

COUNTRY PROFILE

Myanmar

Each year since 1999 the NTP of Myanmar has detected more TB cases, with improving treatment success rates since 2003. High notification rates, coupled with preliminary results of a disease prevalence survey in Yangon, suggest that the burden of TB is probably higher than currently estimated. Slightly less than half of the 2006 TB control budget was funded, and funding gaps for 2007 and 2008 are larger still. The absence of a secure supply of first-line drugs poses a serious threat to the work of the NTP, the possible consequences of which include increasing drug resistance and loss of public confidence in TB control services.

SURVEILLANCE AND EPIDEMIOLOGY, 2006

Population (thousands)^a 48 379

Estimates of epidemiological burden¹

Incidence (all cases/100 000 pop/yr) 171
 Trend in incidence rate (%/yr, 2005–2006)² **0.0**
 Incidence (ss+/100 000 pop/yr) 76
 Prevalence (all cases/100 000 pop)² **169**
 Mortality (deaths/100 000 pop/yr)² **13**
 Of new TB cases, % HIV+^b 2.6
 Of new TB cases, % MDR-TB (2003)^c 4.0
 Of previously treated TB cases, % MDR-TB (2003)^c 16

Surveillance and DOTS implementation

Notification rate (new and relapse/100 000 pop/yr) 253
 Notification rate (new ss+/100 000 pop/yr) 83
 DOTS case detection rate (new ss+, %) **109**
 DOTS treatment success (new ss+, 2005 cohort, %) **85**
 Of new pulmonary cases notified under DOTS, % ss+ 48
 Of new cases notified under DOTS, % extrapulmonary 29
 Of new ss+ cases notified under DOTS, % in women 34
 Of sub-national reports expected, % received at next reporting level^d 94

Laboratory services³

Number of laboratories performing smear microscopy 391
 Number of laboratories performing culture 2
 Number of laboratories performing DST 1
 Of laboratories performing smear microscopy, % covered by EQA 13

Management of MDR-TB

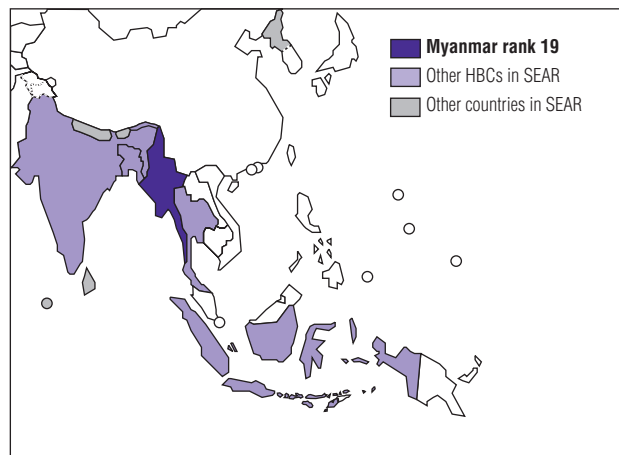
Of new cases notified, % receiving DST at start of treatment –
 Of new cases receiving DST at start of treatment, % MDR-TB –
 Of re-treatment cases notified, % receiving DST 9.4
 Of re-treatment cases receiving DST, % MDR-TB 77

Collaborative TB/HIV activities

National policy of counselling and testing TB patients for HIV? Yes
 (to all patients)
 National surveillance system for HIV-infection in TB patients? Yes
 Of TB patients (new and re-treatment) notified, % tested for HIV 2
 Of TB patients tested for HIV, % HIV+ 24
 Of HIV+ TB patients detected, % receiving CPT 76
 Of HIV+ TB patients detected, % receiving ART 44

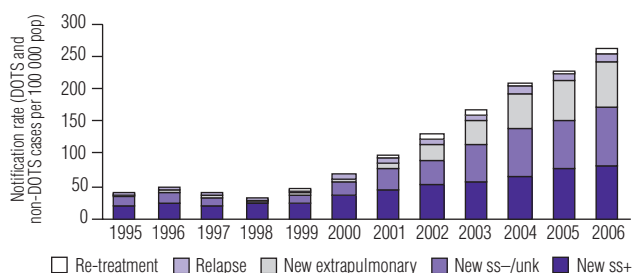
WHO South-East Asia Region (SEAR)

Rank based on estimated number of incident cases (all forms) in 2006



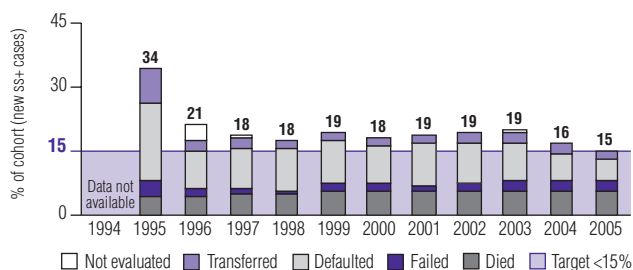
Case notifications

Notifications continue to increase, suggesting that incidence may be higher than currently estimated



Unfavourable treatment outcomes, DOTS

Treatment success target achieved for first time with 2005 cohort



DOTS expansion and enhancement	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
DOTS coverage (%)	–	59	60	60	64	77	84	88	95	95	95	95
DOTS notification rate (new and relapse/100 000 pop)	–	46	36	33	43	67	89	122	161	203	223	253
DOTS notification rate (new ss+/100 000 pop)	–	20	20	22	25	38	45	52	58	66	76	83
DOTS case detection rate (all new cases, %)	–	24	19	17	23	36	48	67	88	113	125	142
DOTS case detection rate (new ss+, %)	–	26	27	29	33	49	58	68	76	86	100	109
Case detection rate within DOTS areas (new ss+, %) ^a	–	45	44	49	52	64	70	77	80	91	105	115
DOTS treatment success (new ss+, %)	66	79	82	82	81	82	81	81	81	84	85	–
DOTS re-treatment success (ss+, %)	64	78	74	76	71	74	74	75	70	74	73	–

IMPLEMENTING THE STOP TB STRATEGY¹**DOTS EXPANSION AND ENHANCEMENT****Political commitment, standardized treatment, and monitoring and evaluation system****Achievements**

- Published national guidelines on management of paediatric TB and clinical pocket manual on paediatric TB
- Intensified supervision, monitoring and evaluation at all levels through increased funding for these activities
- Conducted quarterly evaluation meetings at township level
- Hosted 2-yearly external review in January 2007
- Produced 14th annual report of activities of NTP

Planned activities

- Conduct training course on management of TB for health facility staff in all states/divisions
- Continue supervision, monitoring and quarterly evaluation meetings with support from Three Diseases Fund

Quality-assured bacteriology**Achievements**

- Drafted guidelines on EQA for AFB microscopy
- Established sputum collection points in 10 sites in Ayeyarwaddy, Mandalay, Sagaing and Yangon divisions

Planned activities

- Expand culture and DST at Mandalay laboratory
- Gradually expand EQA system from Yangon and Mandalay divisions to other states/divisions
- Decentralize sputum microscopy centres to station hospital units, and arrange sputum collection points for rural health centres, particularly in townships where case-finding is low

Drug supply and management system**Achievements**

- Published SOPs for management of drugs and supplies
- Trained health-care staff on pre-packed patient kits; introduced these kits in 38 townships
- Received GDF approval of 3-year grant for first-line anti-TB drugs, including paediatric formulations

Planned activities

- Proactively mobilize resources to ensure first-line anti-TB drug supply beyond GDF support in 2008
- Develop monitoring system on drug management at all levels to ensure uninterrupted supply and stocks
- Train all health staff on SOPs for management of drugs and supplies
- Improve infrastructure and civil works for better storage of drugs
- NTP to cover all costs associated with distribution of drugs and consumables to townships, including transport of staff where necessary

TB/HIV, MDR-TB AND OTHER CHALLENGES**Collaborative TB/HIV activities****Achievements**

- Implemented collaborative TB/HIV activities in 7 townships in 2005 and 2006; 11 in 2007
- Introduced provider-initiated HIV counselling and testing in 3 TB clinics
- Included TB patients as subgroup for HIV sentinel surveillance by NAP; 150 TB patients tested from each of 10 sites

Planned activities

- Develop national guidelines and training materials on TB/HIV
- Pilot test provision of IPT to HIV-positive people
- Scale up collaborative TB/HIV activities, beginning with counselling and testing, and CPT at TB clinics, followed by ART
- Strengthen joint monitoring, supervision and evaluation of collaborative TB/HIV activities

Diagnosis and treatment of multidrug-resistant TB**Achievements**

- Successfully applied to GLC for second-line anti-TB drugs for start up of MDR-TB programme (NTP/MSF-Holland)
- Received approval for national framework for management of drug-resistant TB

Planned activities

- Study patterns of susceptibility to first- and second-line anti-TB drugs in Category II failures in order to determine most appropriate regimen for treatment of MDR-TB
- Develop MDR-TB training materials and implement training in Yangon and Mandalay divisions
- Launch GLC-approved MDR-TB management programmes in Yangon and Mandalay divisions; 75 patients to be treated in 2008

High-risk groups and special situations**Achievements**

- Conducted TB prevention and control activities among cross-border populations in 16 townships along the Myanmar–Thai border; activities included case-finding, DOT, cross-referral, exchange of information and health education activities
- Provided, through township TB centres, TB diagnosis and treatment for prisoners
- Provided food to patients receiving community-based home care (severely ill patients)

Planned activities

- Conduct KAP survey and DRS in border townships, in coordination with the TB cluster in Thailand

¹ Unless otherwise specified, achievements are for financial year 2006; planned activities are for financial year 2007.

HEALTH SYSTEM STRENGTHENING, INCLUDING HUMAN RESOURCE DEVELOPMENT

Achievements

- Involved broad range of partners from health and other sectors in planning for TB control
- In townships where no NTP laboratory exists, trained laboratory technicians in general laboratories of township hospitals to perform smear microscopy
- Distributed binocular microscopes to townships
- Trained basic health staff on TB control management
- Equipped X-ray facilities in 13 state/divisional TB centres
- Conducted training-of-trainers courses on TB management: "Management of TB at district level" and "Management of TB for health facility staff"
- Provided training-of-trainers courses for central, state and divisional staff on data management and analysis
- Drafted training manuals for diagnosis and treatment of TB, collaborative TB/HIV activities and management of MDR-TB
- Began partial implementation of PAL in 4 teaching hospitals in Yangon

Planned activities

- Use 3 Disease Fund to address general health system weaknesses. Activities to include: capital investments to strengthen infrastructure, communication and transportation; establishment of mobile teams for outreach in remote areas; planning, budgeting and management training for township medical officers to improve management of public health interventions across TB, HIV, malaria and other programmes; strengthening Myanmar Medical Association supervision capacity at central level and establishment of divisional-level public health coordinator from Myanmar Medical Association
- Decentralize TB control activities from townships to station hospital units and rural health centres
- Establish health centre in Kayah State
- Continue training of basic health-care staff

ENGAGING ALL CARE PROVIDERS

Achievements

- Scaled up PPM activities to 81 townships
- Established Central Coordinating Committee for PPM with all partners
- Drafted PPM guidelines and training modules
- Initiated public–public mix with 4 major hospitals in Yangon Division
- Held annual evaluation workshop on public–private and public–public mix initiatives

Planned activities

- Evaluate and scale up public–public mix activities
- Conduct national workshop on ISTC and initiate implementation
- Standardize PPM recording and reporting practices to include case-finding and treatment outcome data from different providers
- Jointly supervise, with Myanmar Medical Association, PPM activities

EMPOWERING PEOPLE WITH TB, AND COMMUNITIES

Advocacy, communication and social mobilization

Achievements

- Carried out ACSM activities in 176 out of 325 townships
- Organized World TB Day commemoration activities and health talks at health centres for general public
- Broadcast TB messages using TV spots

Planned activities

- Identify and develop messages and targeted materials
- Develop ACSM strategy and activities

Community participation in TB care

Achievements

- Community members participated in TB care in 311 out of 325 townships
- Developed guide for community supporters (treatment observers)
- Implemented community-based Fidelis project "Reaching the unreached" in hilly regions of Sagaing Division
- Advocated for TB control to local authorities, leading to the organization of over 7000 health education sessions

Planned activities

- Strengthen collaboration with local NGOs
- Scale up advocacy to local authorities, teachers and religious leaders
- Evaluate Fidelis project for replication in other states/divisions with funding from 3DF
- Develop policy on volunteer involvement in TB control
- Encourage TB patients to get involved in TB control
- Form a network of people living with TB

Patients' Charter

Achievements

The Patients' Charter was published in 2006 and was therefore not available for use in countries until then.

Planned activities

- None reported

RESEARCH, INCLUDING SPECIAL SURVEYS AND IMPACT MEASUREMENT

Achievements

- Carried out prevalence of disease survey in Yangon Division and pilot tested survey in Mandalay Division
- Included KAP questionnaires in Yangon and Mandalay TB prevalence surveys
- Conducted 2nd DRS
- Screened factory workers for TB in Yangon, Mandalay and Magway divisions
- Conducted study on involvement of general practitioners in TB control

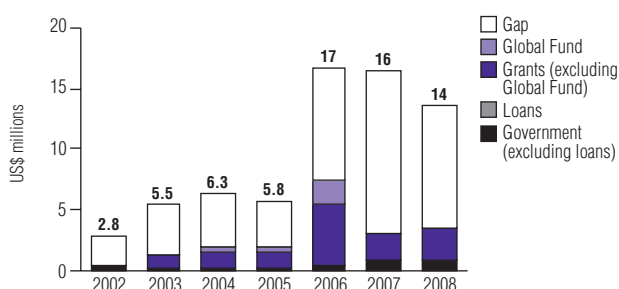
Planned activities

- Conduct national TB prevalence survey
- Carry out national KAP survey
- Conduct DRS at Myanmar–Thailand border area
- Study provision of IPT to HIV-positive people at pilot site for collaborative TB/HIV activities
- Carry out operational research on IPT for children aged under 4 years
- Investigate factors associated with non-compliance among new pulmonary TB patients

FINANCING THE STOP TB STRATEGY

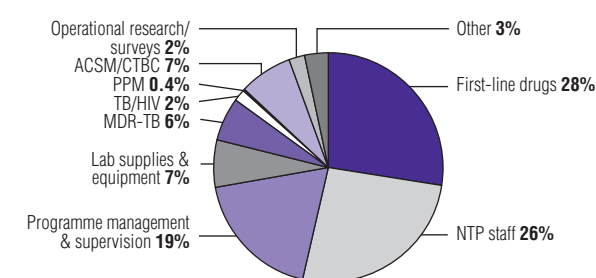
NTP budget by source of funding

Funding situation critical in Myanmar: most of budget requirements not funded



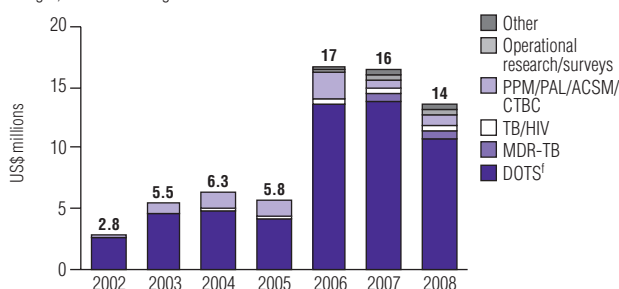
NTP budget by line item, 2008

Of the total NTP budget, 80% is for component 1 of the Stop TB Strategy (DOTS expansion and enhancement)



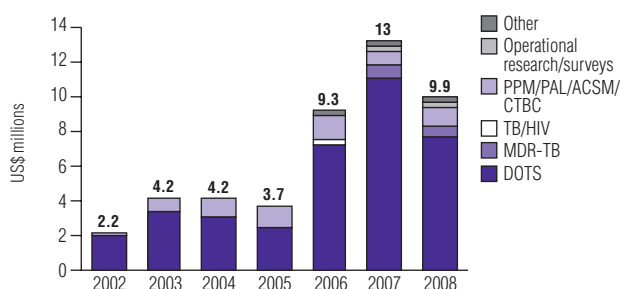
NTP budget by line item

Decreased budget in 2008 mainly because buffer stock of first-line drugs included in 2007 budget; increased budget for MDR-TB



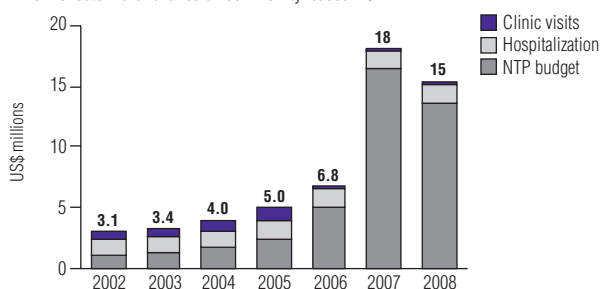
NTP funding gap by line item

70% of first-line drugs budget unfunded in 2007–2008; funding gaps mainly for DOTS and initiatives to increase case detection



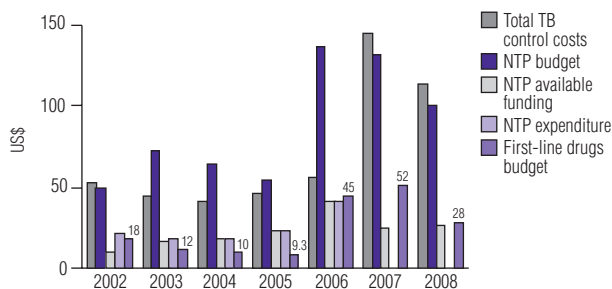
Total TB control costs by line item⁴

Hospitalization costs are for 1500 dedicated TB beds; costs for clinic visits based on 28 outpatient clinic visits during TB treatment for 2002–2005 and 3 visits for 2006–2008, which reflects more reliance on community-based DOT



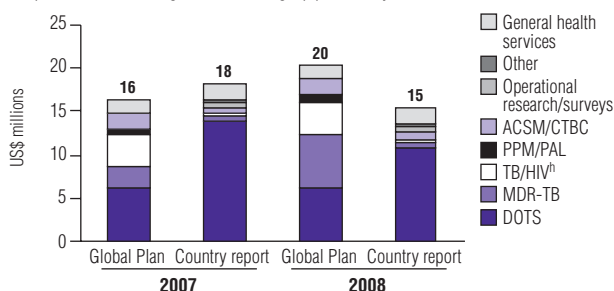
Per patient costs, budgets and expenditures⁵

Increased expenditures per patient since 2002, indicating good absorption capacity; high first-line drugs budget per patient 2006–2007 reflects planned purchase of buffer stock



Comparison of country report and Global Plan:⁹ total TB control costs, 2007–2008

DOTS component lower in Global Plan because projections of patients to be treated lower than country forecasts; targets for MDR-TB patients to be treated in Global MDR/XDR Response Plan much higher than scaling-up planned by NTP



NTP budget and funding gap by Stop TB Strategy component

(US\$ millions)	2007		2008	
	BUDGET	GAP	BUDGET	GAP
DOTS expansion and enhancement	14	11	11	7.7
TB/HIV, MDR-TB and other challenges	1.0	0.8	1.0	0.6
Health system strengthening	0	0	0	0
Engage all care providers	0.05	0.03	0.05	0.02
People with TB, and communities	0.7	0.7	1.0	1.0
Research	0.4	0.3	0.3	0.3
Other	0.4	0.3	0.4	0.3

Financial indicators for TB

Government contribution to NTP budget (including loans)	5.9%	7.4%
Government contribution to total cost of TB control (including loans)	15%	18%
NTP budget funded	19%	27%
<i>Per capita health financial indicators (US\$)</i>		
NTP budget per capita	0.3	0.3
Total costs for TB control per capita	0.4	0.3
Funding gap per capita	0.3	0.2
Government health expenditure per capita (2004)		0.6
Total health expenditure per capita (2004)		4.5

SOURCES, METHODS AND ABBREVIATIONS

^{a-h} Please see footnotes page 169.
¹ Incidence, prevalence and mortality estimates include patients infected with HIV. Estimates of burden based on prevalence surveys carried out up to 1994. Incidence rate assumed to be constant in absence of contrary evidence, but estimated prevalence and mortality rates declining with growing proportion of cases treated.
² MDG and STB Partnership indicators shown in bold. Targets are 70% case detection of smear-positive cases under DOTS, 85% treatment success, to ensure that the incidence rate is falling by 2015, and to reduce incidence rates and halve 1990 prevalence and mortality rates by 2015. Estimates for 1990 are prevalence 411/100 000 pop and mortality 50/100 000 pop/yr.
³ For routine diagnosis, there should be at least one laboratory providing smear microscopy per 100 000 population. To provide culture for diagnosis of paediatric, extrapulmonary and ss-/HIV+ TB, as well as DST for re-treatment and failure cases, most countries will need one culture facility per 5 million population and one DST facility per 10 million population.
⁴ Total TB control costs for 2002–2006 are based on expenditure, whereas those for 2007–2008 are based on budgets. Estimates of the costs of clinic visits and hospitalization are WHO estimates based on data provided by the NTP and from other sources. See Methods for further details.
⁵ NTP available funding for 2004–2006 is based on the amount of funding actually received, using retrospective data; available funding for 2002–2003 and 2007–2008 is based on prospectively reported budget data, and estimated as the total budget minus any reported funding gap.
 – indicates not available; pop, population; ss+, sputum smear-positive; ss–, sputum smear-negative pulmonary; unk, pulmonary – sputum smear not done or result unknown; yr, year.