mon, Chin States and Taninthayi Division treated more sputum smear negative pulmonary TB cases and found (<40%) of reported all pulmonary TB cases were smear positive.

Ratio of new smear positive to new smear negative cases and EP cases were less than national figure (0.5:1) in Kachin, Kayah, Chin, Shan (North), Kayin, Mon States, Magway and Taninthayi Divisions.

10.2. Age and sex distribution of new sputum smear positive TB cases

The age and sex distributions of new sputum smear positive TB cases reported to the NTP in 2008 showed that 46% of them were in 25-34 age group and 35-44 age groups. Male to female ratio of those patients was 1.9:1.

0.7% (298/41248) of new sputum smear positive TB patients was in the age group of (0-14), and male to female ratio of those patients was 0.66:1.

Case notification rate of total new smear positive male TB cases was 101/100,000 and case notification rate of total new smear positive female TB cases was 52/100,000.

Table 29. Case notification rates of new smear positive cases according to age and sex (2008)

Age groups	Total		Males		Females	
	TB patients / pop. *	CNR / 100,000	TB patients/ pop. **	CNR / 100,000	TB patients/ pop. ***	CNR /100,000
1-14	298 / 19211	2	118 / 9753	1	180 / 9457	2
15-24	5942 / 10780	55	3416 / 5519	62	2526 / 5260	48
25-34	9785 / 9460	103	6311 / 4701	134	3474 / 4758	73
35-44	9264 / 7463	124	6396 / 3650	175	2850/ 3812	75
45-54	7684 / 5230	147	5327 / 2540	210	2357 / 2689	88
55-64	4956 / 3467	143	3312 / 1635	203	1644 / 1832	90
65+	3337 / 3145	106	2235 / 1401	159	1102 / 1743	63
Total	41248 / 58578	70	27115/ 29303	93	14133 / 29555	48

* Total TB patients / pop. in thousand

** Total Males TB patients / pop. in thousand

*** Total Females TB patients / pop. in thousand

Case notification rate of new smear positive TB patients was highest in (45-54) years age group in male as well as for total patients. However, it was highest in (55-64) years age group in female patients.

For patients with primary complex, the number notified to NTP was reduced to 24,038 from 29,058 in 2007. For childhood TB including primary complex, hilar lymphadenopathy and TB meningitis (<15 Years), it was also lesser than notified patients in 2007 (27,662 vs 27,944). The effect of introduction of childhood TB management guideline and disseminated broadly among paediatricians and TB coordinators is not much visible yet. Among notified patients with primary complex (96%) was <15 years age and among TBM 48% was <15 years. NTP started to report the childhood TB in (0-4) year age group in this year and found 16.5% of childhood TB (4,562 / 27,662) was in this age group.

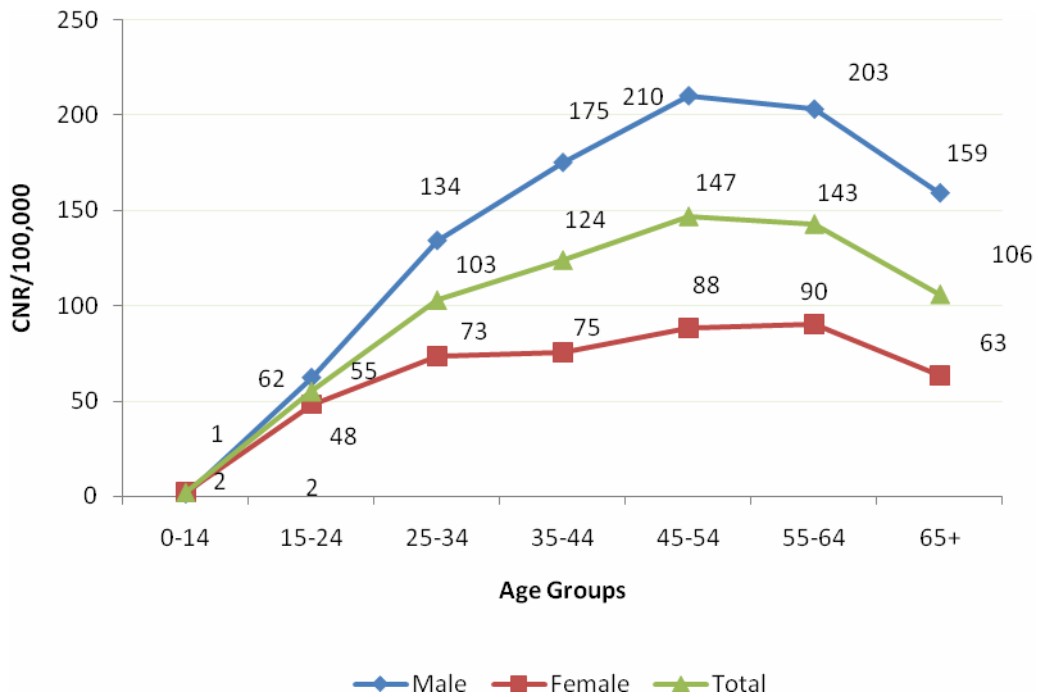


Figure 7. New smear positive TB case notification rate/100,000 by sex and age groups (2008)

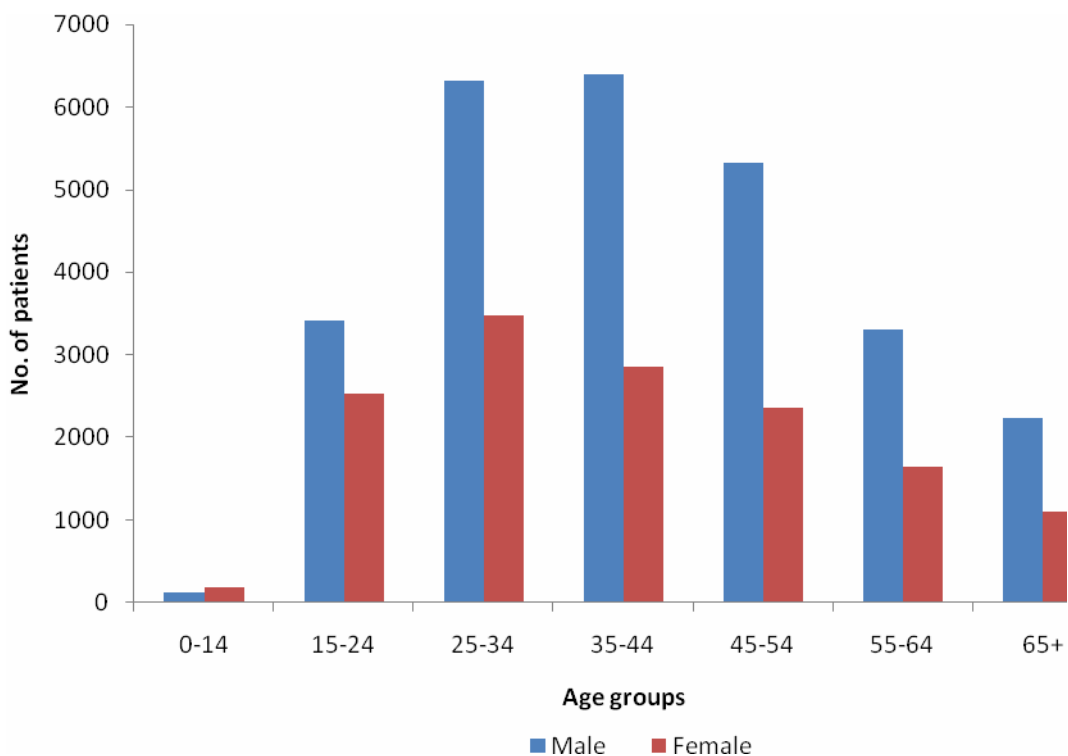


Figure 8. Age and sex distribution of new smear positive TB patients (2008)

10.3. Categories of Treatment regimen

The reported total TB patients were (128,739) in TB 07 - block - 1, but altogether (131,367) patients were treated and reported in TB 07, block 3 after counting transferred in cases and others cases.

According to reports, 58% of reported cases were treated with Category I regimen, 7% with Category II regimen and 35% with Category III regimen. 37% and 8% of Category I patients were new sputum smear negative and extra pulmonary cases respectively.

Among those treating with Category II regimen, 49% were relapse cases, 6.9% were treatment after default, 12.3% were treatment after failure, 32% were others cases. 3.4%, 0.5%, 0.9% and 22% of total patients were relapse cases, treatment after default, treatment after failure and others cases respectively. Out of 131,367 reported TB cases in block 3, 26.8% was extra-pulmonary TB patients.

EP cases were treated about 26.8% of all notified TB patients. Yangon, Mandalay, Magway, Sagaing, Ayeyarwaddy Divisions and other reporting units treated more extra-pulmonary TB cases compared to other States/Divisions.

High proportions of relapse cases were contributed by Yangon, Mandalay, Sagaing, Bago (East) and Ayeyarwaddy Divisions. Other reporting units also contributed about 15% of notified relapse patients.

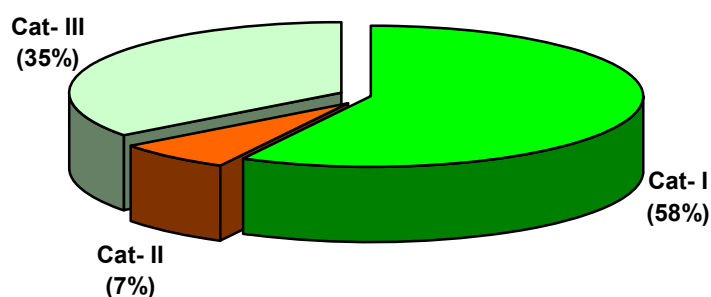


Figure 9. Proportions of treatment regimens (2008)

Table 30. Categories of Treatment Regimens

Years	Cat. I				Cat. II					Cat. III			Total	Proportion	Proportion
	Sputum smear positive	Severe form		Total	Relapse	Treatment after default	Treatment After failure	Other	Total	Less severe form		Total			
		Smear negative	EP							Smear negative	EP				
2000	16923	2608	313	19844	2600	907	386		3893	6157	1962	8119	31856	13	2
2001	20697	4604	485	25786	3072	1042	363		4477	9166	3383	12549	42812	13	2
2002	24203	8063	866	33132	3661	1242	697		5600	10796	9866	20662	59394	13	2
2003	27295	13537	1693	42525	4453	1454	964		6871	12179	16185	28364	77760	13	3
2004	31551	21098	2938	55587	4820	1293	1522		7635	13627	23267	36894	100116	13	4
2005	38598	23164	6234	67996	4817	976	2024		7817	13309	26158	39467	115280	11	4
2006	40742	30031	5620	76393	5229	1007	2852		9088	13924	29141	43065	128546	11	6
2007	43230	29177	6602	79009	4750	757	1208	2795	9510	13077	33986	47063	135582	9.5	3
2008	41839	27725	6364	75928	4509	633	1140	2954	9236	17306	28897	46203	131367	9.1	2.4

10.4. Laboratory performance

There were 239,401 patients examined for sputum microscopy and 20% of them were sputum smear positive (47878/239401) in 2008.

16% of TB suspected cases and 15.3% of sputum positive cases were contributed by other reporting units.

In States/ Divisions, sputum positive rates were ranged from 6% to 28%. Sputum positivity rates of Shan (East), Shan (North), Rakhine States, Bago (East), Bago (West), Yangon, Ayeyarwaddy and Mandalay Divisions were high $\geq 20\%$.

In Yangon Division, Sagaing and Mandalay Division more TB suspects were examined. However, TB suspects notification rates for **Chin, Shan (South), Shan (North), Shan (East), Kayin, Rakhine States, Sagaing, Magway, Mandalay, Tanintharyi, Bago (East), Bago (West) and Ayeyarwaddy Divisions** were lower than 400/100,000 population. It is noted the TB suspect notification rate was dropped from 603/100,000 population to 372/100,000 population compared to previous year. It is needed to improve the identification of TB suspects and referral for TB diagnosis by all means.

The following graph shows there were a decrease in laboratory performance in 2008 for both diagnosis and follow-up examinations. It also affected the total number of sputum smear positive detected.

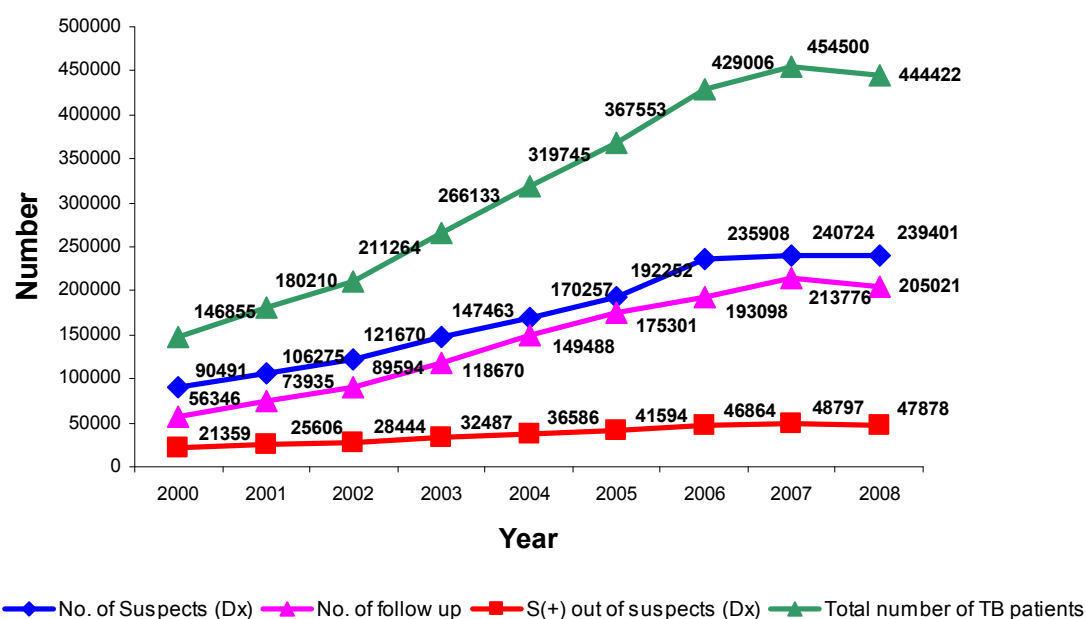


Figure 10. Laboratory performance (2000-2008)

10.5. Sputum conversion rate of new smear positive pulmonary TB cases

Sputum conversion rate for 2008 cohort was **88%**. Sputum conversion rate of other reporting units was low as 82%. Sputum conversion rates were lower than 85% in Shan State (East) (84%), Taninthayi Division (82%), Shan State (North) (80%).

10.6. Treatment outcomes of TB patients (2007 cohort)

Treatment outcomes of the TB patients (2007 cohort) were evaluated from 314 townships (NTP). The cure rate and treatment success rate of new sputum smear positive TB patients were 77% and 85% for 2007 cohort (NTP).

When treatment outcome of new smear positive TB patients were analysed according to known HIV status, cure rate and treatment success rate of HIV negative TB patients were 77% and 86% for 314 townships and other reporting units. However, cure rate and treatment success rate of HIV positive TB patients were 56% and 65% respectively for 2007 cohort.

Table 31. Categories of townships' treatment success rates of new sputum smear positive TB patients by States/Divisions (2007 cohort)

Sr. No.	State/ Division	No. of townships with TSR					Total No. of townships
		≥ 85%	75-84%	60-74%	50-59%	<50%	
1	Kachin State	3	6	3	0	1	13
2	Kayah State	1	2	3	1	0	7
3	Chin State	5	3	1	0	0	9
4	Sagaing Division	21	13	3	0	0	37
5	Magway Division	16	8	1	0	0	25
6	Mandalay Division	21	8	2	0	0	31
7	Shan State (South)	12	5	3	1	0	21
8	Shan State (East)	6	0	3	0	0	9
9	Shan State (North)	9	6	4	0	0	19
10	Kayin State	5	2	0	0	0	7
11	Tanintharyi Division	1	6	3	0	0	10
12	Bago Division (East)	11	3	0	0	0	14
13	Bago Division (West)	9	5	0	0	0	14
14	Mon State	7	3	0	0	0	10
15	Rakhine State	12	4	1	0	0	17
16	Yangon Division	32	12	0	0	1	45
17	Ayeyarwaddy Division	22	4	0	0	0	26
Total		193 61.5%	90 28.7%	27 8.6%	2 0.6%	2 0.6%	314 100%

* Report only received from 314 townships

In 2007 cohort, 314 townships reported case finding in 2008. NTP received reports from 314 townships, out of which (193 – 61.5%) townships achieved treatment outcome target of TSR (≥ 85%) and (2) townships (0.6%) got less than 50% of TSR. Yangon, Magway, Mandalay, Bago (East), Bago (West), Sagaing, Ayeyarwaddy Divisions and Chin, Kayin, Shan (East), Rakhine and Mon States achieved 85% treatment success rate.

Table 32. Categories of townships' cure rates of new sputum smear positive TB patients by States/Divisions (2007 cohort)

Sr No	State/ Division	Number of townships with Cure rate					Total number of townships
		≥ 85%	75-84%	60-74%	50-59%	<50%	
1	Kachin State	3	3	3	3	1	13
2	Kayah State	0	1	4	1	1	7
3	Chin State	2	3	0	2	2	9
4	Sagaing Division	11	15	6	3	2	37
5	Magway Division	10	8	4	1	2	25
6	Mandalay Division	7	12	9	1	2	31
7	Shan State (South)	10	1	6	1	3	21
8	Shan State (East)	1	2	1	3	2	9
9	Shan State (North)	4	2	5	3	5	19
10	Kayin State	3	2	2	0	0	7
11	Tanintharyi Division	1	5	2	1	1	10
12	Bago Division (East)	7	4	2	1	0	14
13	Bago Division (West)	5	6	2	1	0	14
14	Mon State	2	6	2	0	0	10
15	Rakhine State	7	4	2	3	1	17
16	Yangon Division	18	21	5	0	1	45
17	Ayeyarwaddy Division	10	10	5	1	0	26
Total		101	105	60	25	23	314
		32.2%	33.4%	19.1%	8.0%	7.3%	100%

Treatment outcome according to types of TB was evaluated for NTP and found new smear positive (90), treatment after failure (2), other cases (87) and new smear negative (224) cases were evaluated more than registered in 2007. Relapse (37), Treatment After Default (49) patients were evaluated less than registered cases.

When we evaluated the treatment outcome of other reporting units: new smear positive (95), Relapse (54), treatment after default (19), treatment after failure (21) and new smear negative TB patients (228) were evaluated more than registered for treatment in 2007. However, evaluated other cases were (61) less than registered cases.

When we combined NTP and other reporting units: new smear positive (185), relapse (17) Treatment after Failure (23), others (26) and smear negative (452) were evaluated more than registered cases and treatment after default (30) were evaluated less than registered for 2007 cohort.

We stratified into reporting units, the other reporting units contributed half of the cases which were not registered in 2007 for new smear positive and new smear negative. For NTP: Shan (East), Rakhine, Shan (South), Kachin, Chin States and

Sagaing, Mandalay Divisions had discrepancies in evaluated number of new smear positive TB patients in 2007.

Those errors will be fixed if state/divisional level uses the DHIS (District Health Information Software) which was developed for NTP, Myanmar. There will be data verification when data enters.

Table 33. Categories of State/Divisional CR and TSR of new sputum smear positive TB patients (2007 cohort)

≥85%		75-84%		60-74%		50-59%		<50%	
CR	TSR	CR	TSR	CR	TSR	CR	TSR	CR	TSR
	Chin	Sagaing	Kachin	Kachin					
	Sagaing	Magway	Kayah	Kayah					
	Magway	Mandalay	Shan (S)	Chin					
	Mandalay	Kayin	Shan (N)	Shan (S)					
	Shan (E)	Bago (E)	Tanintharyi	Shan (E)					
	Kayin	Bago (W)		Shan (N)					
	Bago (E)	Mon		Tanintharyi					
	Bago (W)	Rakhine							
	Mon	Yangon							
	Rakhine	Ayeyarwaddy							
	Yangon								
	Ayeyarwaddy								
0	12	10	5	7	0	0	0	0	0

Defaulter rate for new smear positive TB cases reduced to 5% from 9% of 2003 cohort and also 5% defaulter rate in TB/HIV patients.

Case fatality rates (CFR) of new smear positive cases were 5% for HIV status unknown TB patients and 25% for TB/HIV co-infected patients. CFRs during treatment were high above 5% in Shan State (South) (8%), Bago Division (West) (8%), Mandalay Division (7%), Chin State (7%), Bago Division (East) (6%) and Sagaing Division (6%).

Treatment failure rates were 3% for new smear positive cases, 3% for TB patients with unknown HIV status and 3% for HIV co-infected TB patients.

Treatment failure rates of new smear positive TB cases in States/Divisions was higher than 3% only in Kayah State (4%),

Defaulter rates of new smear positive cases were high above 5% in Kachin State (12%), Tanintharyi Division (9%), Shan (North) States (9%), Kayin State (9%), Shan (E) State (9%), Shan (South) State (6%) and Rakhine State (6%).

Transferred out rate was high in Tanintharyi Division (7%) and Kayah State (7%).

Table 34. Treatment outcomes of TB patients according to HIV status reported to NTP (2007 cohort)

Type of TB patients		Total no. evaluated	Cured	Completed	Deaths	Failure	Default	Transferred out	Total no. evaluated
New Smear positive patients	HIV (+)	1120	622 56 %	102 9%	283 25%	30 3%	52 5%	31 3%	1120
	Unknown HIV status	41653	32263 77%	3404 8%	2056 5%	1145 3%	2052 5%	733 2%	41653
	Total	42773	32885 77%	3506 8%	2339 5%	1175 3%	2104 5%	764 2%	42773
Smear negative patients	HIV (+)	2530		1553 61%	649 26%	21 1%	210 8%	97 4%	2530
	Unknown HIV status	39748		33391 84%	2239 6%	248 1%	3109 8%	761 2%	39748
	Total	42278		34944 83%	2888 7%	269 1%	3319 8%	858 2%	42278
Relapse patients	HIV (+)	158	58 37%	27 17%	57 36%	4 2%	6 4%	6 4%	158
	Unknown HIV status	4524	2899 64%	551 12%	435 10%	221 5%	273 6%	145 3%	4524
	Total	4682	2957 62%	578 12%	492 11%	225 5%	279 6%	151 3%	4682
Other patients	HIV (+)	178	2 1%	88 49%	68 38%	0	14 8%	6 3%	178
	Unknown HIV status	2316	415 18%	1206 52%	307 13%	88 4%	204 9%	96 4%	2316
	Total	2494	417 17%	1294 52%	375 15%	88 4%	218 9%	102 4%	2494
Primary complex patients	HIV (+)	115		82 72%	29 25%	0	1 1%	3 2%	115
	Unknown HIV status	29239		27555 94%	195 1%	0	1271 4%	218 1%	29239
	Total	29354		27637 94%	224 1%	0	1272 4%	221 1%	29354
TB Meningitis patients	HIV (+)	31		22 71%	6 19%	0	2 7%	1 3%	31
	Unknown HIV status	398		294 74%	56 14%	0	37 9%	11 3%	398
	Total	429		316 74%	62 14%	0	39 9%	12 3%	429
Treatment after default patients	HIV (+)	39	13 33%	5 13%	15 38%	1 3%	3 8%	2 5%	39
	Unknown HIV status	679	373 55%	107 16%	65 10%	23 3%	83 12%	28 4%	679
	Total	718	386 54%	112 16%	80 11%	24 3%	86 12%	30 4%	718
Treatment after failure patients	HIV (+)	29	12 41%	4 14%	9 31%	2 7%	1 3%	1 3%	29
	Unknown HIV status	1244	663 53%	129 10%	119 10%	159 13%	116 9%	58 5%	1244
	Total	1273	675 53%	133 10%	128 10%	161 13%	117 9%	59 5%	1273
Total	HIV (+)	4200	707	1883	1116	58	289	147	4200
	Unknown HIV status	119801	36613	66637	5472	1884	7145	2050	119801
	Total	124001	37320	68520	6588	1942	7434	2197	124001

For **other reporting units** : AZG reported high failure rate (43%), case fatality rate (22%) and defaulter rate (29%) of new smear positive TB patients. Reported failure rates of PSI, Waibargi hospital, Aungsan and Patheingyi TB hospitals were 4%, 4%, 6% and 4% respectively. Medecins du monde (MDM) reported in this year and found high failure rate as 9%. Case fatality rate of other reporting units was 7%, however, it was high in Waibargi hospital (36%), Mingaladon Specialist Hospital (23%), AZG (23%) and MDM (21%) where HIV co-infected TB patients were treated.

As mentioned in table 34, NTP could evaluate 124,001 TB patients registered in 2007. Total completion rate and failure rate were 85.4% and 1.6% respectively. However, CFR and defaulter rates were high as 5.3% (total reported deaths was 6588) and 6% respectively. It is needed to be recognized by all supervisors at all levels to be able to maintain the current achievement of treatment outcome, which could be more affected by HIV co-infection if TB/HIV prevention and control activities are not adequate.

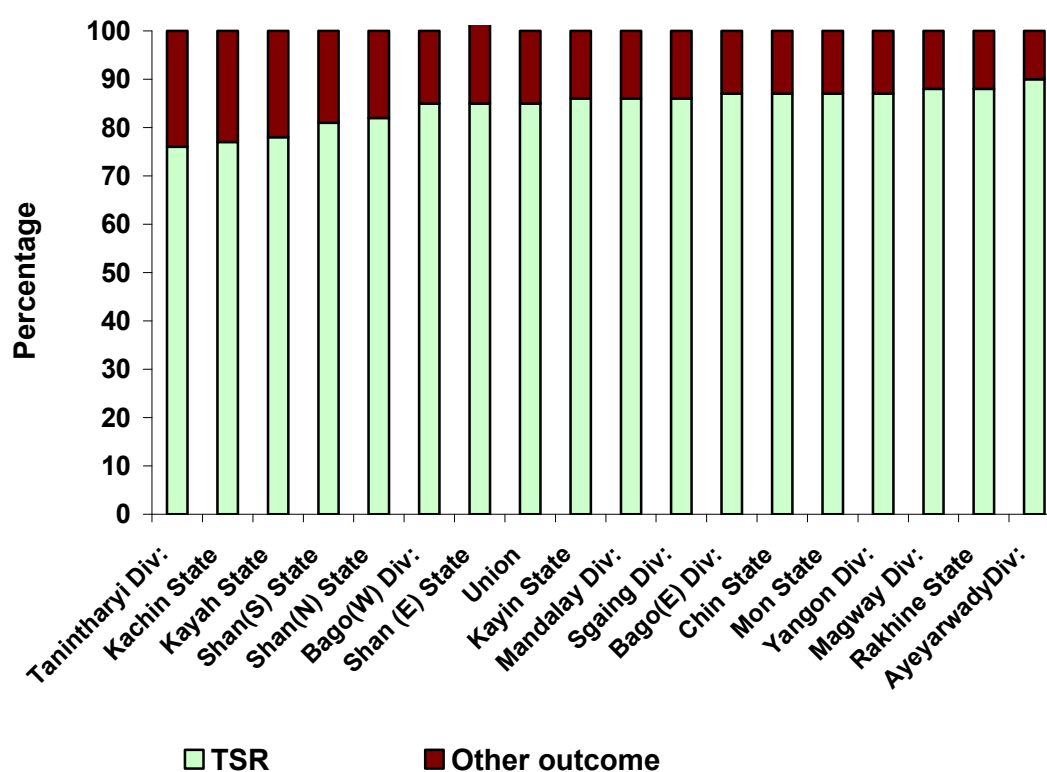


Figure 11. Treatment success of new smear positive TB patients (2007 cohort)

10.8. Evaluation of State and Divisional TB control activities

NTP, Myanmar achieved the global TB control targets of CDR and TSR as 90% and 85% in 2008. The achievement of 2007 was maintained. The performance of State/Divisional level was evaluated and Yangon, Mandalay, Bago (East), Bago (West), Shan (East) and Ayeyarwaddy Divisions, Kayin, Mon and Rakhine States achieved the targets. Among 314 townships reported, 88 townships achieved the TB control targets in 2008.

10.8.1. Yangon Divisional TB Centre

Yangon Divisional TB Centre covers Yangon Division with 45 townships. It achieved CDR of 90% and if added the contribution of other reporting units CDR increased to 112%. Cure rate and TSR increased to 81% and 87% compared to previous years. Reporting efficacy was 100%.

The estimated new smear positive TB patients were calculated with 170/100,000 population based on the Yangon Divisional TB Prevalence Survey results (2006). 4 townships: Lanmadaw, Kawhmu, Thongwa and Cocogyun townships (CDR <40%) were needed to improve the case finding activities. Only 16 townships (Botataung, Dawbone, Dagon (North), Dagon (South), South Okkalapa, Thaketa, Yankin, Dagon Seikan, Kamaryut, Sanchaung, Hlaing, Ahlone, Thanlyin, Hlaingthayar, Insein, Hamby) achieved the both targets in 2008.

Defaulter rate was reduced to 6% from 13% in 2003 cohort. Defaulter rate was high above 10% in Seikkan (17%). Case fatality rate was high (≥8%) in Bahan, Seikkyikhanaungto, Dalla, Htantabin townships. Transferred out cases were 147 patients and that is 19% of total transferred out cases.

Tuberculosis Diagnostic Centre (Yangon)

Referred TB suspects increased in 2008 in both Aungmye and Latha diagnostic centers.

Table 35. Case load of Tuberculosis Diagnostic Centers in Yangon Division in 2008

Month	Referred TB suspects		New		Follow-up		Total	
	UTI	Latha	UTI	Latha	UTI	Latha	UTI	Latha
January	929	388	500	375	639	1043	2068	1806
February	895	370	467	331	487	1184	1849	1885
March	821	350	441	377	523	1155	1785	1882
April	673	259	359	267	502	905	1534	1431
May	445	187	297	272	458	595	1200	1054
June	726	266	407	317	396	772	1529	1355
July	865	254	447	362	509	924	1821	1540
August	836	110	425	384	474	1087	1735	1581
September	1032	359	425	368	439	907	1896	1634
October	940	162	421	366	394	1142	1755	1670
November	706	211	385	356	397	843	1488	1410
December	832	234	344	347	609	879	1785	1460
Total	9700	3150	4918	4122	5827	11436	20445	18708



JICA (MIDC) project supported “Half year TB evaluation meeting”, Yangon

Problems identified in Yangon Division were low CDR in townships mostly in Southern and Western Districts, no lab. in (14) townships and major errors were repeated found.

10. 8. 2 Mandalay Divisional TB Centres

Mandalay Divisional TB Centre covers 31 townships of Mandalay Division. Mandalay Division achieved 70% CDR and 86% TSR. Reporting efficacy was 100% in Mandalay Division. If the other reporting units were added CDR increased to 86%.

10 townships out of 31 townships achieved the TB control targets. 4 townships got CDR less than 40% (Nagoya, Taungtha, Tatfone, Tadaoo) and 2 townships (Meikhtila and Mahlaing) had CDR <40% and TSR <50%. Although CR was low TSR is high above 70% in both townships.

Defaulter rate of the Mandalay Division was 2%, however it was high above 10% in Thabeikyin and Tadaoo townships. Failure rate was high above 5% in Nyaung U, Thabeikkyin, Pyawbwe, Tatfone and Kyaukse townships. Case fatality rate was 7% for Mandalay Division. CFR high above 8% in Meikhtila, PyinOoLwin, Lewe, Pyawbwe, Sintgaing, Pyigyidagon, Wundwin, Myingyan, Madaya and Tadaoo townships. Amarapura, Patheingyi, Meikhtila, Pyinoolwin and Pyinmana townships had a high transferred out problem (>5%).

Problems were identified as frequent turn over of trained staff, human resource shortage and inconsistent population data to be used for target setting and monitoring purpose.

Table 36. Performance of Tuberculosis Diagnostic Centre, Mandalay in 2008

Month	New cases			Follow-up	Total
	0-14 year	>15 above	Total		
January	50	369	419	533	952
February	61	348	409	468	877
March	72	398	470	491	961
April	75	349	424	519	943
May	106	433	539	577	1116
June	92	409	501	514	1015
July	105	372	477	648	1125
August	97	379	476	544	1020
September	158	396	554	665	1219
October	114	359	473	410	883
November	106	323	429	384	813
December	115	370	485	529	1014
Total	1151	4505	5656	6282	11938

Mandalay District is implementing the "Integrated HIV care" Project with the support of MoH (NTP and NAP together with Medical Care unit of Mandalay General Hospital), Union and Yadana oil company.

Table 37. Treatment outcome of new smear positive TB patients (according to HIV status) of Mandalay District

Cohort	TB patients	Cured	Completed	TSR	Died	Failure	Defaulted	Transfer-red out	Total
2005	HIV (-)	296	21	94.6	8	4	0	6	335
	HIV (+)	68	6	90.2	7	1	0	0	82
	Total	364	27	93.8	15	5	0	6	417
2006	HIV (-)	410	32	92.7	8	14	3	10	477
	HIV (+)	93	11	83.2	14	1	2	4	125
	Total	503	43	90.7	22	15	5	14	602
2007	HIV (-)	255	28	90.4	10	6	7	7	313
	HIV (+)	71	7	78.0	16	1	4	1	100
	Total	326	35	87.4	26	7	11	8	413
2008	HIV (-)	551	35	91	18	11	9	19	643
	HIV (+)	147	4	86	17	3	4	1	176
	Total	698	39	90	35	14	13	20	819

Table 38. Treatment outcome of new smear negative TB patients (according to HIV status) of Mandalay District

Cohort	TB patients	Completed	Compl. rate	Died	Failure	Defaulted	Transfer-red out	Total
2005	HIV (-)	233	93.6	10	0	3	3	249
	HIV (+)	134	85.4	20	0	1	2	157
	Total	367	91.4	30	0	4	5	406
2006	HIV (-)	274	93.2	8	1	5	6	294
	HIV (+)	197	83.8	26	0	8	4	235
	Total	471	89.0	34	1	13	10	529
2007	HIV (-)	203	94.0	5	1	3	4	216
	HIV (+)	88	74.5	24	1	3	2	118
	Total	291	87.1	29	2	6	6	334
2008	HIV (-)	431	91	22	1	10	10	474
	HIV (+)	184	77	42	3	5	4	238
	Total	615	86	64	4	15	14	712

Table 39. Treatment outcome of HIV positive new extra-pulmonary TB patients (according to HIV status) of Mandalay District

Cohort	TB patients	Completed	Completion rate	Died	Defaulted	Transfer-red out	Total
2005	HIV (-)	68	95.8	1	0	2	71
	HIV (+)	52	91.2	3	2	0	57
	Total	120	93.8	4	2	2	128
2006	HIV (-)	77	97.5	1	0	1	79
	HIV (+)	84	84.8	15	0	0	99
	Total	161	90.4	16	0	1	178
2007	HIV (-)	95	96.8	2	0	0	97
	HIV (+)	75	90.4	5	1	0	81
	Total	170	93.9	7	1	0	178
2008	HIV (-)	196	7	0	0	1	197
	HIV (+)	52	8	1	0	0	53
	Total	248	15	1	0	1	250

10.8.3. Shan State (South) TB Centre

Shan State (South) TB Centre covers Southern Shan State and DOTS is implementing in 21 townships. Southern Shan State achieved 46% CDR, 74% CR and 81% TSR. Reporting efficacy was 100%. No other contribution from PPM-DOTS.

In Southern Shan State, only Kunhein and Mongshu townships achieved the TB control targets. Out of 21 townships 7 townships were lower than CDR 40% (Mongkaing, Pindaya, Mongpang, Loilem, Hopone, Hpekon, Pinlaung townships). Out of them Mongkaing, Pindaya and Mongpang townships had low TSR (50%).

Defaulter rate was 6% for Southern Shan State. It was high in Loilem, Mongkaing, Namsan, Taunggyi and Hsiseng townships. Case fatality rate was 3% and it was higher than 8% in Maukmae, Mongpang, Kunhein, Mongkaing, Namsam, Kalaw, Yaksauk townships. Failure rate was 3% for Shan State (South).

Problems identified in Southern Shan State were high defaulter rate, vacancies of lab. technicians, transport difficulties and language barriers.

Taunggyi township is implementing the TB/HIV collaborative activities. TSR of HIV positive, new smear positive TB patients was 83%.

Table 40. Treatment outcomes of TB/HIV patients

Type of Patients	Cured	Completed	Defaulted	Died	Failure	Transferred out	Total
Smear positive	5	0	0	0	0	1	6
Smear negative		22			3		25
EP		4					4

10.8.4. Ayeyarwaddy Divisional TB Centre

Ayeyarwaddy Divisional TB Centre covers only Ayeyarwaddy Division and has 26 townships. It achieved CDR 84%, CR 83% and TSR 90%. Reporting efficacy was 100%. CDR increased to 90% when other reporting units were added.

16 townships achieved the TB control targets. No. of townships achieved the targets was reduced from 18 townships to 16 townships compared to 2007. Out of 26 DOTS townships, Kangyidauk and Dedaye townships got CDR < 40%. Defaulter rate of Ayeyarwaddy Division was only 4%. Defaulter rates were high above 10% in Kangyidaunt, Zalun and Eime townships in 2007 cohort. Case fatality rate for the division was 5% and it was high above 10% only in Zalun (11%).

Performance of Ayeyarwaddy division is recognized as the best among 17 States/Divisions although the performance could be affected due to cyclone Nargis. Problems identified were poor accessibility and weak supervision of BHS.

10.8.5. Mon State TB Centre

Mon State TB Centre covers Mon State and Kayin State and DOTS is implementing in 17 townships. Mon State achieved CDR 94%, CR 79% and TSR 87%. Kayin State achieved CDR 81%, CR 78% and TSR 86%. Reporting Efficacy was 100% in both States. CDR of Kayin State increased to 84% when contribution of PPM –DOTS was considered.

5 townships (Mawlamyaing, Thanphyuzayut, Belin, Kyaikhto and Paung) from Mon State achieved the TB control targets. Chaungzon township with low CDR (40%). Defaulter rate of Mon State was only 4%.

For Kayin State, only Kawkareik township reached the TB control targets. 2 townships (Kyarinnseikkyi and Thandaung townships) had low CDR. Defaulter rate of Kayin State was 9% and high above 10% in 2 townships (Myawaddy and Hpa-an). Failure rate was high in Thandaung (14%)

Special attention should be provided to Kyarinseikkyi, Thandaung townships of Kayin State to improve the overall performance of Kayin State.

Main problem for Mon State is although new X-ray machine funded by GFATM was installed due to instability of electricity it could not be functioned. Low performance townships were needed to be improved with the special strategies for reaching the TB control targets in both Mon State and Kayin State.

10.8.6. Bago Divisional TB Centre

Bago Divisional TB Centre covers Bago (East) and (West) Divisions totally 28 townships. Bago (East) Division achieved CDR 79%, CR 79% and TSR 87%. Bago (West) Division achieved CDR 101%, CR 79% and TSR 85%. Reporting efficiency rates of both divisions were 100%. CDR of Bago Division was 90% for NTP and increased to 99% when other reporting units were added.

5 townships (DaikU, Kyauktagar, Shwekyin, Phyu and Waw) from Bago (East) Division and 9 townships (Paukkaung, Paungde, Thegone, Tharyarwaddy, Zegone, Moenyo, Okkpo, Gyobinkyauk and Lepatan) from Bago (West) Division achieved the TB control targets.

There was no township with low CDR and low CR in Bago Division (East & West).

Defaulter rate was 4% in both Bago (East) and (West) Divisions. It was higher than 10% in Kawa (13%) in Bago (East) Division and Padaung (11%) and Shwetaung (11%) townships in Bago (West) Division.

Case fatality rate was high in Bago division (West) (8%). It was $\geq 10\%$ in Minhla, Gyobingauk and Pyay townships.

Bago Division identified low community awareness, transfer of trained health staff and transport difficulties for supervision as problems.

10.8.7. Rakhine State TB Centre

Rakhine State TB Centre covers Rakhine State and DOTS is implementing in 17 townships. It achieved CDR 90%, CR 77% and TSR 88%. Reporting efficacy was 100%. CDR was increased to 91% when the contribution of partners was added.

9 townships (Buthetaung, Sittwe, Kyauktaw, Minbya, MyaukU, Ponnagyun, Thandwe, Gwa and Taunggup) out of 17 townships achieved TB control targets.

Defaulter rate of Rakhine State was 6 %. There were high defaulter rate above 10% in 4 townships (Kyaukphyu, Ann, Yathaetaung and Myebon). Failure rate for Rakhine State was 2% however, it was higher than 5% in Yambye, Maungtaw and Minbya townships.

Rakhine State TB Officer is also responsible for Paletwa township of Chin State.

The problems identified in Rakhine State were vacant lab technician in Paletwa, low community awareness, poor involvement of GPs in TB control, frequent turn-over of trained health staff including TMOs and transport difficulties for supervision.

10.8.8. Sagaing Divisional TB Centre

Sagaing Divisional TB Centre covers Sagaing Division (37 townships) and Northern Chin State (5 townships). Sagaing Division achieved CDR 59%, CR 77%, TSR 86% in 2008. CDR was increased to 68% when contribution of other partners was added. The CDR was decrease from 79% in 2007 to 59% in 2008, due to termination of FIDELIS project and could able to continue some activities with CERF (Central Emergency Response Fund). Reporting efficacy was 100%.

Chin State got CDR 41%, CR 72% and TSR 87%. Reporting efficacy was 100% for Chin State.

6 townships (Myinmu, Kalaywa, Tamu, Mawleik, Phaungbyin and Lahel) out of 37 townships in Sagaing Division and one (Mindat) in Chin State achieved the TB control targets. CDR was higher than 100% in Khamti, Tamu and Lahel.

Low CDR is reported in Nanyun (12%), Banmauk (28%), Kani (32%), Khin U (38%), Taze, Pale and Yinmarbin (39%), Salingyi, Depeyin and YeU (40%) townships. Low CR ($\leq 50\%$) was reported in Kyunhla (21%) and Lashi (50%) townships. Nanyun was fall in the category of low CDR and low CR.

For Chin State, 5 (Falam 26%, Htantalan 15%, Tunzan 13%, Kanpalet 35% and Matupi 21%) out of 9 townships achieved the low CDR. was fall in the low CDR and low CR category and Kanpalet and Matupi had low CR.

In 2007 cohort, Defaulter rate was 4%, case fatality rate was 6% and treatment failure rate was 3% for Sagaing Division. Defaulter rates were high above 10% only in 1 township in Sagaing Division (Nanyun 33%). CFR was high above 10% in Htigai (18%), Pinlebu (18%), Wuntho (18%) and Intaw (13%) townships.

The defaulter rate is decreased from 15% to 5% in Chin State.

Major problems of Sagaing Division were identified as transportation difficulty for supervision and delay in reporting, human resource shortage and frequent turn over of trained staff, increase work load on divisional TB lab. for QC. For Chin State, health man power shortage, limitation in supervisory visits and lack of trainings were identified as problems.

10.8.9. Tanintharyi Divisional TB Centre

Tanintharyi Divisional TB Centre covers only Tanintharyi Division and DOTS is implementing in 10 townships. It achieved CDR 69%, CR 71% and TSR 76%. CDR was increased to 73% when contribution of other reporting units was added. Reporting Efficacy was 100%.

No township achieved the TB control targets. Longlon, Thayetchaung, Yebyu and Kyunsu townships were identified as low CDR townships. CR was low below 50% only in Bokepyin township.

Default rate was 9% for the division and Bokepyin (29%), Thayetchaung (19%), Palaw (19%), Myeik and Taninthayi townships (10%) were having defaulter rate $\geq 10\%$.

The main problems of Taninthayi Division were low community awareness, low CDR, CR and high defaulter rate.

10.8.10. Shan State (North) TB Centre

Shan State (North) TB Centre covers 24 townships. It achieved CDR 55%, CR 68% TSR 82% in 2007 cohort. The CDR increased to 71% when contribution of other reporting units was added. Reporting efficiency was 80% (19/24). NTP did not receive the reports from Kongyan, Panwine, Mongmaw, Manphant and Narphant townships.

Hsipaw and Moemeik townships achieved the TB control targets. Manton, Pangyan, Laukkai and Kutkai townships were identified as low CDR and low CR townships. There were 6 townships (Naungcho 39%, Namsam 31%, Kutkai 30%, Kunlon 21%, Pangyan 17% and Manton 0%) having low CDR.

Defaulter rate was 9% for the whole State. The defaulter rate was high $\geq 10\%$ in 5 townships (Laukkai 26%, Lashio 24%, Pangyan 23%, Namkham 17%, Theinni 11% and Kyaukme 10%) Case fatality rate for the state was 4% and CFR was high above 10% in Namtu (14%) and Namsam (21%) townships.

The main problems were low CDR, low CR and high defaulter rates.

TB/HIV collaborative activities were started in 2007 and the treatment outcomes of the detected TB/HIV patients were reported.

Table 41. Treatment outcomes of TB/HIV patients

Type of Patients	Cured	Completed	Defaulted	Died	Failure	Transferred out	Total
Smear positive	2	0	0	1	0		3
Smear negative		1					1
EP						1	1

10.8.11. Magway Divisional TB Centre

Magway Divisional TB Centre covers 25 townships in Magway Division and 3 townships in Chin State (South). Magway Division achieved CDR 68% and CR 77% and TSR 88%. CDR increased to 75% when contribution of other reporting units was added. Reporting efficiency was 100%.

In Magway Division, 6 townships (Myothit, Yenanchaung, Pauk, Myaing, Kanma and Mindon) achieved the TB control targets. However, CR of Myaing townships was very low (23%). Saytoketayar township also had low CR (31%). CDR

was lower than 40% in 4 townships (Pwintphyu 27%, Yesagyo 29%, Saw 33% and Sinpaungwe 33%).

Defaulter rate of Division was 4%. High defaulter rate was only in Minbu township (15%). CFR for the Division was 5% and it was high in Saytoketayar (10%), Ngape (11%), Aunglan (12%) and Htilin (40%).

Low community awareness, poor accessibility, transport difficulties, low motivation of staff and geographical terrain were identified as problems for Magway Division.

10.8.12. Shan State (East) TB Centre

Shan State (East) TB Centre covers only Shan State (East) and DOTS is implementing in 10 townships. It achieved CDR 106%, CR 64% and TSR 85%. Reporting efficacy was 90% (9/10). No report from Matman. CDR was increased to 119% when contribution of other reporting units was added.

4 townships (Kyaingtone, Mongsat, Mongpyak and Tarchileik achieved the NTP targets. Mongyan townships had low CDR and TSR. Mongkat township also has low CDR less than 40%.

Defaulter rate of the State was 9% reduced from 20% in 2003. Defaulter rates were high above 10% in 3 townships (Mongton 22%, Mongpyin 23%, Mongyang 23%). Failure rate was high in Mongtong township 13%.

Major problems identified were vacancies in essential posts including State TB Officer, lack of incentives for TB staff, lack of X-ray machine for State TB center.

10.8.13 Kachin State TB center

Kachin state TB center covers 18 townships and central unit of NTP did not received reports from 5 townships (N'ginyan, Hsawlaw, Naungmun, Khaunglanbu, Sumprabum). Reporting efficiency was 72% (13/18). CDR for 2008 was 109% and when added other reporting units like AZG, CDR increased to 135%. The CR and TSR were 67 and 77% respectively.

In Kachin State, there was no township achieved the NTP targets. 2 townships (Machanbaw 20% and Moemauk 27%) had low CDR where as Momauk had high CR with low CDR. Chibwe had CDR (79%), however, no registered new smear positive TB patients in 2007 cohort, CR was 0%.

Defaulter rate for Kachin State was 12%. Defaulter rate was high in Karmaing (27%), Mansi (16%), Tanai (15%), Mokaung (14%), Waingmaw (14%), Putao (13%), Monyin (12%), Myitkyina (11%) townships.

Treatment failure rate was high above 5% in Karmaing (7%) and Bohmaw (6%) Failure rate was high in other reporting units (8%).

In Kachin State, high CDR, TB/HIV problems, transportation difficulties and human resource shortage were the problems to be solved for better performance.

Myitkyina township is implementing the TB/HIV collaborative activities. TSR of HIV positive, new smear positive TB patients was 67%. Case fatality rate was as high as 11% and defaulter rate was 11%. Completion rate for new smear negative

TB/HIV patients was 60%. However, CFR (18%) was higher than new smear positive TB/HIV patients.

Table 42. Treatment outcome of TB/HIV patients

Type of patients	Cured	Completed	Defaulted	Died	Failure	Transferred out	Total
Smear positive	14	4	3	3	1	2	27
Smear negative		36	8	11	0	5	60
EP		7	2			1	10
Relapse	2						2
Other		3	3	1			7

10.8.14. Kayah state

Kayah State covers 7 townships. The CDR was 70%, CR was 66% and TSR 78%. Reporting efficiency was 100%.

There was no township achieved the TB control targets. Phruso township had low CDR (33%) and Phasaung township had low CR (0%).

Defaulter rate was 5%. 3 townships (Masai 29%, Shataw 14%, Bawlake 11%) out of 7 townships had high defaulter rate. Failure rate and CFR of the State were 4% and 5% respectively.

Main constraint is State TB Officer post is vacant.

Possible actions to be taken for the problems

A. Case Detection Rate less than 40%

- to promote community awareness by widespread health education concerning TB with the support of IEC materials
- to educate family members of TB patients and promote contact tracing
- to advocate TB control activities to general practitioners and local NGOs and try to involve them
- to advocate community and registered TB patients to involve in TB control
- to promote early case referral for diagnosis and treatment from GPs
- to assess the laboratory performance, to ensure 3 sputum smear examinations are being done for all chest symptomatic
- to ensure all smear positive TB patients in the laboratory register are registered and treated
- to ensure that sputum microscopy is accessible to patients with trained laboratory technicians in place
- to improve laboratory quality assurance system and involve TMOs in laboratory supervision
- to establish sputum collection points in hard to reach areas
- to improve the skills of health staff who diagnose the TB patients
- to promote TB suspect identification and referral by BHS
- to identify TB suspected patients as early as possible

B. Cure Rate less than 50% in new smear positive TB cases

- to strengthen health education session for TB patients at the time of registration for treatment and during follow up visits for sputum microscopy
- to provide TB counseling to TB patients especially for treatment adherence
- to ensure every dose of medication is directly observed ie. to assign DOT provider for every TB patient put on treatment
- to intensify the follow-up sputum examination during and at the end of treatment
- to take accurate history taking for the most effective treatment.
- to give refresher training to DOT supervisors and DOT providers if required
- to consider HIV co- infection
- to use quarterly cohort review meeting for early identification of missed dose patients
- to closely monitor the performance of partners at all level and take timely action especially for partners treating TB/HIV

C. Cure Rate less than 50% and Case Detection Rate less than 40%

- to treat TB patients till cured with DOTS and raise the Cure rate first and then to raise the case detection rate according to suggestions A and B.

D. CDR more than 100% and Cure Rate less than 50%

- to assess laboratory quality assessment system is implementing or not
- to ensure that TB patients reside in the respective township are being treated
- to treat TB patients till cured with DOTS
- to do regular sputum follow-up examination during the treatment which is the responsibility of DOT providers and supervisors of TB patients
- to check the township actual population
- to evaluate the current situation of TB in terms of prevalence of sputum smear positive TB cases in that particular township and how much it deviates from the national figure (1 sputum positive TB cases per 1000 population)
- to conduct epidemiological surveillance

E. Cure Rate >85% with Case Detection Rate less than 40%

- to maintain CR and raise the CDR as suggestion A.

F. Sputum Positivity Rate less than 10%

- to ensure 3 sputum specimens are examined for all TB suspects
- to check the TB suspect definition is followed or not
- to check quality of laboratory performance
- to check quality of stains and microscopes using in that microscopy centre
- to improve the accessibility of TB suspects to sputum microscopy centers

G. Sputum Positivity Rate more than 10%

- to evaluate the prevalence of TB in that particular township
- to improve the accessibility of TB suspects to sputum microscopy centers

H. Sputum Conversion Rate less than 80-85% in new smear positive TB cases

- to explain all the staff involving in TB control about the importance of follow-up sputum examination in TB control

- to ensure sputum microscopy accuracy with quality assurance system
- to check that every dose of medication is directly observed
- to check categorization of TB patients based on proper history taking is correct or not
- to check correctness of TB-07, Block 5
- to provide qualified DOT to every patient
- to monitor the drug resistant TB situation

I. Death Rate more than 5% in new smear positive TB cases

- to identify TB suspect as early as possible and refer
- to advocate local GPs and encourage more prompt referral for diagnosis and treatment
- to ensure that every dose of medication is directly observed
- to consider HIV prevalence among TB patients
- to find out other causes of death other than TB

J. Treatment Failure Rate more than 5% in new smear positive TB cases

- to check categorization of TB patients based on proper history taking is correct or not
- to ensure the quality of anti-TB drugs, stored in appropriate condition and being used before their expiry date
- to ensure that every correct dose of medication is directly observed, especially in initial phase
- to consider level of primary drug resistance in the community

K. Defaulter Rate more than 10% in new smear positive TB cases

- to strengthen DOT by supervision and close monitoring
- to educate TB patients concerning TB disease, its treatment and follow-up
- to provide adherence counseling as necessary
- to instruct the DOT supervisors and providers how to take action for patient with missed dose
- to find the patients with missed dose within 1 week (not to miss more than 1-2 doses) and put under DOT again.

L. Transferred out Rate more than 5% in new smear positive TB cases

- to ensure defaulted TB patients are not counted as transferred out cases

- to ask for the treatment outcome of transferred out patient

M. Cure Rate less than 50% but Treatment Success Rate more than 70% in new smear positive cases

- to intensify follow-up sputum examination as 2nd , 5th and 6th month of treatment in new smear positive Category I TB patients
- to explain all the staff involving in TB control the crucial importance of follow-up sputum examination in TB control
- to make sure defaulted TB patients are not counted as completed TB patients and misuse of anti-TB drugs

N. Proportion of new smear positive TB patients out of all pulmonary TB cases is less than 55%

- to check direct sputum microscopy is used as a diagnostic method or not
- to check 3 sputum smear examinations are being done on all chest symptomatic
- to check quality assessment system of laboratory performance

10.9 Recommendations

1. To mobilize the resources for uninterrupted qualified drug supplies
2. To scale up the decentralization of the DOTS services to appropriate SHU/RHCs
3. To develop Advocacy, Communication and Social Mobilization (ACSM) strategy appropriate for the Myanmar community
4. To evaluate the activities which promote TB case finding especially in hard to reach area and plan for scale up
5. To evaluate the defaulter reduction actions and scale up in townships with high defaulter rate
6. To evaluate and scale up the prevention and control activities for TB/HIV co-infection
7. To review and scale up on Public-Private Mix and strengthen the public-public Mix
8. To review and revise the national guidelines according to new strategy
9. To cover private laboratories including which are using by PPM-DOTS under the external quality assurance system of NTP
10. To develop the computerized recording and reporting system at Central level and State/ Divisional level first and later up to district level
11. To add a simple recording and reporting system for the TB/HIV and MDR-TB management
12. To fill up the important vacancies (State TB Officer of Eastern Shan State and Kayah State, Consultant Microbiologist in Yangon and Mandalay)
13. To deploy the important posts which are not sanctioned in NTP: X-ray technicians in all State/Divisional TB centers, one pharmacist each for central, Upper and Lower Myanmar TB stores.
14. To initiate the adoption of International Standard of TB Care (ISTC) in Myanmar
15. To plan for the infection control policy and measures for any health facilities
16. To establish the coordination mechanism related to TB control at all levels

11. Conclusion

NTP, Myanmar covered all the townships since November, 2003. NTP achieved case detection rate 90% and cure rate 77% (treatment success rate 85%) reached the global TB control targets since 2006 and maintained. The achievement should be maintained by implementing innovative approaches and strategies according to the accessibility status of different location in the country. The States/Divisions, which have not reached the targets should improve the performance of townships with the appropriate strategies. In conclusion, improvement of coordination with the partners is also important to maintain the achievement.

NATIONAL TUBERCULOSIS PROGRAMME
Anti-TB drugs received, issued and balance, 2008

Annex-1

		4 FDC	2 FDC	ETB	Z 400	S 1 G	Syringes + Needles	D/W	R 150	Cat I Kit	Cat II Kit	Child HRZ	Child HR
		672"s	672"s	672"s	672"s	50"s	100"s	100"s	100"s	12	12	1000's	1000's
Opening Balance		2292	11601	2420	9663	1020	0	2186	0	1812	282	0	0
Received		24593	59580	3572	0	15340	4134	2000	16780	17715	0	4910	9832
Issued		20192	38386	4550	2735	11340	3154	2906	16780	13566	282	4250	8344
Closing Balance		6693	32795	1442	6928	5020	980	1280	0	5961	0	660	1488
Expired date	2009-11											660	1488
	2010-2				6928								
	2011-4	6693						1280					
	2011-5		32795			3620				5961			
	2011-7					1400							
	2012-5			1442									

4 FDC = 4 Fixed Dose Combination
2 FDC = 2 Fixed Dose Combination
ETB = Ethambutol
H = Isoniazid
S = Injection Streptomycin
D/W = Distilled Water

Annex-1

NATIONAL TUBERCULOSIS PROGRAMME
Upper Myanmar Drug Store Balance

	4 FDC	2 FDC	ETB	Z 400	S 1 G	Syringes + Needles	D/W	INH 300	R 150	Cat I Kit	Child HRZ	Child HR
Opening Balance	1923264	9895200	301728	2403072	60750	61600	60900	1095000	0	1476	0	0
Received	4452672	5624376	905856	0	182000	111800	170400	0	558000	2075	2088000	4217000
Issued	4981536	9351960	959024	1143072	194750	128600	183300	1030000	558000	2999	1381000	2625000
Closing Balance	1394400	6167616	248560	1260000	48000	44800	48000	65000	0	552	707000	1592000
Expired Date	2008-6							65000				
	2009-11										707000	1592000
	2010-2			1260000								
	2010-3									552		
	2010-5	784224										
	2010-7		798336									
	2011-1	610176										
	2011-3		5369280									
	2011-5				48000	44800						
	2012-3			145152								
	2012-7			93408								
	2013-3						48000					

Lower Myanmar Drug Store Balance

	4 FDC	2 FDC	ETB	Z 400	S 1 G	Syringes + Needles	D/W	INH 300	R 150	Cat I Kit	Cat II Kit	Child HRZ	Child HR
Opening Balance	1204896	5014464	125664	444192	27800	50500	49600	1764000	0	876	0	0	0
Received	8506176	20413344	2151744	1837920	385000	273600	358200	0	11200	11490	282	2150000	4115000
Issued	7673568	18641952	1693440	1600032	300700	211500	297000	1764000	11200	7612	282	1865000	3387000
Closing Balance	2037504	6785856	583968	682080	112100	112600	110800	0	0	4754	0	285000	728000
Expired Date	2009-11											285000	728000
	2010-2			682080									
	2010-3									4754			
	2010-5	2037504											
	2011-3		6785856										
	2011-4						110800						
	2011-5				112100	112600							
	2012-3			583968									

NATIONAL TUBERCULOSIS PROGRAMME

Laboratory supplies and equipment (2008)

Sr. No.	Items	Opening balance (31-12-07)	Received 2008	Issued 2008	Closing balance (31-12-08)
1	Fuhsin Basic(25 gm)	45	1000	1045	0
2	Phenol Crystals (500 gm)	26	1000	1026	0
3	Methylated Spirit (Cans)	0	100	100	0
4	Binocular Microscopes (3DF)	0	50	50	0
5	Binocular Microscopes (JICA)	5	10	3	12
6	Microscope Glass Slides 3600/unit	0	400	400	0
7	Dry cell	0	50	50	0
8	Inverter	0	50	50	
9	Xylene (1 Litre)	320	0	167	153
10	Objective lens	46	60	65	41
11	Methylene Blue (25 gm)	82	300	213	169
12	Sulphuric Acid (2.5L)	235	0	175	60
13	Sulphuric Acid (500 ml)	72	500	399	173
14	Sulphuric Acid (1L)	0	750	750	0
15	Sputum containers (bags of 1000)	0	3000	3000	0
16	Immersion Oil (1 liter)	166	0	93	73
17	Methanol (1L)	132	300	288	144
18	Glycerin	0	15	5	10
19	Phenol crystals (500gm)	0	1000	1000	0
20	Sodium hydroxide (500gm)	0	30	9	21
21	Auramine O	0	20	6	14
22	B.P Phenyl	0	580	580	0

NATIONAL TUBERCULOSIS PROGRAMME
Programme Staff distribution in State/Division

Sr. No.	State/Division	Total DOTS townships	DOTS townships		
			With M.O team leader	With HA team leader	With TB staff
1	Kachin State	18	2	3	0
2	Kayah State	7	1	1	0
3	Chin State	9	2	2	0
4	Sagaing Division	37	2	2	1
5	Magway Division	25	2	4	2
6	Mandalay Division	31	4	4	2
7	Shan (S) State	21	2	4	7
8	Shan (E) State	10	2	0	2
9	Shan (N) State	24	2	7	8
10	Kayin State	7	2	1	0
11	Tanintharyi Division	10	2	1	1
12	Bago (E) Division	14	2	4	0
13	Bago (W) Division	14	1	2	2
14	Mon State	10	2	5	1
15	Rakhine State	17	3	7	0
16	Yangon Division	45	4	1	20
17	Ayeyarwady Division	26	5	13	3
	Total	325	40	61	49

Out of (65) Districts (40) TB Teams are led by Medical Officers, (7) led by Health Assistant = (47) District TBC

Out of (260) Townships (325-65), (54) Township TB Teams are led by Health Assistant

No. of District TB Team Leader Doctor = 38 + 2 (Tarchileik, Maubin)

No. of District Team Leader HA = 7 (Pyinmana, NyaungU, Putao, Tharyarwady, Kawthaung, Sagaing, Mohnyin)

**NATIONAL TUBERCULOSIS PROGRAMME
CASE FINDING ACTIVITIES (2008)**

Block 1

Annex- 4

Tsp: reported	No. of Total tsp:	State/Division	Population	Estimated cases	PULMONARY TUBERCULOSIS													Total	Extra Pulmonary TB		Total	Other		Total		
					SMEAR POSITIVE										Total	Smear Negative										
					New Cases			NCDR	Old Cases																	
									Relapses		TAD		TAF													
									M	F	T	M	F	M												
13	18	Kachin State	1422973	1067	808	357	1165	109%	83	28	18	4	42	18	1358	810	539	1349	987	723	1710	40	14	2788	1683	4471
7	7	Kayah State	288961	217	109	43	152	70%	15	2	4	3	11	2	189	100	51	151	193	120	313	18	8	450	229	679
9	9	Chin State	499804	375	95	59	154	41%	16	5	2	1	5	3	186	184	135	319	368	300	668	26	20	696	523	1219
37	37	Sagaing Division	6324682	4744	1912	906	2818	59%	176	53	22	8	56	25	3158	1201	718	1919	1927	1504	3431	61	36	5355	3250	8605
25	25	Magway Division	4367232	3275	1413	823	2236	68%	121	48	26	9	35	14	2489	1430	1021	2451	1507	1229	2736	151	105	4683	3249	7932
31	31	Mandalay Division	6940848	5206	2442	1208	3650	70%	331	110	13	4	47	8	4163	2231	1197	3428	2542	1740	4282	258	103	7864	4370	12234
21	21	Shan State (South)	2255390	1692	549	224	773	46%	61	17	11	0	17	5	884	585	354	939	422	223	645	12	10	1657	833	2490
9	10	Shan State (East)	698131	524	355	200	555	106%	48	12	19	5	6	6	651	219	147	366	261	195	456	14	8	922	573	1495
19	24	Shan State (North)	2608600	1956	702	382	1084	55%	71	27	30	4	20	5	1241	771	426	1197	722	498	1220	27	16	2343	1358	3701
7	7	Kayin State	1806263	1355	731	364	1095	81%	51	24	6	2	5	4	1187	1314	962	2276	343	281	624	4	1	2454	1638	4092
10	10	Tanintharyi Division	1588192	1191	538	284	822	69%	34	20	9	4	15	12	916	1116	759	1875	1400	1130	2530	58	20	3170	2229	5399
14	14	Bago (East) Division	3193668	2395	1234	660	1894	79%	166	78	23	6	28	10	2205	1117	855	1972	547	449	996	20	10	3135	2068	5203
14	14	Bago (West) Division	2256848	1693	1137	578	1715	101%	87	35	10	3	30	5	1885	1526	1149	2675	283	268	551	9	2	3082	2040	5122
10	10	Mon State	2550004	1913	1224	576	1800	94%	113	58	24	4	26	17	2042	1955	1655	3610	785	562	1347	17	10	4144	2882	7026
17	17	Rakhine State	3289494	2467	1400	830	2230	90%	121	51	28	7	19	14	2470	857	789	1646	715	611	1326	18	13	3158	2315	5473
45	45	Yangon Division	5792701	9819	5878	2910	8788	90%	864	384	125	35	176	104	10476	5264	3238	8502	2435	2247	4682	528	246	15270	9164	24434
26	26	Ayeyarwaddy Division	7869019	5902	3052	1914	4966	84%	272	116	33	18	36	13	5454	2435	2013	4448	1548	1212	2760	123	79	7499	5365	12864
314	325	All States & Divisions	53752810	45789	23579	12318	35897	78%	2630	1068	403	117	574	265	40954	23115	16008	39123	16985	13292	30277	1384	701	68670	43769	112439
Other Units					3520	1831	5351		433	177	67	32	189	100	6349	3128	1783	4911	2337	1833	4170	570	300	10244	6056	16300
Union of Myanmar			53752810	45789	27099	14149	41248	90%	3063	1245	470	149	763	365	47303	26243	17791	44034	19322	15125	34447	1954	1001	78914	49825	128739

Reporting Efficiency Rate = **97%** (314/325) tsps

CDR = **90%** CR = **77%** TSR = **85 %**

TAD = Treatment after default

Report had not been received from (11) Townships

TAF = Treatment after failure

Kachin State (5) Tsps

1. N'ganyan 2. Hsawlaw 3. Naungmun 4. Khaunglanbu 5. Sumprabum

Shan (N) State (4) Tsps

1. Kongyan 2. Panwine 3. Mongmaw 4. Manphant 5. Narphant

Shan (E) State (1) Tsp.

1. Matman

NATIONAL TUBERCULOSIS PROGRAMME (Myanmar)

CASE FINDING ACTIVITIES (2008)

(Townships list)

Annex-4

Sr. No.	TOWNSHIP	Population	Estimated New S + patients	PULMONARY TUBERCULOSIS												Total	Extra Pulmonary Tuberculosis		Total	other		TOTAL				
				SMEAR POSITIVE								Total	Smear Negative		Total		M	F		M	F	TOTAL				
				New Cases			CDR	Previously treated cases																		
								Relapses		TAD													TAF			
				M	F	T	M	F	M	F	M		F	M									F	M	F	
KACHIN STATE																										
1	Bahmo	105965	79	75	30	105	132%	9	4	1	0	5	3	127	56	29	85	55	42	97	3	0	204	108	312	
2	Mansi	66471	50	32	17	49	98%	7	2	3	0	0	0	61	19	15	34	24	14	38	0	0	85	48	133	
3	Momauk	95123	71	13	6	19	27%	0	0	0	0	0	0	19	21	9	30	19	14	33	0	0	53	29	82	
4	Shwegu	83890	63	23	11	34	54%	3	1	0	0	0	0	38	15	8	23	8	6	14	0	1	49	27	76	
5	Mohynin	196814	148	86	60	146	99%	9	4	1	1	1	2	164	105	57	162	205	139	344	0	0	407	263	670	
6	Pharkant (Karmaing)	139603	105	45	20	65	62%	4	0	0	0	2	1	72	39	16	55	50	55	105	0	0	140	92	232	
7	Moekaung	133017	100	83	38	121	121%	3	3	2	0	7	0	136	107	95	202	149	121	270	5	1	356	258	614	
8	Tanai	36365	27	40	15	55	202%	1	1	2	1	0	0	60	28	14	42	11	8	19	1	0	83	39	122	
9	Myitkyina	260855	196	278	87	365	187%	25	8	7	1	21	10	437	260	168	428	189	140	329	24	10	804	424	1228	
10	Chipway	18011	14	6	4	10	74%	3	1	0	1	0	0	15	3	2	5	4	1	5	0	0	16	9	25	
11	Hsawlaw	16729	13	Nr.																						
12	N Jan Yan	5860	4	Nr.																						
13	Waingmaw	113941	85	80	41	121	142%	17	4	1	0	6	2	151	86	70	156	223	155	378	2	0	415	272	687	
14	Putao	84477	63	45	27	72	114%	2	0	1	0	0	0	75	70	54	124	46	27	73	5	2	169	110	279	
15	Khaunglanbu	19624	15	Nr.																						
16	Machanbaw	20422	15	2	1	3	20%	0	0	0	0	0	0	3	1	2	3	4	1	5	0	0	7	4	11	
17	Naungmun	11208	8	Nr.																						
18	Sumprabum	14598	11	Nr.																						
	Total	1422973	1067	808	357	1165	109%	83	28	18	4	42	18	1358	810	539	1349	987	723	1710	40	14	2788	1683	4471	

* Note* Nr. = Report had not been received

* Note : No reports had been received from N'ganyan, Hsawlaw, Naungmun, Khaunglanbu, Sumprabum townships

Sr. No.	TOWNSHIP	Population	Estimated New S + patients	PULMONARY TUBERCULOSIS												Total	Extra Pulmonary Tuberculosis		Total	other		TOTAL			
				SMEAR POSITIVE										Total	Smear Negative										
				New Cases			CDR	Previously treated cases																	
								Relapses		TAD		TAF													
								M	F	T	M	F	M												F

KAYAH STATE

1	Bawlake	9856	7	6	3	9	122%	1	0	0	0	0	0	10	3	3	6	2	1	3	0	0	12	7	19
2	Masai	5927	4	4	2	6	135%	0	0	0	0	0	0	6	1	0	1	6	2	8	0	0	11	4	15
3	Pasaung	29593	22	8	2	10	45%	2	0	2	2	5	0	21	9	4	13	2	2	4	3	0	31	10	41
4	Loikaw	109529	82	59	22	81	99%	4	1	2	1	4	2	95	65	33	98	133	90	223	13	7	280	156	436
5	Demawso	93603	70	23	10	33	47%	6	1	0	0	1	0	41	18	10	28	47	21	68	1	0	96	42	138
6	Phruhso	28000	21	6	1	7	33%	1	0	0	0	1	0	9	4	1	5	3	4	7	1	1	16	7	23
7	Shataw	12453	9	3	3	6	64%	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0	4	3	7
	Total	288961	217	109	43	152	70%	15	2	4	3	11	2	189	100	51	151	193	120	313	18	8	450	229	679

CHIN STATE

1	Falam	51310	38	6	4	10	26%	0	1	1	0	4	3	19	19	24	43	50	21	71	0	0	80	53	133
2	Hakha	56738	43	14	9	23	54%	1	0	0	0	0	0	24	39	7	46	97	78	175	9	2	160	96	256
3	Htantalan	69947	52	6	2	8	15%	1	0	0	0	0	0	9	19	12	31	29	16	45	0	0	55	30	85
4	Tiddim	89518	67	16	13	29	43%	3	1	0	0	0	0	33	30	28	58	39	30	69	0	0	88	72	160
5	Tunzan	30560	23	1	2	3	13%	2	0	0	1	0	0	6	5	7	12	44	47	91	0	0	52	57	109
6	Mindat	41230	31	21	9	30	97%	1	2	0	0	1	0	34	22	20	42	24	22	46	2	1	71	54	125
7	Kanpetlet	18933	14	3	2	5	35%	0	0	0	0	0	0	5	3	3	6	3	4	7	0	0	9	9	18
8	Matupi	55985	42	7	2	9	21%	0	0	1	0	0	0	10	46	33	79	72	73	145	15	17	141	125	266
9	Paletwa	85583	64	21	16	37	58%	8	1	0	0	0	0	46	1	1	2	10	9	19	0	0	40	27	67
	Total	499804	375	95	59	154	41%	16	5	2	1	5	3	186	184	135	319	368	300	668	26	20	696	523	1219

Sr. No.	TOWNSHIP	Population	Estimated New S + patients	PULMONARY TUBERCULOSIS												Total	Extra Pulmonary Tuberculosis		Total	other		TOTAL			
				SMEAR POSITIVE								Total	Smear Negative		M		F	M		F	M	F	TOTAL		
				New Cases			CDR	Previously treated cases																	
								Relapses		TAD														TAF	
M	F	T	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	TOTAL		
SAGAING DIVISION																									
1	Sagaing	396784	298	120	70	190	64%	9	3	1	0	0	1	204	54	21	75	75	64	139	8	2	267	161	428
2	Myaung	183455	138	47	18	65	47%	4	1	0	0	0	0	70	25	14	39	33	22	55	1	0	110	55	165
3	Myinmu	165436	124	64	44	108	87%	4	5	1	0	0	0	118	65	31	96	41	25	66	0	0	175	105	280
4	Shwebo	350281	263	83	38	121	46%	12	2	0	0	2	0	137	118	60	178	116	118	234	8	4	339	222	561
5	Kanbalu	310956	233	94	34	128	55%	7	3	2	1	2	1	144	50	20	70	75	61	136	6	0	236	120	356
6	Khin-U	195623	147	36	20	56	38%	2	2	0	0	0	1	61	16	7	23	46	36	82	4	1	104	67	171
7	Kyunhla	87970	66	28	17	45	68%	0	0	2	0	0	1	48	24	16	40	26	21	47	0	15	80	70	150
8	Depeyin	184169	138	44	11	55	40%	2	0	0	0	0	0	57	17	7	24	28	30	58	1	1	92	49	141
9	Taze	217395	163	45	19	64	39%	4	0	0	0	0	0	68	13	7	20	37	27	64	1	0	100	53	153
10	Wetlet	290631	218	83	36	119	55%	12	5	0	3	3	2	144	30	15	45	104	66	170	1	0	233	127	360
11	Ye-U	172016	129	40	11	51	40%	1	0	1	1	2	0	56	34	20	54	52	52	104	3	0	133	84	217
12	Monywa	411989	309	132	59	191	62%	19	3	4	1	7	2	227	68	40	108	95	45	140	8	8	333	158	491
13	Ayadaw	243784	183	43	35	78	43%	2	1	0	0	0	1	82	32	11	43	29	22	51	3	0	109	70	179
14	Budalin	190494	143	60	31	91	64%	1	1	0	0	3	2	98	44	19	63	105	74	179	1	0	214	127	341
15	ChaungU	140308	105	51	22	73	69%	8	2	0	0	0	0	83	45	24	69	25	25	50	0	0	129	73	202
16	Kani	169518	127	32	9	41	32%	10	1	0	0	0	0	52	15	7	22	25	18	43	0	1	82	36	118
17	Pale	183099	137	29	25	54	39%	3	0	0	0	0	1	58	19	7	26	55	44	99	2	0	108	77	185
18	Salingyi	178816	134	36	18	54	40%	0	2	0	0	2	0	58	15	10	25	24	14	38	0	0	77	44	121
19	Yinmabin	174024	131	40	11	51	39%	0	0	1	1	0	0	53	18	13	31	30	28	58	0	0	89	53	142
20	Katha	160671	121	72	30	102	85%	12	3	1	0	3	1	122	33	16	49	40	41	81	3	0	164	91	255
21	Banmauk	104439	78	16	6	22	28%	0	1	0	0	0	0	23	11	2	13	4	2	6	0	0	31	11	42
22	Htigyaik	123923	93	43	19	62	67%	4	2	0	0	2	1	71	20	3	23	25	16	41	1	0	95	41	136
23	Indaw	136367	102	37	18	55	54%	5	0	0	0	1	0	61	12	1	13	22	11	33	1	1	78	31	109
24	Kawlin	154833	116	46	14	60	52%	6	1	1	0	0	0	68	28	25	53	29	22	51	0	0	110	62	172
25	Pinlebu	134083	101	27	14	41	41%	2	0	0	0	3	0	46	13	10	23	29	13	42	0	0	74	37	111
26	Wuntho	82321	62	16	14	30	49%	1	0	0	0	1	1	33	5	4	9	6	4	10	1	1	30	24	54
27	Kalay	318461	239	159	58	217	91%	15	3	2	0	12	6	255	153	97	250	339	265	604	0	0	680	429	1109
28	Kalewa	72812	55	27	13	40	73%	4	0	0	0	1	0	45	10	8	18	16	12	28	0	0	58	33	91
29	Minkin	129112	97	31	23	54	56%	2	0	0	0	0	0	56	8	5	13	25	13	38	0	0	66	41	107
30	Tamu	96991	73	91	53	144	198%	12	6	0	1	1	1	165	97	98	195	258	225	483	3	1	462	385	847
31	Mawleik	61748	46	28	8	36	78%	2	0	1	0	0	0	39	6	7	13	6	6	12	0	0	43	21	64
32	Phaungbyin	122326	92	50	26	76	83%	1	2	0	0	1	0	80	7	6	13	39	24	63	1	0	99	58	157
33	Khamti	40834	31	59	28	87	284%	4	1	1	0	3	1	97	27	28	55	21	14	35	1	0	116	72	188
34	Homalin	187702	141	61	32	93	66%	4	0	2	0	3	0	102	46	40	86	35	33	68	1	0	152	105	257
35	Layshi	20336	15	3	4	7	46%	1	0	0	0	1	1	10	2	1	3	4	4	8	1	0	12	10	22
36	Lahel	54944	41	33	17	50	121%	1	2	0	0	3	1	57	10	8	18	6	3	9	1	1	54	32	86
37	Nanyun	76031	57	6	1	7	12%	0	1	2	0	0	0	10	11	10	21	2	4	6	0	0	21	16	37
	Total	6324682	4744	1912	906	2818	59%	176	53	22	8	56	25	3158	1201	718	1919	1927	1504	3431	61	36	5355	3250	8605

Sr. No.	TOWNSHIP	Population	Estimated New S + patients	PULMONARY TUBERCULOSIS												Total	Extra Pulmonary Tuberculosis		Total	other		TOTAL			
				SMEAR POSITIVE								Total	Smear Negative												
				New Cases			CDR	Previously treated cases																	
								Relapses		TAD					TAF										
								M	F	T	M				F										M

MAGWAY DIVISION

1	Magway	390218	293	201	122	323	110%	25	9	11	4	11	5	388	182	126	308	184	154	338	56	51	670	471	1141
2	Chauk	316012	237	92	60	152	64%	9	3	0	1	0	0	165	112	90	202	80	73	153	9	3	302	230	532
3	Taundwingyi	247606	186	86	36	122	66%	6	1	1	0	1	0	131	87	53	140	63	60	123	5	4	249	154	403
4	Myothit	169202	127	54	63	117	92%	3	2	0	0	0	0	122	44	33	77	21	22	43	3	3	125	123	248
5	Natmauk	240676	181	51	44	95	53%	3	2	0	0	0	0	100	22	17	39	10	23	33	4	1	90	87	177
6	Yenanchaung	170674	128	58	62	120	94%	9	1	3	0	3	2	138	64	46	110	54	46	100	9	8	200	165	365
7	Pakokku	310323	233	106	38	144	62%	9	9	2	0	2	0	166	216	141	357	78	50	128	34	19	447	257	704
8	Yesagyo	247759	186	34	19	53	29%	1	2	0	0	1	0	57	37	22	59	30	23	53	5	4	108	70	178
9	Pauk	162997	122	62	37	99	81%	3	0	0	0	0	0	102	12	5	17	114	74	188	1	1	192	117	309
10	Myaing	237206	178	74	52	126	71%	5	4	0	0	3	0	138	16	8	24	173	109	282	0	0	271	173	444
11	Seikphyu	129692	97	25	19	44	45%	0	1	0	0	1	0	46	12	26	38	22	17	39	1	0	61	63	124
12	Gantgaw	147182	110	39	26	65	59%	0	1	0	0	1	2	69	46	36	82	36	34	70	3	1	125	100	225
13	Saw	88465	66	10	12	22	33%	0	1	0	0	0	0	23	10	1	11	12	10	22	0	0	32	24	56
14	Htinlin	52666	39	13	3	16	41%	0	0	0	0	0	0	16	6	3	9	9	6	15	0	0	28	12	40
15	Minbu	178134	134	72	38	110	82%	9	3	0	1	4	1	128	78	40	118	166	157	323	0	0	329	240	569
16	Ngape	44956	34	16	8	24	71%	0	3	0	1	0	0	28	19	6	25	17	11	28	2	0	54	29	83
17	Pwintphyu	171155	128	22	13	35	27%	2	0	1	0	0	0	38	24	21	45	16	20	36	2	4	67	58	125
18	Saytoketaya	41700	31	15	9	24	77%	2	0	0	0	0	1	27	15	18	33	10	8	18	2	0	44	36	80
19	Salin	250530	188	77	43	120	64%	6	1	0	0	0	0	127	70	35	105	72	65	137	6	3	231	147	378
20	Thayet	107350	81	79	34	113	140%	7	0	3	1	3	2	129	66	54	120	18	25	43	0	0	176	116	292
21	Minhla	109030	82	32	16	48	59%	1	1	0	0	0	0	50	21	19	40	33	34	67	0	0	87	70	157
22	Kanma	112376	84	45	17	62	74%	2	1	0	0	0	0	65	48	50	98	60	42	102	1	0	156	110	266
23	Sinpaungwe	127399	96	24	8	32	33%	2	0	1	0	0	0	35	14	12	26	31	32	63	1	1	73	53	126
24	Mindone	59668	45	31	4	35	78%	9	2	1	0	0	0	47	109	85	194	111	61	172	0	0	261	152	413
25	Aunglan	254256	191	95	40	135	71%	8	1	3	1	5	1	154	100	74	174	87	73	160	7	2	305	192	497
Total		4367232	3275	1413	823	2236	68%	121	48	26	9	35	14	2489	1430	1021	2451	1507	1229	2736	151	105	4683	3249	7932

Sr. No.	TOWNSHIP	Population	Estimated New S + patients	PULMONARY TUBERCULOSIS												Total	Extra Pulmonary Tuberculosis		Total	other		TOTAL			
				SMEAR POSITIVE								Total	Smear Negative												
				New Cases			CDR	Previously treated cases																	
								Relapses		TAD					TAF										
				M	F	T		M	F	M	F		M	F	M		F								
MANDALAY DIVISION																									
1	Amarapura	170733	128	60	28	88	69%	14	1	0	1	1	0	105	47	20	67	54	35	89	8	3	184	88	272
2	Aungmyaytharzan	242709	182	157	62	219	120%	20	5	0	0	4	2	250	118	46	164	162	108	270	22	8	483	231	714
3	Chanayetharzan	224911	169	99	49	148	88%	16	4	1	1	2	0	172	115	38	153	115	82	197	22	8	370	182	552
4	Chanmyatharzi	168305	126	159	82	241	191%	26	8	0	1	4	0	280	153	82	235	111	89	200	16	10	469	272	741
5	Maharaungmyae	215454	162	126	62	188	116%	16	3	1	0	1	0	209	107	53	160	133	69	202	33	13	417	200	617
6	Pyigyitagon	142334	107	93	54	147	138%	8	5	0	1	5	1	167	93	48	141	97	52	149	15	8	311	169	480
7	Patheingyi	169141	127	98	36	134	106%	1	1	3	0	3	2	144	65	22	87	84	53	137	8	2	262	116	378
8	Meikhtilar	351821	264	38	23	61	23%	15	5	0	0	5	0	86	227	100	327	150	112	262	19	10	454	250	704
9	Mahlaing	196006	147	18	19	37	25%	8	2	0	0	0	0	47	25	13	38	56	39	95	13	2	120	75	195
10	Tharzi	211905	159	50	42	92	58%	7	4	0	0	0	0	103	29	25	54	95	66	161	7	1	188	138	326
11	Wundwin	298810	224	74	30	104	46%	12	8	0	0	0	0	124	20	12	32	35	26	61	0	0	141	76	217
12	Myingyan	306503	230	122	68	190	83%	17	6	0	0	0	0	213	95	72	167	145	104	249	4	3	383	253	636
13	Kyaukpadaung	296832	223	133	90	223	100%	13	10	1	0	0	0	247	45	42	87	57	40	97	5	3	254	185	439
14	Nahtogyi	228402	171	26	10	36	21%	5	0	0	0	1	0	42	17	11	28	16	11	27	5	2	70	34	104
15	Ngazun	137030	103	34	23	57	55%	4	4	0	0	0	0	65	17	5	22	40	20	60	0	1	95	53	148
16	Taungtha	245844	184	37	17	54	29%	8	2	0	0	0	0	64	67	51	118	36	25	61	0	0	148	95	243
17	NyaungU	266951	200	101	39	140	70%	10	2	0	0	7	2	161	141	107	248	116	83	199	7	3	382	236	618
18	Pyin Oo Lwin	156755	118	53	30	83	71%	7	2	0	0	0	0	92	51	13	64	136	89	225	0	0	247	134	381
19	Madayar	255375	192	96	36	132	69%	4	1	1	0	3	0	141	21	27	48	97	58	155	6	3	228	125	353
20	Mogok	189966	142	38	21	59	41%	11	3	0	0	0	0	73	84	34	118	22	19	41	9	5	164	82	246
21	Sintgu	137413	103	91	25	116	113%	30	3	1	0	0	0	150	82	27	109	45	23	68	16	2	265	80	345
22	Thabeikkyin	103079	77	51	29	80	103%	17	1	2	0	0	0	100	19	9	28	73	49	122	3	2	165	90	255
23	Yamethin	250348	188	75	30	105	56%	7	4	0	0	0	0	116	70	39	109	55	35	90	10	2	217	110	327
24	Lewei	314084	236	97	50	147	62%	8	3	0	0	0	0	158	34	28	62	35	26	61	2	2	176	109	285
25	Pyawbwe	347417	261	61	47	108	41%	12	4	0	0	0	0	124	40	27	67	49	40	89	0	0	162	118	280
26	Pyinmana	310649	233	157	63	220	94%	14	7	1	0	3	0	245	199	111	310	116	94	210	7	3	497	278	775
27	Tatkone	282735	212	52	24	76	36%	5	3	1	0	0	0	85	25	15	40	33	17	50	9	4	125	63	188
28	Kyaukse	221141	166	135	58	193	116%	10	3	0	0	4	1	211	154	72	226	175	144	319	8	0	486	278	764
29	Myittha	230248	173	50	27	77	45%	5	3	0	0	0	0	85	19	11	30	26	21	47	0	0	100	62	162
30	Sintgaing	122945	92	34	17	51	55%	1	1	1	0	2	0	56	45	32	77	157	105	262	2	0	242	155	397
31	TadaOo	145002	109	27	17	44	40%	0	2	0	0	2	0	48	7	5	12	21	6	27	2	3	59	33	92
	Total	6940848	5206	2442	1208	3650	70%	331	110	13	4	47	8	4163	2231	1197	3428	2542	1740	4282	258	103	7864	4370	12234

Sr. No.	TOWNSHIP	Population	Estimated New S + patients	PULMONARY TUBERCULOSIS												Total	Extra Pulmonary Tuberculosis		Total	other		TOTAL			
				SMEAR POSITIVE										Total	Smear Negative										
				New Cases			CDR	Previously treated cases																	
								Relapses		TAD		TAF													
				M	F	T		M	F	M	F	M	F												M

SHAN STATE (SOUTH)

1	Linkay	61590	46	19	9	28	61%	0	0	1	0	1	0	30	6	6	12	6	0	6	0	0	33	15	48
2	Maukmae	30016	23	14	5	19	84%	0	0	0	0	0	0	19	0	0	0	5	2	7	0	0	19	7	26
3	Monai	53389	40	8	9	17	42%	3	0	0	0	0	0	20	6	6	12	1	1	2	0	0	18	16	34
4	Mongpang	37017	28	0	0	0	0%	0	0	0	0	0	0	0	2	3	5	0	0	0	0	0	2	3	5
5	Loilem	149271	112	17	13	30	27%	1	2	1	0	0	0	34	15	5	20	21	12	33	0	1	55	33	88
6	Kunhein	73207	55	25	16	41	75%	2	1	0	0	0	1	45	19	22	41	16	9	25	0	0	62	49	111
7	Kyeethi	104484	78	14	3	17	22%	0	0	0	0	0	0	17	1	0	1	4	1	5	0	0	19	4	23
8	Laikha	65420	49	17	9	26	53%	3	2	0	0	0	0	31	7	5	12	9	7	16	0	0	36	23	59
9	Mongkaing	121307	91	19	6	25	27%	1	0	1	0	0	0	27	9	1	10	8	2	10	0	0	38	9	47
10	Mongshu	63654	48	23	11	34	71%	2	1	0	0	0	0	37	30	25	55	10	8	18	0	0	65	45	110
11	Namsan	91084	68	29	8	37	54%	5	3	1	0	0	0	46	50	30	80	36	21	57	3	1	124	63	187
12	Taunggyi	345516	259	105	51	156	60%	10	1	3	0	7	4	181	243	134	377	72	59	131	4	6	444	255	699
13	Hopone	100518	75	16	5	21	28%	0	0	1	0	0	0	22	7	6	13	17	7	24	1	1	42	19	61
14	Hpekon	77340	58	16	6	22	38%	1	1	0	0	0	0	24	43	22	65	99	38	137	0	0	159	67	226
15	Hsiseng	105851	79	23	13	36	45%	8	3	1	0	0	0	48	32	24	56	20	9	29	0	0	84	49	133
16	Kalaw	152891	115	65	17	82	72%	6	0	1	0	7	0	96	28	18	46	29	14	43	3	0	139	49	188
17	Yaksauk	131536	99	38	10	48	49%	9	2	1	0	0	0	60	32	14	46	12	5	17	0	0	92	31	123
18	Pindaya	78904	59	8	3	11	19%	0	0	0	0	0	0	11	11	0	11	10	2	12	0	1	29	6	35
19	Pinlaung	156736	118	33	11	44	37%	4	0	0	0	0	0	48	15	13	28	14	10	24	0	0	66	34	100
20	Nyaungshwe	181017	136	51	18	69	51%	6	1	0	0	1	0	77	25	18	43	23	9	32	1	0	107	46	153
21	Ywangan	74642	56	9	1	10	18%	0	0	0	0	1	0	11	4	2	6	10	7	17	0	0	24	10	34
	Total	2255390	1692	549	224	773	46%	61	17	11	0	17	5	884	585	354	939	422	223	645	12	10	1657	833	2490

SHAN (EAST) STATE

1	Kengtong	184521	138	100	46	146	105%	17	5	5	1	0	0	174	57	32	89	64	51	115	10	8	253	143	396
2	Mongkhat	28947	22	0	0	0	0%	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	4	0	4
3	Mongyan	92566	69	14	11	25	36%	1	1	0	1	0	0	28	6	6	12	19	23	42	0	0	40	42	82
4	Monghsat	76268	57	69	48	117	205%	6	2	1	2	4	6	138	14	14	28	37	19	56	0	0	131	91	222
5	Mongping	52647	39	28	11	39	99%	3	1	2	1	1	0	47	25	3	28	43	36	79	0	0	102	52	154
6	Mongton	38914	29	12	17	29	99%	5	0	8	0	0	0	42	19	15	34	4	4	8	0	0	48	36	84
7	Monpyak	39239	29	14	9	23	78%	7	1	1	0	0	0	32	10	3	13	14	7	21	2	0	48	20	68
8	Mongyaung	69131	52	24	13	37	71%	2	0	0	0	0	0	39	12	10	22	8	5	13	0	0	46	28	74
9	Tachileik	115898	87	94	45	139	160%	7	2	2	0	1	0	151	76	64	140	68	50	118	2	0	250	161	411
10	Matman	Nr.																							
	Total	698131	524	355	200	555	106%	48	12	19	5	6	6	651	219	147	366	261	195	456	14	8	922	573	1495

Sr. No.	TOWNSHIP	Population	Estimated New S + patients	PULMONARY TUBERCULOSIS												Total	Extra Pulmonary Tuberculosis		Total	other		TOTAL			
				SMEAR POSITIVE										Total	Smear Negative										
				New Cases			CDR	Previously treated cases																	
								Relapses		TAD		TAF													
								M	F	T	M	F	M												F

Nr. 1 tsp: Matman

SHAN STATE (NORTH)

1	Kunlon	149674	112	17	7	24	21%	0	2	2	0	0	0	28	25	12	37	5	4	9	1	2	50	27	77
2	Hopan	93507	70	59	26	85	121%	4	1	2	0	1	0	93	2	6	8	18	13	31	0	0	86	46	132
3	Kyaukme	211294	158	67	52	119	75%	5	2	3	0	1	2	132	78	48	126	81	57	138	0	3	235	164	399
4	Hsipaw	173369	130	71	38	109	84%	10	6	0	0	0	0	125	59	38	97	50	33	83	9	1	199	116	315
5	Mabein	35262	26	14	3	17	64%	1	0	0	0	0	0	18	7	1	8	7	0	7	0	0	29	4	33
6	Manton	36971	28	0	0	0	0%	0	1	0	0	0	0	1	2	2	4	0	1	1	0	0	2	4	6
7	Mongmeik	75244	56	35	16	51	90%	4	1	1	0	3	0	60	34	17	51	9	16	25	0	1	86	51	137
8	Namtu	152160	114	29	23	52	46%	8	0	2	1	0	0	63	25	7	32	28	18	46	1	1	93	50	143
9	Nyaungcho	137908	103	28	12	40	39%	3	0	0	0	1	1	45	31	19	50	32	21	53	0	1	95	54	149
10	Lashio	283882	213	151	66	217	102%	13	5	8	0	11	1	255	175	91	266	126	74	200	8	3	492	240	732
11	Namsam	82918	62	9	10	19	31%	0	1	1	0	0	0	21	23	14	37	26	22	48	0	0	59	47	106
12	Mongmaw	15859	12	Nr.																					
13	Theinni	77361	58	27	17	44	76%	4	1	2	0	1	0	52	20	13	33	24	17	41	0	0	78	48	126
14	Mongreh	74552	56	25	10	35	63%	1	0	0	0	0	0	36	7	3	10	61	40	101	0	1	94	54	148
15	Manphant	60344	45	Nr.																					
16	Pangyan	88582	66	9	2	11	17%	0	0	0	0	0	0	11	22	16	38	0	0	0	1	0	32	18	50
17	Narphant	38456	29	Nr.																					
18	Panwaing	15064	11	Nr.																					
19	Tanyan	201169	151	43	18	61	40%	6	3	6	1	1	0	78	55	38	93	46	35	81	1	1	158	96	254
20	Laukkai	74495	56	9	10	19	34%	2	0	0	2	0	0	23	31	18	49	34	28	62	4	1	80	59	139
21	Kongyan	48029	36	Nr.																					
22	Muse	151850	114	38	22	60	53%	1	2	1	0	0	0	64	100	46	146	63	29	92	0	0	203	99	302
23	Kutkai	201840	151	27	18	45	30%	3	1	0	0	0	0	49	47	19	66	89	61	150	2	1	168	100	268
24	Namkham	128810	97	44	32	76	79%	6	1	2	0	1	1	87	28	18	46	23	29	52	0	0	104	81	185
Total		2608600	1956	702	382	1084	55%	71	27	30	4	20	5	1241	771	426	1197	722	498	1220	27	16	2343	1358	3701

* Note* Nr. = Report had not been received

Nr. = 5 townships: : Manphant, Panwaing, Mongmaw, Kongyan, Narphant

Sr. No.	TOWNSHIP	Population	Estimated New S + patients	PULMONARY TUBERCULOSIS												Total	Extra Pulmonary Tuberculosis		Total	other		TOTAL			
				SMEAR POSITIVE										Total	Smear Negative										
				New Cases			CDR	Previously treated cases																	
								Relapses		TAD		TAF													
				M	F	T		M	F	M	F	M	F												M

KAYIN STATE

1	Kawkareik	325856	244	114	65	179	73%	12	12	1	1	1	0	206	100	73	173	46	27	73	3	0	277	178	455
2	Kyainnseikkyi	271730	204	40	17	57	28%	0	0	0	0	0	0	57	52	45	97	9	12	21	0	0	101	74	175
3	Myawaddy	61093	46	111	57	168	367%	5	1	2	0	2	2	180	122	72	194	40	39	79	1	0	283	171	454
4	Hpa-an	519421	390	322	139	461	118%	26	7	1	1	1	0	497	823	590	1413	156	124	280	0	0	1329	861	2190
5	Hlaingbwe	359399	270	82	60	142	53%	4	4	2	0	1	2	155	140	119	259	44	30	74	0	0	273	215	488
6	Papun(Kamamau	159892	120	46	19	65	54%	2	0	0	0	0	0	67	56	55	111	26	38	64	0	1	130	113	243
7	Thandaung	108872	82	16	7	23	28%	2	0	0	0	0	0	25	21	8	29	22	11	33	0	0	61	26	87
	Total	1806263	1355	731	364	1095	81%	51	24	6	2	5	4	1187	1314	962	2276	343	281	624	4	1	2454	1638	4092

TANINTHARYI DIVISION

1	Dawei	209834	157	89	54	143	91%	4	5	0	1	7	5	165	242	159	401	179	196	375	4	1	525	421	946
2	Launglon	207755	156	14	12	26	17%	1	0	1	0	0	0	28	3	2	5	7	12	19	0	0	26	26	52
3	Thayetchaung	167290	125	13	5	18	14%	0	0	0	0	0	0	18	8	8	16	10	6	16	0	0	31	19	50
4	Yebyu	141760	106	15	14	29	27%	1	2	1	0	0	0	33	31	12	43	6	3	9	0	0	54	31	85
5	Kawthaung	92051	69	86	49	135	196%	4	2	0	0	0	0	141	135	67	202	65	47	112	0	0	290	165	455
6	Bokepyin	64876	49	16	4	20	41%	4	1	1	0	0	0	26	21	19	40	50	35	85	2	0	94	59	153
7	Myeik	303227	227	208	93	301	132%	13	6	5	1	7	2	335	612	432	1044	937	725	1662	50	19	1832	1278	3110
8	Kyunsu	147703	111	7	4	11	10%	1	0	0	0	0	0	12	7	5	12	25	15	40	0	0	40	24	64
9	Tanintharyi	104856	79	33	21	54	69%	2	1	0	1	0	1	59	23	17	40	41	23	64	1	0	100	64	164
10	Palaw	148840	112	57	28	85	76%	4	3	1	1	1	4	99	34	38	72	80	68	148	1	0	178	142	320
	Total	1588192	1191	538	284	822	69%	34	20	9	4	15	12	916	1116	759	1875	1400	1130	2530	58	20	3170	2229	5399

Sr. No.	TOWNSHIP	Population	Estimated New S + patients	PULMONARY TUBERCULOSIS												Total	Extra Pulmonary Tuberculosis		Total	other		TOTAL			
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				New Cases			CDR	Previously treated cases																	
								Relapses		TAD		TAF													
								M	F	T	M	F	M												F

BAGO (EAST) DIVISION

1	Bago	495448	372	314	151	465	125%	48	31	15	5	7	2	573	228	178	406	153	116	269	10	5	775	488	1263
2	Daik-U	226180	170	86	48	134	79%	9	7	0	0	4	2	156	80	64	144	13	9	22	1	0	193	130	323
3	Kawa	252884	190	68	28	96	51%	9	4	4	1	1	3	118	44	26	70	21	22	43	0	2	147	86	233
4	Kyauktaga	260496	195	92	58	150	77%	16	7	1	0	1	0	175	105	96	201	15	24	39	0	0	230	185	415
5	Nyaunglaybin	258168	194	61	49	110	57%	7	3	0	0	2	1	123	64	36	100	29	22	51	2	1	165	112	277
6	Shwekyin	88625	66	33	20	53	80%	6	2	1	0	0	0	62	40	30	70	10	4	14	0	0	90	56	146
7	Thanutpin	191038	143	59	40	99	69%	3	2	0	0	0	0	104	84	52	136	31	20	51	0	0	177	114	291
8	Waw	232689	175	90	56	146	84%	9	5	2	0	7	0	169	67	72	139	20	23	43	0	0	195	156	351
9	Taunggoo	272797	205	96	42	138	67%	11	3	0	0	4	2	158	101	68	169	60	45	105	4	1	276	161	437
10	Kyaukkyi	122059	92	30	20	50	55%	3	0	0	0	0	0	53	34	30	64	30	33	63	0	0	97	83	180
11	Oktwin	168456	126	50	37	87	69%	12	4	0	0	0	0	103	39	36	75	37	28	65	0	0	138	105	243
12	Phyu	281944	211	137	56	193	91%	16	5	0	0	2	0	216	148	103	251	90	63	153	3	0	396	227	623
13	Htantabin	126527	95	40	22	62	65%	5	2	0	0	0	0	69	27	28	55	31	32	63	0	0	103	84	187
14	Yedashe	216357	162	78	33	111	68%	12	3	0	0	0	0	126	56	36	92	7	8	15	0	1	153	81	234
	Total	3193668	2395	1234	660	1894	79%	166	78	23	6	28	10	2205	1117	855	1972	547	449	996	20	10	3135	2068	5203

BAGO (WEST) DIVISION

1	Pyay	229831	172	189	99	288	167%	14	3	1	0	10	1	317	330	265	595	62	69	131	4	0	610	437	1047
2	Paukkhaung	139075	104	62	39	101	97%	2	4	0	0	0	1	108	78	69	147	24	23	47	0	0	166	136	302
3	Paungde	140498	105	70	26	96	91%	5	2	1	0	1	0	105	77	57	134	25	17	42	0	0	179	102	281
4	Padaung	206148	155	55	27	82	53%	6	0	0	0	0	0	88	98	63	161	11	13	24	0	0	170	103	273
5	Shwedaung	142659	107	55	33	88	82%	15	9	5	1	0	0	118	119	130	249	22	13	35	0	0	216	186	402
6	Thegon	130513	98	57	19	76	78%	2	1	0	0	2	1	82	190	82	272	34	29	63	0	0	285	132	417
7	Tharyarwady	172631	129	121	51	172	133%	7	0	0	0	9	0	188	111	81	192	21	21	42	1	0	270	153	423
8	Zegon	72253	54	58	38	96	177%	2	0	0	0	0	0	98	40	37	77	12	6	18	1	0	113	81	194
9	Minhla	170430	128	69	27	96	75%	8	3	1	1	2	1	112	45	24	69	12	12	24	1	2	138	70	208
10	Moenyo	141677	106	52	31	83	78%	4	3	2	1	2	1	96	32	23	55	4	4	8	0	0	96	63	159
11	Okkpo	134577	101	60	36	96	95%	2	0	0	0	0	0	98	58	32	90	3	9	12	0	0	123	77	200
12	Gyobingauk	135404	102	65	36	101	99%	5	3	0	0	0	0	109	136	100	236	15	18	33	1	0	222	157	379
13	Nattalin	219091	164	94	51	145	88%	2	3	0	0	3	0	153	97	73	170	22	14	36	1	0	219	141	360
14	Latpadan	222061	167	130	65	195	117%	13	4	0	0	1	0	213	115	113	228	16	20	36	0	0	275	202	477
	Total	2256848	1693	1137	578	1715	101%	87	35	10	3	30	5	1885	1526	1149	2675	283	268	551	9	2	3082	2040	5122

Sr. No.	TOWNSHIP	Population	Estimated New S + patients	PULMONARY TUBERCULOSIS												Total	Extra Pulmonary Tuberculosis		Total	other		TOTAL			
				SMEAR POSITIVE								Total	Smear Negative												
				New Cases			CDR	Previously treated cases																	
								Relapses		TAD					TAF										
				M	F	T		M	F	M	F	M	F	M	F										

MON STATE

1	Mawlamyine	461532	346	238	102	340	98%	42	19	13	1	2	0	417	488	363	851	122	94	216	10	4	915	583	1498
2	Chaungzon	220965	166	44	23	67	40%	2	3	0	0	1	0	73	118	101	219	23	13	36	1	1	189	141	330
3	Kyaikmaraw	291094	218	100	46	146	67%	8	1	0	0	1	1	157	233	184	417	99	80	179	0	0	441	312	753
4	Mudon	204928	154	113	53	166	108%	11	8	7	2	1	1	196	162	167	329	181	125	306	1	3	476	359	835
5	Thanbyuzayat	165795	124	95	39	134	108%	6	4	0	0	3	2	149	195	177	372	91	69	160	0	0	390	291	681
6	Ye	234811	176	105	54	159	90%	6	5	3	1	5	5	184	110	91	201	18	12	30	1	1	248	169	417
7	Thahton	352113	264	194	87	281	106%	15	7	1	0	8	5	317	84	60	144	59	31	90	2	0	363	190	553
8	Belin	231622	174	134	75	209	120%	5	3	0	0	2	1	220	149	137	286	22	29	51	2	1	314	246	560
9	Kyaikhto	151067	113	87	46	133	117%	8	1	0	0	1	1	144	56	56	112	26	18	44	0	0	178	122	300
10	Paung	236077	177	114	51	165	93%	10	7	0	0	2	1	185	360	319	679	144	91	235	0	0	630	469	1099
	Total	2550004	1913	1224	576	1800	94%	113	58	24	4	26	17	2042	1955	1655	3610	785	562	1347	17	10	4144	2882	7026

RAKHINE STATE

1	Kyaukphyu	201937	151	62	35	97	64%	5	1	9	2	2	1	117	60	64	124	21	25	46	1	1	160	129	289
2	Ann	122358	92	41	10	51	56%	2	0	0	0	0	0	53	39	24	63	77	80	157	1	0	160	114	274
3	Manaung	102539	77	22	22	44	57%	4	0	0	0	0	0	48	7	12	19	27	23	50	1	0	61	57	118
4	Yambwe	152199	114	28	28	56	49%	1	2	0	0	2	1	62	10	7	17	13	6	19	3	5	57	49	106
5	Maungdaw	450265	338	120	73	193	57%	12	3	2	1	1	4	216	190	263	453	117	87	204	0	0	442	431	873
6	Buthidaung	298394	224	183	139	322	144%	26	19	0	0	0	0	367	81	128	209	54	53	107	0	0	344	339	683
7	Yathedaung	173141	130	55	51	106	82%	3	2	1	1	0	0	113	25	11	36	7	6	13	1	0	92	71	163
8	Sittwe	282509	212	231	95	326	154%	19	4	6	2	6	3	366	102	71	173	144	114	258	6	4	514	293	807
9	Kyauktaw	248555	186	116	66	182	98%	8	6	3	0	0	0	199	54	28	82	28	30	58	1	0	210	130	340
10	Minbya	203590	153	87	61	148	97%	7	2	4	0	3	1	165	15	9	24	12	13	25	1	0	129	86	215
11	Myaukoo	233070	175	124	67	191	109%	11	5	0	0	1	0	208	90	48	138	70	57	127	0	0	296	177	473
12	Myebon	127437	96	40	26	66	69%	4	0	1	1	0	1	73	32	14	46	9	8	17	1	2	87	52	139
13	Pauktaw	167436	126	53	38	91	72%	3	0	1	0	2	3	100	14	18	32	4	6	10	0	0	77	65	142
14	Ponnagyun	137061	103	47	38	85	83%	1	3	0	0	1	0	90	33	25	58	8	16	24	0	0	90	82	172
15	Thandwe	157188	118	77	33	110	93%	5	3	1	0	1	0	120	36	13	49	32	22	54	1	0	153	71	224
16	Gwa	81768	61	43	11	54	88%	1	0	0	0	0	0	55	7	7	14	11	10	21	1	1	63	29	92
17	Taunggyup	150047	113	71	37	108	96%	9	1	0	0	0	0	118	62	47	109	81	55	136	0	0	223	140	363
	Total	3289494	2467	1400	830	2230	90%	121	51	28	7	19	14	2470	857	789	1646	715	611	1326	18	13	3158	2315	5473

Sr. No.	TOWNSHIP	Population	Estimated New S + patients	PULMONARY TUBERCULOSIS												Total	Extra Pulmonary Tuberculosis		Total	other		TOTAL			
				SMEAR POSITIVE										Total	Smear Negative										
				New Cases			CDR	Previously treated cases																	
								Relapses		TAD		TAF													
				M	F	T		M	F	M	F	M	F												M

YANGON DIVISION

	East District	0	0	1	2	3		2	0	0	0	0	0	5	1	2	3	0	2	2	1	0	5	6	11
1	Botataung	35427	60	38	17	55	92%	6	6	0	0	2	0	69	52	30	82	15	11	26	4	7	117	71	188
2	Dawbon	79664	135	105	40	145	107%	20	11	3	0	0	0	179	82	57	139	46	27	73	10	4	266	139	405
3	Dagon(N)	160416	272	178	94	272	100%	22	9	5	0	4	2	314	148	85	233	52	53	105	19	2	428	245	673
4	Dagon(S)	257487	436	432	185	617	141%	51	16	8	5	12	10	719	315	198	513	170	173	343	14	13	1002	600	1602
5	MingalarTN	122315	207	97	68	165	80%	24	10	2	1	6	4	212	188	112	300	36	46	82	16	5	369	246	615
6	Okkala(N)	264793	449	203	94	297	66%	36	19	2	2	16	8	380	322	180	502	127	131	258	40	13	746	447	1193
7	Okkala(S)	157025	266	139	67	206	77%	36	14	4	0	6	7	273	208	111	319	72	91	163	24	8	489	298	787
8	Thaketa	230966	391	304	133	437	112%	46	24	10	0	3	2	522	187	114	301	135	116	251	37	21	722	410	1132
9	Thingangyun	174277	295	165	61	226	77%	29	12	5	1	3	2	278	146	76	222	99	91	190	19	10	466	253	719
10	Yankin	92897	157	109	37	146	93%	15	10	0	0	0	0	171	112	74	186	21	21	42	9	3	266	145	411
11	Tarmwe	139676	237	83	36	119	50%	16	10	1	4	5	2	157	105	63	168	48	44	92	10	6	268	165	433
12	Pazundaung	44765	76	36	16	52	69%	3	3	2	1	1	0	62	56	27	83	15	12	27	7	2	120	61	181
13	Dagon(E)	85354	145	136	83	219	151%	24	17	0	2	4	1	267	75	58	133	27	38	65	9	8	275	207	482
14	Dagon Seikkan	73888	125	69	40	109	87%	9	6	2	1	0	0	127	67	53	120	40	37	77	7	3	194	140	334
	Total	1918950	3253	2095	973	3068	94%	339	167	44	17	62	38	3735	2064	1240	3304	903	893	1796	226	105	5733	3433	9166

West District

1	Kamayut	46091	78	45	27	72	92%	18	5	0	0	0	1	96	87	34	121	18	18	36	13	3	181	88	269
2	Kyauktada	37701	64	18	9	27	42%	5	3	2	0	1	0	38	26	12	38	13	10	23	5	1	70	35	105
3	Kyinmyindine	90941	154	79	46	125	81%	19	9	2	0	4	5	164	77	47	124	55	49	104	8	4	244	160	404
4	Sanchaung	74597	126	57	53	110	87%	14	6	0	1	2	1	134	79	47	126	24	34	58	3	3	179	145	324
5	Seikkan	1723	3	4	0	4	137%	3	0	0	0	0	0	7	1	3	4	0	0	0	0	0	8	3	11
6	Dagon	23690	40	17	14	31	77%	5	4	4	0	0	1	45	21	12	33	9	14	23	3	2	59	47	106
7	Pabedan	36644	62	17	11	28	45%	1	3	0	0	2	1	35	24	10	34	15	17	32	3	2	62	44	106
8	Bahan	70988	120	75	24	99	82%	13	6	1	0	0	2	121	80	33	113	25	26	51	5	4	199	95	294
9	Mayangon	143644	243	155	76	231	95%	34	12	4	0	9	2	292	146	78	224	78	80	158	12	8	438	256	694
10	Latha	27665	47	22	8	30	64%	2	1	0	0	3	1	37	12	7	19	0	6	6	0	1	39	24	63
11	Lanmadaw	40093	68	18	9	27	40%	7	0	3	0	0	0	37	22	8	30	13	14	27	4	2	67	33	100
12	Hlaing	122043	207	159	83	242	117%	20	11	5	1	9	6	294	120	78	198	79	62	141	6	10	398	251	649
13	Ahlone	47932	81	51	27	78	96%	10	5	2	1	5	0	101	57	26	83	31	21	52	13	3	169	83	252
	Total	763752	1295	717	387	1104	85%	151	65	23	3	35	20	1401	752	395	1147	360	351	711	75	43	2113	1264	3377

Sr. No.	TOWNSHIP	Population	Estimated New S + patients	PULMONARY TUBERCULOSIS													Total	Extra Pulmonary Tuberculosis		Total	other		TOTAL			
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				New Cases			CDR	Previously treated cases																		
								Relapses		TAD		TAF														
M	F	T	M	F	M	F	M	F	M	F	M	F														
South District																										
1	Seikkyi'KNT	31566	54	30	15	45	84%	5	2	2	1	1	1	57	27	13	40	10	12	22	2	1	77	45	122	
2	Dallah	147091	249	99	56	155	62%	14	4	2	2	3	5	185	143	86	229	96	74	170	41	14	398	241	639	
3	CoCogyun	970	2	0	0	0	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4	Kawhmu	147583	250	62	27	89	36%	7	3	0	0	0	0	99	65	46	111	12	15	27	1	3	147	94	241	
5	Kyauktan	153150	260	84	46	130	50%	5	2	2	2	2	1	144	85	63	148	27	24	51	3	1	208	139	347	
6	Kungyangone	113649	193	51	51	102	53%	7	3	0	0	0	0	112	35	27	62	19	15	34	0	0	112	96	208	
7	Kayan	165933	281	95	55	150	53%	10	7	0	1	1	1	170	43	26	69	30	24	54	4	0	183	114	297	
8	Twantay	255591	433	110	69	179	41%	3	4	4	0	1	1	192	106	62	168	50	36	86	8	7	282	179	461	
9	Thonegwa	168439	286	73	39	112	39%	8	3	1	0	1	0	125	52	40	92	25	19	44	9	5	169	106	275	
10	Thanlyin	169922	288	204	92	296	103%	22	6	12	2	6	3	347	144	89	233	45	46	91	14	9	447	247	694	
	Total	1353894	1015	808	450	1258	124%	81	34	23	8	15	12	1431	700	452	1152	314	265	579	82	40	2023	1261	3284	
North District																										
1	Mingalardon	211125	358	362	174	536	150%	50	21	11	1	18	8	645	226	145	371	135	85	220	29	10	831	444	1275	
2	Shwepyithar	222804	378	270	125	395	105%	37	13	0	0	4	2	451	185	113	298	130	107	237	18	4	644	364	1008	
3	Hlaingtharyar	321353	545	668	343	1011	186%	70	25	8	2	12	5	1133	562	399	961	209	159	368	33	11	1562	944	2506	
4	Insein	237667	403	390	192	582	144%	71	23	9	2	17	8	712	294	182	476	180	179	359	28	15	989	601	1590	
5	Taikkyi	261429	443	156	84	240	54%	13	8	0	0	2	3	266	153	106	259	42	40	82	10	6	376	247	623	
6	Htantabin	137950	234	66	33	99	42%	8	4	1	0	0	2	114	33	22	55	19	18	37	3	3	130	82	212	
7	Hmawbi	181087	307	164	74	238	78%	16	11	2	1	10	5	283	117	87	204	55	51	106	6	3	370	232	602	
8	Hlegu	182690	310	116	58	174	56%	25	9	2	1	1	0	212	105	74	179	64	79	143	6	3	319	224	543	
	U.T.I	0	0	56	13	69		1	3	1	0	0	0	74	53	7	60	11	8	19	6	0	128	31	159	
	Diagnostic center	0	0	10	4	14		2	1	1	0	0	1	19	20	16	36	13	12	25	6	3	52	37	89	
	Total	1756105	2977	2258	1100	3358	113%	293	118	35	7	64	34	3909	1748	1151	2899	858	738	1596	145	58	5401	3206	8607	
Yangon Division Total		5792701	9819	5878	2910	8788	90%	864	384	125	35	176	104	10476	5264	3238	8502	2435	2247	4682	528	246	15270	9164	24434	

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				New Cases			CDR	Previously treated cases																		
								Relapses		TAD		TAF														
								M	F	T	M	F	M													F
AYEYARWADDY DIVISION																										
1	Pathein	372500	279	336	180	516	185%	32	13	5	1	1	1	569	314	220	534	357	207	564	25	16	1070	638	1708	
2	Kangyidaunt	246886	185	23	16	39	21%	4	1	0	0	0	0	44	15	23	38	15	7	22	0	2	57	49	106	
3	Yekyi	285416	214	101	49	150	70%	15	3	0	0	0	0	168	113	64	177	68	55	123	1	1	298	172	470	
4	Kyaunggone	194892	146	66	55	121	83%	9	5	1	0	0	0	136	70	35	105	48	35	83	6	3	200	133	333	
5	Kyonpyaw	319460	240	92	50	142	59%	11	3	1	0	0	0	157	32	25	57	15	13	28	1	1	152	92	244	
6	Ngaputaw	354633	266	118	84	202	76%	13	5	4	5	0	0	229	66	45	111	44	38	82	5	7	250	184	434	
7	Thabaung	200656	150	60	43	103	68%	11	2	0	0	2	3	121	50	41	91	18	14	32	5	4	146	107	253	
8	Hinthada	490592	368	299	194	493	134%	12	4	0	0	0	0	509	225	233	458	71	66	137	0	0	607	497	1104	
9	Kyankin	141161	106	67	25	92	87%	6	2	0	0	0	0	100	55	28	83	29	17	46	3	1	160	73	233	
10	Myanaung	325882	244	91	59	150	61%	10	9	0	0	0	0	169	105	111	216	59	49	108	2	2	267	230	497	
11	Ingapu	328741	247	134	63	197	80%	12	6	0	0	0	1	216	182	198	380	98	83	181	1	1	427	352	779	
12	Zalun	267211	200	112	80	192	96%	5	5	3	2	0	0	207	76	87	163	31	37	68	0	2	227	213	440	
13	Laymyetna	157674	118	43	34	77	65%	4	0	1	0	2	0	84	27	27	54	23	34	57	1	0	101	95	196	
14	Myaungmya	425568	319	158	117	275	86%	10	10	2	3	2	0	302	128	121	249	110	92	202	11	5	421	348	769	
15	Laputta	375803	282	132	110	242	86%	19	10	0	0	0	0	271	108	102	210	48	34	82	9	4	316	260	576	
16	Mawgyun	351946	264	135	92	227	86%	4	3	1	0	0	1	236	65	51	116	39	34	73	6	7	250	188	438	
17	Wakema	384251	288	142	79	221	77%	3	4	4	0	9	3	244	81	52	133	45	36	81	5	2	289	176	465	
18	Eime	225653	169	67	46	113	67%	7	2	0	0	1	0	123	37	36	73	26	20	46	3	1	141	105	246	
19	Pyapon	264328	198	142	90	232	117%	3	3	2	1	5	1	247	127	81	208	71	72	143	1	1	351	249	600	
20	Bogalay	463584	348	180	122	302	87%	28	10	4	4	1	0	349	123	91	214	134	107	241	23	10	493	344	837	
21	Dedaye	262104	197	26	26	52	26%	2	1	2	0	1	0	58	23	12	35	10	13	23	1	3	65	55	120	
22	Kyaiklatt	229811	172	95	50	145	84%	8	3	0	0	0	0	156	76	41	117	12	14	26	2	1	193	109	302	
23	Maubin	397518	298	134	78	212	71%	15	6	3	2	12	3	253	81	50	131	82	60	142	9	3	336	202	538	
24	Nyaungdone	257668	193	73	36	109	56%	6	0	0	0	0	0	115	51	35	86	23	21	44	1	0	154	92	246	
25	Pantanaw	295003	221	93	62	155	70%	7	3	0	0	0	0	165	61	54	115	40	31	71	2	2	203	152	355	
26	Danuphyu	250078	188	133	74	207	110%	16	3	0	0	0	0	226	144	150	294	32	23	55	0	0	325	250	575	
	Total	7869019	5902	3052	1914	4966	84%	272	116	33	18	36	13	5454	2435	2013	4448	1548	1212	2760	123	79	7499	5365	12864	

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				New Cases			CDR	Previously treated cases																	
								Relapses		TAD		TAF													
								M	F	T	M	F	M												F

OTHER REPORTING UNITS

1	Aung San TB Hospital	53	20	73		17	9	9	5	7	9	129	35	17	52	10	5	15	90	57	221	122	343
2	Patheingyi TB Hospital	17	5	22		27	11	6	1	5	5	77	17	13	30	6	1	7	53	22	131	58	189
3	East Yangon General Hospital	7	4	11		2	2	1	0	2	1	19	31	10	41	110	113	223	3	0	156	130	286
4	Mingalardon Hospital	69	33	102		9	3	0	0	5	1	120	356	111	467	66	36	102	105	32	610	216	826
5	Wabargi Specialist Hospital	124	31	155		20	7	8	3	3	1	197	240	130	370	299	157	456	90	69	784	398	1182
6	No.1MBH (PyinOolwin)	99	17	116		42	4	0	0	0	0	162	96	11	107	2	2	4	0	0	239	34	273
7	1000 beded Hospital (Nay Pyi Taw)	13	8	21		1	1	1	1	1	1	27	57	24	81	53	50	103	0	0	126	85	211
8	AZG (Ygn)	64	46	110		28	12	2	0	13	7	172	116	115	231	101	117	218	132	71	456	368	824
9	AZG (Kachin)	179	75	254		28	10	2	1	19	6	320	156	107	263	84	60	144	31	9	499	268	767
10	PSI	2640	1465	4105		228	100	21	15	102	54	4625	1818	1126	2944	1445	1186	2631	45	23	6299	3969	10268
11	AZG (Shan-North)	187	98	285		18	11	16	3	28	13	374	52	37	89	35	24	59	11	12	347	198	545
12	AZG (Rakhine)	7	2	9		1	0	0	0	0	0	10	7	4	11	12	12	24	1	0	28	18	46
13	Thingangyun Sanpya Hospital	4	5	9		2	1	0	0	0	0	12	20	12	32	3	5	8	1	0	30	23	53
14	Medecins du monde	34	9	43		4	0	1	0	3	2	53	53	25	78	94	42	136	0	1	189	79	268
15	New Yangon General Hospital	20	12	32		4	5	0	3	0	0	44	34	23	57	14	20	34	5	2	77	65	142
16	West Yangon General Hospital	3	1	4		2	1	0	0	1	0	8	40	18	58	3	3	6	3	2	52	25	77
Total		3520	1831	5351		433	177	67	32	189	100	6349	3128	1783	4911	2337	1833	4170	570	300	10244	6056	16300

NATIONAL TUBERCULOSIS PROGRAMME
AGE AND SEX DISTRIBUTION OF NEW SMEAR POSITIVE TB PATIENTS (2008)

Block 2

Annex- 5

Sr.No	State/ Division	AGE GROUPS (YEAR)														TOTAL		
		0-14		15-24		25 - 34		35 - 44		45 - 54		55 - 64		≥ 65				
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	T
1	Kachin State	5	12	123	87	230	80	202	76	139	61	77	23	32	18	808	357	1165
2	Kayah State	6	4	12	6	27	14	22	6	22	11	12	2	8	0	109	43	152
3	Chin State	1	1	6	11	16	13	29	16	16	10	19	5	8	3	95	59	154
4	Sagaing Division	10	15	189	136	397	176	446	178	367	149	268	148	235	104	1912	906	2818
5	Magway Division	5	9	146	96	296	156	303	164	281	149	212	147	170	102	1413	823	2236
6	Mandalay Division	12	13	385	230	635	326	592	257	392	159	268	147	158	76	2442	1208	3650
7	Shan State (South)	5	10	83	44	122	54	127	51	123	32	64	25	25	8	549	224	773
8	Shan State (East)	1	10	40	45	87	47	91	42	78	35	39	12	19	9	355	200	555
9	Shan State (North)	5	13	97	89	173	98	170	71	133	53	76	32	48	26	702	382	1084
10	Kayin State	0	7	70	51	130	71	152	75	161	83	136	43	82	34	731	364	1095
11	Tanintharyi Division	4	10	68	44	120	62	115	47	109	51	77	36	45	34	538	284	822
12	Bago (East) Division	2	3	146	126	257	161	315	132	247	122	167	70	100	46	1234	660	1894
13	Bago (West) Division	0	3	116	74	204	127	267	109	238	125	169	79	143	61	1137	578	1715
14	Mon State	5	10	118	68	257	144	280	133	273	102	146	74	145	45	1224	576	1800
15	Rakhine State	10	6	162	109	212	176	324	174	335	174	219	121	138	70	1400	830	2230
16	Yangon Division	22	27	876	690	1587	812	1403	541	1099	401	554	272	337	167	5878	2910	8788
17	Ayeyarwaddy Division	6	8	294	248	577	433	655	416	728	380	467	243	325	186	3052	1914	4966
All States Divisions total		99	161	2931	2154	5327	2950	5493	2488	4741	2097	2970	1479	2018	989	23579	12318	35897
Other Units		19	19	482	375	982	526	902	367	580	262	339	168	216	114	3520	1831	5351
Union of Myanmar		118	180	3413	2529	6309	3476	6395	2855	5321	2359	3309	1647	2234	1103	27099	14149	41248

Annexe-6

NATIONAL TUBERCULOSIS PROGRAMME
AGE DISTRIBUTION OF PRIMARY COMPLEX, HILAR LYMPHADENOPATHY AND TB MEMINGITIS PATIENTS

Sr.No	State/Division	PC and TBM cases by age group											Total
		PC			Total	Hilar Lymphadenopathy			Total	TBM			
		0-4	<15	≥15		0-4	5-14	≥15		0-4	<15	≥15	
1	Kachin State	2	261	41	304	335	523	24	882	1	4	5	10
2	Kayah State	42	244	0	286	1	1	2	4	0	6	0	6
3	Chin State	73	469	4	546	1	5	3	9	0	2	5	7
4	Sagaing Division	43	2518	84	2645	42	267	4	313	1	9	4	14
5	Magway Division	267	1338	75	1680	86	263	53	402	5	7	9	21
6	Mandalay Division	284	2773	50	3107	27	42	14	83	3	24	10	37
7	Shan State (South)	94	419	13	526	21	60	7	88	2	2	0	4
8	Shan State (East)	57	248	32	337	37	48	20	105	1	4	2	7
9	Shan State (North)	52	468	112	632	116	130	15	261	1	15	4	20
10	Kayin State	94	765	80	939	12	10	3	25	1	3	9	13
11	Tanintharyi Division	433	1679	9	2121	0	0	0	0	1	7	7	15
12	Bago (East) Division	166	561	7	734	14	32	42	88	7	11	1	19
13	Bago (West) Division	283	800	23	1106	0	2	25	27	1	9	5	15
14	Mon State	233	1347	12	1592	53	112	3	168	0	3	1	4
15	Rakhine State	53	349	33	435	137	408	24	569	6	11	10	27
16	Yangon Division	697	2358	184	3239	158	207	108	473	26	38	61	125
17	Ayeyarwaddy Division	75	873	12	960	332	751	16	1099	6	24	14	44
All States & Divisions total		2948	17470	771	21189	1372	2861	363	4596	62	179	147	388
Other Units		163	2558	128	2849	15	17	9	41	2	15	134	151
Union of Myanmar		3111	20028	899	24038	1387	2878	372	4637	64	194	281	539

NATIONAL TUBERCULOSIS PROGRAMME
NOTIFIED TB PATIENTS ACCORDING TO CATEGORY OF REGIMENS (2008)

BLOCK 3

Annex- 7

Sr.No	State/ Division	Category I				Category II					Category III			TOTAL
		Sputum Smear Positive	Sputum Smear Negative	EP Seriously ill	Total	Relapse	Treat- ment after Default	Treat- ment after Failure	Others	Total	P	EP	Total	
1	Kachin State	1227	936	193	2356	116	22	60	77	275	509	1540	2049	4680
2	Kayah State	162	122	25	309	18	8	15	25	66	46	294	340	715
3	Chin State	155	205	105	465	21	4	8	19	52	138	572	710	1227
4	Sagaing Division	2883	1495	368	4746	239	34	80	89	442	539	3232	3771	8959
5	Magway Division	2279	1442	347	4068	177	38	47	263	525	1011	2570	3581	8174
6	Mandalay Division	3729	2873	901	7503	468	17	60	375	920	701	3475	4176	12599
7	Shan State (South)	638	337	92	1067	66	7	20	18	111	299	483	782	1960
8	Shan State (East)	564	148	45	757	65	26	4	35	130	336	428	764	1651
9	Shan State (North)	1099	996	175	2270	102	33	24	51	210	252	1040	1292	3772
10	Kayin State	1132	834	38	2004	77	9	9	10	105	1509	594	2103	4212
11	Tanintharyi Division	841	1485	187	2513	60	13	26	78	177	416	2385	2801	5491
12	Bago (East) Division	1947	1008	271	3226	265	31	36	31	363	1056	815	1871	5460
13	Bago (West) Division	1782	1177	95	3054	142	16	35	16	209	1585	507	2092	5355
14	Mon State	1839	1313	108	3260	184	29	43	30	286	2354	1281	3635	7181
15	Rakhine State	2245	1044	176	3465	176	33	39	34	282	584	1197	1781	5528
16	Yangon Division	8900	6202	1348	16450	1268	162	285	800	2515	2483	3435	5918	24883
17	Ayeyarwaddy Division	5035	2725	619	8379	398	52	53	209	712	1815	2217	4032	13123
All States & Divisions total		36457	24342	5093	65892	3842	534	844	2160	7380	15633	26065	41698	114970
Other Units		5382	3383	1271	10036	667	99	296	794	1856	1673	2832	4505	16397
Union of Myanmar		41839	27725	6364	75928	4509	633	1140	2954	9236	17306	28897	46203	131367

58%

7%

35%

**NATIONAL TUBERCULOSIS PROGRAMME
LABORATORY PERFORMANCE (2008)**

Block 4

Annex- 8

Sr. No.	State/ Division	A Number of suspects(Dx) examined by microscopy for case finding		B Number of smear positive patients detected out of suspects (Dx)			C Number of patients examined by microscopy for follow-up		D Number of smear positive out of follow-up patients		TB suspects per 100,000
		No. of Pts	No. of slides	No. of Pts	positivity rate	No. of slides	No. of Pts	No. of slides	No. of Pts	No. of slides	
1	Kachin State	6714	19293	1257	19%	3580	6150	12370	790	1769	472
2	Kayah State	3052	8723	180	6%	472	725	1455	62	97	1056
3	Chin State	1101	3264	144	13%	401	806	1596	65	145	220
4	Sagaing Division	23556	70008	2906	12%	7681	12437	23664	776	1494	372
5	Magway Division	16435	46544	2600	16%	6591	10367	20973	523	917	376
6	Mandalay Division	18806	53848	3733	20%	10233	19673	40449	840	1728	271
7	Shan State (South)	6573	16798	861	13%	1714	3197	5724	185	284	291
8	Shan State (East)	2502	7128	536	21%	1389	1868	3544	110	213	358
9	Shan State (North)	5025	13718	1158	23%	2952	4241	8036	301	545	193
10	Kayin State	6555	18977	1211	18%	2812	5664	11077	178	326	363
11	Tanintharyi Division	4946	14773	902	18%	2630	5001	10166	217	412	311
12	Bago (East) Division	9401	27700	2257	24%	6392	9665	18866	247	488	294
13	Bago (West) Division	8001	23246	1972	25%	5686	9219	18460	403	799	355
14	Mon State	14479	41911	2038	14%	4929	10768	20843	317	576	568
15	Rakhine State	10696	28836	2373	22%	5646	8872	16795	506	891	325
16	Yangon Division	39354	113184	10923	28%	28261	49307	99560	2826	5216	577
17	Ayeyarwaddy Division	23513	64929	5492	23%	14254	23635	46576	773	1511	299
All States & Divisions total		200709	572880	40543	20%	105623	181595	360154	9119	17411	366
Other Units		38692	87235	7335	19%	16185	23426	43408	2494	4591	
Union of Myanmar		239401	660115	47878	20%	121808	205021	403562	11613	22002	437

NATIONAL TUBERCULOSIS PROGRAMME
SPUTUM CONVERSION OF NEW SMEAR POSITIVE PULMONARY TB PATIENTS (2008)

Block- 5

Annex- 9

Sr.No.	State/ Division	Registered new smear (+) TB patients	Smear not done at eighter 2 or 3 months	Sputum conversion at				Remaining positive at 3 month	TOTAL 2+3+4+5	Sputum conversion rate
				2 month		3 month				
				No	%	No	%			
1	Kachin State	1165	145	866	74%	131	11%	23	1165	86%
2	Kayah State	152	15	113	74%	18	12%	6	152	86%
3	Chin State	154	13	126	82%	8	5%	7	154	87%
4	Sagaing Division	2818	253	2268	80%	205	7%	92	2818	88%
5	Magway Division	2236	222	1832	82%	121	5%	61	2236	87%
6	Mandalay Division	3650	293	2991	82%	265	7%	101	3650	89%
7	Shan State (South)	773	80	619	80%	56	7%	18	773	87%
8	Shan State (East)	555	65	410	74%	58	10%	22	555	84%
9	Shan State (North)	1084	187	798	74%	65	6%	34	1084	80%
10	Kayin State	1095	129	858	78%	94	9%	14	1095	87%
11	Tanintharyi Division	822	126	622	76%	51	6%	23	822	82%
12	Bago (East) Division	1894	131	1715	91%	37	2%	11	1894	93%
13	Bago (West) Division	1715	147	1408	82%	122	7%	38	1715	89%
14	Mon State	1800	157	1463	81%	148	8%	32	1800	90%
15	Rakhine State	2230	216	1807	81%	163	7%	44	2230	88%
16	Yangon Division	8788	592	7405	84%	616	7%	175	8788	91%
17	Ayeyarwaddy Division	4966	326	4236	85%	340	7%	64	4966	92%
All States & Divisions total		35897	3097	29537	82%	2498	7%	765	35897	89%
Other Units		5351	668	3914	73%	487	9%	282	5351	82%
Union of Myanmar		41248	3765	33451	81%	2985	7%	1047	41248	88%

NATIONAL TUBERCULOSIS PROGRAMME
TREATMENT OUTCOMES OF NEW SMEAR POSITIVE TB PATIENTS (2007 COHORT)

Annex-10

Sr.No	State/ Division	TOTAL	NEW SMEAR POSITIVE TB PATIENTS													Total
			Cured		Completed		TSR	Died		Failure		Defaulted		Transfer		
			No.	CR	No.	Rate		No.	Rate	No.	Rate	No.	Rate	No.	Rate	
1	Kachin State	1367	911	67%	140	10%	77%	72	5%	44	3%	163	12%	37	3%	1367
2	Kayah State	130	86	66%	16	12%	78%	7	5%	5	4%	7	5%	9	7%	130
3	Chin State	151	109	72%	22	15%	87%	10	7%	2	1%	7	5%	1	1%	151
4	Sagaing Division	3665	2836	77%	301	8%	86%	237	6%	97	3%	147	4%	47	1%	3665
5	Magway Division	2230	1722	77%	244	11%	88%	122	5%	32	1%	81	4%	29	1%	2230
6	Mandalay Division	3872	2990	77%	357	9%	86%	259	7%	99	3%	90	2%	77	2%	3872
7	Shan State (South)	805	595	74%	57	7%	81%	62	8%	26	3%	52	6%	13	2%	805
8	Shan State (East)	572	366	64%	118	21%	85%	17	3%	12	2%	50	9%	9	2%	572
9	Shan State (North)	952	649	68%	134	14%	82%	39	4%	13	1%	89	9%	28	3%	952
10	Kayin State	1012	786	78%	85	8%	86%	20	2%	9	1%	91	9%	21	2%	1012
11	Tanintharyi Division	842	602	71%	41	5%	76%	35	4%	24	3%	78	9%	62	7%	842
12	Bago (East) Division	1992	1583	79%	144	7%	87%	121	6%	28	1%	86	4%	30	2%	1992
13	Bago (West) Division	1643	1299	79%	102	6%	85%	130	8%	22	1%	62	4%	28	2%	1643
14	Mon State	1660	1317	79%	121	7%	87%	86	5%	34	2%	59	4%	43	3%	1660
15	Rakhine State	1847	1425	77%	197	11%	88%	68	4%	45	2%	104	6%	8	0%	1847
16	Yangon Division	9164	7460	81%	490	5%	87%	429	5%	281	3%	357	4%	147	2%	9164
17	Ayeyarwaddy Division	5327	4422	83%	359	7%	90%	258	5%	54	1%	202	4%	32	1%	5327
States & Divisions total		37231	29158	78%	2928	8%	86%	1972	5%	827	2%	1725	5%	621	2%	37231
NS(+) TB patients, Unknown HIV status (NTP)		36509	28761	79%	2855	8%	87%	1782	5%	817	2%	1689	5%	605	2%	36509
Other Unit		5542	3727	67%	578	10%	78%	367	7%	348	6%	379	7%	143	3%	5542
NS(+) TB patients, Unknown HIV status (Other units)		5144	3502	68%	549	11%	79%	274	5%	328	6%	363	7%	128	2%	5144
Union of Myanmar		42773	32885	77%	3506	8%	85%	2339	5%	1175	3%	2104	5%	764	2%	42773
NS(+) TB patients, unknown HIV status (Union)		41653	32263	77%	3404	8%	86%	2056	5%	1145	3%	2052	5%	733	2%	41653

TREATMENT OUTCOME OF TB/HIV PATIENTS IN 2008 (2007 COHORT)

Sr.No	Reporting units	TOTAL	NEW SMEAR POSITIVE TB PATIENTS (KNOWN HIV POSITIVE)													Total
			Cured		Completed		TSR %	Died		Failure		Defaulted		Transfer		
			No.	CR	No.	Rate		No.	Rate	No.	Rate	No.	Rate	No.	Rate	
1	NTP	722	397	55%	73	10%	65%	190	26%	10	1%	36	5%	16	2%	722
2	Other Units	398	225	57%	29	7%	64%	93	23%	20	5%	16	4%	15	4%	398
Total		1120	622	56%	102	9%	65%	283	25%	30	3%	52	5%	31	3%	1120

NATIONAL TUBERCULOSIS PROGRAMME
TREATMENT OUTCOMES OF NEW SMEAR POSITIVE TB PATIENTS (2007 COHORT)

KACHIN STATE

(Townships list) Annex- 10

Sr. No.	Townships	Reg. Pts.	Cured		Completed		TSR	Died		Failure		Defaulted		Transferred out		Total eva. Pts.
			No	CR	No	Rate		No	Rate	No	Rate	No	Rate	No	Rate	
1	Bahmo	103	86	83%	0	0%	83%	5	5%	6	6%	4	4%	2	2%	103
2	Mansi	49	32	65%	6	12%	78%	2	4%	1	2%	8	16%	0	0%	49
3	Moemauk	27	24	89%	0	0%	89%	1	4%	1	4%	1	4%	0	0%	27
4	Shwegu	43	41	95%	0	0%	95%	2	5%	0	0%	0	0%	0	0%	43
5	Moenyin	111	69	62%	10	9%	71%	10	9%	3	3%	13	12%	6	5%	111
6	Pharkant (Karmaing)	30	16	53%	3	10%	63%	0	0%	2	7%	8	27%	1	3%	30
7	Moekaung	168	95	57%	38	23%	79%	2	1%	4	2%	24	14%	5	3%	168
8	Tanai	53	40	75%	3	6%	81%	1	2%	1	2%	8	15%	0	0%	53
9	Myitkyina	388	271	70%	18	5%	74%	20	5%	18	5%	43	11%	18	5%	388
10	Chipway	0	0	0%	0	0%	0%	0	0%	0	0%	0	0%	0	0%	0
11	Hsawlaw	Nr.														
12	N Jan Yan	Nr.														
13	Waingmaw	329	187	57%	62	19%	76%	23	7%	8	2%	46	14%	3	1%	329
14	Putao	63	47	75%	0	0%	75%	6	10%	0	0%	8	13%	2	3%	63
15	Khaunglanbu	Nr.														
16	Machanbaw	3	3	100%	0	0%	100%	0	0%	0	0%	0	0%	0	0%	3
17	Naungmun	Nr.														
18	Sumprabum	Nr.														
	Total	1367	911	67%	140	10%	77%	72	5%	44	3%	163	12%	37	3%	1367

KAYAH STATE

1	Bawlake	18	12	67%	3	17%	83%	0	0%	1	6%	2	11%	0	0%	18
2	Mansi	7	4	57%	0	0%	57%	0	0%	0	0%	2	29%	1	14%	7
3	Pasaung	3	0	0%	2	67%	67%	1	33%	0	0%	0	0%	0	0%	3
4	Loikaw	62	40	65%	6	10%	74%	5	8%	2	3%	2	3%	7	11%	62
5	Demawso	27	20	74%	5	19%	93%	1	4%	0	0%	0	0%	1	4%	27
6	Phruhso	6	5	83%	0	0%	83%	0	0%	1	17%	0	0%	0	0%	6
7	Shataw	7	5	71%	0	0%	71%	0	0%	1	14%	1	14%	0	0%	7
	Total	130	86	66%	16	12%	78%	7	5%	5	4%	7	5%	9	7%	130

CHIN STATE

1	Falam	23	12	52%	7	30%	83%	2	9%	1	4%	1	4%	0	0%	23
2	Hakha	19	18	95%	0	0%	95%	1	5%	0	0%	0	0%	0	0%	19
3	Htantalan	9	7	78%	2	22%	100%	0	0%	0	0%	0	0%	0	0%	9
4	Tiddim	16	15	94%	1	6%	100%	0	0%	0	0%	0	0%	0	0%	16
5	Tunzan	12	10	83%	0	0%	83%	2	17%	0	0%	0	0%	0	0%	12
6	Mindat	14	7	50%	5	36%	86%	2	14%	0	0%	0	0%	0	0%	14
7	Kanpetlet	1	0	0%	1	100%	100%	0	0%	0	0%	0	0%	0	0%	1
8	Matupi	15	6	40%	5	33%	73%	1	7%	0	0%	3	20%	0	0%	15
9	Paletwa	42	34	81%	1	2%	83%	2	5%	1	2%	3	7%	1	2%	42
	Total	151	109	72%	22	15%	87%	10	7%	2	1%	7	5%	1	1%	151

Sr. No.	Townships	Reg. Pts.	Cured		Completed		TSR	Died		Failure		Defaulted		Transferred out		Total eva. Pts.
			No	CR	No	Rate		No	Rate	No	Rate	No	Rate	No	Rate	

SAGAING DIVISION

1	Sagaing	220	185	84%	8	4%	88%	16	7%	0	0%	9	4%	2	1%	220
2	Myaung	126	112	89%	4	3%	92%	6	5%	1	1%	1	1%	2	2%	126
3	Myinmu	189	181	96%	1	1%	96%	7	4%	0	0%	0	0%	0	0%	189
4	Shwebo	330	253	77%	20	6%	83%	16	5%	2	1%	21	6%	18	5%	330
5	Kanbalu	96	77	80%	2	2%	82%	8	8%	4	4%	2	2%	3	3%	96
6	Khin-U	71	64	90%	0	0%	90%	6	8%	0	0%	1	1%	0	0%	71
7	Kyunhla	73	15	21%	56	77%	97%	2	3%	0	0%	0	0%	0	0%	73
8	Depeyin	70	59	84%	4	6%	90%	4	6%	1	1%	2	3%	0	0%	70
9	Taze	60	53	88%	2	3%	92%	4	7%	1	2%	0	0%	0	0%	60
10	Wetlet	93	82	88%	0	0%	88%	7	8%	4	4%	0	0%	0	0%	93
11	Ye-U	55	44	80%	5	9%	89%	0	0%	4	7%	0	0%	2	4%	55
12	Monywa	206	132	64%	22	11%	75%	18	9%	11	5%	18	9%	5	2%	206
13	Ayadaw	93	71	76%	17	18%	95%	3	3%	0	0%	1	1%	1	1%	93
14	Budalin	112	99	88%	0	0%	88%	7	6%	5	4%	1	1%	0	0%	112
15	ChaungU	63	48	76%	11	17%	94%	1	2%	0	0%	2	3%	1	2%	63
16	Kani	39	38	97%	0	0%	97%	1	3%	0	0%	0	0%	0	0%	39
17	Pale	75	43	57%	19	25%	83%	7	9%	1	1%	5	7%	0	0%	75
18	Salingyi	110	83	75%	6	5%	81%	7	6%	3	3%	9	8%	2	2%	110
19	Yinmabin	57	53	93%	0	0%	93%	4	7%	0	0%	0	0%	0	0%	57
20	Katha	118	96	81%	1	1%	82%	9	8%	5	4%	7	6%	0	0%	118
21	Banmauk	37	33	89%	0	0%	89%	3	8%	0	0%	1	3%	0	0%	37
22	Htigyaik	88	59	67%	3	3%	70%	16	18%	6	7%	3	3%	1	1%	88
23	Indaw	71	57	80%	0	0%	80%	9	13%	2	3%	3	4%	0	0%	71
24	Kawlin	78	60	77%	4	5%	82%	5	6%	5	6%	2	3%	2	3%	78
25	Pinlebu	55	41	75%	1	2%	76%	10	18%	3	5%	0	0%	0	0%	55
26	Wuntho	34	27	79%	0	0%	79%	6	18%	1	3%	0	0%	0	0%	34
27	Kalay	249	194	78%	5	2%	80%	14	6%	16	6%	18	7%	2	1%	249
28	Kalewa	50	47	94%	0	0%	94%	2	4%	0	0%	1	2%	0	0%	50
29	Minkin	75	64	85%	2	3%	88%	7	9%	1	1%	1	1%	0	0%	75
30	Tamu	225	177	79%	23	10%	89%	6	3%	5	2%	11	5%	3	1%	225
31	Mawleik	70	42	60%	23	33%	93%	4	6%	0	0%	1	1%	0	0%	70
32	Phaungbyin	129	90	70%	24	19%	88%	8	6%	2	2%	5	4%	0	0%	129
33	Khamti	80	54	68%	7	9%	76%	6	8%	5	6%	7	9%	1	1%	80
34	Homalin	101	60	59%	15	15%	74%	7	7%	7	7%	10	10%	2	2%	101
35	Layshi	12	6	50%	4	33%	83%	0	0%	2	17%	0	0%	0	0%	12
36	Lahel	46	33	72%	10	22%	93%	1	2%	0	0%	2	4%	0	0%	46
37	Nanyun	9	4	44%	2	22%	67%	0	0%	0	0%	3	33%	0	0%	9
Total		3665	2836	77%	301	8%	86%	237	6%	97	3%	147	4%	47	1%	3665

Sr. No.	Townships	Reg. Pts.	Cured		Completed		TSR	Died		Failure		Defaulted		Transferred out		Total eva. Pts.
			No	CR	No	Rate		No	Rate	No	Rate	No	Rate	No	Rate	
MAGWAY DIVISION																
1	Magway	322	245	76%	27	8%	84%	15	5%	10	3%	17	5%	8	2%	322
2	Chauk	129	103	80%	5	4%	84%	10	8%	0	0%	11	9%	0	0%	129
3	Taundwingyi	113	97	86%	0	0%	86%	9	8%	0	0%	0	0%	7	6%	113
4	Myothit	110	106	96%	0	0%	96%	4	4%	0	0%	0	0%	0	0%	110
5	Natmauk	89	73	82%	12	13%	96%	4	4%	0	0%	0	0%	0	0%	89
6	Yenanchaung	143	119	83%	7	5%	88%	9	6%	4	3%	4	3%	0	0%	143
7	Pakokku	127	89	70%	11	9%	79%	8	6%	1	1%	11	9%	7	6%	127
8	Yesagyo	61	57	93%	2	3%	97%	1	2%	1	2%	0	0%	0	0%	61
9	Pauk	110	109	99%	0	0%	99%	1	1%	0	0%	0	0%	0	0%	110
10	Myaing	127	29	23%	87	69%	91%	8	6%	3	2%	0	0%	0	0%	127
11	Seikphyu	60	55	92%	3	5%	97%	2	3%	0	0%	0	0%	0	0%	60
12	Gantgaw	54	41	76%	9	17%	93%	2	4%	2	4%	0	0%	0	0%	54
13	Saw	16	14	88%	1	6%	94%	1	6%	0	0%	0	0%	0	0%	16
14	Htinlin	5	3	60%	0	0%	60%	2	40%	0	0%	0	0%	0	0%	5
15	Minbu	88	58	66%	8	9%	75%	7	8%	0	0%	13	15%	2	2%	88
16	Ngape	27	22	81%	0	0%	81%	3	11%	0	0%	0	0%	2	7%	27
17	Pwintphyu	38	28	74%	6	16%	89%	1	3%	0	0%	3	8%	0	0%	38
18	Saytoktaya	29	9	31%	13	45%	76%	3	10%	2	7%	1	3%	1	3%	29
19	Salin	126	67	53%	51	40%	94%	0	0%	1	1%	7	6%	0	0%	126
20	Thayet	112	93	83%	0	0%	83%	5	4%	5	4%	9	8%	0	0%	112
21	Minhla	44	42	95%	0	0%	95%	1	2%	0	0%	0	0%	1	2%	44
22	Kanma	82	78	95%	0	0%	95%	4	5%	0	0%	0	0%	0	0%	82
23	Sinpaungwe	36	32	89%	2	6%	94%	2	6%	0	0%	0	0%	0	0%	36
24	Mindone	34	31	91%	0	0%	91%	2	6%	0	0%	1	3%	0	0%	34
25	Aunglan	148	122	82%	0	0%	82%	18	12%	3	2%	4	3%	1	1%	148
	Total	2230	1722	77%	244	11%	88%	122	5%	32	1%	81	4%	29	1%	2230

Sr. No.	Townships	Reg. Pts.	Cured		Completed		TSR	Died		Failure		Defaulted		Transferred out		Total eva. Pts.
			No	CR	No	Rate		No	Rate	No	Rate	No	Rate	No	Rate	
MANDALAY DIVISION																
1	Amarapura	88	57	65%	19	22%	86%	6	7%	1	1%	0	0%	5	6%	88
2	Aungmyaytharzan	197	174	88%	1	1%	89%	10	5%	4	2%	2	1%	6	3%	197
3	Chanayetharzan	140	106	76%	15	11%	86%	7	5%	5	4%	2	1%	5	4%	140
4	Chanmyatharzi	241	205	85%	12	5%	90%	9	4%	4	2%	9	4%	2	1%	241
5	Maharaungmyae	186	176	95%	2	1%	96%	7	4%	0	0%	1	1%	0	0%	186
6	Pyigyitagon	140	91	65%	20	14%	79%	17	12%	5	4%	5	4%	2	1%	140
7	Patheingyi	107	86	80%	5	5%	85%	3	3%	5	5%	1	1%	7	7%	107
8	Meikhtilar	100	50	50%	25	25%	75%	8	8%	5	5%	5	5%	7	7%	100
9	Mahlaing	59	26	44%	27	46%	90%	1	2%	2	3%	3	5%	0	0%	59
10	Tharzi	92	72	78%	15	16%	95%	5	5%	0	0%	0	0%	0	0%	92
11	Wundwin	111	93	84%	0	0%	84%	17	15%	1	1%	0	0%	0	0%	111
12	Myingyan	190	158	83%	6	3%	86%	22	12%	0	0%	4	2%	0	0%	190
13	Kyaukpadaung	232	196	84%	6	3%	87%	12	5%	8	3%	5	2%	5	2%	232
14	Natogyi	61	56	92%	0	0%	92%	3	5%	1	2%	1	2%	0	0%	61
15	Ngazun	43	32	74%	7	16%	91%	3	7%	1	2%	0	0%	0	0%	43
16	Taungtha	97	71	73%	25	26%	99%	1	1%	0	0%	0	0%	0	0%	97
17	NyaungU	131	88	67%	25	19%	86%	4	3%	8	6%	6	5%	0	0%	131
18	Pyin Oo Lwin	65	53	82%	3	5%	86%	5	8%	0	0%	0	0%	4	6%	65
19	Madayar	150	106	71%	15	10%	81%	22	15%	3	2%	3	2%	1	1%	150
20	Mogok	86	70	81%	9	10%	92%	6	7%	0	0%	1	1%	0	0%	86
21	Sintgu	121	110	91%	8	7%	98%	2	2%	1	1%	0	0%	0	0%	121
22	Thabeikkyin	98	38	39%	30	31%	69%	6	6%	10	10%	11	11%	3	3%	98
23	Yamethin	100	82	82%	8	8%	90%	5	5%	1	1%	4	4%	0	0%	100
24	Lewei	148	109	74%	21	14%	88%	13	9%	0	0%	5	3%	0	0%	148
25	Pyawbwe	102	70	69%	16	16%	84%	9	9%	6	6%	0	0%	1	1%	102
26	Pyinmana	272	205	75%	13	5%	80%	20	7%	9	3%	0	0%	25	9%	272
27	Tatkone	90	74	82%	2	2%	84%	5	6%	6	7%	1	1%	2	2%	90
28	Kyaukse	195	158	81%	2	1%	82%	14	7%	11	6%	8	4%	2	1%	195
29	Myittha	106	84	79%	15	14%	93%	4	4%	0	0%	3	3%	0	0%	106
30	Sintgaing	53	47	89%	0	0%	89%	4	8%	1	2%	1	2%	0	0%	53
31	TadaOo	71	47	66%	5	7%	73%	9	13%	1	1%	9	13%	0	0%	71
	Total	3872	2990	77%	357	9%	86%	259	7%	99	3%	90	2%	77	2%	3872

Sr. No.	Townships	Reg. Pts.	Cured		Completed		TSR	Died		Failure		Defaulted		Transferred out		Total eva. Pts.
			No	CR	No	Rate		No	Rate	No	Rate	No	Rate	No	Rate	
SHAN STATE (SOUTH)																
1	Linhkay	18	17	94%	0	0%	94%	1	6%	0	0%	0	0%	0	0%	18
2	Maukmae	10	7	70%	1	10%	80%	2	20%	0	0%	0	0%	0	0%	10
3	Monai	18	18	100%	0	0%	100%	0	0%	0	0%	0	0%	0	0%	18
4	Mongpang	4	2	50%	1	25%	75%	1	25%	0	0%	0	0%	0	0%	4
5	Loilem	24	16	67%	3	13%	79%	1	4%	0	0%	4	17%	0	0%	24
6	Kunhein	57	49	86%	0	0%	86%	5	9%	3	5%	0	0%	0	0%	57
7	Kyeethi	4	4	100%	0	0%	100%	0	0%	0	0%	0	0%	0	0%	4
8	Laikha	28	26	93%	0	0%	93%	1	4%	1	4%	0	0%	0	0%	28
9	Mongkaing	28	8	29%	12	43%	71%	5	18%	0	0%	3	11%	0	0%	28
10	Mongshu	35	35	100%	0	0%	100%	0	0%	0	0%	0	0%	0	0%	35
11	Namsan	27	11	41%	4	15%	56%	4	15%	2	7%	3	11%	3	11%	27
12	Taunggyi	204	135	66%	12	6%	72%	13	6%	9	4%	28	14%	7	3%	204
13	Hopone	20	17	85%	1	5%	90%	0	0%	0	0%	1	5%	1	5%	20
14	Hpekon	30	27	90%	2	7%	97%	1	3%	0	0%	0	0%	0	0%	30
15	Hsiseng	29	22	76%	1	3%	79%	2	7%	0	0%	4	14%	0	0%	29
16	Kalaw	78	54	69%	0	0%	69%	12	15%	7	9%	5	6%	0	0%	78
17	Yaksauk	44	30	68%	3	7%	75%	7	16%	1	2%	1	2%	2	5%	44
18	Pindaya	12	5	42%	6	50%	92%	1	8%	0	0%	0	0%	0	0%	12
19	Pinlaung	56	39	70%	11	20%	89%	3	5%	0	0%	3	5%	0	0%	56
20	Nyaungshwe	69	63	91%	0	0%	91%	3	4%	3	4%	0	0%	0	0%	69
21	Ywangan	10	10	100%	0	0%	100%	0	0%	0	0%	0	0%	0	0%	10
	Total	805	595	74%	57	7%	81%	62	8%	26	3%	52	6%	13	2%	805

SHAN STATE (EAST)																
1	Kengtong	157	85	54%	52	33%	87%	2	1%	4	3%	7	4%	7	4%	157
2	Mongkhat	3	2	67%	1	33%	100%	0	0%	0	0%	0	0%	0	0%	3
3	Mongyan	50	23	46%	26	52%	98%	1	2%	0	0%	0	0%	0	0%	50
4	Monghsat	72	63	88%	2	3%	90%	1	1%	0	0%	5	7%	1	1%	72
5	Mongping	53	26	49%	13	25%	74%	2	4%	0	0%	12	23%	0	0%	53
6	Mongton	45	25	56%	4	9%	64%	0	0%	6	13%	10	22%	0	0%	45
7	Monpyak	29	23	79%	3	10%	90%	2	7%	1	3%	0	0%	0	0%	29
8	Mongyaung	30	15	50%	6	20%	70%	1	3%	1	3%	7	23%	0	0%	30
9	Tachileik	133	104	78%	11	8%	86%	8	6%	0	0%	9	7%	1	1%	133
10	Matman	Nr.														
Total		572	366	64%	118	21%	85%	17	3%	12	2%	50	9%	9	2%	572

Sr. No.	Townships	Reg. Pts.	Cured		Completed		TSR	Died		Failure		Defaulted		Transferred out		Total eva. Pts.
			No	CR	No	Rate		No	Rate	No	Rate	No	Rate	No	Rate	

SHAN STATE (NORTH)

1	Kunlon	66	59	89%	1	2%	91%	2	3%	1	2%	3	5%	0	0%	66
2	Hopan	86	33	38%	36	42%	80%	1	1%	0	0%	0	0%	16	19%	86
3	Kyaukme	116	85	73%	7	6%	79%	9	8%	3	3%	12	10%	0	0%	116
4	Hsipaw	107	106	99%	0	0%	99%	0	0%	0	0%	0	0%	1	1%	107
5	Mabein	14	9	64%	3	21%	86%	1	7%	1	7%	0	0%	0	0%	14
6	Manton	4	0	0%	4	100%	100%	0	0%	0	0%	0	0%	0	0%	4
7	Mongmeik	36	28	78%	5	14%	92%	2	6%	0	0%	0	0%	1	3%	36
8	Namtu	22	15	68%	2	9%	77%	3	14%	0	0%	1	5%	1	5%	22
9	Nyaungcho	26	25	96%	0	0%	96%	0	0%	1	4%	0	0%	0	0%	26
10	Lashio	180	122	68%	0	0%	68%	5	3%	6	3%	43	24%	4	2%	180
11	Namsam	24	19	79%	0	0%	79%	5	21%	0	0%	0	0%	0	0%	24
12	Mongmaw	Nr.														
13	Theinni	70	39	56%	17	24%	80%	3	4%	1	1%	8	11%	2	3%	70
14	Mongreh	13	9	69%	4	31%	100%	0	0%	0	0%	0	0%	0	0%	13
15	Manphant	Nr.														
16	Pangyan	13	4	31%	5	38%	69%	0	0%	0	0%	3	23%	1	8%	13
17	Narphant	Nr.														
18	Panwaing	Nr.														
19	Tanyan	34	29	85%	5	15%	100%	0	0%	0	0%	0	0%	0	0%	34
20	Laukkai	23	11	48%	6	26%	74%	0	0%	0	0%	6	26%	0	0%	23
21	Kongyan	Nr.														
22	Muse	26	13	50%	9	35%	85%	2	8%	0	0%	2	8%	0	0%	26
23	Kutkai	50	20	40%	22	44%	84%	3	6%	0	0%	4	8%	1	2%	50
24	Namkham	42	23	55%	8	19%	74%	3	7%	0	0%	7	17%	1	2%	42
Total		952	649	68%	134	14%	82%	39	4%	13	1%	89	9%	28	3%	952

Sr. No.	Townships	Reg. Pts.	Cured		Completed		TSR	Died		Failure		Defaulted		Transferred out		Total eva. Pts.
			No	CR	No	Rate		No	Rate	No	Rate	No	Rate	No	Rate	

KAYIN STATE

1	Kawkareik	150	128	85%	10	7%	92%	2	1%	0	0%	10	7%	0	0%	150
2	Kyainnseikkyi	45	37	82%	3	7%	89%	4	9%	1	2%	0	0%	0	0%	45
3	Myawaddy	110	75	68%	13	12%	80%	3	3%	1	1%	13	12%	5	5%	110
4	Hpa-an	456	325	71%	45	10%	81%	1	0%	2	0%	67	15%	16	4%	456
5	Hlaingbwe	119	111	93%	2	2%	95%	4	3%	1	1%	1	1%	0	0%	119
6	Papun(Kamamaur	103	88	85%	9	9%	94%	6	6%	0	0%	0	0%	0	0%	103
7	Thandaung	29	22	76%	3	10%	86%	0	0%	4	14%	0	0%	0	0%	29
Total		1012	786	78%	85	8%	86%	20	2%	9	1%	91	9%	21	2%	1012

TANINTHARYI DIVISION

1	Dawei	169	139	82%	1	1%	83%	4	2%	14	8%	5	3%	6	4%	169
2	Launglon	25	21	84%	0	0%	84%	1	4%	1	4%	2	8%	0	0%	25
3	Thayetchaung	32	21	66%	2	6%	72%	3	9%	0	0%	6	19%	0	0%	32
4	Yebyu	32	24	75%	1	3%	78%	5	16%	0	0%	2	6%	0	0%	32
5	Kawthaung	144	111	77%	7	5%	82%	9	6%	1	1%	8	6%	8	6%	144
6	Bokepyin	21	6	29%	8	38%	67%	0	0%	1	5%	6	29%	0	0%	21
7	Myeik	304	206	68%	5	2%	69%	10	3%	4	1%	31	10%	48	16%	304
8	Kyunsu	6	6	100%	0	0%	100%	0	0%	0	0%	0	0%	0	0%	6
9	Tanintharyi	29	23	79%	1	3%	83%	2	7%	0	0%	3	10%	0	0%	29
10	Palaw	80	45	56%	16	20%	76%	1	1%	3	4%	15	19%	0	0%	80
Total		842	602	71%	41	5%	76%	35	4%	24	3%	78	9%	62	7%	842

Sr. No.	Townships	Reg. Pts.	Cured		Completed		TSR	Died		Failure		Defaulted		Transferred out		Total eva. Pts.
			No	CR	No	Rate		No	Rate	No	Rate	No	Rate	No	Rate	

BAGO (EAST) DIVISION

1	Bago	443	277	63%	77	17%	80%	43	10%	8	2%	26	6%	12	3%	443
2	Daik-U	135	123	91%	2	1%	93%	5	4%	1	1%	4	3%	0	0%	135
3	Kawa	114	84	74%	9	8%	82%	5	4%	1	1%	15	13%	0	0%	114
4	Kyauktaga	157	143	91%	2	1%	92%	6	4%	2	1%	0	0%	4	3%	157
5	Nyaunglaybin	148	117	79%	15	10%	89%	9	6%	3	2%	4	3%	0	0%	148
6	Shwekyin	60	51	85%	1	2%	87%	4	7%	0	0%	3	5%	1	2%	60
7	Thanutpin	102	89	87%	3	3%	90%	5	5%	0	0%	5	5%	0	0%	102
8	Waw	171	148	87%	2	1%	88%	9	5%	2	1%	7	4%	3	2%	171
9	Taunggoo	152	127	84%	0	0%	84%	11	7%	5	3%	5	3%	4	3%	152
10	Kyaukkyi	37	20	54%	14	38%	92%	2	5%	0	0%	1	3%	0	0%	37
11	Okktwin	81	68	84%	1	1%	85%	6	7%	0	0%	5	6%	1	1%	81
12	Phyu	188	155	82%	13	7%	89%	7	4%	3	2%	8	4%	2	1%	188
13	Htantabin	73	69	95%	1	1%	96%	2	3%	1	1%	0	0%	0	0%	73
14	Yedashe	131	112	85%	4	3%	89%	7	5%	2	2%	3	2%	3	2%	131
Total		1992	1583	79%	144	7%	87%	121	6%	28	1%	86	4%	30	2%	1992

BAGO (WEST) DIVISION

1	Pyay	336	264	79%	7	2%	81%	34	10%	9	3%	14	4%	8	2%	336
2	Paukkhaung	85	78	92%	0	0%	92%	6	7%	0	0%	1	1%	0	0%	85
3	Paungde	72	59	82%	4	6%	88%	5	7%	0	0%	3	4%	1	1%	72
4	Padaung	102	59	58%	24	24%	81%	7	7%	0	0%	11	11%	1	1%	102
5	Shwedaung	88	56	64%	15	17%	81%	5	6%	0	0%	10	11%	2	2%	88
6	Thegon	76	64	84%	1	1%	86%	7	9%	2	3%	1	1%	1	1%	76
7	Tharyarwady	168	147	88%	0	0%	88%	12	7%	4	2%	2	1%	3	2%	168
8	Zegon	78	71	91%	6	8%	99%	1	1%	0	0%	0	0%	0	0%	78
9	Minhla	94	71	76%	1	1%	77%	12	13%	2	2%	4	4%	4	4%	94
10	Moenyo	91	79	87%	0	0%	87%	5	5%	1	1%	6	7%	0	0%	91
11	Okpo	127	112	88%	0	0%	88%	8	6%	1	1%	1	1%	5	4%	127
12	Gyobingauk	100	80	80%	5	5%	85%	13	13%	0	0%	0	0%	2	2%	100
13	Nattalin	105	79	75%	7	7%	82%	8	8%	3	3%	8	8%	0	0%	105
14	Latpadan	121	80	66%	32	26%	93%	7	6%	0	0%	1	1%	1	1%	121
Total		1643	1299	79%	102	6%	85%	130	8%	22	1%	62	4%	28	2%	1643

Sr. No.	Townships	Reg. Pts.	Cured		Completed		TSR	Died		Failure		Defaulted		Transferred out		Total eva. Pts.
			No	CR	No	Rate		No	Rate	No	Rate	No	Rate	No	Rate	

MON STATE

1	Mawlamyine	334	266	80%	18	5%	85%	17	5%	4	1%	20	6%	9	3%	334
2	Chaungzon	78	65	83%	4	5%	88%	4	5%	2	3%	1	1%	2	3%	78
3	Kyaikmaraw	146	98	67%	33	23%	90%	8	5%	1	1%	6	4%	0	0%	146
4	Mudon	131	106	81%	3	2%	83%	7	5%	5	4%	10	8%	0	0%	131
5	Thanbyuzayat	114	93	82%	9	8%	89%	5	4%	5	4%	1	1%	1	1%	114
6	Ye	130	79	61%	30	23%	84%	8	6%	3	2%	7	5%	3	2%	130
7	Thaton	260	203	78%	9	3%	82%	18	7%	4	2%	9	3%	17	7%	260
8	Belin	167	150	90%	4	2%	92%	5	3%	4	2%	2	1%	2	1%	167
9	Kyaikhto	114	95	83%	7	6%	89%	6	5%	1	1%	3	3%	2	2%	114
10	Paung	186	162	87%	4	2%	89%	8	4%	5	3%	0	0%	7	4%	186
Total		1660	1317	79%	121	7%	87%	86	5%	34	2%	59	4%	43	3%	1660

RAKHINE STATE

1	Kyaukphyu	117	74	63%	18	15%	79%	3	3%	2	2%	19	16%	1	1%	117
2	Ann	44	24	55%	9	20%	75%	2	5%	0	0%	9	20%	0	0%	44
3	Manaung	28	27	96%	0	0%	96%	0	0%	0	0%	0	0%	1	4%	28
4	Yambwe	44	38	86%	0	0%	86%	2	5%	3	7%	1	2%	0	0%	44
5	Maungdaw	147	113	77%	15	10%	87%	1	1%	16	11%	2	1%	0	0%	147
6	Buthidaung	137	131	96%	0	0%	96%	6	4%	0	0%	0	0%	0	0%	137
7	Yathedaung	125	74	59%	19	15%	74%	10	8%	3	2%	18	14%	1	1%	125
8	Sittwe	241	134	56%	72	30%	85%	13	5%	3	1%	17	7%	2	1%	241
9	Kyauktaw	178	167	94%	2	1%	95%	2	1%	1	1%	6	3%	0	0%	178
10	Minbya	171	151	88%	0	0%	88%	7	4%	9	5%	3	2%	1	1%	171
11	Myaukoo	155	144	93%	0	0%	93%	3	2%	2	1%	6	4%	0	0%	155
12	Myebon	64	39	61%	13	20%	81%	4	6%	0	0%	8	13%	0	0%	64
13	Pauktaw	58	27	47%	21	36%	83%	4	7%	2	3%	4	7%	0	0%	58
14	Ponnagyun	63	53	84%	7	11%	95%	1	2%	0	0%	2	3%	0	0%	63
15	Thandwe	101	84	83%	3	3%	86%	8	8%	3	3%	2	2%	1	1%	101
16	Gwa	50	46	92%	0	0%	92%	1	2%	0	0%	2	4%	1	2%	50
17	Taungup	124	99	80%	18	15%	94%	1	1%	1	1%	5	4%	0	0%	124
Total		1847	1425	77%	197	11%	88%	68	4%	45	2%	104	6%	8	0%	1847

Sr. No.	Townships	Reg. Pts.	Cured		Completed		TSR	Died		Failure		Defaulted		Transferred out		Total eva. Pts.
			No	CR	No	Rate		No	Rate	No	Rate	No	Rate	No	Rate	

YANGON DIVISION

	East District	5	4	80%	0	0%	80%	0	0%	0	0%	0	0%	1	20%	5
1	Botataung	52	46	88%	1	2%	90%	1	2%	1	2%	1	2%	2	4%	52
2	Dawbon	150	143	95%	4	3%	98%	3	2%	0	0%	0	0%	0	0%	150
3	Dagon(N)	293	242	83%	9	3%	86%	13	4%	1	0%	18	6%	10	3%	293
4	Dagon(S)	680	571	84%	4	1%	85%	39	6%	15	2%	44	6%	7	1%	680
5	MingalarTN	149	123	83%	0	0%	83%	9	6%	11	7%	3	2%	3	2%	149
6	Okkala(N)	413	348	84%	8	2%	86%	17	4%	24	6%	10	2%	6	1%	413
7	Okkala(S)	255	213	84%	3	1%	85%	9	4%	14	5%	10	4%	6	2%	255
8	Tharkata	445	358	80%	52	12%	92%	16	4%	7	2%	7	2%	5	1%	445
9	Thingangyun	299	224	75%	25	8%	83%	18	6%	7	2%	20	7%	5	2%	299
10	Yankin	145	127	88%	4	3%	90%	9	6%	2	1%	1	1%	2	1%	145
11	Tarmwe	119	106	89%	1	1%	90%	1	1%	5	4%	4	3%	2	2%	119
12	Pazundaung	52	48	92%	3	6%	98%	1	2%	0	0%	0	0%	0	0%	52
13	Dagon(E)	178	142	80%	8	4%	84%	14	8%	5	3%	7	4%	2	1%	178
14	Dagon Seikkan	96	79	82%	6	6%	89%	2	2%	2	2%	4	4%	3	3%	96
	Total	3331	2774	83%	128	4%	87%	152	5%	94	3%	129	4%	54	2%	3331

West District

1	Kamayut	93	76	82%	5	5%	87%	6	6%	4	4%	0	0%	2	2%	93
2	Kyauktada	40	35	88%	3	8%	95%	0	0%	1	3%	1	3%	0	0%	40
3	Kyinmyindine	133	107	80%	0	0%	80%	8	6%	7	5%	9	7%	2	2%	133
4	Sanchaung	118	90	76%	10	8%	85%	4	3%	3	3%	7	6%	4	3%	118
5	Seikkan	6	5	83%	0	0%	83%	0	0%	0	0%	1	17%	0	0%	6
6	Dagon	34	26	76%	1	3%	79%	1	3%	0	0%	3	9%	3	9%	34
7	Pabedan	24	22	92%	0	0%	92%	1	4%	1	4%	0	0%	0	0%	24
8	Bahan	80	63	79%	3	4%	83%	7	9%	1	1%	1	1%	5	6%	80
9	Mayangon	298	244	82%	6	2%	84%	15	5%	16	5%	9	3%	8	3%	298
10	Latha	38	34	89%	1	3%	92%	0	0%	2	5%	0	0%	1	3%	38
11	Lanmadaw	34	31	91%	0	0%	91%	0	0%	2	6%	1	3%	0	0%	34
12	Hlaing	223	173	78%	20	9%	87%	10	4%	13	6%	3	1%	4	2%	223
13	Ahlone	77	56	73%	12	16%	88%	4	5%	2	3%	2	3%	1	1%	77
	Total	1198	962	80%	61	5%	85%	56	5%	52	4%	37	3%	30	3%	1198

Sr. No.	Townships	Reg. Pts.	Cured		Completed		TSR	Died		Failure		Defaulted		Transferred out		Total eva. Pts.
			No	CR	No	Rate		No	Rate	No	Rate	No	Rate	No	Rate	

South District

1	Seikkyikanaungto	45	38	84%	0	0%	84%	4	9%	0	0%	1	2%	2	4%	45
2	Dallah	176	130	74%	15	9%	82%	16	9%	3	2%	12	7%	0	0%	176
3	CoCogyun	0	0	0%	0	0%	0%	0	0%	0	0%	0	0%	0	0%	0
4	Kawhmu	90	82	91%	0	0%	91%	7	8%	0	0%	1	1%	0	0%	90
5	Kyauktan	124	90	73%	17	14%	86%	8	6%	3	2%	3	2%	3	2%	124
6	Kunggyangone	97	91	94%	0	0%	94%	6	6%	0	0%	0	0%	0	0%	97
7	Kayan	155	133	86%	8	5%	91%	9	6%	3	2%	2	1%	0	0%	155
8	Twantay	197	174	88%	6	3%	91%	6	3%	4	2%	5	3%	2	1%	197
9	Thonegwa	117	95	81%	11	9%	91%	5	4%	1	1%	5	4%	0	0%	117
10	Thanlyin	264	196	74%	37	14%	88%	10	4%	5	2%	13	5%	3	1%	264
	Total	1265	1029	81%	94	7%	89%	71	6%	19	2%	42	3%	10	1%	1265

North District

1	Mingalardon	587	377	64%	70	12%	76%	33	6%	52	9%	32	5%	23	4%	587
2	Shwepyithar	395	249	63%	66	17%	80%	19	5%	11	3%	41	10%	9	2%	395
3	Hlaingtharyar	956	875	92%	8	1%	92%	23	2%	19	2%	29	3%	2	0%	956
4	Insein	549	423	77%	48	9%	86%	22	4%	16	3%	33	6%	7	1%	549
5	Taikkyi	266	237	89%	0	0%	89%	21	8%	2	1%	4	2%	2	1%	266
6	Htantabin	92	82	89%	0	0%	89%	8	9%	0	0%	2	2%	0	0%	92
7	Hmawbi	273	231	85%	13	5%	89%	8	3%	13	5%	4	1%	4	1%	273
8	Hlegu	181	172	95%	0	0%	95%	5	3%	1	1%	3	2%	0	0%	181
	U.T.I	57	43	75%	0	0%	75%	11	19%	2	4%	1	2%	0	0%	57
	Diagnostic center	14	6	43%	2	14%	57%	0	0%	0	0%	0	0%	6	43%	14
	Total	3370	2695	80%	207	6%	86%	150	4%	116	3%	149	4%	53	2%	3370
	Yangon Div.	9164	7460	81%	490	5%	87%	429	5%	281	3%	357	4%	147	2%	9164

Sr. No.	Townships	Reg. Pts.	Cured		Completed		TSR	Died		Failure		Defaulted		Transferred out		Total eva. Pts.
			No	CR	No	Rate		No	Rate	No	Rate	No	Rate	No	Rate	

AYEYARWADY DIVISION

1	Pathein	459	361	79%	43	9%	88%	26	6%	5	1%	19	4%	5	1%	459
2	Kangyidaunt	47	37	79%	1	2%	81%	2	4%	0	0%	7	15%	0	0%	47
3	Yekyi	143	113	79%	15	10%	90%	8	6%	0	0%	6	4%	1	1%	143
4	Kyaunggone	88	74	84%	10	11%	95%	1	1%	1	1%	2	2%	0	0%	88
5	Kyonpyaw	159	149	94%	0	0%	94%	5	3%	1	1%	4	3%	0	0%	159
6	Ngaputaw	167	108	65%	36	22%	86%	12	7%	1	1%	9	5%	1	1%	167
7	Thabaung	130	88	68%	25	19%	87%	9	7%	2	2%	4	3%	2	2%	130
8	Hinthada	541	478	88%	31	6%	94%	17	3%	0	0%	9	2%	6	1%	541
9	Kyankin	106	95	90%	6	6%	95%	1	1%	1	1%	3	3%	0	0%	106
10	Myanaung	174	158	91%	0	0%	91%	7	4%	0	0%	6	3%	3	2%	174
11	Ingapu	183	151	83%	12	7%	89%	10	5%	3	2%	5	3%	2	1%	183
12	Zalun	277	175	63%	35	13%	76%	31	11%	0	0%	32	12%	4	1%	277
13	Laymyetna	87	69	79%	4	5%	84%	8	9%	1	1%	5	6%	0	0%	87
14	Myaungmya	273	252	92%	6	2%	95%	7	3%	7	3%	1	0%	0	0%	273
15	Laputta	270	264	98%	0	0%	98%	3	1%	2	1%	1	0%	0	0%	270
16	Mawgyun	210	171	81%	24	11%	93%	5	2%	0	0%	9	4%	1	0%	210
17	Wakema	265	238	90%	15	6%	95%	0	0%	5	2%	5	2%	2	1%	265
18	Eime	150	126	84%	2	1%	85%	3	2%	4	3%	15	10%	0	0%	150
19	Pyapon	301	252	84%	5	2%	85%	25	8%	6	2%	10	3%	3	1%	301
20	Bogalay	275	223	81%	16	6%	87%	23	8%	0	0%	13	5%	0	0%	275
21	Dedaye	98	58	59%	25	26%	85%	2	2%	4	4%	8	8%	1	1%	98
22	Kyaiklatt	130	95	73%	20	15%	88%	11	8%	0	0%	4	3%	0	0%	130
23	Maubin	245	181	74%	25	10%	84%	19	8%	8	3%	11	4%	1	0%	245
24	Nyaungdone	142	136	96%	0	0%	96%	5	4%	0	0%	1	1%	0	0%	142
25	Pantanaw	174	154	89%	3	2%	90%	4	2%	3	2%	10	6%	0	0%	174
26	Danuphyu	233	216	93%	0	0%	93%	14	6%	0	0%	3	1%	0	0%	233
	Total	5327	4422	83%	359	7%	90%	258	5%	54	1%	202	4%	32	1%	5327

Sr. No.	Townships	Reg. Pts.	Cured		Completed		TSR	Died		Failure		Defaulted		Transferred out		Total eva. Pts.
			No	CR	No	Rate		No	Rate	No	Rate	No	Rate	No	Rate	

Other reporting Units

1	Aung San hospital	105	54	51%	17	16%	68%	11	10%	6	6%	10	10%	7	7%	105
2	Patheingyi hospital	50	23	46%	8	16%	62%	7	14%	2	4%	1	2%	9	18%	50
3	East YGH	0														0
4	Mingalardon hospital	43	30	70%	3	7%	77%	10	23%	0	0%	0	0%	0	0%	43
5	Wundwin Hospital (N/Okkalapa)	163	87	53%	2	1%	55%	59	36%	7	4%	3	2%	5	3%	163
6	No.1MBH (PyinOoLwin)	114	100	88%	0	0%	88%	14	12%	0	0%	0	0%	0	0%	114
7	1000 beded Hospital (Naypyitaw)	0														0
8	AZG (Ygn)	529	265	50%	32	6%	56%	67	13%	79	15%	68	13%	18	3%	529
9	AZG (Kachin)	309	194	63%	41	13%	76%	14	5%	29	9%	20	6%	11	4%	309
10	PSI	3803	2734	72%	439	12%	83%	158	4%	156	4%	238	6%	78	2%	3803
11	AZG (Shan-North)	350	205	59%	21	6%	65%	16	5%	66	19%	33	9%	9	3%	350
12	AZG (Rakhine)	19	4	21%	15	79%	100%	0	0%	0	0%	0	0%	0	0%	19
13	Thingangyun Sanpya Hospital	0														0
14	Medecins du monde	34	14	41%	0	0%	41%	7	21%	3	9%	5	15%	5	15%	34
15	New YGH	23	17	74%	0	0%	74%	4	17%	0	0%	1	4%	1	4%	23
16	West YGH	0														0
Total		5542	3727	67%	578	10%	78%	367	7%	348	6%	379	7%	143	3%	5542

NATIONAL TUBERCULOSIS PROGRAMME
TREATMENT OUTCOME OF SMEAR NEGATIVE TB PATIENTS (2007 COHORT)

Annex - 11

Sr.No.	State/ Division	SMEAR NEGATIVE TB PATIENTS											
		Total No.	Completed		Died		Failure		Defaulted		Transfer		Total
		Reg. pts.	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	
1	Kachin State	1361	1048	77%	85	6%	15	1%	169	12%	44	3%	1361
2	Kayah State	129	83	64%	19	15%	1	1%	9	7%	17	13%	129
3	Chin State	282	243	86%	8	3%	0	0%	31	11%	0	0%	282
4	Sagaing Division	2267	1794	79%	199	9%	19	1%	221	10%	34	1%	2267
5	Magway Division	2396	2019	84%	147	6%	3	0%	186	8%	41	2%	2396
6	Mandalay Division	3286	2765	84%	309	9%	17	1%	113	3%	82	2%	3286
7	Shan State (South)	736	573	78%	59	8%	4	1%	85	12%	15	2%	736
8	Shan State (East)	455	340	75%	26	6%	4	1%	71	16%	14	3%	455
9	Shan State (North)	1413	1125	80%	61	4%	2	0%	209	15%	16	1%	1413
10	Kayin State	1536	1239	81%	36	2%	1	0%	219	14%	41	3%	1536
11	Tanintharyi Division	1638	1136	69%	44	3%	6	0%	370	23%	82	5%	1638
12	Bago (East) Division	1988	1656	83%	131	7%	4	0%	177	9%	20	1%	1988
13	Bago (West) Division	2061	1723	84%	197	10%	3	0%	106	5%	32	2%	2061
14	Mon State	2301	2003	87%	133	6%	7	0%	119	5%	39	2%	2301
15	Rakhine State	2337	2114	90%	91	4%	5	0%	122	5%	5	0%	2337
16	Yangon Division	8313	7119	86%	457	5%	80	1%	486	6%	171	2%	8313
17	Ayeyarwaddy Division	4540	4045	89%	246	5%	7	0%	207	5%	35	1%	4540
States & Divisions total		37039	31025	84%	2248	6%	178	0%	2900	8%	688	2%	37039
NS(-) TB patients, Unknown HIV status (NTP)		35825	30264	84%	1956	5%	170	0%	2785	8%	650	2%	35825
Other Unit		5239	3919	75%	640	12%	91	2%	419	8%	170	3%	5239
NS(-) TB patients, Unknown HIV status (Other units)		3923	3127	80%	283	7%	78	2%	324	8%	111	3%	3923
Union of Myanmar		42278	34944	83%	2888	7%	269	1%	3319	8%	858	2%	42278
NS(-) TB patients, unknown HIV status (Union)		39748	33391	84%	2239	6%	248	1%	3109	8%	761	2%	39748

TREATMENT OUTCOMES OF TB/HIV PATIENTS IN 2008 (2007 COHORT)

Sr.No.	Reporting units	SMEAR NEGATIVE TB PATIENTS											
		Total No.	Completed		Died		Failure		Defaulted		Transfer		Total
		Reg. pts.	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	
1	NTP	1214	761	63%	292	24%	8	1%	115	9%	38	3%	1214
2	Other Units	1316	792	60%	357	27%	13	1%	95	7%	59	4%	1316
Total		2530	1553	61%	649	26%	21	1%	210	8%	97	4%	2530

**NATIONAL TUBERCULOSIS PROGRAMME
TREATMENT OUTCOME OF RELAPSES (2007 COHORT)**

Annex-12

Sr.No.	State/ Division	RELAPSE CASES													
		Total	Cured		Completed		Died		Failure		Defaulted		Transferred out		Total
			No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	
1	Kachin State	153	107	70%	14	9%	11	7%	1	1%	10	7%	10	7%	153
2	Kayah State	17	10	59%	1	6%	1	6%	3	18%	2	12%	0	0%	17
3	Chin State	19	13	68%	3	16%	2	11%	0	0%	1	5%	0	0%	19
4	Sagaing Division	338	185	55%	76	22%	34	10%	13	4%	20	6%	10	3%	338
5	Magway Division	164	113	69%	28	17%	12	7%	3	2%	6	4%	2	1%	164
6	Mandalay Division	534	329	62%	93	17%	61	11%	21	4%	16	3%	14	3%	534
7	Shan State (South)	70	39	56%	5	7%	9	13%	8	11%	6	9%	3	4%	70
8	Shan State (East)	33	20	61%	4	12%	1	3%	4	12%	3	9%	1	3%	33
9	Shan State (North)	99	61	62%	14	14%	10	10%	6	6%	8	8%	0	0%	99
10	Kayin State	78	56	72%	6	8%	5	6%	3	4%	7	9%	1	1%	78
11	Tanintharyi Division	103	61	59%	11	11%	8	8%	7	7%	12	12%	4	4%	103
12	Bago (East) Division	276	190	69%	26	9%	35	13%	6	2%	13	5%	6	2%	276
13	Bago (West) Division	110	74	67%	12	11%	14	13%	3	3%	5	5%	2	2%	110
14	Mon State	161	113	70%	8	5%	21	13%	3	2%	14	9%	2	1%	161
15	Rakhine State	158	103	65%	26	16%	13	8%	4	3%	10	6%	2	1%	158
16	Yangon Division	1258	812	65%	125	10%	122	10%	81	6%	85	7%	33	3%	1258
17	Ayeyarwaddy Division	396	297	75%	34	9%	35	9%	11	3%	17	4%	2	1%	396
States & Divisions total		3967	2583	65%	486	12%	394	10%	177	4%	235	6%	92	2%	3967
(relapse) TB patients, Unknown HIV status (NTP)		3878	2549	66%	475	12%	359	9%	175	5%	231	6%	89	2%	3878
Other Unit		715	374	52%	92	13%	98	14%	48	7%	44	6%	59	8%	715
(relapse) TB patients, Unknown HIV status (Other)		646	350	54%	76	12%	76	12%	46	7%	42	7%	56	9%	646
Union of Myanmar		4682	2957	63%	578	12%	492	11%	225	5%	279	6%	151	3%	4682
(relapse) TB patients, unknown HIV status (Union)		4524	2899	64%	551	12%	435	10%	221	5%	273	6%	145	3%	4524

TREATMENT OUTCOMES OF TB/HIV PATIENTS (2007 COHORT)

Sr.No.	Reporting units	RELAPSE CASES													
		Total	Cured		Completed		Died		Failure		Defaulted		Transferred out		Total
			No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	
1	NTP	89	34	38%	11	12%	35	39%	2	2%	4	4%	3	3%	89
2	Other Units	69	24	35%	16	23%	22	32%	2	3%	2	3%	3	4%	69
Total		158	58	37%	27	17%	57	36%	4	3%	6	4%	6	4%	158

NATIONAL TUBERCULOSIS PROGRAMME
TREATMENT OUTCOME OF TREATMENT AFTER DEFAULT (2007 COHORT)

Annex- 13

Sr.No.	State/ Division	TOTAL	TREATMINT AFTER DEFAULT												Total
			Cured		Completed		Died		Failure		Defaulted		Transfer		
			No.	CR	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	
1	Kachin State	18	9	50%	3	17%	1	6%	1	6%	2	11%	2	11%	18
2	Kayah State	2	2	100%	0	0%	0	0%	0	0%	0	0%	0	0%	2
3	Chin State	6	2	33%	3	50%	0	0%	1	17%	0	0%	0	0%	6
4	Sagaing Division	53	26	49%	13	25%	3	6%	1	2%	9	17%	1	2%	53
5	Magway Division	18	9	50%	6	33%	1	6%	0	0%	1	6%	1	6%	18
6	Mandalay Division	36	22	61%	3	8%	8	22%	2	6%	0	0%	1	3%	36
7	Shan State (South)	18	12	67%	3	17%	3	17%	0	0%	0	0%	0	0%	18
8	Shan State (East)	1	1	100%	0	0%	0	0%	0	0%	0	0%	0	0%	1
9	Shan State (North)	24	15	63%	5	21%	2	8%	0	0%	2	8%	0	0%	24
10	Kayin State	16	8	50%	3	19%	1	6%	0	0%	2	13%	2	13%	16
11	Tanintharyi Division	22	12	55%	4	18%	2	9%	0	0%	3	14%	1	5%	22
12	Bago (East) Division	19	12	63%	5	26%	2	11%	0	0%	0	0%	0	0%	19
13	Bago (West) Division	8	4	50%	1	13%	2	25%	0	0%	1	13%	0	0%	8
14	Mon State	27	17	63%	2	7%	3	11%	0	0%	4	15%	1	4%	27
15	Rakhine State	22	16	73%	4	18%	0	0%	0	0%	2	9%	0	0%	22
16	Yangon Division	214	105	49%	27	13%	26	12%	6	3%	41	19%	9	4%	214
17	Ayeyarwaddy Division	63	40	63%	12	19%	4	6%	1	2%	6	10%	0	0%	63
States & Divisions total		567	312	55%	94	17%	58	10%	12	2%	73	13%	18	3%	567
(TAD) TB patients, Unknown HIV status (NTP)		559	309	55%	92	16%	55	10%	12	2%	73	13%	18	3%	559
Other Unit		151	74	49%	18	12%	22	15%	12	8%	13	9%	12	8%	151
(TAD) TB patients, Unknown HIV status (Other units)		120	64	53%	15	13%	10	8%	11	9%	10	8%	10	8%	120
Union of Myanmar		718	386	54%	112	16%	80	11%	24	3%	86	12%	30	4%	718
(TAD) TB patients, unknown HIV status (Union)		679	373	55%	107	16%	65	10%	23	3%	83	12%	28	4%	679

TREATMENT OUTCOME OF TB/HIV PATIENTS (2007 COHORT)

Sr.No.	Reporting units	TOTAL	TREATMENT AFTER DEFAULT CASES												
			Cured		Completed		Died		Failure		Defaulted		Transfer		Total
			No.	CR	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	
1	NTP	8	3	38%	2	25%	3	38%	0	0%	0	0%	0	0%	8
2	Other Units	31	10	32%	3	10%	12	39%	1	3%	3	10%	2	6%	31
Total		39	13	33%	5	13%	15	38%	1	3%	3	8%	2	5%	39

**NATIONAL TUBERCULOSIS PROGRAMME
TREATMENT OUTCOME OF TREATMENT AFTER FAILURE (2007 COHORT)**

Annex- 14

Annex 14

Sr.No.	State/ Division	TOTAL	TREATMENT AFTER FAILURE												Total
			Cured		Completed		Died		Failure		Defaulted		Transfer		
			No.	CR	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	
1	Kachin State	40	25	63%	4	10%	2	5%	4	10%	3	8%	2	5%	40
2	Kayah State	5	3	60%	0	0%	0	0%	0	0%	2	40%	0	0%	5
3	Chin State	0	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
4	Sagaing Division	95	50	53%	6	6%	9	9%	16	17%	12	13%	2	2%	95
5	Magway Division	25	10	40%	5	20%	2	8%	4	16%	3	12%	1	4%	25
6	Mandalay Division	50	29	58%	6	12%	3	6%	8	16%	2	4%	2	4%	50
7	Shan State (South)	24	15	63%	2	8%	3	13%	2	8%	1	4%	1	4%	24
8	Shan State (East)	10	5	50%	1	10%	0	0%	2	20%	2	20%	0	0%	10
9	Shan State (North)	14	4	29%	2	14%	3	21%	2	14%	3	21%	0	0%	14
10	Kayin State	1	0	0%	0	0%	0	0%	0	0%	1	100%	0	0%	1
11	Tanintharyi Division	11	9	82%	0	0%	0	0%	1	9%	1	9%	0	0%	11
12	Bago (East) Division	19	8	42%	0	0%	5	26%	3	16%	2	11%	1	5%	19
13	Bago (West) Division	33	21	64%	2	6%	7	21%	2	6%	1	3%	0	0%	33
14	Mon State	41	24	59%	4	10%	6	15%	3	7%	2	5%	2	5%	41
15	Rakhine State	18	12	67%	0	0%	1	6%	3	17%	2	11%	0	0%	18
16	Yangon Division	249	132	53%	23	9%	27	11%	38	15%	18	7%	11	4%	249
17	Ayeyarwaddy Division	67	42	63%	10	15%	6	9%	6	9%	2	3%	1	1%	67
States & Divisions total		702	389	55%	65	9%	74	11%	94	13%	57	8%	23	3%	702
(TAF) TB patients, Unknown HIV status (NTP)		695	386	56%	64	9%	73	11%	93	13%	56	8%	23	3%	695
Other Unit		571	286	50%	68	12%	54	9%	67	12%	60	11%	36	6%	571
(TAF) TB patients, Unknown HIV status (Other units)		549	277	50%	65	12%	46	8%	66	12%	60	11%	35	6%	549
Union of Myanmar		1273	675	53%	133	10%	128	10%	161	13%	117	9%	59	5%	1273
(TAF) TB patients, unknown HIV status (Union)		1244	663	53%	129	10%	119	10%	159	13%	116	9%	58	5%	1244

TREATMENT OUTCOME OF TB/HIV PATIENTS IN 2008 (2007 COHORT)

TREATMENT OUTCOME OF TUBERCULAR PATIENTS IN 2006 (2007 CATEGORY)															
Sr.No.	Reporting units	TOTAL	TREATMENT AFTER FAILURE CASES												Total
			Cured		Completed		Died		Failure		Defaulted		Transfer		
			No.	CR	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	
1	NTP	7	3	43%	1	14%	1	14%	1	14%	1	14%	0	0%	7
2	Other Units	22	9	41%	3	14%	8	36%	1	5%	0	0%	1	5%	22
Total		29	12	41%	4	14%	9	31%	2	7%	1	3%	1	3%	29

NATIONAL TUBERCULOSIS PROGRAMME
TREATMENT OUTCOME OF OTHER CASES (2007 COHORT)

Annex- 15

Sr.No.	State/ Division	OTHER CASES													
		Total	Cured		Completed		Died		Failure		Defaulted		Transfer out		Total
			No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	
1	Kachin State	89	28	31%	29	33%	13	15%	2	2%	11	12%	6	7%	89
2	Kayah State	6	0	0%	5	83%	0	0%	0	0%	1	17%	0	0%	6
3	Chin State	21	1	5%	13	62%	1	5%	0	0%	4	19%	2	10%	21
4	Sagaing Division	78	20	26%	38	49%	7	9%	0	0%	13	17%	0	0%	78
5	Magway Division	141	9	6%	101	72%	12	9%	0	0%	16	11%	3	2%	141
6	Mandalay Division	280	26	9%	186	66%	49	18%	5	2%	7	3%	7	3%	280
7	Shan State (South)	24	7	29%	7	29%	5	21%	2	8%	2	8%	1	4%	24
8	Shan State (East)	14	4	29%	6	43%	0	0%	0	0%	2	14%	2	14%	14
9	Shan State (North)	15	2	13%	5	33%	3	20%	1	7%	4	27%	0	0%	15
10	Kayin State	2	0	0%	0	0%	2	100%	0	0%	0	0%	0	0%	2
11	Tanintharyi Division	82	13	16%	41	50%	6	7%	4	5%	12	15%	6	7%	82
12	Bago (East) Division	6	2	33%	1	17%	1	17%	1	17%	0	0%	1	17%	6
13	Bago (West) Division	9	1	11%	7	78%	1	11%	0	0%	0	0%	0	0%	9
14	Mon State	48	30	63%	6	13%	6	13%	0	0%	4	8%	2	4%	48
15	Rakhine State	7	3	43%	2	29%	1	14%	0	0%	1	14%	0	0%	7
16	Yangon Division	795	175	22%	411	52%	77	10%	32	4%	66	8%	34	4%	795
17	Ayeyarwaddy Division	138	22	16%	71	51%	23	17%	6	4%	15	11%	1	1%	138
States & Divisions total		1755	343	20%	929	53%	207	12%	53	3%	158	9%	65	4%	1755
(Other) TB patients, Unknown HIV status (NTP)		1683	341	20%	889	53%	183	11%	53	3%	154	9%	63	4%	1683
Other Unit		739	74	10%	365	49%	168	23%	35	5%	60	8%	37	5%	739
(Other)TB patients, Unknown HIV status (Other units)		633	74	12%	317	50%	124	20%	35	6%	50	8%	33	5%	633
Union of Myanmar		2494	417	17%	1294	52%	375	15%	88	4%	218	9%	102	4%	2494
(Other) TB patients, unknown HIV status (Union)		2316	415	18%	1206	52%	307	13%	88	4%	204	9%	96	4%	2316

TREATMENT OUTCOME OF TB/HIV PATIENTS (2007 COHORT)

Sr.No.	Reporting units	OTHER CASES													
		Total	Cured		Completed		Died		Failure		Defaulted		Transfer out		Total
			No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	
1	NTP	72	2	3%	40	56%	24	33%	0	0%	4	6%	2	3%	72
2	Other Units	106	0	0%	48	45%	44	42%	0	0%	10	9%	4	4%	106
Total		178	2	1%	88	49%	68	38%	0	0%	14	8%	6	3%	178

NATIONAL TUBERCULOSIS PROGRAMME
TREATMENT OUTCOME OF PRIMARY COMPLEX AND TB MENINGITIS (2007 COHORT)

Annex- 16

Sr.No.	State/ Division	PRIMARY COMPLEX								TB MENINGITIS					
		Total No.	Completed		Died	Defaulted		Transfer out	Total	Total No.	Comple- ted	Died	Defaulted	Transfer out	Total
		Reg. pts.	No	Rate		No	Rate			Reg. pts.					
1	Kachin State	848	773	91%	11	55	6%	9	848	6	5	0	0	1	6
2	Kayah State	264	237	90%	0	21	8%	6	264	1	1	0	0	0	1
3	Chin State	381	354	93%	1	24	6%	2	381	8	7	0	1	0	8
4	Sagaing Division	3181	3080	97%	19	65	2%	17	3181	41	30	7	4	0	41
5	Magway Division	2826	2773	98%	12	22	1%	19	2826	19	16	2	0	1	19
6	Mandalay Division	3279	3179	97%	31	36	1%	33	3279	30	28	2	0	0	30
7	Shan State (South)	811	762	94%	8	37	5%	4	811	0	0	0	0	0	0
8	Shan State (East)	384	346	90%	3	33	9%	2	384	7	6	0	1	0	7
9	Shan State (North)	1107	981	89%	10	109	10%	7	1107	22	12	4	4	2	22
10	Kayin State	1000	897	90%	7	88	9%	8	1000	13	7	1	4	1	13
11	Tanintharyi Division	2225	1824	82%	7	346	16%	48	2225	13	9	0	4	0	13
12	Bago (East) Division	1124	1061	94%	15	39	3%	9	1124	15	14	0	1	0	15
13	Bago (West) Division	978	917	94%	15	43	4%	3	978	18	9	3	6	0	18
14	Mon State	1386	1314	95%	7	53	4%	12	1386	6	4	1	1	0	6
15	Rakhine State	1300	1207	93%	7	83	6%	3	1300	18	15	2	1	0	18
16	Yangon Division	3700	3574	97%	23	84	2%	19	3700	105	78	17	6	4	105
17	Ayeyarwaddy Division	1756	1714	98%	9	30	2%	3	1756	39	34	5	0	0	39
States & Divisions total		26550	24993	94%	185	1168	4%	204	26550	361	275	44	33	9	361
(PC+TBM) TB patients, Unknown HIV status (NTP)		26494	24947	94%	177	1167	4%	203	26494	358	275	42	33	8	358
Other Unit		2804	2644	94%	39	104	4%	17	2804	68	41	18	6	3	68
(PC+TBM) TB patients, Unknown HIV status (Other)		2745	2608	95%	18	104	4%	15	2745	40	19	14	4	3	40
Union of Myanmar		29354	27637	94%	224	1272	4%	221	29354	429	316	62	39	12	429
(PC+TBM) TB patients, unknown HIV status (Union)		29239	27555	94%	195	1271	4%	218	29239	398	294	56	37	11	398

TREATMENT OUTCOME OF TB/HIV PATIENTS IN 2008 (2007 COHORT)

Sr.No.	Reporting units	PRIMARY COMPLEX								TB MENINGITIS					
		Total No.	Completed		Died	Defaulted		Transfer out	Total	Total No.	Comple- ted	Died	Defaulted	Transfer out	Total
		Reg. pts.	No	Rate		No	Rate			Reg. pts.					
1	NTP	56	46	82%	8	1	2%	1	56	3	0	2	0	1	3
2	Other Units	59	36	61%	21	0	0%	2	59	28	22	4	2	0	28
Total		115	82	71%	29	1	1%	3	115	31	22	6	2	1	31

OTHER REPORTING UNITS

Caes finding activities

Block (1)

Annex - 17

Sr.No.	Reporting units	PULMONARY TUBERCULOSIS												Total	Extra Pulmonary TB		Total	Other		Total		
		SMEAR POSITIVE									Total	Smear Negative										
		New Cases			Previously treated cases																	
					Relapses		T after Default		T after failure													
		M	F	T	M	F	M	F	M	F					M	F		M	F	M	F	M
1	Aung San TB Hospital	53	20	73	17	9	9	5	7	9	129	35	17	52	10	5	15	90	57	221	122	343
2	Patheingyi TB Hospital	17	5	22	27	11	6	1	5	5	77	17	13	30	6	1	7	53	22	131	58	189
3	East Yangon General Hospital	7	4	11	2	2	1	0	2	1	19	31	10	41	110	113	223	3	0	156	130	286
4	Mingalardon Hospital	69	33	102	9	3	0	0	5	1	120	356	111	467	66	36	102	105	32	610	216	826
5	Wabargi Specialist Hosipital	124	31	155	20	7	8	3	3	1	197	240	130	370	299	157	456	90	69	784	398	1182
6	No.1MBH (PyinOoLwin)	99	17	116	42	4	0	0	0	0	162	96	11	107	2	2	4	0	0	239	34	273
7	1000 beded Hospital (Nay Pyi Taw)	13	8	21	1	1	1	1	1	1	27	57	24	81	53	50	103	0	0	126	85	211
8	AZG (Yangon)	64	46	110	28	12	2	0	13	7	172	116	115	231	101	117	218	132	71	456	368	824
9	AZG (Kachin)	179	75	254	28	10	2	1	19	6	320	156	107	263	84	60	144	31	9	499	268	767
10	PSI	2640	1465	4105	228	100	21	15	102	54	4625	1818	1126	2944	1445	1186	2631	45	23	6299	3969	10268
11	AZG (Shan-North)	187	98	285	18	11	16	3	28	13	374	52	37	89	35	24	59	11	12	347	198	545
12	AZG (Rakhine)	7	2	9	1	0	0	0	0	0	10	7	4	11	12	12	24	1	0	28	18	46
13	Thingangyun Sanpya Hospital	4	5	9	2	1	0	0	0	0	12	20	12	32	3	5	8	1	0	30	23	53
14	Medecins du monde	34	9	43	4	0	1	0	3	2	53	53	25	78	94	42	136	0	1	189	79	268
15	New Yangon General Hospital	20	12	32	4	5	0	3	0	0	44	34	23	57	14	20	34	5	2	77	65	142
16	West Yangon General Hospital	3	1	4	2	1	0	0	1	0	8	40	18	58	3	3	6	3	2	52	25	77
	Total	3520	1831	5351	433	177	67	32	189	100	6349	3128	1783	4911	2337	1833	4170	570	300	10244	6056	16300

OTHER REPORTING UNITS

Age and sex distribution of new smear positive TB patients

Block 2

Sr.No	Reporting units	AGE GROUP (YEAR)														TOTAL		
		0-14		15-24		25 - 34		35 - 44		45 - 54		55 - 64		≥ 65				
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	T
1	Aung San TB Hospital	0	0	7	3	11	11	14	0	10	0	1	4	11	1	54	19	73
2	Patheingyi TB Hospital	0	0	2	2	5	0	5	1	1	2	2	0	2	0	17	5	22
3	East Yangon General Hospital	0	0	2	1	1	0	1	0	2	3	1	0	0	0	7	4	11
4	Mingalardon Hospital	1	0	4	4	25	14	23	8	11	4	6	2	0	0	70	32	102
5	Wabargi Specialist Hosipital	1	1	17	7	61	13	39	8	5	1	0	0	2	0	125	30	155
6	No.1MBH (PyinOoLwin)	0	1	27	3	26	4	32	6	10	2	4	1	0	0	99	17	116
7	1000 beded Hospital (Nay Pyi Taw)	0	0	3	2	4	2	2	3	3	0	1	1	0	0	13	8	21
8	AZG (Yangon)	1	0	2	10	35	22	17	10	8	4	0	0	1	0	64	46	110
9	AZG (Kachin)	1	5	29	15	47	29	60	16	26	10	11	0	5	0	179	75	254
10	PSI	11	9	357	300	678	384	652	292	461	222	292	150	189	108	2640	1465	4105
11	AZG (Shan-North)	4	3	27	22	62	32	38	21	37	8	17	9	2	3	187	98	285
12	AZG (Rakhine)	0	0	0	1	4	0	3	1	0	0	0	0	0	0	7	2	9
13	Thingangyun Sanpya Hospital	0	0	0	0	2	3	0	0	1	2	0	0	1	0	4	5	9
14	Medecins du monde	0	0	4	1	18	8	9	0	3	0	0	0	0	0	34	9	43
15	New Yangon General Hospital	0	0	1	4	5	1	5	1	2	4	4	1	3	1	20	12	32
16	West Yangon General Hospital	0	0	0	0	0	1	2	0	0	0	0	0	1	0	3	1	4
	Total	19	19	482	375	984	524	902	367	580	262	339	168	217	113	3523	1828	5351

Primary complex cases and TB meningitis cases by age group

Sr.No	Reporting Units	PC and TBM cases by age group											Total
		PC			Total	Hilar Lymphadenopathy			Total	TBM			
		0-4	<15	≥15		0-4	5-14	≥15		0-4	<15	≥15	
1	Aung San TB Hospital	0	0	0	0	0	0	0	0	0	1	3	4
2	Patheingyi TB Hospital	1	1	0	2	0	0	0	0	0	0	0	0
3	East Yangon General Hospital	0	189	27	216	0	0	0	0	0	0	1	1
4	Mingalardon Hospital	0	0	0	0	0	0	0	0	0	0	0	0
5	Wabargi Specialist Hosipital	58	71	0	129	4	6	0	10	0	0	0	0
6	No.1MBH (PyinOoLwin)	16	17	0	33	0	0	0	0	0	0	0	0
7	1000 beded Hospital (Nay Pyi Taw)	54	26	0	80	0	0	0	0	0	0	0	0
8	AZG (Yangon)	16	33	13	62	0	0	0	0	1	3	2	6
9	AZG (Kachin)	1	12	38	51	8	7	8	23	0	0	6	6
10	PSI	0	2182	45	2227	0	1	0	1	0	10	98	108
11	AZG (Shan-North)	9	0	1	10	0	0	0	0	0	0	2	2
12	AZG (Rakhine)	2	3	1	6	3	3	0	6	1	1	0	2
13	Thingangyun Sanpya Hospital	0	18	0	18	0	0	1	1	0	0	0	0
14	Medecins du monde	0	3	3	6	0	0	0	0	0	0	22	22
15	New Yangon General Hospital	0	0	0	0	0	0	0	0	0	0	0	0
16	West Yangon General Hospital	6	3	0	9	0	0	0	0	0	0	0	0
Total		163	2558	128	2849	15	17	9	41	2	15	134	151

OTHER REPORTING UNITS

NOTIFIED TB PATIENTS ACCORDING TO CATEGORY OF REGIMENS (2008)

Sr.No	Reporting units	CAT - 1				CAT - 2					CAT - 3			TOTAL
		Sputum Smear Positive	Sputum Smear Negative	EP Seriously ill	Total	Relapses	Treat-ment after Default	Treat-ment after Failure	Others (Failure)	Total	P	EP	Total	
1	Aung San TB Hospital	73	52	15	140	26	14	16	147	203	0	0	0	343
2	Patheingyi TB Hospital	24	32	7	63	41	7	11	77	136	0	1	1	200
3	East Yangon General Hospital	13	44	4	61	4	1	2	3	10	1	219	220	291
4	Mingalardon Hospital	100	422	102	624	12	0	5	137	154	29	0	29	807
5	Wabargi Specialist Hospital	149	317	369	835	26	10	4	66	106	213	42	255	1196
6	No.1MBH (PyinOoLwin)	116	107	1	224	46	0	0	0	46	0	3	3	273
7	1000 beded Hospital (Nay Pyi Taw)	24	78	5	107	11	0	0	0	11	3	99	102	220
8	AZG (Yangon)	111	182	172	465	40	2	20	203	265	52	47	99	829
9	AZG (Kachin)	254	211	125	590	51	4	26	48	129	36	8	44	763
10	PSI	4137	1664	257	6058	333	36	159	70	598	1300	2383	3683	10339
11	AZG (Shan-North)	285	95	60	440	29	19	41	26	115	0	0	0	555
12	AZG (Rakhine)	9	11	11	31	2	0	1	0	3	6	7	13	47
13	Thingangyun Sanpya Hospital	9	18	3	30	3	0	0	1	4	13	5	18	52
14	Medecins du monde	42	65	118	225	21	3	10	4	38	0	0	0	263
15	New Yangon General Hospital	32	45	18	95	10	3	0	7	20	11	16	27	142
16	West Yangon General Hospital	4	40	4	48	12	0	1	5	18	9	2	11	77
	Total	5382	3383	1271	10036	667	99	296	794	1856	1673	2832	4505	16397

Block (4)

LABORATORY PERFORMANCE (2008)

Sr.No	Reporting units	A		B		C		D	
		No. of suspects(Dx) examined by microscopy for case finding		No. of smear positive pts detected out of suspects (Dx)		No. of patients examined by microscopy for follow-up		No. of smear positive out of follow-up patients	
		No. of Pts	No. of slides	No. of Pts	No. of slides	No. of Pts	No. of slides	No. of Pts	No. of slides
1	Aung San TB Hospital	286	780	189	447	1851	2968	319	523
2	Patheingyi TB Hospital	1718	4514	334	931	716	1512	220	427
3	East Yangon General Hospital	542	1626	34	102	113	226	0	0
4	Mingalardon Hospital	529	1427	52	136	619	1238	1	2
5	Wabargi Specialist Hospital	1863	NA	177	NA	769	NA	27	NA
6	No.1MBH (PyinOoLwin)	677	1928	159	342	622	1866	0	0
7	1000 beded Hospital (Nay Pyi Taw)	153	459	21	58	226	452	10	20
8	AZG (Yangon)	8538	5921	1692	1016	2275	1021	188	43
9	AZG (Kachin)	2857	8465	577	1714	1355	3105	289	637
10	PSI	17051	49168	3388	9340	12864	25630	1103	1958
11	AZG (Shan-North)	3388	10093	618	1854	1457	4369	309	927
12	AZG (Rakhine)	246	700	25	71	48	141	6	18
13	Thingangyun Sanpya Hospital	10	30	5	15	0	0	0	0
14	Medecins du monde	512	1183	40	95	345	547	15	24
15	New Yangon General Hospital	245	710	17	43	135	271	5	8
16	West Yangon General Hospital	77	231	7	21	31	62	2	4
Total		38692	87235	7335	16185	23426	43408	2494	4591

NA = Not available

OTHER REPORTING UNITS

SPUTUM CONVERSION

Block 5

Sr.No.	Reporting units	Registered cases	Smear not done at eighter 2or 3 months	Sputum conversion at				Remaining positive at 3 month	TOTAL 2+3+4+5
				2 month		3 month			
				No	%	No	%		
1	Aung San TB Hospital	73	33	28	38%	3	4%	9	73
2	Patheingyi TB Hospital	22	6	12	55%	4	18%	0	22
3	East Yangon General Hospital	11	0	11	100%	0	0%	0	11
4	Mingalardon Hospital	102	16	86	84%	0	0%	0	102
5	Wabargi Specialist Hosipital	155	41	114	74%	0	0%	0	155
6	No.1MBH (PyinOoLwin)	116	0	116	100%	0	0%	0	116
7	1000 beded Hospital (Nay Pyi Taw)	21	2	7	33%	11	52%	1	21
8	AZG (Yangon)	110	21	72	65%	13	12%	4	110
9	AZG (Kachin)	254	59	122	48%	36	14%	37	254
10	PSI	4105	452	3135	76%	356	9%	162	4105
11	AZG (Shan-North)	285	26	138	48%	57	20%	64	285
12	AZG (Rakhine)	9	2	2	22%	2	22%	3	9
13	Thingangyun Sanpya Hospital	9	2	7	78%	0	0%	0	9
14	Medecins du monde	43	8	31	72%	3	7%	1	43
15	New Yangon General Hospital	32	0	29	91%	2	6%	1	32
16	West Yangon General Hospital	4	0	4	100%	0	0%	0	4
Total		5351	668	3914	73%	487	9%	282	5351

OTHER REPORTING UNITS

TREATMENT OUTCOMES

Sr. No	Reporting units	SMEAR POSITIVE CASES														
		Total	Cured		Completed		TSR	Died		Failure		Defaulted		Transfer out		Total
			No	Rate	No	Rate		No	Rate	No	Rate	No	Rate	No	Rate	
1	Aung San TB Hospital	105	54	51%	17	16%	68%	11	10%	6	6%	10	10%	7	7%	105
2	Patheingyi TB Hospital	50	23	46%	8	16%	62%	7	14%	2	4%	1	2%	9	18%	50
3	East Yangon General Hospital	0														0
4	Mingalardon Hospital	43	30	70%	3	7%	77%	10	23%	0	0%	0	0%	0	0%	43
5	Wabargi Specialist Hosipital	163	87	53%	2	1%	55%	59	36%	7	4%	3	2%	5	3%	163
6	No.1MBH (PyinOoLwin)	114	100	88%	0	0%	88%	14	12%	0	0%	0	0%	0	0%	114
7	1000 beded Hospital (Nay Pyi Taw	0														0
8	AZG (Yangon)	529	265	50%	32	6%	56%	67	13%	79	15%	68	13%	18	3%	529
9	AZG (Kachin)	309	194	63%	41	13%	76%	14	5%	29	9%	20	6%	11	4%	309
10	PSI	3803	2734	72%	439	12%	83%	158	4%	156	4%	238	6%	78	2%	3803
11	AZG (Shan-North)	350	205	59%	21	6%	65%	16	5%	66	19%	33	9%	9	3%	350
12	AZG (Rakhine)	19	4	21%	15	79%	100%	0	0%	0	0%	0	0%	0	0%	19
13	Thingangyun Sanpya Hospital	0														0
14	Medecins du monde	34	14	41%	0	0%	41%	7	21%	3	9%	5	15%	5	15%	34
15	New Yangon General Hospital	23	17	74%	0	0%	74%	4	17%	0	0%	1	4%	1	4%	23
16	West Yangon General Hospital	0														0
	Total	5542	3727	67%	578	10%	78%	367	7%	348	6%	379	7%	143	3%	5542

Sr. No	Reporting units	RELAPSE CASES													
		Total	Cured		Completed		Died		Failure		Defaulted		Transfer out		Total
			No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	
1	Aung San TB Hospital	46	15	33%	7	15%	8	17%	2	4%	9	20%	5	11%	46
2	Patheingyi TB Hospital	75	17	23%	4	5%	4	5%	13	17%	9	12%	28	37%	75
3	East Yangon General Hospital	0													0
4	Mingalardon Hospital	2	1	50%	0	0%	1	50%	0	0%	0	0%	0	0%	2
5	Wabargi Specialist Hosipital	25	10	40%	0	0%	13	52%	1	4%	1	4%	0	0%	25
6	No.1MBH (PyinOoLwin)	49	32	65%	17	35%	0	0%	0	0%	0	0%	0	0%	49
7	1000 beded Hospital (Nay Pyi Taw	0													0
8	AZG (Yangon)	101	51	50%	3	3%	24	24%	10	10%	4	4%	9	9%	101
9	AZG (Kachin)	37	17	46%	11	30%	4	11%	2	5%	2	5%	1	3%	37
10	PSI	313	212	68%	30	10%	25	8%	18	6%	16	5%	12	4%	313
11	AZG (Shan-North)	50	18	36%	12	24%	15	30%	0	0%	2	4%	3	6%	50
12	AZG (Rakhine)	0													0
13	Thingangyun Sanpya Hospital	0													0
14	Medecins du monde	16	1	6%	8	50%	3	19%	2	13%	1	6%	1	6%	16
15	New Yangon General Hospital	1													1
16	West Yangon General Hospital	0													0
	Total	715	374	52%	92	13%	98	14%	48	7%	44	6%	59	8%	715

Sr. No	Reporting units	SMEAR NEGATIVE CASES											
		Total	Completed		Died		Failure		Defaulted		Transfer out		Total
			No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	
1	Aung San TB Hospital	72	51	71%	11	15%	2	3%	3	4%	5	7%	72
2	Patheingyi TB Hospital	57	36	63%	6	11%	0	0%	8	14%	7	12%	57
3	East Yangon General Hospital	4	2	50%	0	0%	0	0%	2	50%	0	0%	4
4	Mingalardon Hospital	213	123	58%	67	31%	0	0%	19	9%	4	2%	213
5	Wabargi Specialist Hosipital	660	376	57%	219	33%	3	0%	30	5%	32	5%	660
6	No.1MBH (PyinOoLwin)	98	98	100%	0	0%	0	0%	0	0%	0	0%	98
7	1000 beded Hospital (Nay Pyi Taw	0											0
8	AZG (Yangon)	551	373	68%	67	12%	49	9%	50	9%	12	2%	551
9	AZG (Kachin)	357	266	75%	39	11%	8	2%	30	8%	14	4%	357
10	PSI	2810	2324	83%	162	6%	20	1%	240	9%	64	2%	2810
11	AZG (Shan-North)	215	133	62%	45	21%	6	3%	21	10%	10	5%	215
12	AZG (Rakhine)	7	7	100%	0	0%	0	0%	0	0%	0	0%	7
13	Thingangyun Sanpya Hospital	0											0
14	Medecins du monde	134	87	65%	18	13%	3	2%	7	5%	19	14%	134
15	New Yangon General Hospital	61	43	70%	6	10%	0	0%	9	15%	3	5%	61
16	West Yangon General Hospital	0											0
	Total	5239	3919	75%	640	12%	91	2%	419	8%	170	3%	5239

NATIONAL TUBERCULOSIS PROGRAMME
OTHER REPORTING UNITS
TREATMENT OUTCOMES OF TREATMENT AFTER DEFAULT (2007 COHORT)

Sr.No.	Reporting units	TOTAL	Cured		Completed		Died		Failure		Defaulted		Transfer		Total
			No.	CR	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	
1	Aung San TB Hospital	25	5	20%	6	24%	3	12%	5	20%	2	8%	4	16%	25
2	Patheingyi TB Hospital	3	0	0%	0	0%	0	0%	0	0%	1	33%	2	67%	3
3	East Yangon General Hospital	1	0	0%	0	0%	0	0%	1	100%	0	0%	0	0%	1
4	Mingalardon Hospital	1	0	0%	0	0%	1	100%	0	0%	0	0%	0	0%	1
5	Wabargi Specialist Hosipital	13	5	38%	0	0%	8	62%	0	0%	0	0%	0	0%	13
6	No.1MBH (PyinOoLwin)	0													0
7	1000 beded Hospital (Nay Pyi Taw)	0													0
8	AZG (Yangon)	11	5	45%	1	9%	2	18%	0	0%	2	18%	1	9%	11
9	AZG (Kachin)	12	7	58%	1	8%	1	8%	1	8%	2	17%	0	0%	12
10	PSI	55	40	73%	4	7%	1	2%	3	5%	4	7%	3	5%	55
11	AZG (Shan-North)	19	8	42%	5	26%	4	21%	2	11%	0	0%	0	0%	19
12	AZG (Rakhine)	0													0
13	Thingangyun Sanpya Hospital	0													0
14	Medecins du monde	8	1	13%	1	13%	2	25%	0	0%	2	25%	2	25%	8
15	New Yangon General Hospital	3	3	100%	0	0%	0	0%	0	0%	0	0%	0	0%	3
16	West Yangon General Hospital	0													0
	Total	151	74	49%	18	12%	22	15%	12	8%	13	9%	12	8%	151

TREATMENT OUTCOMES OF TREATMENT AFTER FAILURE (2007 COHORT)

Sr.No.	Reporting units	TOTAL	Cured		Completed		Died		Failure		Defaulted		Transfer		Total
			No	CR	No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	
1	Aung San TB Hospital	18	1	6%	2	11%	6	33%	2	11%	4	22%	3	17%	18
2	Patheingyi TB Hospital	3	0	0%	0	0%	2	67%	0	0%	0	0%	1	33%	3
3	East Yangon General Hospital	0													0
4	Mingalardon Hospital	1	1	100%	0	0%	0	0%	0	0%	0	0%	0	0%	1
5	Wabargi Specialist Hosipital	3	0	0%	0	0%	3	100%	0	0%	0	0%	0	0%	3
6	No.1MBH (PyinOoLwin)	0													0
7	1000 beded Hospital (Nay Pyi Taw)	0													0
8	AZG (Yangon)	234	113	48%	35	15%	23	10%	22	9%	31	13%	10	4%	234
9	AZG (Kachin)	38	23	61%	6	16%	2	5%	3	8%	2	5%	2	5%	38
10	PSI	186	110	59%	15	8%	10	5%	17	9%	18	10%	16	9%	186
11	AZG (Shan-North)	80	36	45%	9	11%	5	6%	22	28%	5	6%	3	4%	80
12	AZG (Rakhine)	0													0
13	Thingangyun Sanpya Hospital	0													0
14	Medecins du monde	8	2	25%	1	13%	3	38%	1	13%	0	0%	1	13%	8
15	New Yangon General Hospital	0													0
16	West Yangon General Hospital	0													0
	Total	571	286	50%	68	12%	54	9%	67	12%	60	11%	36	6%	571

TREATMENT OUTCOMES

OTHER REPORTING UNITS

Sr. No	Reporting units	OTHER CASES													
		Total	Cured		Completed		Died		Failure		Defaulted		Transfer out		Total
			No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	
1	Aung San TB Hospital	7	0	0%	2	29%	2	29%	0	0%	2	29%	1	14%	7
2	Patheingyi TB Hospital	91	1	1%	24	26%	13	14%	14	15%	13	14%	26	29%	91
3	East Yangon General Hospita	0													0
4	Mingalardon Hospital	24	0	0%	14	58%	8	33%	0	0%	2	8%	0	0%	24
5	Wabargi Specialist Hosipital	49	0	0%	24	49%	23	47%	0	0%	0	0%	2	4%	49
6	No.1MBH (PyinOoLwin)	0													0
7	1000 beded Hospital (Nay Pyi	0													0
8	AZG (Yangon)	422	64	15%	213	50%	92	22%	20	5%	28	7%	5	1%	422
9	AZG (Kachin)	73	3	4%	48	66%	10	14%	0	0%	11	15%	1	1%	73
10	PSI	36	4	11%	20	56%	7	19%	1	3%	4	11%	0	0%	36
11	AZG (Shan-North)	26	2	8%	17	65%	6	23%	0	0%	0	0%	1	4%	26
12	AZG (Rakhine)	0													0
13	Thingangyun Sanpya Hospita	0													0
14	Medecins du monde	7	0	0%	1	14%	5	71%	0	0%	0	0%	1	14%	7
15	New Yangon General Hospita	4	0	0%	2	50%	2	50%	0	0%	0	0%	0	0%	4
16	West Yangon General Hospita	0													0
Total		739	74	10%	365	49%	168	23%	35	5%	60	8%	37	5%	739

Sr. No.	Reporting units	PRIMARY COMPLEX								TB MENINGITIS					
		Total No. Reg pts	Completed		Died	Defaulted		Transfer out	Total	Total No. Reg pts	Comple- ted	Died	Defaulted	Transfer out	Total
			No	Rate		No	Rate								
1	Aung San TB Hospital	0							0	0					0
2	Patheingyi TB Hospital	20	16	80%	0	3	15%	1	20	0					0
3	East Yangon General Hospita	30	15	50%	0	15	50%	0	30	2	1	1	0	0	2
4	Mingalardon Hospital	0							0	0					0
5	Wabargi Specialist Hosipital	43	28	65%	15	0	0%	0	43	9	7	2	0	0	9
6	No.1MBH (PyinOoLwin)	0							0	0					0
7	1000 beded Hospital (Nay Pyi	0							0	0					0
8	AZG (Yangon)	103	86	83%	6	10	10%	1	103	26	8	11	6	1	26
9	AZG (Kachin)	19	15	79%	2	2	11%	0	19	17	14	1	0	2	17
10	PSI	2549	2446	96%	15	74	3%	14	2549	8	6	2	0	0	8
11	AZG (Shan-North)	5	4	80%	1	0	0%	0	5	6	5	1	0	0	6
12	AZG (Rakhine)	28	28	100%	0	0	0%	0	28	0					0
13	Thingangyun Sanpya Hospita	0							0	0					0
14	Medecins du monde	7	6	86%	0	0	0%	1	7	0					0
15	New Yangon General Hospita	0							0	0					0
16	West Yangon General Hospita	0							0	0					0
	Total	2804	2644	94%	39	104	4%	17	2804	68	41	18	6	3	68

NATIONAL TUBERCULOSIS PROGRAMME
Reporting Status (2008)

Annex - 18

STATE / DIVISION	DOTS Townships	1st Quarter 2008			2nd Quarter 2008			3rd Quarter 2008			4th Quarter 2008			Annual 2008		
		Received	%	not received	Received	%	not received	Received	%	not received	Received	%	not received	Received	%	not received
Kachin State	18	13	74%	5	13	72%	5	13	72%	5	13	72%	5	13	72%	5
Kayah State	7	7	100%	0	7	100%	0	7	100%	0	7	100%	0	7	100%	0
Chin State (South)	4	4	100%	0	4	100%	0	4	100%	0	4	100%	0	4	100%	0
Chin State (North)	5	5	100%	0	5	100%	0	5	100%	0	5	100%	0	5	100%	0
Sagaing Division	37	37	100%	0	37	100%	0	37	100%	0	37	100%	0	37	100%	0
Magway Division	25	25	100%	0	25	100%	0	25	100%	0	25	100%	0	25	100%	0
Mandalay Division	31	31	100%	0	31	100%	0	31	100%	0	31	100%	0	31	100%	0
Shan State (South)	21	21	99%	0	21	100%	0	21	100%	0	21	100%	0	21	100%	0
Shan State (East)	10	9	88%	1	9	90%	1	9	90%	1	9	90%	1	9	90%	1
Shan State (North)	24	19	79%	5	18	75%	6	18	75%	6	18	75%	6	19	79%	5
Kayin State	7	7	100%	0	7	100%	0	7	100%	0	7	100%	0	7	100%	0
Tanintharyi Division	10	10	100%	0	10	100%	0	10	100%	0	10	100%	0	10	100%	0
Bago (East) Division	14	14	100%	0	14	100%	0	14	100%	0	14	100%	0	14	100%	0
Bago (West) Division	14	14	100%	0	14	100%	0	14	100%	0	14	100%	0	14	100%	0
Mon State	10	10	100%	0	10	100%	0	10	100%	0	10	100%	0	10	100%	0
Rakhine State	17	17	100%	0	17	100%	0	17	100%	0	17	100%	0	17	100%	0
Yangon Division	45	45	100%	0	45	100%	0	45	100%	0	45	100%	0	45	100%	0
Ayeyarwaddy Division	26	26	100%	0	26	100%	0	26	100%	0	26	100%	0	26	100%	0
Total townships	325	314	97%	11 3%	313	96%	12 4%	313	96%	12 4%	313	96%	12 4%	314	97%	11 3%

Annual report had not been received from (11) Townships

Kachin State (5) Tsps 1. N'ganyan 2. Hsawlaw 3. Naungmun 4. Khaunglanbu 5. Sumprabum

Shan (N) State (5) Tsps 1. Kongyan 2. Nanphand 3. Panwine 4. Mongmaw 5. Manphant

Shan (E) State (1) Tsps. 1. Matman

NATIONAL TUBERCULOSIS PROGRAMME
EVALUATION OF TB CONTROL ACTIVITIES IN STATES / DIVISIONS (2007-2008)

Annex - 19

No. of Reported Township	No. of total Tsp.	State/ Division	Population	Estimated New Smear (+) patients	Total New Smear Positive detected	Total notified TB patients	CDR	pul:TB cases out of all pul: TB cases	Ratio of new smear positive to new smear negative and EP	Ratio of new smear positive to new smear negative patients	Sputum Positivity Rate	Sputum Conversion Rate	Cure Rate	Treatment Success Rate (TSR)
13	18	Kachin State	1,422,973	1067	1165	4471	109%	50%	0.4:1	0.9:1	19%	86%	67%	77%
7	7	Kayah State	288,961	217	152	679	70%	56%	0.3:1	1:1	6%	86%	66%	78%
9	9	Chin State	499,804	375	154	1219	41%	37%	0.2:1	0.5:1	13%	87%	72%	87%
37	37	Sagaing Division	6,324,682	4744	2818	8605	59%	62%	0.5:1	1.5:1	12%	88%	77%	86%
25	25	Magway Division	4,367,232	3275	2236	7932	68%	50%	0.4:1	0.9:1	16%	87%	77%	88%
31	31	Mandalay Division	6,940,848	5206	3650	12234	70%	55%	0.5:1	1.1:1	20%	89%	77%	86%
21	21	Shan State (South)	2,255,390	1692	773	2490	46%	48%	0.5:1	0.8:1	13%	87%	74%	81%
9	10	Shan State (East)	698,131	524	555	1495	106%	64%	0.7:1	1.5:1	21%	84%	64%	85%
19	24	Shan State (North)	2,608,600	1956	1084	3701	55%	51%	0.4:1	0.9:1	23%	80%	68%	82%
7	7	Kayin State	1,806,263	1355	1095	4092	81%	34%	0.4:1	0.5:1	18%	87%	78%	86%
10	10	Tanintharyi Division	1,588,192	1191	822	5399	69%	33%	0.2:1	0.4:1	18%	82%	71%	76%
14	14	Bago (East) Division	3,193,668	2395	1894	5203	79%	53%	0.6:1	1:1	24%	93%	79%	87%
14	14	Bago (West) Division	2,256,848	1693	1715	5122	101%	41%	0.5:1	0.6:1	25%	89%	79%	85%
10	10	Mon State	2,550,004	1913	1800	7026	94%	36%	0.4:1	0.5:1	14%	90%	79%	87%
17	17	Rakhine State	3,289,494	2467	2230	5473	90%	60%	0.8:1	1.4:1	22%	88%	77%	88%
45	45	Yangon Division	5,792,701	9819	8788	24434	90%	55%	0.7:1	1:1	28%	91%	81%	87%
26	26	Ayeyarwaddy Div.	7,869,019	5902	4966	12864	84%	55%	0.7:1	1.1:1	23%	92%	83%	90%
314	325	NTP	53,752,810	45789	35897	112439	78%	54%	0.5:1	1:1	20%	89%	79%	86%
Other reporting Units					5351	16300		56%	0.6:1	1:1	19%	82%	67%	78%
Union Total			53,752,810	45789	41248	128739	90%	52%	0.5:1	0.9:1	20%	88%	77%	85%

NATIONAL TUBERCULOSIS PROGRAMME
EVALUATION OF TB CONTROL ACTIVITIES IN TOWNSHIPS (2007-2008)

(Townships list) Annex- 19

Sr.No	TOWNSHIPS	Population	Estimated New S + patients	Total New smear positive detected	Total notified TB cases	CDR	Prop. of Smear + pul. TB patients out of all pul. TB patients	Ratio of New smear positive to negative and EP	Ratio of New smear positive and negative TB patients	Sputum Positivity Rate	Sputum Conversion Rate	Cure Rate	Treatment Success Rate
KACHIN STATE													
1	Bahmo	105965	79	105	312	132%	60%	0.6:1	1.2:1	32%	92%	83%	83%
2	Mansi	66471	50	49	133	98%	64%	0.7:1	1.4:1	36%	86%	65%	78%
3	Momauk	95123	71	19	82	27%	39%	0.3:1	0.6:1	22%	100%	89%	89%
4	Shwegu	83890	63	34	76	54%	62%	0.9:1	1.5:1	22%	91%	95%	95%
5	Mohynin	196814	148	146	670	99%	50%	0.3:1	0.9:1	21%	84%	62%	71%
6	Pharkant (Karmaing)	139603	105	65	232	62%	57%	0.4:1	1.2:1	12%	80%	53%	63%
7	Moekaung	133017	100	121	614	121%	40%	0.3:1	0.6:1	20%	89%	57%	79%
8	Tanai	36365	27	55	122	202%	59%	0.9:1	1.3:1	24%	84%	75%	81%
9	Myitkyina	260855	196	365	1228	187%	51%	0.5:1	0.9:1	18%	83%	70%	74%
10	Chipway	18011	14	10	25	74%	75%	1:1	2:1	8%	10%	0%	0%
11	Hsawlaw	16729	13	Nr.									
12	N Jan Yan	5860	4	Nr.									
13	Waingmaw	113941	85	121	687	142%	49%	0.2:1	0.8:1	14%	93%	57%	76%
14	Putao	84477	63	72	279	114%	38%	0.4:1	0.6:1	15%	89%	75%	75%
15	Khaunglanbu	19624	15	Nr.									
16	Machanbaw	20422	15	3	11	20%	50%	0.4:1	1:1	60%	33%	100%	100%
17	Nogmun	11208	8	Nr.									
18	Sumprabum	14598	11	Nr.									
	Total	1422973	1067	1165	4471	109%	50%	0.4:1	0.9:1	19%	86%	67%	77%

* Note* Nr. = Report had not been received

* Note : No reports had been received from N'ganyan, Hsawlaw, Naungmun, Khaunglanbu, Sumprabum townships

Sr.No	TOWNSHIPS	Population	Estimated New S + patients	Total New smear positive detected	Total notified TB cases	CDR	Prop. of Smear + pul. TB patients out of all pul. TB patients	Ratio of New smear positive to negative and EP	Ratio of New smear positive and negative TB patients	Sputum Positivity Rate	Sputum Conversion Rate	Cure Rate	Treatment Success Rate
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KAYAH STATE

1	Bawlake	9856	7	9	19	122%	63%	1:1	1.5:1	8%	78%	67%	83%
2	Masai	5927	4	6	15	135%	86%	0.7:1	6:1	11%	100%	57%	57%
3	Pasaung	29593	22	10	41	45%	62%	0.6:1	0.8:1	10%	90%	0%	67%
4	Loikaw	109529	82	81	436	99%	49%	0.3:1	0.8:1	6%	86%	65%	74%
5	Demawhso	93603	70	33	138	47%	59%	0.3:1	1.2:1	5%	85%	74%	93%
6	Phruhso	28000	21	7	23	33%	64%	0.6:1	1.4:1	3%	71%	83%	83%
7	Shataw	12453	9	6	7	64%	100%	1:0	1:0	9%	100%	71%	71%
	Total	288961	217	152	679	70%	56%	0.3:1	1:1	6%	86%	66%	78%

CHIN STATE

1	Falam	51310	38	10	133	26%	31%	0.1:1	0.2:1	9%	80%	52%	83%
2	Hakha	56738	43	23	256	54%	34%	0.1:1	0.5:1	9%	74%	95%	95%
3	Htantalan	69947	52	8	85	15%	23%	0.1:1	0.3:1	13%	88%	78%	100%
4	Tiddim	89518	67	29	160	43%	36%	0.2:1	0.5:1	14%	86%	94%	100%
5	Tunzan	30560	23	3	109	13%	33%	0.3:1	0.3:1	18%	67%	83%	83%
6	Mindat	41230	31	30	125	97%	45%	0.3:1	0.7:1	22%	93%	50%	86%
7	Kanpetlet	18933	14	5	18	35%	45%	0.4:1	0.8:1	9%	100%	0%	100%
8	Matupi	55985	42	9	266	21%	11%	0:1	0.1:1	8%	67%	40%	73%
9	Paletwa	85583	64	37	67	58%	96%	1.8:1	18.5:1	17%	97%	81%	83%
	Total	499804	375	154	1219	41%	37%	0.2:1	0.5:1	13%	87%	72%	87%

Sr.No	TOWNSHIPS	Population	Estimated New S + patients	Total New smear positive detected	Total notified TB cases	CDR	Prop. of Smear + pul. TB patients out of all pul. TB patients	Ratio of New smear positive to negative and EP	Ratio of New smear positive and negative TB patients	Sputum Positivity Rate	Sputum Conversion Rate	Cure Rate	Treatment Success Rate
SAGAING DIVISION													
1	Sagaing	396784	298	190	428	64%	73%	0.9:1	2.5:1	12%	93%	84%	88%
2	Myaung	183455	138	65	165	47%	64%	0.7:1	1.7:1	11%	86%	89%	92%
3	Myinmu	165436	124	108	280	87%	55%	0.7:1	1.1:1	10%	99%	96%	96%
4	Shwebo	350281	263	121	561	46%	43%	0.3:1	0.7:1	14%	85%	77%	83%
5	Kanbalu	310956	233	128	356	55%	67%	0.6:1	1.8:1	7%	88%	80%	82%
6	Khin-U	195623	147	56	171	38%	73%	0.5:1	2.4:1	5%	96%	90%	90%
7	Kyunhla	87970	66	45	150	68%	55%	0.5:1	1.1:1	12%	60%	21%	97%
8	Depeyin	184169	138	55	141	40%	70%	0.7:1	2.3:1	12%	98%	84%	90%
9	Taze	217395	163	64	153	39%	77%	0.8:1	3.2:1	15%	94%	88%	92%
10	Wetlet	290631	218	119	360	55%	76%	0.6:1	2.6:1	14%	88%	88%	88%
11	Ye-U	172016	129	51	217	40%	51%	0.3:1	0.9:1	11%	82%	80%	89%
12	Monywa	411989	309	191	491	62%	68%	0.8:1	1.8:1	15%	78%	64%	75%
13	Ayadaw	243784	183	78	179	43%	66%	0.8:1	1.8:1	7%	92%	76%	95%
14	Budalin	190494	143	91	341	64%	61%	0.4:1	1.4:1	16%	75%	88%	88%
15	ChaungU	140308	105	73	202	69%	55%	0.6:1	1.1:1	21%	93%	76%	94%
16	Kani	169518	127	41	118	32%	70%	0.6:1	1.9:1	10%	100%	97%	97%
17	Pale	183099	137	54	185	39%	69%	0.4:1	2.1:1	13%	89%	57%	83%
18	Salingyi	178816	134	54	121	40%	70%	0.9:1	2.2:1	7%	91%	75%	81%
19	Yinmabin	174024	131	51	142	39%	63%	0.6:1	1.6:1	9%	94%	93%	93%
20	Katha	160671	121	102	255	85%	71%	0.8:1	2.1:1	17%	92%	81%	82%
21	Banmauk	104439	78	22	42	28%	64%	1.2:1	1.7:1	9%	86%	89%	89%
22	Htigyaik	123923	93	62	136	67%	76%	1.0:1	2.7:1	13%	85%	67%	70%
23	Indaw	136367	102	55	109	54%	82%	1.2:1	4.2:1	9%	93%	80%	80%
24	Kawlin	154833	116	60	172	52%	56%	0.6:1	1.1:1	9%	85%	77%	82%
25	Pinlebu	134083	101	41	111	41%	67%	0.6:1	1.8:1	15%	90%	75%	76%
26	Wuntho	82321	62	30	54	49%	79%	1.6:1	3.3:1	8%	90%	79%	79%
27	Kalay	318461	239	217	1109	91%	50%	0.3:1	0.9:1	16%	85%	78%	80%
28	Kalewa	72812	55	40	91	73%	71%	0.9:1	2.2:1	11%	88%	94%	94%
29	Minkin	129112	97	54	107	56%	81%	1.1:1	4.2:1	11%	96%	85%	88%
30	Tamu	96991	73	144	847	198%	46%	0.2:1	0.7:1	19%	90%	79%	89%
31	Mawleik	61748	46	36	64	78%	75%	1.4:1	2.8:1	12%	97%	60%	93%
32	Phaungbyin	122326	92	76	157	83%	86%	1:1	5.8:1	17%	87%	70%	88%
33	Khamti	40834	31	87	188	284%	64%	1:1	1.6:1	23%	78%	68%	76%
34	Homalin	187702	141	93	257	66%	54%	0.6:1	1.1:1	15%	83%	59%	74%
35	Layshi	20336	15	7	22	46%	77%	0.6:1	2.3:1	58%	57%	50%	83%
36	Lahel	54944	41	50	86	121%	76%	1.9:1	2.8:1	11%	88%	72%	93%
37	Nanyun	76031	57	7	37	12%	32%	0.3:1	0.3:1		86%	44%	67%
	Total	6324682	4744	2818	8605	59%	62%	0.5:1	1.5:1	12%	88%	77%	86%

Sr.No	TOWNSHIPS	Population	Estimated New S + patients	Total New smear positive detected	Total notified TB cases	CDR	Prop. of Smear + pul. TB patients out of all pul. TB patients	Ratio of New smear positive to negative and EP	Ratio of New smear positive and negative TB patients	Sputum Positivity Rate	Sputum Conversion Rate	Cure Rate	Treatment Success Rate
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MAGWAY DIVISION

1	Magway	390218	293	323	1141	110%	56%	0.5:1	1:1	24%	80%	76%	84%
2	Chauk	316012	237	152	532	64%	45%	0.4:1	0.8:1	17%	89%	80%	84%
3	Taundwingyi	247606	186	122	403	66%	48%	0.5:1	0.9:1	10%	89%	86%	86%
4	Myothit	169202	127	117	248	92%	61%	1:1	1.5:1	27%	100%	96%	96%
5	Natmauk	240676	181	95	177	53%	72%	1.3:1	2.4:1	24%	91%	82%	96%
6	Yenanchaung	170674	128	120	365	94%	56%	0.6:1	1.1:1	19%	88%	83%	88%
7	Pakokku	310323	233	144	704	62%	32%	0.3:1	0.4:1	16%	90%	70%	79%
8	Yesagyo	247759	186	53	178	29%	49%	0.5:1	0.9:1	5%	96%	93%	97%
9	Pauk	162997	122	99	309	81%	86%	0.5:1	5.8:1	15%	99%	99%	99%
10	Myaing	237206	178	126	444	71%	85%	0.4:1	5.3:1	15%	85%	23%	91%
11	Seikphyu	129692	97	44	124	45%	55%	0.6:1	1.2:1	6%	86%	92%	97%
12	Gantgaw	147182	110	65	225	59%	46%	0.4:1	0.8:1	17%	80%	76%	93%
13	Saw	88465	66	22	56	33%	68%	0.7:1	2.0:1	15%	95%	88%	94%
14	Htinlin	52666	39	16	40	41%	64%	0.7:1	1.8:1	18%	100%	60%	60%
15	Minbu	178134	134	110	569	82%	52%	0.2:1	0.9:1	18%	84%	66%	75%
16	Ngape	44956	34	24	83	71%	53%	0.5:1	1:1	21%	88%	81%	81%
17	Pwintphyu	171155	128	35	125	27%	46%	0.4:1	0.8:1	10%	91%	74%	89%
18	Saytoketaya	41700	31	24	80	77%	45%	0.5:1	0.7:1	17%	58%	31%	76%
19	Salin	250530	188	120	378	64%	55%	0.5:1	1.1:1	7%	84%	53%	94%
20	Thayet	107350	81	113	292	140%	52%	0.7:1	0.9:1	26%	76%	83%	83%
21	Minhla	109030	82	48	157	59%	56%	0.4:1	1.2:1	20%	100%	95%	95%
22	Kanma	112376	84	62	266	74%	40%	0.3:1	0.6:1	23%	95%	95%	95%
23	Sinpaungwe	127399	96	32	126	33%	57%	0.4:1	1.2:1	32%	91%	89%	94%
24	Mindone	59668	45	35	413	78%	20%	0.1:1	0.2:1	13%	100%	91%	91%
25	Aunglan	254256	191	135	497	71%	47%	0.4:1	0.8:1	20%	84%	82%	82%
	Total	4367232	3275	2236	7932	68%	50%	0.4:1	0.9:1	16%	87%	77%	88%

Sr.No	TOWNSHIPS	Population	Estimated New S + patients	Total New smear positive detected	Total notified TB cases	CDR	Prop. of Smear + pul. TB patients out of all pul. TB patients	Ratio of New smear positive to negative and EP	Ratio of New smear positive and negative TB patients	Sputum Positivity Rate	Sputum Conversion Rate	Cure Rate	Treatment Success Rate
MANDALAY DIVISION													
1	Amarapura	170733	128	88	272	69%	61%	0.6:1	1.3:1	27%	86%	65%	86%
2	Aungmyaytharzan	242709	182	219	714	120%	60%	0.5:1	1.3:1	24%	90%	88%	89%
3	Chanayetharzan	224911	169	148	552	88%	53%	0.4:1	1:1	17%	89%	76%	86%
4	Chanmyatharzi	168305	126	241	741	191%	54%	0.6:1	1:1	24%	95%	85%	90%
5	Maharaungmyae	215454	162	188	617	116%	57%	0.5:1	1.2:1	18%	93%	95%	96%
6	Pyigyitagon	142334	107	147	480	138%	54%	0.5:1	1:1	22%	89%	65%	79%
7	Patheingyi	169141	127	134	378	106%	62%	0.6:1	1.5:1	19%	81%	80%	85%
8	Meikhtilar	351821	264	61	704	23%	21%	0.1:1	0.2:1	12%	89%	50%	75%
9	Mahlaing	196006	147	37	195	25%	55%	0.3:1	1:1	21%	95%	44%	90%
10	Tharzi	211905	159	92	326	58%	66%	0.4:1	1.7:1	16%	98%	78%	95%
11	Wundwin	298810	224	104	217	46%	79%	1.1:1	3.3:1	34%	91%	84%	84%
12	Myingyan	306503	230	190	636	83%	56%	0.5:1	1.1:1	18%	91%	83%	86%
13	Kyaukpadaung	296832	223	223	439	100%	74%	1.2:1	2.6:1	23%	88%	84%	87%
14	Nahtogyi	228402	171	36	104	21%	60%	0.7:1	1.3:1	14%	78%	92%	92%
15	Ngazun	137030	103	57	148	55%	75%	0.7:1	2.6:1	20%	93%	74%	91%
16	Taungtha	245844	184	54	243	29%	35%	0.3:1	0.5:1	21%	70%	73%	99%
17	NyaungU	266951	200	140	618	70%	39%	0.3:1	0.6:1	19%	83%	67%	86%
18	Pyin Oo Lwin	156755	118	83	381	71%	59%	0.3:1	1.3:1	10%	95%	82%	86%
19	Madayar	255375	192	132	353	69%	75%	0.7:1	2.8:1	22%	83%	71%	81%
20	Mogok	189966	142	59	246	41%	38%	0.4:1	0.5:1	11%	92%	81%	92%
21	Sintgu	137413	103	116	345	113%	58%	0.7:1	1.1:1	27%	98%	91%	98%
22	Thabeikkyin	103079	77	80	255	103%	78%	0.5:1	2.9:1	35%	80%	39%	69%
23	Yamethin	250348	188	105	327	56%	52%	0.5:1	1:1	28%	92%	82%	90%
24	Lewei	314084	236	147	285	62%	72%	1.2:1	2.4:1	31%	94%	74%	88%
25	Pyawbwe	347417	261	108	280	41%	65%	0.7:1	1.6:1	14%	90%	69%	84%
26	Pyinmana	310649	233	220	775	94%	44%	0.4:1	0.7:1	21%	89%	75%	80%
27	Tatkone	282735	212	76	188	36%	68%	0.8:1	1.9:1	27%	79%	82%	84%
28	Kyaukse	221141	166	193	764	116%	48%	0.4:1	0.9:1	23%	83%	81%	82%
29	Myittha	230248	173	77	162	45%	74%	1:1	2.6:1	20%	94%	79%	93%
30	Sintgaing	122945	92	51	397	55%	42%	0.2:1	0.7:1	9%	96%	89%	89%
31	TadaOo	145002	109	44	92	40%	80%	1.1:1	3.7:1	9%	89%	66%	73%
	Total	6940848	5206	3650	12234	70%	55%	0.5:1	1.1:1	20%	89%	77%	86%

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SHAN (SOUTH) STATE

1	Linhay	61590	46	28	48	61%	71%	1.6:1	2.3:1	68%	100%	94%	94%
2	Maukmae	30016	23	19	26	84%	100%	2.7:1	1:0	27%	89%	70%	80%
3	Monai	53389	40	17	34	42%	63%	1.2:1	1.4:1	10%	100%	100%	100%
4	Mongpang	37017	28	0	5	0%	0%	0:1	0:1		#DIV/0!	50%	75%
5	Loilem	149271	112	30	88	27%	63%	0.6:1	1.5:1	14%	80%	67%	79%
6	Kunhein	73207	55	41	111	75%	52%	0.6:1	1:1	12%	90%	86%	86%
7	Kyeethi	104484	78	17	23	22%	94%	2.8:1	17:1	47%	88%	100%	100%
8	Laikha	65420	49	26	59	53%	72%	0.9:1	2.2:1	14%	100%	93%	93%
9	Mongkaing	121307	91	25	47	27%	73%	1.3:1	2.5:1	26%	80%	29%	71%
10	Mongshu	63654	48	34	110	71%	40%	0.5:1	0.6:1	22%	85%	100%	100%
11	Namsan	91084	68	37	187	54%	37%	0.3:1	0.5:1	10%	73%	41%	56%
12	Taunggyi	345516	259	156	699	60%	32%	0.3:1	0.4:1	14%	77%	66%	72%
13	Hopone	100518	75	21	61	28%	63%	0.6:1	1.6:1	8%	100%	85%	90%
14	Hpekon	77340	58	22	226	38%	27%	0.1:1	0.3:1	16%	95%	90%	97%
15	Hsiseng	105851	79	36	133	45%	46%	0.4:1	0.6:1	17%	86%	76%	79%
16	Kalaw	152891	115	82	188	72%	68%	0.9:1	1.8:1	12%	87%	69%	69%
17	Yaksauk	131536	99	48	123	49%	57%	0.8:1	1:1	22%	90%	68%	75%
18	Pindaya	78904	59	11	35	19%	50%	0.5:1	1:1	4%	100%	42%	92%
19	Pinlaung	156736	118	44	100	37%	63%	0.8:1	1.6:1	10%	98%	70%	89%
20	Nyaungshwe	181017	136	69	153	51%	64%	0.9:1	1.6:1	11%	97%	91%	91%
21	Ywangan	74642	56	10	34	18%	65%	0.4:1	1.7:1	5%	70%	100%	100%
	Total	2255390	1692	773	2490	46%	48%	0.5:1	0.8:1	13%	87%	74%	81%

SHAN (EAST) STATE

1	Kengtong	184521	138	146	396	105%	66%	0.7:1	1.6:1	19%	86%	54%	87%
2	Mongkhat	28947	22	0	4	0%	0%	0:1	0:0	0%	0%	67%	100%
3	Mongyan	92566	69	25	82	36%	70%	0.5:1	2.1:1	33%	86%	46%	98%
4	Monghsat	76268	57	117	222	205%	83%	1.4:1	4.2:1	32%	79%	88%	90%
5	Mongpying	52647	39	39	154	99%	63%	0.4:1	1.4:1	27%	85%	49%	74%
6	Mongton	38914	29	29	84	99%	55%	0.7:1	0.9:1	25%	55%	56%	64%
7	Monpyak	39239	29	23	68	78%	71%	0.7:1	1.8:1	19%	96%	79%	90%
8	Mongyaung	69131	52	37	74	71%	64%	1.1:1	1.7:1	25%	97%	50%	70%
9	Tachileik	115898	87	139	411	160%	52%	0.5:1	1:1	17%	87%	78%	86%
10	Matman	Nr.											
		698131	524	555	1495	106%	64%	0.7:1	1.5:1	21%	84%	64%	85%

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SHAN (NORTH) STATE

1	Kunlon	149674	112	24	77	21%	43%	0.5:1	0.6:1	30%	92%	89%	91%
2	Hopan	93507	70	85	132	121%	92%	2.2:1	10.6:1	29%	41%	38%	80%
3	Kyaukme	211294	158	119	399	75%	51%	0.5:1	0.9:1	34%	88%	73%	79%
4	Hsipaw	173369	130	109	315	84%	56%	0.6:1	1.1:1	21%	100%	99%	99%
5	Mabein	35262	26	17	33	64%	69%	1.1:1	2.1:1	27%	100%	64%	86%
6	Manton	36971	28	0	6	0%	20%	0:1	0:1	33%		0%	100%
7	Mongmeik	75244	56	51	137	90%	54%	0.7:1	1:1	19%	84%	78%	92%
8	Namtu	152160	114	52	143	46%	66%	0.7:1	1.6:1	15%	88%	68%	77%
9	Nyaungcho	137908	103	40	149	39%	47%	0.4:1	0.8:1	22%	100%	96%	96%
10	Lashio	283882	213	217	732	102%	49%	0.5:1	0.8:1	21%	76%	68%	68%
11	Namsam	82918	62	19	106	31%	36%	0.2:1	0.5:1	24%	63%	79%	79%
12	Mongmaw	15859	12	Nr.									
13	Theinni	77361	58	44	126	76%	61%	0.6:1	1.3:1	25%	80%	56%	80%
14	Mongreh	74552	56	35	148	63%	78%	0.3:1	3.5:1	35%	57%	69%	100%
15	Manphant	60344	45	Nr.									
16	Pangyan	88582	66	11	50	17%	22%	0.3:1	0.3:1	13%	27%	31%	69%
17	Narphant	38456	29	Nr.									
18	Panwaing	15064	11	Nr.									
19	Tanyan	201169	151	61	254	40%	46%	0.4:1	0.7:1	20%	97%	85%	100%
20	Laukkai	74495	56	19	139	34%	32%	0.2:1	0.4:1	23%	74%	48%	74%
21	Kongyan	48029	36	Nr.									
22	Muse	151850	114	60	302	53%	30%	0.3:1	0.4:1	19%	82%	50%	85%
23	Kuitkai	201840	151	45	268	30%	43%	0.2:1	0.7:1	26%	69%	40%	84%
24	Namkham	128810	97	76	185	79%	65%	0.8:1	1.7:1	31%	78%	55%	74%
	Total	2608600	1956	1084	3701	55%	51%	0.4:1	0.9:1	23%	80%	68%	82%

* Note* Nr. = Report had not been received

Nr. = 5 townships: : Manphant, Panwaing, Mongmaw, Kongyan, Narphant

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KAYIN STATE

1	Kawkareik	325856	244	179	455	73%	54%	0.7:1	1:1	28%	93%	85%	92%
2	Kyainnseikkyi	271730	204	57	175	28%	37%	0.5:1	0.6:1	24%	84%	82%	89%
3	Myawaddy	61093	46	168	454	367%	48%	0.6:1	0.9:1	42%	80%	68%	80%
4	Hpa-an	519421	390	461	2190	118%	26%	0.3:1	0.3:1	13%	85%	71%	81%
5	Hlaingbwe	359399	270	142	488	53%	37%	0.4:1	0.5:1	18%	92%	93%	95%
6	Papun(Kamamaung)	159892	120	65	243	54%	38%	0.4:1	0.6:1	20%	89%	85%	94%
7	Thandaung	108872	82	23	87	28%	46%	0.4:1	0.8:1	21%	87%	76%	86%
	Total	1806263	1355	1095	4092	81%	34%	0.4:1	0.5:1	18%	87%	78%	86%

TANINTHARYI DIVISION

1	Dawei	209834	157	143	946	91%	29%	0.2:1	0.4:1	18%	85%	82%	83%
2	Launglon	207755	156	26	52	17%	85%	1.1:1	5.2:1	13%	92%	84%	84%
3	Thayetchaung	167290	125	18	50	14%	53%	0.6:1	1.1:1	13%	83%	66%	72%
4	Yebyu	141760	106	29	85	27%	43%	0.6:1	0.7:1	19%	83%	75%	78%
5	Kawthaung	92051	69	135	455	196%	41%	0.4:1	0.7:1	30%	87%	77%	82%
6	Bokepyin	64876	49	20	153	41%	39%	0.2:1	0.5:1	14%	50%	29%	67%
7	Myeik	303227	227	301	3110	132%	24%	0.1:1	0.3:1	17%	82%	68%	69%
8	Kyunsu	147703	111	11	64	10%	50%	0.2:1	0.9:1	19%	73%	100%	100%
9	Tanintharyi	104856	79	54	164	69%	60%	0.5:1	1.4:1	20%	91%	79%	83%
10	Palaw	148840	112	85	320	76%	58%	0.4:1	1.2:1	16%	69%	56%	76%
	Total	1588192	1191	822	5399	69%	33%	0.2:1	0.4:1	18%	82%	71%	76%

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BAGO (EAST) DIVISION

1	Bago	495448	372	465	1263	125%	59%	0.7:1	1.1:1	24%	95%	63%	80%
2	Daik-U	226180	170	134	323	79%	52%	0.8:1	0.9:1	28%	99%	91%	93%
3	Kawa	252884	190	96	233	51%	63%	0.8:1	1.4:1	18%	94%	74%	82%
4	Kyauktaga	260496	195	150	415	77%	47%	0.6:1	0.7:1	20%	93%	91%	92%
5	Nyaunglaybin	258168	194	110	277	57%	55%	0.7:1	1.1:1	19%	95%	79%	89%
6	Shwekyin	88625	66	53	146	80%	47%	0.6:1	0.8:1	20%	91%	85%	87%
7	Thanatpin	191038	143	99	291	69%	43%	0.5:1	0.7:1	39%	93%	87%	90%
8	Waw	232689	175	146	351	84%	55%	0.8:1	1.1:1	26%	91%	87%	88%
9	Taunggoo	272797	205	138	437	67%	48%	0.5:1	0.8:1	22%	88%	84%	84%
10	Kyaukkyi	122059	92	50	180	55%	45%	0.4:1	0.8:1	31%	74%	54%	92%
11	Oktwin	168456	126	87	243	69%	58%	0.6:1	1.2:1	35%	84%	84%	85%
12	Phyu	281944	211	193	623	91%	46%	0.5:1	0.8:1	37%	95%	82%	89%
13	Htantabin	126527	95	62	187	65%	56%	0.5:1	1.1:1	13%	71%	95%	96%
14	Yedashe	216357	162	111	234	68%	58%	1:1	1.2:1	25%	99%	85%	89%
	Total	3193668	2395	1894	5203	79%	53%	0.6:1	1:1	24%	93%	79%	87%

BAGO (WEST) DIVISION

1	Pyay	229831	172	288	1047	167%	35%	0.4:1	0.5:1	22%	78%	79%	81%
2	Paukhaung	139075	104	101	302	97%	42%	0.5:1	0.7:1	18%	96%	92%	92%
3	Paungde	140498	105	96	281	91%	44%	0.5:1	0.7:1	20%	98%	82%	88%
4	Padaung	206148	155	82	273	53%	35%	0.4:1	0.5:1	22%	89%	58%	81%
5	Shwedaung	142659	107	88	402	82%	32%	0.3:1	0.4:1	23%	88%	64%	81%
6	Thegon	130513	98	76	417	78%	23%	0.2:1	0.3:1	20%	84%	84%	86%
7	Tharyarwady	172631	129	172	423	133%	49%	0.7:1	0.9:1	24%	88%	88%	88%
8	Zegon	72253	54	96	194	177%	56%	1:1	1.2:1	23%	99%	91%	99%
9	Minhla	170430	128	96	208	75%	62%	1:1	1.4:1	24%	94%	76%	77%
10	Moenyo	141677	106	83	159	78%	64%	1.3:1	1.5:1	29%	88%	87%	87%
11	Okkpo	134577	101	96	200	95%	52%	0.9:1	1.1:1	26%	96%	88%	88%
12	Gyobingauk	135404	102	101	379	99%	32%	0.4:1	0.4:1	26%	95%	80%	85%
13	Nattalin	219091	164	145	360	88%	47%	0.7:1	0.9:1	33%	90%	75%	82%
14	Latpadan	222061	167	195	477	117%	48%	0.7:1	0.9:1	49%	88%	66%	93%
	Total	2256848	1693	1715	5122	101%	41%	0.5:1	0.6:1	25%	89%	79%	85%

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MON STATE

1	Mawlamyine	461532	346	340	1498	98%	33%	0.3:1	0.4:1	12%	91%	80%	85%
2	Chaungzon	220965	166	67	330	40%	25%	0.3:1	0.3:1	13%	96%	83%	88%
3	Kyaikmaraw	291094	218	146	753	67%	27%	0.2:1	0.4:1	21%	81%	67%	90%
4	Mudon	204928	154	166	835	108%	37%	0.3:1	0.5:1	12%	87%	81%	83%
5	Thanbyuzayat	165795	124	134	681	108%	29%	0.3:1	0.4:1	11%	87%	82%	89%
6	Ye	234811	176	159	417	90%	48%	0.7:1	0.8:1	16%	85%	61%	84%
7	Thahton	352113	264	281	553	106%	69%	1.2:1	2.0:1	21%	89%	78%	82%
8	Belin	231622	174	209	560	120%	43%	0.6:1	0.7:1	13%	93%	90%	92%
9	Kyaikhto	151067	113	133	300	117%	56%	0.9:1	1.2:1	22%	95%	83%	89%
10	Paung	236077	177	165	1099	93%	21%	0.2:1	0.2:1	11%	90%	87%	89%
	Total	2550004	1913	1800	7026	94%	36%	0.4:1	0.5:1	14%	90%	79%	87%

RAKHINE STATE

1	Kyaukphyu	201937	151	97	289	64%	49%	0.6:1	0.8:1	20%	89%	63%	79%
2	Ann	122358	92	51	274	56%	46%	0.2:1	0.8:1	16%	80%	55%	75%
3	Manaung	102539	77	44	118	57%	72%	0.6:1	2.3:1	35%	100%	96%	96%
4	Yambwe	152199	114	56	106	49%	78%	1.6:1	3.3:1	29%	84%	86%	86%
5	Maungdaw	450265	338	193	873	57%	32%	0.3:1	0.4:1	19%	87%	77%	87%
6	Buthidaung	298394	224	322	683	144%	64%	1:1	1.5:1	17%	96%	96%	96%
7	Yathedaung	173141	130	106	163	82%	76%	2.2:1	2.9:1	22%	92%	59%	74%
8	Sittwe	282509	212	326	807	154%	68%	0.8:1	1.9:1	24%	76%	56%	85%
9	Kyauktaw	248555	186	182	340	98%	71%	1.3:1	2.2:1	47%	98%	94%	95%
10	Minbya	203590	153	148	215	97%	87%	3:1	6.2:1	20%	83%	88%	88%
11	Myaukoo	233070	175	191	473	109%	60%	0.7:1	1.4:1	33%	92%	93%	93%
12	Myebon	127437	96	66	139	69%	61%	1:1	1.4:1	24%	86%	61%	81%
13	Pauktaw	167436	126	91	142	72%	76%	2.2:1	2.8:1	22%	79%	47%	83%
14	Ponnagyun	137061	103	85	172	83%	61%	1:1	1.5:1	21%	99%	84%	95%
15	Thandwe	157188	118	110	224	93%	71%	1.1:1	2.2:1	17%	91%	83%	86%
16	Gwa	81768	61	54	92	88%	80%	1.5:1	3.9:1	28%	89%	92%	92%
17	Taunggup	150047	113	108	363	96%	52%	0.4:1	1:1	23%	85%	80%	94%
	Total	3289494	2467	2230	5473	90%	60%	0.8:1	1.4:1	22%	88%	77%	88%

Sr.No	TOWNSHIPS	Population	Estimated New S + patients	Total New smear positive detected	Total notified TB cases	CDR	Prop. of Smear + pul. TB patients out of all pul. TB patients	Ratio of New smear positive to negative and EP	Ratio of New smear positive and negative TB patients	Sputum Positivity Rate	Sputum Conversion Rate	Cure Rate	Treatment Success Rate
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YANGON DIVISION

	East District	0	0	3	11		63%	0.6:1	1:1	22%	100%	80%	80%
1	Botataung	35427	60	55	188	92%	46%	0.5:1	0.7:1	23%	91%	88%	90%
2	Dawbon	79664	135	145	405	107%	56%	0.7:1	1:1	24%	98%	95%	98%
3	Dagon(N)	160416	272	272	673	100%	57%	0.8:1	1.2:1	20%	90%	83%	86%
4	Dagon(S)	257487	436	617	1602	141%	58%	0.7:1	1.2:1	35%	87%	84%	85%
5	MingalarTN	122315	207	165	615	80%	41%	0.4:1	0.6:1	25%	94%	83%	83%
6	Okkala(N)	264793	449	297	1193	66%	43%	0.4:1	0.6:1	7%	92%	84%	86%
7	Okkala(S)	157025	266	206	787	77%	46%	0.4:1	0.6:1	27%	95%	84%	85%
8	Thaketa	230966	391	437	1132	112%	63%	0.8:1	1.5:1	39%	96%	80%	92%
9	Thingangyun	174277	295	226	719	77%	56%	0.5:1	1:1	26%	85%	75%	83%
10	Yankin	92897	157	146	411	93%	48%	0.6:1	0.8:1	30%	98%	88%	90%
11	Tarmwe	139676	237	119	433	50%	48%	0.5:1	0.7:1		93%	89%	90%
12	Pazundaung	44765	76	52	181	69%	43%	0.5:1	0.6:1		98%	92%	98%
13	Dagon(E)	85354	145	219	482	151%	67%	1.1:1	1.6:1	38%	91%	80%	84%
14	Dagon Seikkan	73888	125	109	334	87%	51%	0.6:1	0.9:1	6%	94%	82%	89%
	Total	1918950	3253	3068	9166	94%	53%	0.6:1	0.9:1	24%	92%	83%	87%

West District

1	Kamayut	46091	78	72	269	92%	44%	0.5:1	0.6:1		83%	82%	87%
2	Kyauktada	37701	64	27	105	42%	50%	0.4:1	0.7:1		96%	88%	95%
3	Kyinmyindine	90941	154	125	404	81%	57%	0.5:1	1:1	29%	84%	80%	80%
4	Sanchaung	74597	126	110	324	87%	52%	0.6:1	0.9:1	63%	91%	76%	85%
5	Seikkan	1723	3	4	11	137%	64%	1:1	1:1		100%	83%	83%
6	Dagon	23690	40	31	106	77%	58%	0.6:1	0.9:1	16%	100%	76%	79%
7	Pabedan	36644	62	28	106	45%	51%	0.4:1	0.8:1		93%	92%	92%
8	Bahan	70988	120	99	294	82%	52%	0.6:1	0.9:1		95%	79%	83%
9	Mayangon	143644	243	231	694	95%	57%	0.6:1	1:1	24%	92%	82%	84%
10	Latha	27665	47	30	63	64%	66%	1.2:1	1.6:1		87%	89%	92%
11	Lanmadaw	40093	68	27	100	40%	55%	0.5:1	0.9:1		100%	91%	91%
12	Hlaing	122043	207	242	649	117%	60%	0.7:1	1.2:1		92%	78%	87%
13	Ahlone	47932	81	78	252	96%	55%	0.6:1	0.9:1		0%	73%	88%
	Total	763752	1295	1104	3377	85%	55%	0.6:1	1:1	25%	91%	80%	85%

Sr.No	TOWNSHIPS	Population	Estimated New S + patients	Total New smear positive detected	Total notified TB cases	CDR	Prop. of Smear + pul. TB patients out of all pul. TB patients	Ratio of New smear positive to negative and EP	Ratio of New smear positive and negative TB patients	Sputum Positivity Rate	Sputum Conversion Rate	Cure Rate	Treatment Success Rate
South District													
1	Seikkyi'KNT	31566	54	45	122	84%	59%	0.7:1	1.1:1	18%	100%	84%	84%
2	Dallah	147091	249	155	639	62%	45%	0.4:1	0.7:1	20%	87%	74%	82%
3	CoCogyun	970	2	0	0	0%	0%					0%	0%
4	Kawhmu	147583	250	89	241	36%	47%	0.6:1	0.8:1	19%	93%	91%	91%
5	Kyauktan	153150	260	130	347	50%	49%	0.7:1	0.9:1	24%	93%	73%	86%
6	Kungyangone	113649	193	102	208	53%	64%	1.1:1	1.6:1	16%	93%	94%	94%
7	Kayan	165933	281	150	297	53%	71%	1.2:1	2.2:1	24%	95%	86%	91%
8	Twantay	255591	433	179	461	41%	53%	0.7:1	1.1:1	25%	95%	88%	91%
9	Thonegwa	168439	286	112	275	39%	58%	0.8:1	1.2:1	23%	90%	81%	91%
10	Thanlyin	169922	288	296	694	103%	60%	0.9:1	1.3:1	26%	89%	74%	88%
		1353894	1015	1258	3284	124%	55%	0.7:1	1.1:1	23%	92%	81%	89%
North District													
1	Mingalardon	211125	358	536	1275	150%	63%	0.9:1	1.4:1	20%	85%	64%	76%
2	Shwepyithar	222804	378	395	1008	105%	60%	0.7:1	1.3:1	20%	91%	63%	80%
3	Hlaingtharyar	321353	545	1011	2506	186%	54%	0.8:1	1.1:1	25%	96%	92%	92%
4	Insein	237667	403	582	1590	144%	60%	0.7:1	1.2:1	29%	92%	77%	86%
5	Taikkyi	261429	443	240	623	54%	51%	0.7:1	0.9:1	24%	94%	89%	89%
6	Htantabin	137950	234	99	212	42%	67%	1.1:1	1.8:1	85%	92%	89%	89%
7	Hmawbi	181087	307	238	602	78%	58%	0.8:1	1.2:1	28%	95%	85%	89%
8	Hlegu	182690	310	174	543	56%	54%	0.5:1	1:1	23%	67%	95%	95%
	U.T.I	0	0	69	159		55%	0.9:1	1.2:1	23%	80%	75%	75%
	NTP(Diagnostic C)	0	0	14	89		35%	0.2:1	0.4:1	45%	86%	43%	57%
	Total	1756105	2977	3358	8607	113%	57%	0.7:1	1.2:1	31%	91%	80%	86%
Yangon Division		5792701	9819	8788	24434	90%	55%	0.7:1	1:1	28%	91%	81%	87%

Sr.No	TOWNSHIPS	Population	Estimated New S + patients	Total New smear positive detected	Total notified TB cases	CDR	Prop. of Smear + pul. TB patients out of all pul. TB patients	Ratio of New smear positive to negative and EP	Ratio of New smear positive and negative TB patients	Sputum Positivity Rate	Sputum Conversion Rate	Cure Rate	Treatment Success Rate
AYEYARWADY DIVISION													
1	Pathein	372500	279	516	1708	185%	52%	0.5:1	1:1	23%	84%	79%	88%
2	Kangyidaunt	246886	185	39	106	21%	54%	0.7:1	1:1	19%	100%	79%	81%
3	Yekyi	285416	214	150	470	70%	49%	0.5:1	0.8:1	18%	92%	79%	90%
4	Kyaunggone	194892	146	121	333	83%	56%	0.6:1	1.2:1	19%	98%	84%	95%
5	Kyonpyaw	319460	240	142	244	59%	73%	1.7:1	2.5:1	16%	94%	94%	94%
6	Ngaputaw	354633	266	202	434	76%	67%	1:1	1.8:1	45%	97%	65%	86%
7	Thabaung	200656	150	103	253	68%	57%	0.8:1	1.1:1	21%	90%	68%	87%
8	Hinthada	490592	368	493	1104	134%	53%	0.8:1	1.1:1	29%	95%	88%	94%
9	Kyankin	141161	106	92	233	87%	55%	0.7:1	1.1:1	20%	97%	90%	95%
10	Myanaung	325882	244	150	497	61%	44%	0.5:1	0.7:1	23%	96%	91%	91%
11	Ingapu	328741	247	197	779	80%	36%	0.4:1	0.5:1	25%	94%	83%	89%
12	Zalun	267211	200	192	440	96%	56%	0.8:1	1.2:1	41%	86%	63%	76%
13	Laymetna	157674	118	77	196	65%	61%	0.7:1	1.4:1	23%	94%	79%	84%
14	Myaungmya	425568	319	275	769	86%	55%	0.6:1	1.1:1	24%	96%	92%	95%
15	Laputta	375803	282	242	576	86%	56%	0.8:1	1.2:1	15%	100%	98%	98%
16	Mawgyun	351946	264	227	438	86%	67%	1.2:1	2.0:1	21%	90%	81%	93%
17	Wakema	384251	288	221	465	77%	65%	1:1	1.7:1	21%	97%	90%	95%
18	Eime	225653	169	113	246	67%	63%	0.9:1	1.5:1	18%	91%	84%	85%
19	Pyapon	264328	198	232	600	117%	54%	0.7:1	1.1:1	21%	89%	84%	85%
20	Bogalay	463584	348	302	837	87%	62%	0.7:1	1.4:1	28%	92%	81%	87%
21	Dedaye	262104	197	52	120	26%	62%	0.9:1	1.5:1	18%	71%	59%	85%
22	Kyaiklatt	229811	172	145	302	84%	57%	1:1	1.2:1	33%	89%	73%	88%
23	Maubin	397518	298	212	538	71%	66%	0.8:1	1.6:1	31%	85%	74%	84%
24	Nyaungdon	257668	193	109	246	56%	57%	0.8:1	1.3:1	18%	93%	96%	96%
25	Pantanaw	295003	221	155	355	70%	59%	0.8:1	1.3:1	30%	88%	89%	90%
26	Danuphyu	250078	188	207	575	110%	43%	0.6:1	0.7:1	29%	98%	93%	93%
	Total	7869019	5902	4966	12864	84%	55%	0.7:1	1.1:1	23%	92%	83%	90%

Evaluation of TB control activities at township level (2007 - 2008)

Annex- 20

State & Division	Low CR ≤ 50% Low CDR ≤ 40%	Low CR ≤50%	LowCDR ≤40%	CDR ≥ 100% LowCR	CR 100% LowCDR	CDR ≥ 100%	CR100%	CR ≥ 85% CDR ≥ 70%	Average Townships
Kachin No report from 5 townships 13	0	1	1	0	1	Bohmaw, Tanai Moekaung Waingmaw Putao, Myitkyina 6	0	0	Mansi, Shweku, Monyin Pharkant (Karmaing) 4
Kayah 7	0	1	1	0	0	Bawlake, Masai 2	0	0	Loikaw, Demawhso Shadaw 3
Chin Kanpetlet Matupi 9	2	0	3	0	0	Falam, Htantalan Tunzun 0	0	0	Hakha, Tiddim, Mindat Paletwa 4
Sagaing 37	1	1	9	0	0	Tamu Khamti Lahel 3	0	2	Sagaing, Myaung Shwebo, Kanbalu Wetlet, Monywa Ayadaw, Budalin Chaung-U, Katha Htigyaik, Indaw Kawlin, Pinlebu Wuntho, Kalay Phaungbyin, Homalin Layshi, Minkin, Mawleik 21
Magway 25	0	2	4	0	0	Magway, Thayet 2	0	4	Chauk, Taungdwingyi Natmauk, Yenanchaung Pakokku, Seikphyu Gantgaw, Htilin Minbu, Ngape, Salin Minhla, Aunglan 13
Mandalay Meikhtilar Mahlaing 31	2	0	4	0	0	Pyigyitagon Patheingyi Kyaukpadaung Thabeikkyin Kyaukse 5	0	4	Amarapura, Chanayetharzan Tharzi, Wundwin, Ngazun Myingyan, NyaungU PyinOolwin, Madayar Mogok, Yamethin, Lewei Pyawbwe, Pyinmana Myittha, Sintgaing 16

State & Division	Low CR ≤ 50% Low CDR ≤ 40%	Low CR ≤ 50%	LowCDR ≤ 40%	CDR ≥ 100% LowCR	CR 100% LowCDR	CDR ≥ 100%	CR100%	CR ≥ 85% CDR ≥ 70%	Average Townships
Shan(S) 21	Mongpang Mongkaing Pindaya 3	0	Loilem, Hopone Hpekon, Pinlaung 4	0	0	0	Monai Kyeethi Ywangan 3	Kunhein Mongshu 2	Linkay, Maukmae Laikha, Namsan Taunggyi, Hsiseng Kalaw, Lauksauk Nyaungshwe 9
Shan(E) No report from 1 township 9	Mongyan 1	0	Mongkhat 1	0	0	2	Kengtong Tachileik 0	Monghsat 1	Mongpying, Mongton Mongpyak, Mongyaung 4
Shan(N) No report from 5 townships 19	Manton Pangyan Laukkai Kutkai 4	0	Kunlon, Naungcho Namsam, Tanyan 4	0	0	2	Hopan, Lashio 0	Hsipaw 1	Kyaukme, Mabein Mongmeik, Namtu Theinni, Mongreh Muse, Namkhan 8
Kayin 7	0	0	Kyarinnseikkyi Thandaung 2	0	0	2	Myawady Hpa-an 0	Kawkareik 1	Hlaingbwe, Papun 2
Tanintharyi 10	0	1	Launglon, Yebyu Thayetchaung 3	0	1	2	Kawthaung Myeik 0	Dawei Tanintharyi, Palaw 0	3
Bago(E) 14	0	0	0	0	0	1	Bago 0	Daik-U Kyauktaga Shwekyin, Waw 4	Kawa, Nyaunglaybin Thanutpin, Taunggoo Kyaukkyi, Okktwin Phyu, Htantabin, Yedashe 9
Bago(W) 14	0	0	0	0	0	2	Pyay Latpadan 0	Paukkhaung Tharyarwady Zegone, Moenyo Okkpo 5	Paungde, Padaung Shwedaung Thegone, Minhla Gyobingauk, Nattalin 7

State & Division	Low CR ≤ 50% Low CDR ≤ 40%	Low CR ≤ 50%	LowCDR ≤ 40%	CDR ≥ 100% LowCR	CR 100% LowCDR	CDR ≥ 100%	CR100%	CR ≥ 85% CDR ≥ 70%	Average Townships
MON 10	0	0	1	0	0	Mudon Thanbyuzayat Thaton, Kyaikhto 4	0	Belin Paung 2	Mawlamyine Kyaikmaraw, Ye 3
Rakhine 17	0	0	0	0	0	Sittwe 1	0	Buthidaung Kyauktaw Minbya Gwa MyaukU 5	Kyaukphyu, Ann Manaung, Yambye Maungdaw, Yathedaung Ponnagyun, Thandwe Taunggup Myebon, Pauktaw 11
Yangon 45	0	0	4	0	0	Dagon (N) Dagon (S), Thaketa Dagon (E), Hlaing Seikkan, Thanlyin Mingalardon, Insein Shwepyithar 10	0	Botataung, Dawbon Yankin, Hlaingtharyar Hmawbi 5	MingalarTN, Okkalapa (N) Okkalapa (S), Thingangyun Tarmwe, Pazundaung Dagon Seikkan, Kamayut Kyauktada, Kyimyindine Sanchaung, Dagon Pabadan, Bahan, Ahlone Mayangone, Latha Seikkyikanaungto, Dallah Kyauktan, Kunggyangone Kayan, Twantay, Taikkyi Htantabin, Hlegu 26
Ayeyarwaddy 26	0	0	2	0	0	Pathein Pyarpon 2	0	Hintada Kyinkin Myaungmya Laputta Wakema Pantanaw Danuphyu 7	Yekyi, Kyaunggone Kyonepyaw Ngaputaw, Tharbaung Myanaung, Ingapu Zalun, Laymyetna Mawgyun, Eime Bogalay, Kyaiklatt Maubin, Nyaungdone 15

Evaluation of treatment outcome of new smear positive TB patients (2007 cohort)

Annex- 21

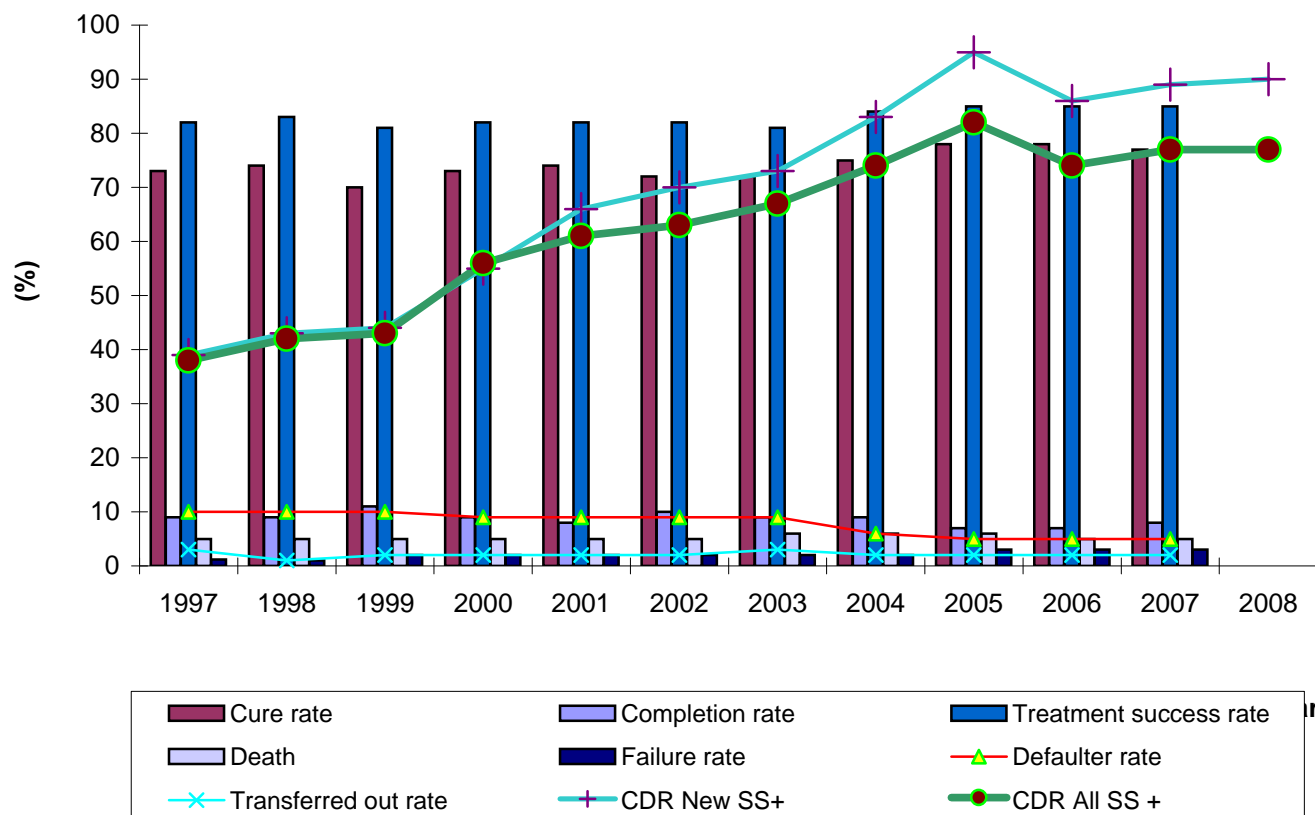
States & Divisions	DOTS TOWNSHIPS		
	High Defaulter Rate $\geq 10\%$ *means $\geq 20\%$	Low CR $\leq 50\%$ with TSR $\geq 70\%$	Sputum Conversion Rate $< 80\%$
Kachin	Moenyin ,Waingmaw, Mansi, Moekaung, Myitkyina, Tanai, Puato, * Pharkant	Nil	Chipway, Machanbaw
Kayah	Bawlake, Shadaw, *Masai	Nil	Bawlake, Phruso
Chin	*Matupi	Mindat, Matupi	Haka, Tunzan, Matupi
Sagaing	Homalin, *Nanyun	Kyunhla, Lashi	Kyunhla, Monywa, Budalin, Khamti, Layshi
Magwe	Minbu	Myaing, Saytoktaya	Saytoktaya, Thayet
Mandalay	Thabeikkyin, Tadaoo	Meikhtila, Mahlaing	Natogyi, Taungtha,Tatkone
Shan(S)	Loilem, Mongkaing, Nansam, Taunggyi, Hsiseng	Manpang, Mongkaing, Pindaya	Namsan, Taunggyi, Ywangan
Shan(E)	*Mongping, *Mongton *Mongyaung	Mongyan, Mongping, Mongyaung	Monghsat, Mongton
Shan(N)	Kyaukme, Theinni, Namkham *Lashio, *Pangyan, *Laukkai	Hopan, Monton, Laukkai, Muse Kutkai	Hopan, Lashio, Namsam, Theinni, Mongreh, Pangyan, Laukkai, Kutkai, Namkham
Kayin	Myawaddy, Hpa-an	Nil	Nil
Tanintharyi	Thetyetchaung, Myeik, Tanintharyi, Palaw, *Bokepyin	Nil	Bokepyin, Kyunsu, Palaw
Bago(E)	Kawa	Nil	Kyaukkyi, Htantabin
Bago(W)	Padaung, Shwedaung	Nil	Pyay
Mon	Nil	Nil	Nil
Rakhine	Kyaukphyu, Yathedaung, Myebon, *Ann	Pauktaw	Sittwe
Yangon	Seikkan, Shwepyithar	Nil	Hlegu
Ayeyarwady	Kangyidaunt, Zalun, Eime	Nil	Nil

Progress of NTP (1994-2008)

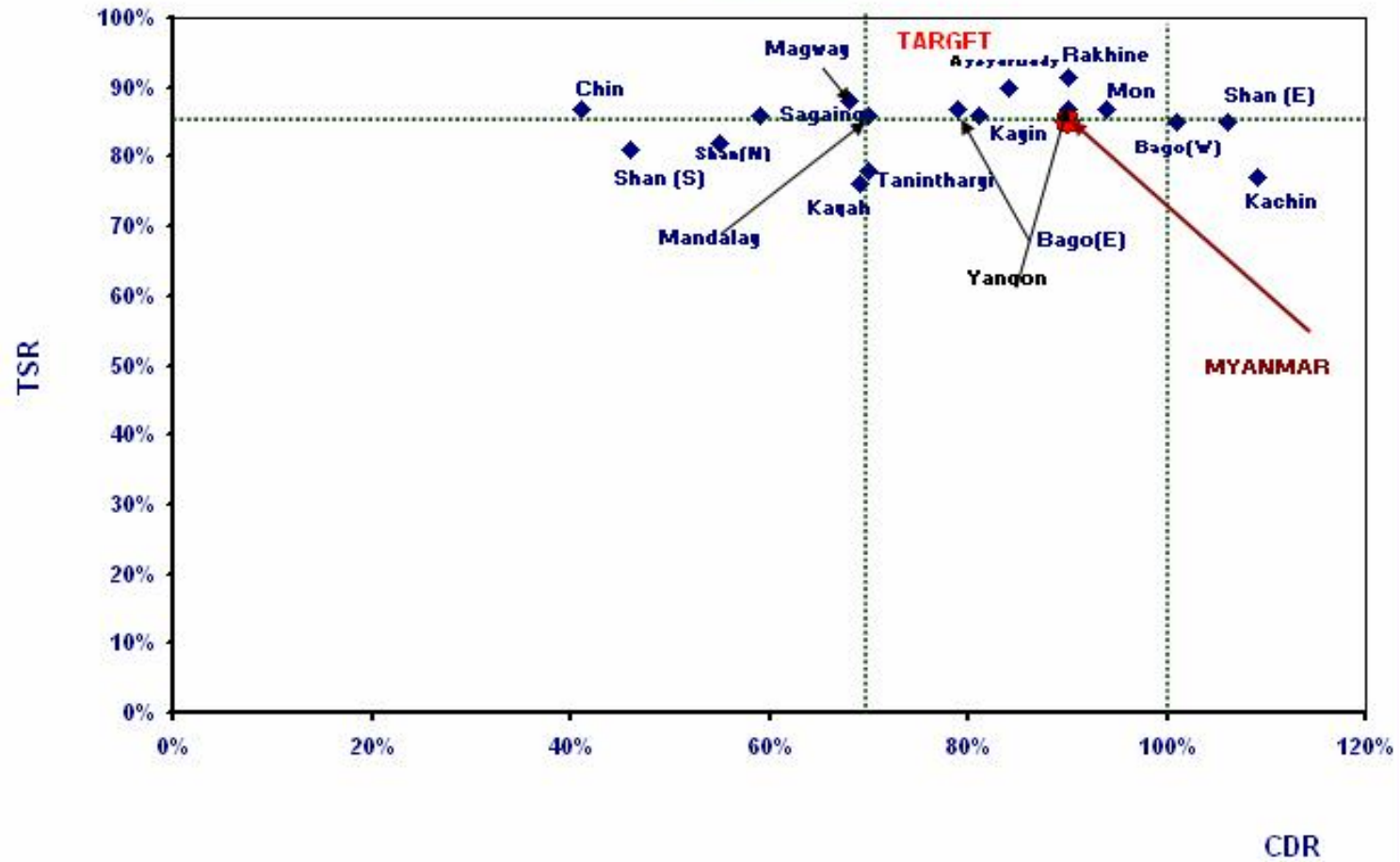
Annex- 22

Indicator\Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
CDR (New SS+)	33%	35%	39%	39%	43%	44%	55%	66%	70%	73%	83%	95%	86%	89%	90%
CR	61%	54%	75%	73%	74%	70%	73%	74%	72%	72%	75%	78%	78%	77%	
TSR	78%	66%	82%	82%	83%	81%	82%	82%	82%	81%	84%	85%	85%	85%	

Case detection rates with estimated cases as 2007 and treatment outcome
(1997-2008)



Targets achievement according to States/Divisions and Union
(2007-2008)



Case Detection Rate (New Smear Positive TB Patients) of States/Divisions (1997-2008) Annex - 24

State / Division	CDR											
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Kachin	60	51	54	79	120	127	118	90	116	131	129	109
Kayah	85	104	106	81	88	76	71	70	83	79	69	70
Chin	63	72	37	42	37	45	42	38	42	52	39	41
Sagaing	14	28	27	41	45	42	45	45	53	60	79	59
Magway	19	21	26	35	38	48	49	57	65	55	56	68
Mandalay	33	43	38	45	50	52	60	65	67	65	69	70
Shan(S)	34	22	30	34	34	34	32	38	40	43	48	46
Shan (E)					106	134	87	99	103	102	102	106
Shan (N)					23	27	31	34	42	46	49	55
Kayin	52	38	38	47	55	57	68	72	86	65	79	81
Tanintharyi	68	86	83	59	54	66	72	76	75	71	72	69
Bago(E)	43	49	43	59	79	78	81	73	87	82	83	79
Bago(W)					73	85	81	87	77	91	101	101
Mon	47	57	54	57	68	71	74	95	108	93	89	94
Rakhine	76	72	49	73	67	54	64	84	83	81	75	90
Yangon	47	47	65	81	114	131	148	156	158	70	81	90
Ayeyarwaddy	39	45	41	56	66	63	67	78	86	96	92	84
Union	39	43	44	55	66	70	73	83	95	86	89	90

Treatment outcomes of new smear positive TB patients in States/Division (1997-2007)

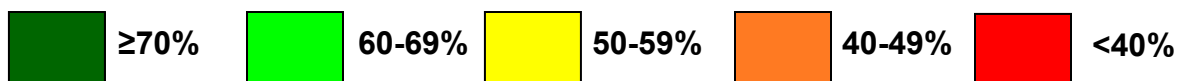
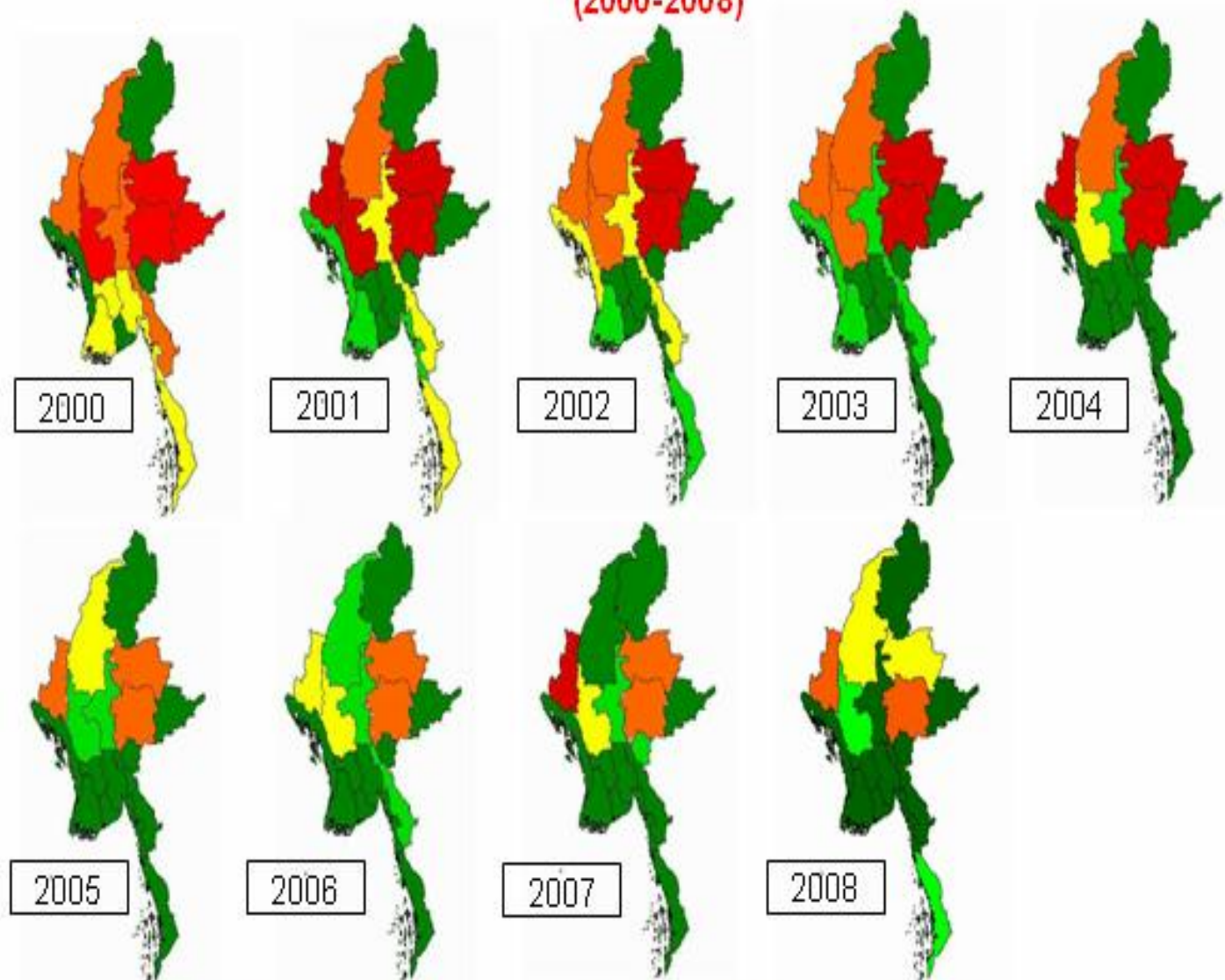
State / Division	1997		1998		1999		2000		2001		2002		2003		2004		2005		2006		2007	
	CR	TSR	CR	TSR	CR	TSR	CR	TSR	CR	TSR	CR	TSR	CR	TSR	CR	TSR	CR	TSR	CR	TSR	CR	TSR
Kachin	59	65	68	79	69	77	77	78	71	74	69	75	67	73	74	78	75	78	73	81	67	77
Kayah	71	86	90	90	94	95	95	95	94	95	95	95	92	92	93	94	83	88	76	83	66	78
Chin	60	92	85	96	83	95	42	85	66	86	75	85	50	82	68	84	73	84	65	78	72	87
Sagaing	68	81	61	77	63	85	60	82	65	87	55	86	56	80	72	80	74	82	74	82	77	86
Magway	80	85	75	79	71	84	74	89	84	90	79	91	73	88	77	90	80	89	81	89	77	88
Mandalay	69	79	66	76	66	81	79	87	84	88	84	89	83	89	77	87	75	86	79	86	77	86
Shan(S)	51	70	63	76	73	79	76	11	86	88	83	85	76	80	79	83	72	83	73	79	74	81
Shan (E)							79	81	74	84	64	78	56	68	64	74	64	78	62	80	64	85
Shan (N)							84	89	66	73	63	71	65	78	69	79	68	81	65	81	68	82
Kayin	91	93	87	87	82	87	71	85	66	83	70	78	67	78	68	83	74	83	75	82	78	86
Tanintharyi	67	77	62	76	67	74	68	76	72	75	70	76	68	72	56	73	64	73	67	76	71	76
Bago(E)	75	83	74	83	76	83	81	86	76	82	74	84	80	84	86	88	89	91	84	90	79	87
Bago(W)							76	90	75	86	69	81	67	78	74	81	74	84	82	86	79	85
Mon	79	85	80	90	61	78	69	76	74	80	76	83	76	84	77	87	80	88	79	87	79	87
Rakhine	79	84	83	86	71	81	71	82	72	81	70	84	72	83	74	87	81	87	85	91	77	88
Yangon	61	76	68	80	62	75	66	75	67	74	66	73	67	76	73	82	78	84	78	85	81	87
Ayeyarwaddy	90	92	88	90	82	87	78	86	82	88	80	87	81	85	83	87	82	88	82	91	83	90
Union	73	82	74	83	70	81	73	82	74	82	72	82	72	81	75	84	78	85	78	85	78	85

No.	Designation	Pay	Sanc tion	Posted	Vacant	Remark
1.	Deputy Director (TB)	120000-2000-130000	1	1	0	
2.	Medical Superintendent	120000-2000-130000	1	1	0	
3.	Lecture/TB specialist	120000-2000-130000	1	1	0	
4.	Senior Microbiologist	120000-2000-130000	0	0*	1*	
5.	Assistant Director (TB)	100000-2000-110000	1	0+3*	1	
6.	Microbiologist	100000-2000-110000	2	1	1	Mdy
7.	State/Divisional TB Officer	100000-2000-110000	6	6+7*	1*	Kayah
8.	Medical Officer	80000-2000-90000	56	44+2*	12	
9.	Administrative Officer	80000-2000-90000	1	1	0	
10.	Superintendent	45000-1000-50000	1	1	0	
11.	District Community Health Nurse	45000-1000-50000	2	2	0	
12.	Assistant Statistical Officer	39000-1000-44000	2	0	2	
13.	Health Assistant	39000-1000-44000	80	66	14	
14.	Sister	39000-1000-44000	1	1	0	
15.	Public Health Sister	39000-1000-44000	1	1	0	
16.	Medical technician	39000-1000-44000	1	1+1*	0	
17.	Radiology technician	39000-1000-44000	9	5	4	
18.	Radiographer	39000-1000-44000	2	0	2	
19.	BC (Budget/Admin)	39000-1000-44000	4	3+2*	1	
20.	BCG supervisor	39000-1000-44000	14	11	3	
21.	Blue staff	33000-1000-38000	4	4	0	
22.	LHV	33000-1000-38000	12	10+1*	2	
23.	Trained nurse	33000-1000-38000	122	112	10	
24.	Grade 1 lab: technician	33000-1000-38000	11	11	0	
25.	Grade 1 X-ray technician	33000-1000-38000	8	6	2	
26.	Assistant statistician (Budget)	33000-1000-38000	3	3	0	
27.	BCG technician	33000-1000-38000	60	27	33	
28.	UD (Budget/Admin)	33000-1000-38000	11	11+1*	0	
29.	Assistant statistician	33000-1000-38000	2	2	0	
30.	Grade 2 lab technician	27000-1000-32000	200	158+1*	42	
31.	LD (Budget/Admin)	27000-1000-32000	35	30	5	
32.	Compounder	27000-1000-32000	4	4	0	
33.	Grade 2 X-ray technician	27000-1000-32000	3	1	2	
34.	Steward	27000-1000-32000	1	1	0	
35.	Typist	27000-1000-32000	7	5	2	
36.	Jr. TB worker	27000-1000-32000	123	88	35	
37.	Statistical clerk	27000-1000-32000	100	91	9	
38.	Driver	21000-1000-26000	48	6	42	
39.	Clinic assistant	15000-1000-20000	2	2	0	
40.	Lab. boy and Lab: assistant	15000-1000-20000	7	4	3	
41.	Peon	15000-1000-20000	15	10	5	
42.	X-ray van assistant	15000-1000-20000	2	2	0	
43.	X-ray department assistant	15000-1000-20000	3	3	0	
44.	Gardener and Plumber	15000-1000-20000	2	1	1	
45.	Night Watch	15000-1000-20000	14	9	5	
46.	Sweeper and Manual worker	15000-1000-20000	43	26	17	
Total			1028	773+18*	255+2*	

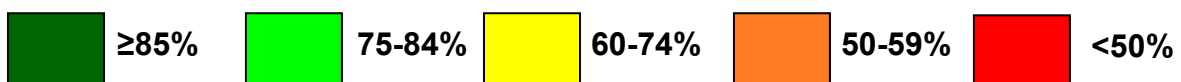
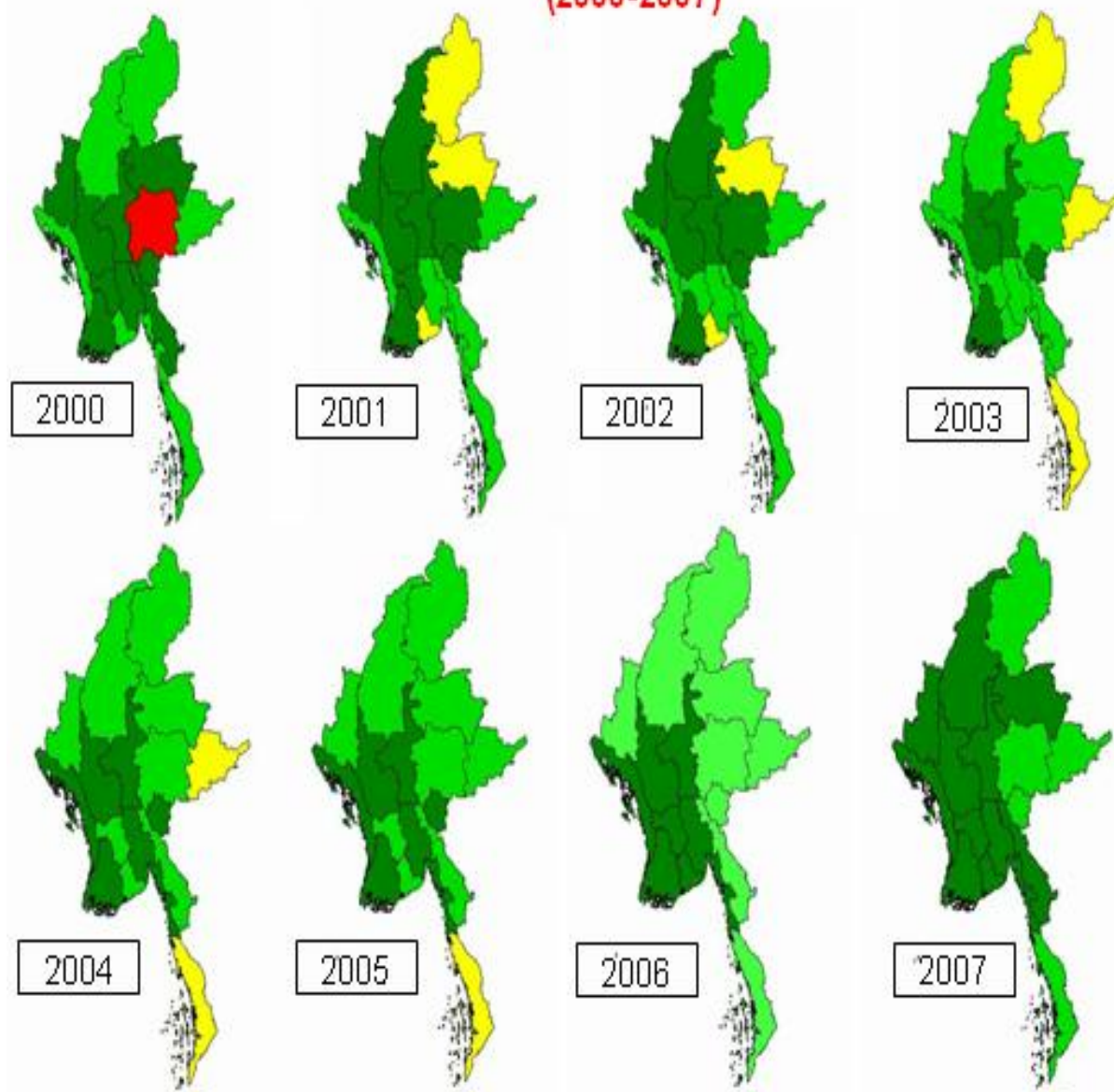
* Lie from other posts

- | | |
|------------------------------|--|
| 1. Senior Microbiologist | 1 (central) |
| 2. Assistant Director | 3 (central) |
| 3. State/Division TB Officer | 8 (Taunggyi, Lashio, Kengtong, Sagaing, Magway, Tanintharyi, Myitkyina, Kayah) |
| 4. Medical Officer | 2 (Tarchilake, central) |
| 5. Medical Technician | 1 (central) |
| 6. BC | 1 (central) |
| 7. Grade 1 Lab: Technician | 1 (central) |
| 8. Grade 2 Lab: Technician | 1 (central) |
| 9. UD | 1 (central) |

Categories of State and Division according to Case Detection Rate
(2000-2008)



Categories of State and Division according to Treatment Success Rate
(2000-2007)



National Tuberculosis Programme Case finding activities (1994 - 2008)

Annex - 28

YEAR	Total Population	DOTS Population	No.of Estimate S(+) cases	CDR All S(+)	CDR NS(+)	PULMONARY TUBERCULOSIS												EXTRA PULMONARY TB		Other		Total		
						SMEAR POSITIVE										SMEAR NEGATIVE								
						NEW CASES			OLD CASES															
									RELAPSES		T'after default		T'after fail											
						M	F	T	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1994(18Tsp)		3,492,420	3,492	32	33	615	331	946	124	60	0	0			203	154	33	35			975	580	1,555	
1995(144Tsp)	44,302,486	26,180,539	26,182	35	36	4,885	2,692	7,577	1,186	629	0	0			4,037	2,797	317	296			10,547	6,461	17,008	
1996(153Tsp)	45,574,135	27,413,310	27,413	39	39	5,648	3,148	8,796	1,251	551	0	0			4,823	3,461	580	493			12,472	7,724	20,196	
1997(153Tsp)	46,402,230	27,744,233	27,744	39	39	5,844	3,170	9,014	1,133	538	0	0			2,719	2,029	383	297			10,079	6,034	16,113	
1998(153Tsp)	47,260,665	28,260,276	28,260	42	43	6,325	3,764	10,089	1,286	565	0	0			1,233	982	326	275			9,170	5,586	14,756	
1999(168Tsp)	48,144,446	31,245,000	31,247	43	44	7,317	4,141	11,458	1,460	643	0	0			2,649	1,942	788	686			12,214	7,412	19,626	
2000(231Tsp)	49,033,261	37,621,000	37,621	55	56	11,196	6,058	17,254	1,818	805	630	233			5,167	3,492	1,289	1,015			20,100	11,603	31,703	
2001(259Tsp)	51,138,000	42,061,000	42,061	59	66	13,473	7,213	20,686	2,203	911	741	282			8,296	5,446	2,087	1,803			26,800	15,655	42,455	
2002(310Tsp)	5,216,455	46,044,000	34,533	63	70	15,951	8,211	24,162	2,582	1,082	925	306			11,228	7,260	5,955	4,743			36,641	21,602	58,243	
2003(324Tsp)	53,207,841	49,667,413	37,251	67	74	18,017	9,431	27,448	3,235	1,259	1,127	360			15,759	10,247	9,858	7,938			47,996	29,235	77,231	
2004(324Tsp)	54,282,182	50,274,570	37,706	74	83	20,783	10,625	31,408	3,318	1,388	979	268			20,969	13,363	14,652	11,564			60,701	37,208	97,909	
2005(324Tsp)	55,367,825	51,412,552	38,559	81	95	24,204	12,337	36,541	3,264	1,351	766	216			22,117	13,484	16,902	13,350			67,253	40,738	107,991	
2006(325Tsp)	56,477,230	54,286,877	46,911	74	86	26,713	13,528	40,241	3,562	1,433	841	280			26,027	16,714	19,329	15,103			76,535	47,058	123,593	
2007(325Tsp)	57,606,774	55,753,816	48,135	77	89	27,927	14,661	42,588	3,307	1,358	588	160	822	428	24,979	16,847	22,572	17,430	1,731	737	81,926	51,621	133,547	
2008(325Tsp)	58,758,909	53,752,810	45,789	77	90	27,099	14,149	41,248	3,063	1,245	470	149	763	365	26,243	17,791	19,322	15,125	1,954	1,001	78,914	49,825	128,739	

TAD = Treatment after Default
TAF = Treatment after Failure

Treatment Outcome of NS(+), Relapse, NS(-) cases (1994 - 2004), National Tuberculosis Programme

Annex - 29-a

YEAR	Type of TB patients	Total Total registered No. of Pul. TB patients	CURED		COMPLETED		TSR	DIED		FAILURE		DEFAULTER		TRANSFER OUT		Total evaluated
			No	CR	No	%		No	%	No	%	No	%	No	%	
1994	NS(+)	1473	899	61%	248	17%	78%	68	5%	16	1%	185	13%	18	1%	1434
	Relapse	536	157	29%	160	30%		10	2%	60	11%	53	10%	96	18%	536
	NS(-)	1440	0		1114	77%		28	2%	4	0%	212	15%	82	6%	1440
1995	NS(+)	6995	3781	54%	837	12%	66%	284	4%	267	4%	1290	18%	536	8%	6995
	Relapse	1443	800	55%	122	8%		57	4%	57	4%	273	19%	134	9%	1443
	NS(-)	6084	0		4662	77%		120	2%	28	0%	974	16%	200	3%	6084
1996	NS(+)	8496	6410	75%	550	6%	81%	364	4%	149	2%	805	9%	218	3%	8496
	Relapse	1697	1236	73%	81	5%		104	6%	58	3%	160	9%	58	3%	1697
	NS(-)	8502	0		7187	85%		318	4%	24	0%	760	9%	213	3%	8502
1997	NS(+)	9232	6732	73%	820	9%	82%	422	5%	114	1%	904	10%	290	3%	9232
	Relapse	1745	1059	61%	236	14%		109	6%	65	4%	198	11%	78	4%	1745
	NS(-)	5609	0		4592	82%		165	3%	14	0%	571	10%	267	5%	5609
1998	NS(+)	10313	7622	74%	879	9%	83%	486	5%	99	1%	1033	10%	194	2%	10313
	Relapse	1791	1201	67%	183	10%		103	6%	53	3%	189	11%	62	3%	1791
	NS(-)	2499	0		1982	79%		130	5%	15	1%	328	13%	44	2%	2499
1999	NS(+)	11641	8153	70%	1240	11%	81%	624	5%	194	2%	1205	10%	225	2%	11641
	Relapse	2041	1281	63%	201	10%		142	7%	77	4%	273	13%	67	3%	2041
	NS(-)	4998	0		4080	82%		230	5%	25	1%	533	11%	130	3%	4998
2000	NS(+)	16792	12214	73%	1581	9%	82%	892	5%	283	2%	1556	9%	266	2%	16792
	Relapse	2704	1795	66%	262	10%		194	7%	88	3%	294	11%	71	3%	2704
	NS(-)	9097	0		7566	83%		431	5%	47	1%	883	10%	170	2%	9097
2001	NS(+)	20922	15394	74%	1622	8%	82%	1094	5%	358	2%	1985	9%	469	2%	20922
	Relapse	3294	2169	66%	337	10%		257	8%	132	4%	283	9%	116	4%	3294
	NS(-)	14539	0		11933	82%		662	5%	53	0%	1511	10%	380	3%	14539
2002	NS(+)	23466	16829	72%	2284	10%	82%	1253	5%	445	2%	2135	9%	520	2%	23466
	Relapse	3648	2476	68%	325	9%		289	8%	126	3%	325	9%	107	3%	3648
	NS(-)	16990	0		14114	83%		907	5%	121	1%	1530	9%	318	2%	16990
2003	NS(+)	27419	19616	72%	2486	9%	81%	1562	6%	564	2%	2480	9%	711	3%	27419
	Relapse	4621	2880	62%	580	13%		402	9%	169	4%	414	9%	176	4%	4621
	NS(-)	26607	0		21445	81%		1356	5%	160	1%	2786	10%	860	3%	26607
2004	NS(+)	31413	23634	75%	2617	8%	84%	1731	6%	697	2%	1961	6%	773	2%	31413
	Relapse	4682	3061	65%	538	11%		407	9%	186	4%	335	7%	155	3%	4682
	NS(-)	34385			27821	81%		2045	6%	188	1%	3048	9%	1283	4%	34385

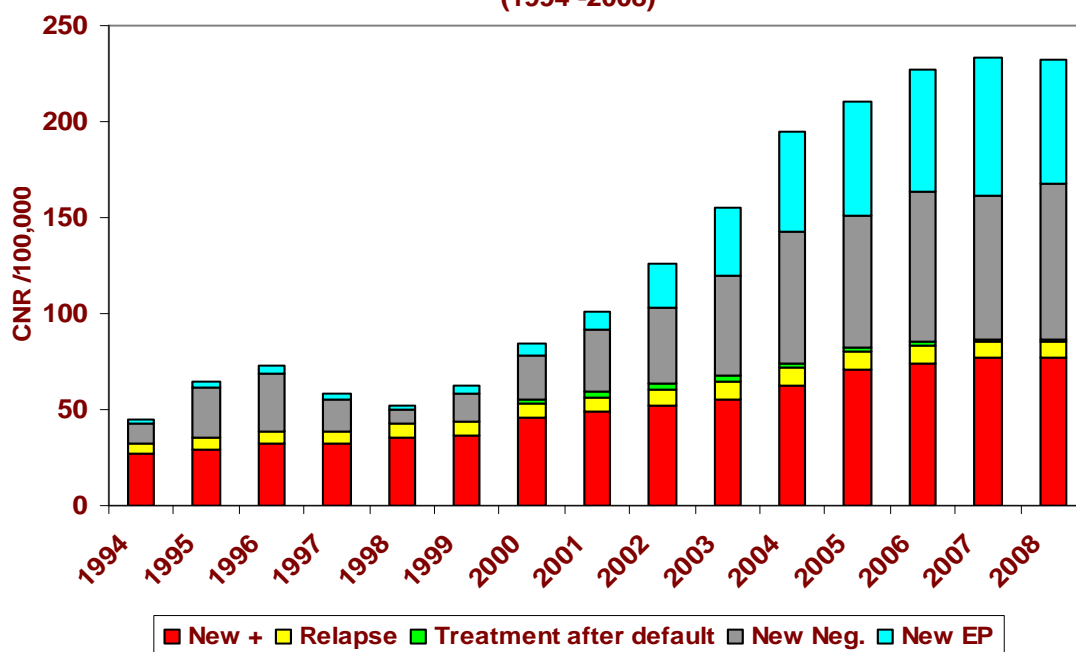
Treatment Outcome of NS(+), Relapse, NS(-) with HIV(+) cases (2005 - 2007), National Tuberculosis Programme
Annex - 29- b

YEAR	Type of TB patients	Total registered No. of Pul pts:	CURED		COMPLETED		TSR	DIED		FAILURE		DEFAULTER		TRANSFER OUT		Total evaluated
			No	CR	No	%		No	%	No	%	No	%	No	%	
2005	NS(+)	34859	27039	78%	2579	7%	85%	1898	5%	825	2%	1787	5%	731	2%	34859
	TB/HIV, NS (+)	1793	1161	65%	41	2%	67%	192	11%	219	12%	139	8%	41	2%	1793
	Relapse	4458	2897	65%	477	11%	76%	401	9%	202	5%	285	6%	196	4%	4458
	TB/HIV, Relapse	370	117	32%	67	18%	50%	111	30%	30	8%	23	6%	22	6%	370
	NS(-)	34281			28184	82%	82%	2275	7%	149	0.4%	2691	8%	982	3%	34281
	TB/HIV, NS(-)	1615			964	60%	60%	406	25%	46	3%	131	8%	68	4%	1615
2006	NS(+)	39004	30365	78%	2873	7%	85%	1883	5%	1211	3%	1937	5%	735	2%	39004
	TB/HIV, NS (+)	1341	700	52%	89	7%	59%	344	26%	79	6%	82	6%	47	4%	1341
	Relapse	4613	2965	64%	512	11%	75%	418	9%	285	6%	280	6%	153	3%	4613
	TB/HIV, Relapse	296	92	31%	66	22%	50%	106	36%	13	4%	8	3%	11	4%	296
	NS(-)	40425			33825	84%	84%	2253	6%	320	0.8%	3093	8%	934	2%	40425
	TB/HIV, NS(-)	3030			1942	64%	64%	723	24%	56	2%	216	8%	93	3%	3030
2007	NS(+)	42738	32855	77%	3502	8%	85%	2339	5%	1174	3%	2104	5%	764	2%	42738
	TB/HIV, NS (+)	1120	622	56%	102	9%	65%	283	25%	30	3%	52	5%	31	3%	1120
	Relapse	4680	2955	63%	578	12%	75%	492	11%	225	5%	279	6%	151	3%	4680
	TB/HIV, Relapse	158	58	37%	27	17%	54%	57	36%	4	3%	6	4%	6	4%	158
	NS(-)	42228			34902	83%	83%	2887	7%	267	0.6%	3318	8%	854	2%	42228
	TB/HIV, NS(-)	2530			1553	61%	61%	649	26%	21	1%	210	8%	97	4%	2530

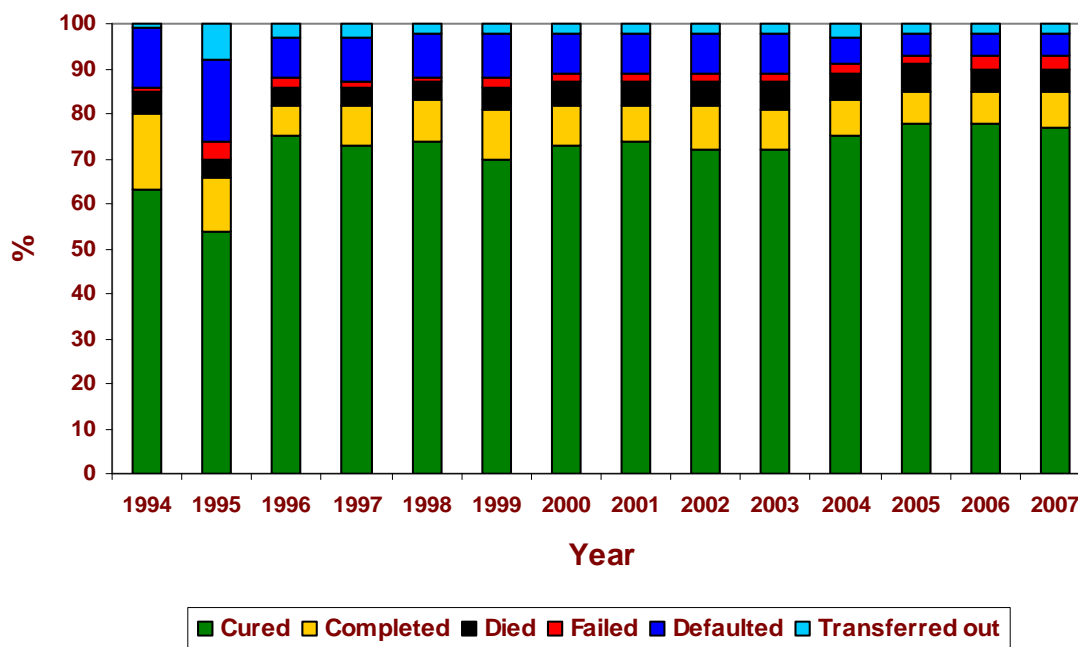
National Tuberculosis Programme

Annex-30

Case notification rate by type of TB patients
(1994 -2008)

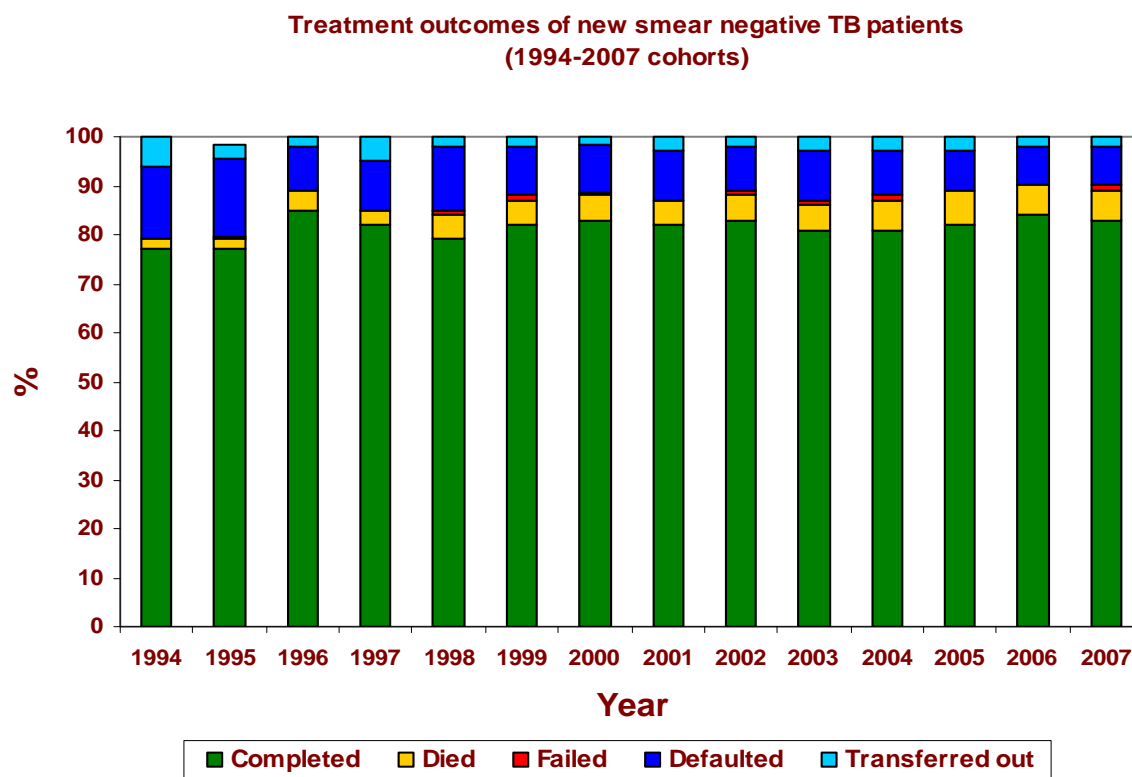
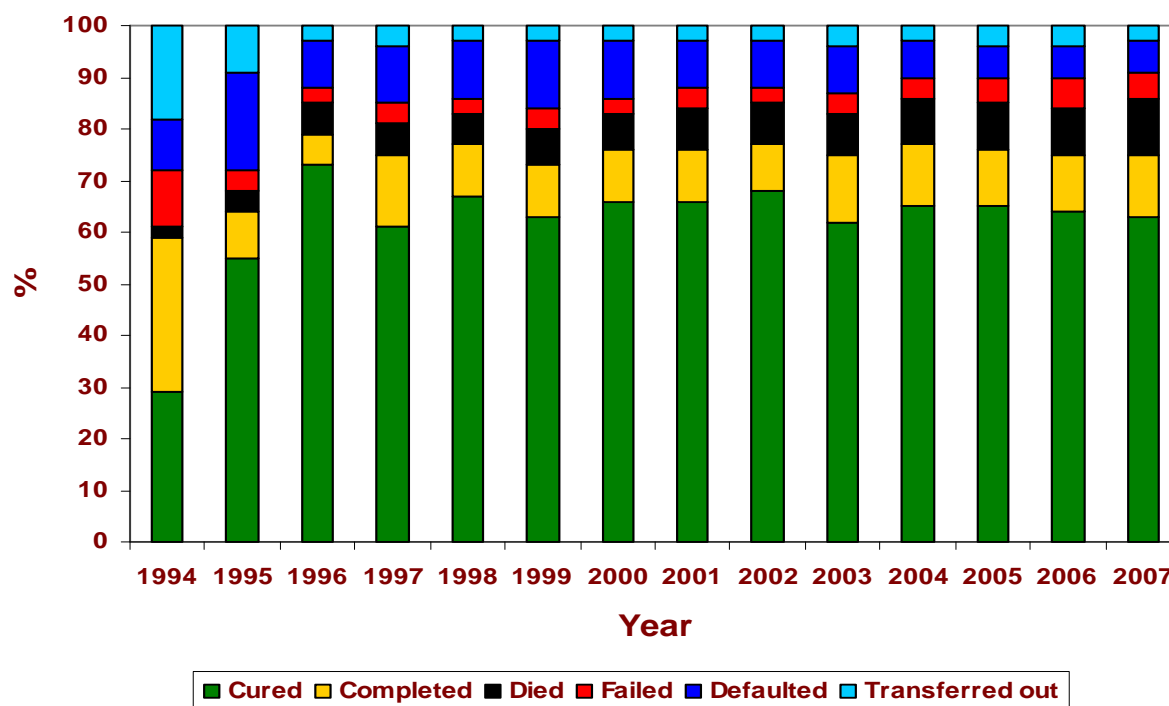


Treatment outcomes of new smear positive TB patients
(1994 to 2007 cohorts)

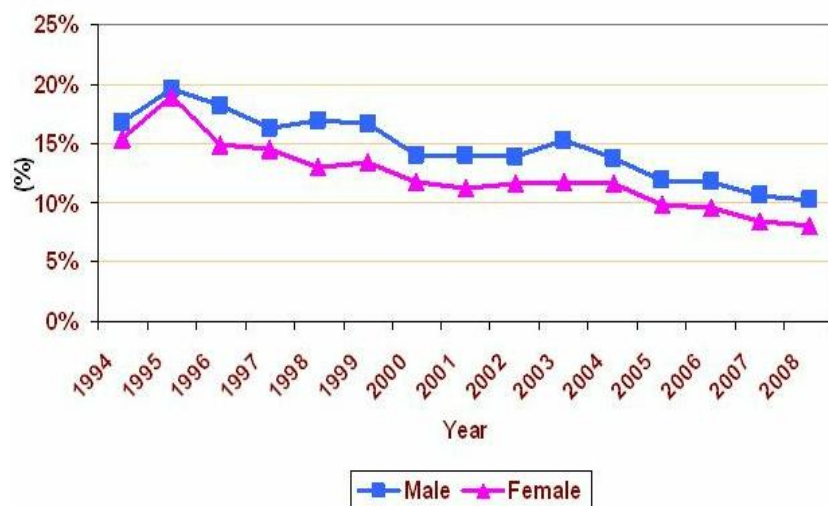


National Tuberculosis Programme

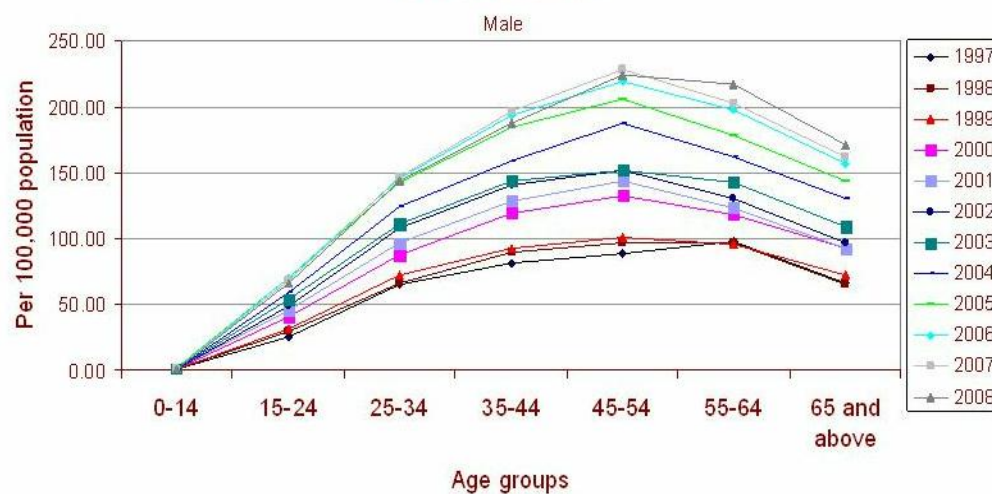
Treatment outcomes of relapse cases
(1994 to 2007 cohorts)



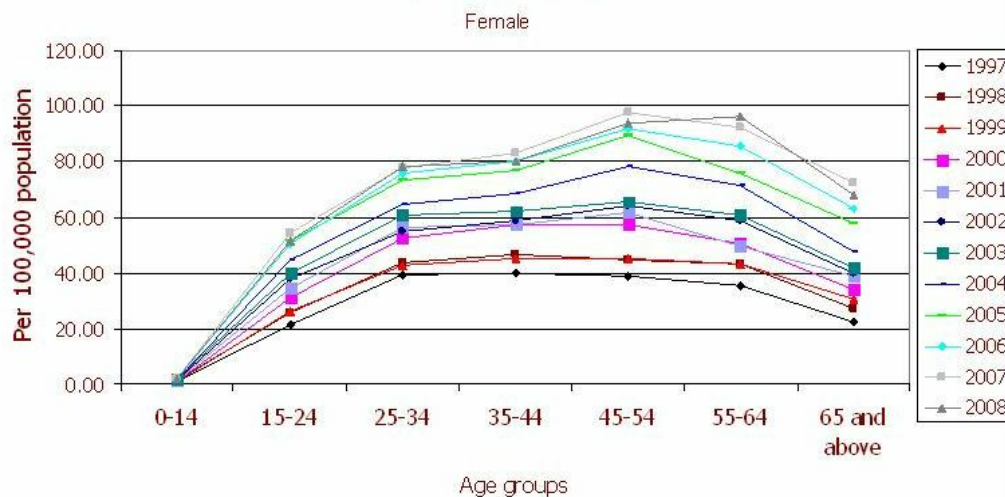
Proportion of Relapses among New Smear (+) Cases + Relapse Cases



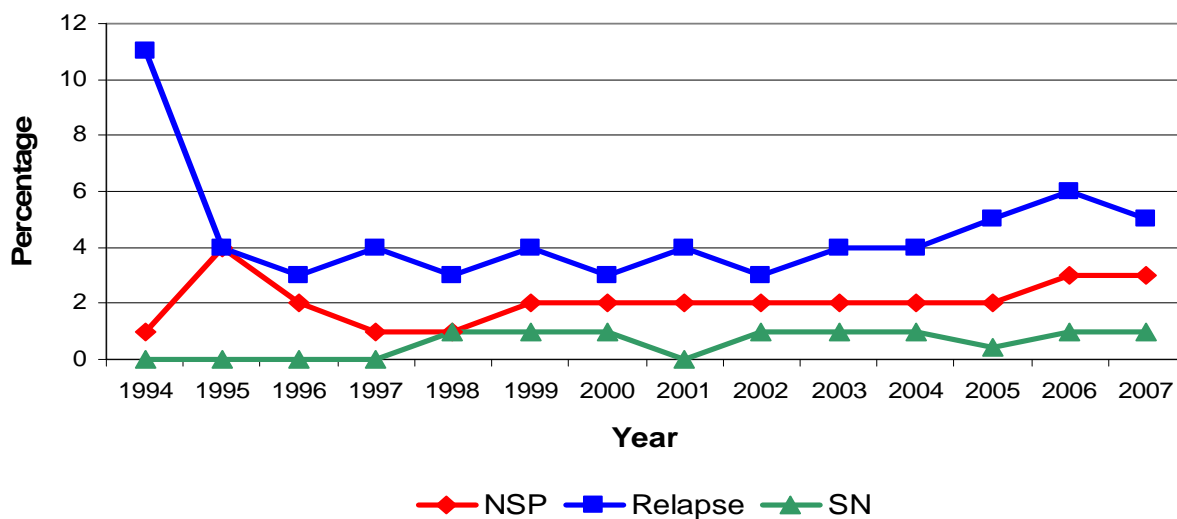
Age specific notification rate of new smear positive TB patients (1997-2008) (Union)



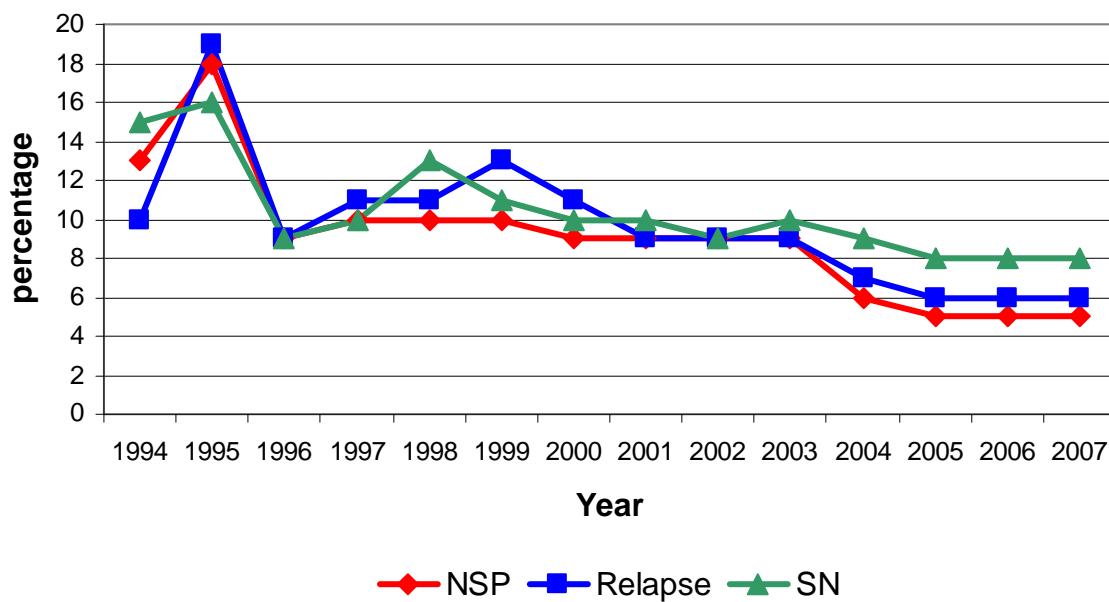
Age specific notification rate of new smear positive TB patients (1997-2008) (Union)

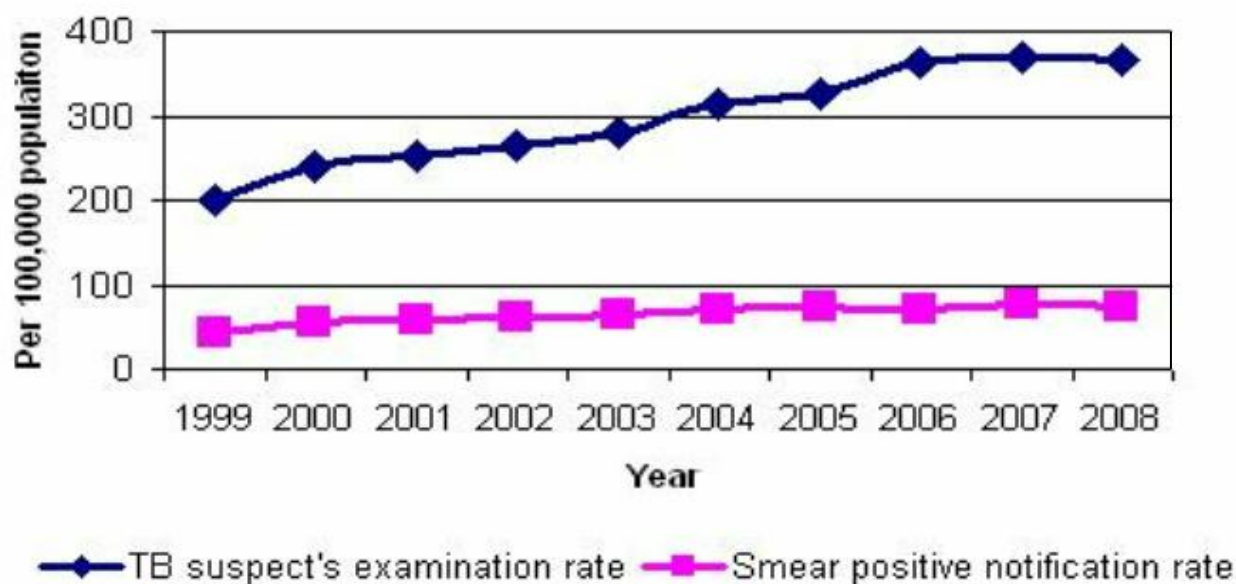
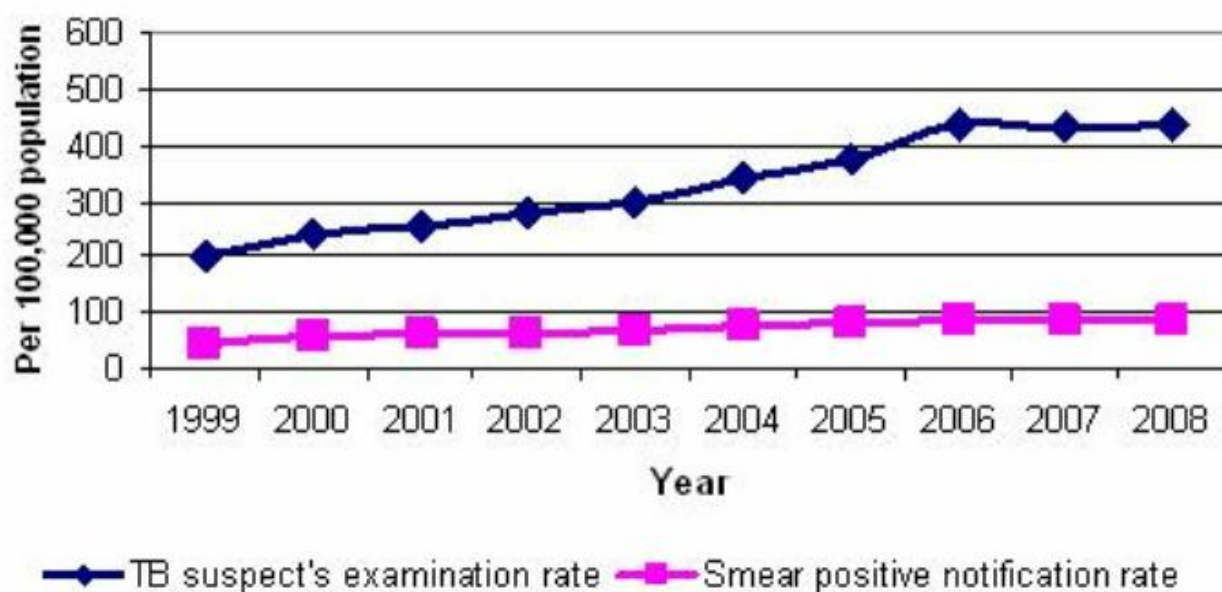


Failure rates of new smear positive, new smear negative and relapse TB patients (1994-2007 cohort)

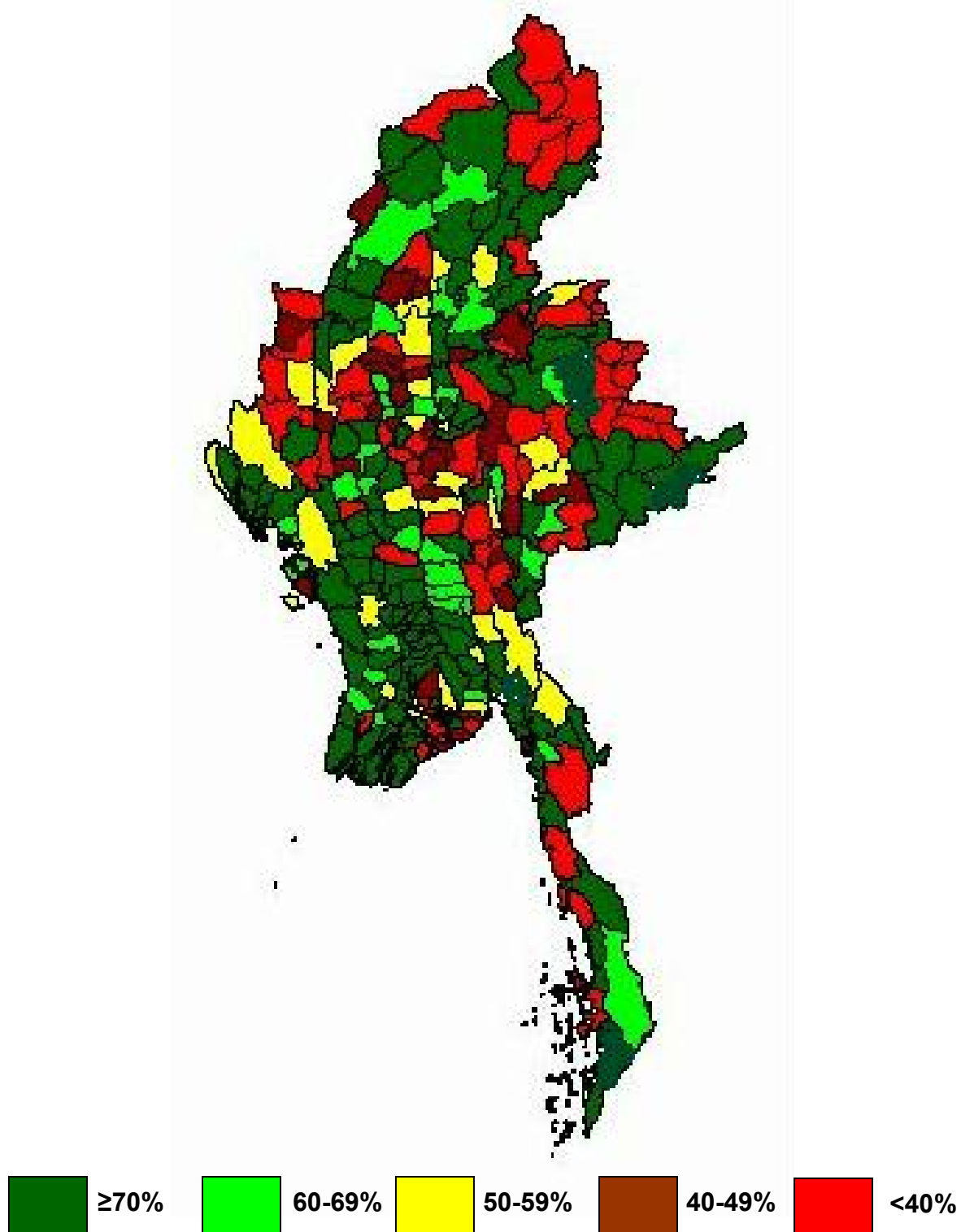


Defaulter rate of new smear positive, new smear negative and relapse TB patients (1994-2007 cohort)



NTP:TB suspect' examination rate & S (+) notification rate**NTP + Other Unit: TB suspect' examination rate & S (+) notification rate**

Case detection rate of townships by categories



Treatment success rate of townships by categories

