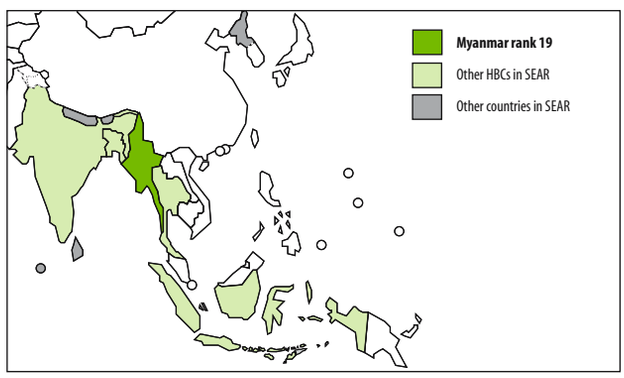
Myanmar

Despite limited resources, the NTP continues to improve the quality of and access to TB services, and is close to reaching the global target for treatment success. Although Myanmar maintains a high rate of case detection, analysis from a recent TB prevalence survey in Yangon is likely to show an underestimate of the TB burden. The arrival of the new Three Diseases Fund will allow the NTP to continue basic programme needs while scaling up collaborative TB/HIV activities and initiatives to engage all care providers and involve the community.

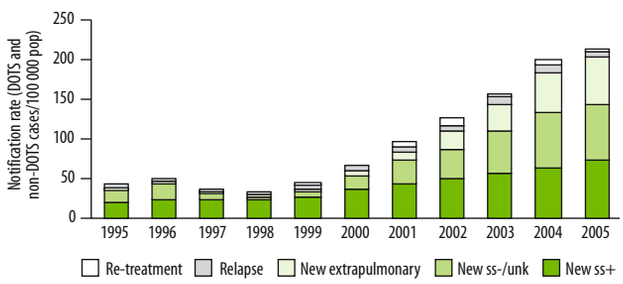
SURVEILLANCE AND EPIDEMIOLOGY

Population (thousands)[a]	50 519	
TB burden, 2005 estimates (with 2.5 and 97.5 centiles)[b]		
Incidence (all cases/100 000 pop/yr)	171	98–246
Trend in incidence rate (%/yr, 2004–2005)[c]	**0.0**	
Incidence (ss+/100 000 pop/yr)	76	43–111
Prevalence (all cases/100 000 pop)[c]	**170**	87–272
Mortality (deaths/100 000 pop/yr)[c]	**15**	6.9–27
Of new adult TB cases (15–49yrs), % HIV+[d]	7.1	4.1–11
New TB cases multidrug-resistant, 2004 (%)[e]	4.4	3.1–6.1
Previously treated TB cases multidrug-resistant, 2004 (%)e	16	9.5–23
Surveillance and DOTS implementation, 2005		
Notification rate (new and relapse/100 000 pop/yr)	212	
Notification rate (new ss+/100 000 pop/yr)	72	
DOTS case detection rate (new ss+, %)	**95**	65–168
DOTS treatment success (new ss+ cases, 2004 cohort, %)	**84**	
Of new pulmonary cases notified under DOTS, % smear-positive	51	
Of new cases notified under DOTS, % extrapulmonary	30	
Of new smear-positive cases notified under DOTS, % in women	34	
Of sub-national reports expected, % received at next reporting level[f]	97	
Laboratory services, 2005[g]		
Number of laboratories performing smear microscopy	310	
Number of laboratories performing culture	2	
Number of laboratories performing DST	1	
Of laboratories performing smear microscopy, % covered by EQA	5	
Management of MDR-TB, 2005		
Of new cases notified, % receiving DST at start of treatment	0.0	
Of new cases receiving DST at start of treatment, % MDR-TB	–	
Of re-treatment cases notified, % receiving DST	–	
Of re-treatment cases receiving DST, % MDR-TB	–	
Collaborative TB/HIV activities, 2005		
National policy of counselling and testing TB patients for HIV?	No	
National surveillance system for HIV-infection in TB patients?	Yes	
Of TB patients (new and re-treatment) notified, % tested for HIV	–[h]	
Of TB patients tested for HIV, % HIV+	–	
Of HIV+ TB patients detected, % receiving CPT	–	
Of HIV+ TB patients detected, % receiving ART	–	
Budget and finance, 2007		
Government contribution to NTP budget (including loans, %)	3.0	
Government contribution to total cost of TB control (including loans, %)	18	
Government health spending used for TB control (%)	0.5	
NTP budget funded (%)	44	

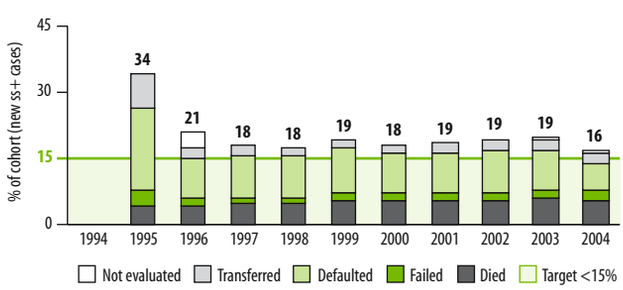
WHO South-East Asia Region (SEAR)
Rank based on estimated number of incident cases (all forms) in 2005



Case notifications
Notifications have increased rapidly as DOTS expands



Unfavourable treatment outcomes, DOTS
Treatment success close to target; if default rate continues to decline, target should soon be met



DOTS expansion and enhancement	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
DOTS coverage (%)	–	59	60	60	64	77	84	88	95	95	95
DOTS notification rate (new & relapse/100 000 pop)	–	44	35	32	42	65	86	117	153	193	212
DOTS notification rate (new ss+/100 000 pop)	–	19	20	22	24	36	43	49	55	63	72
DOTS case detection rate (all new cases, %)	–	24	18	16	22	35	46	64	84	108	119
DOTS case detection rate (new ss+, %)	–	26	26	29	32	48	56	65	73	83	95
Case detection rate within DOTS areas (new ss+, %)[i]	–	43	43	47	50	62	67	74	77	87	100
DOTS treatment success (new ss+, %)	66	79	82	82	81	82	81	81	81	84	–
DOTS re-treatment success (ss+, %)	64	78	74	76	71	74	74	75	70	73	–

IMPLEMENTING THE STOP TB STRATEGY[1]

Pursue high-quality DOTS expansion and enhancement

Budget (2006): US$ 14 million
Budget (2007): US$ 14 million
Gap (2006): US$ 7.2 million
Gap (2007): US$ 6.6 million

Achievements

- Developed 3-year national operational plan (2006/7–2008/9) based on the national NTP strategic plan (2006–2010) for use as the basis for resource mobilization efforts
- Strengthened HRD activities with remaining GFATM support
- Extended supervision, monitoring and quarterly evaluation to township level
- Designated a full-time NTP staff responsible for HRD activities for comprehensive TB control and developed a strategic HRD plan for TB control linked to the national human resources for health plan
- Procured additional supplies and equipment for TB diagnosis
- Received funding for a bridge period between termination of the GFATM grant and start of a new Three Diseases Fund established to fund TB, HIV/AIDS and malaria control activities for 5 years for US$ 100 million
- Received extension of GDF grant to supply first-line anti-TB drugs for a second 3-year term (2006–2008)
- Strengthened links with supranational reference laboratories in Belgium and Thailand to obtain comprehensive technical laboratory assistance
- Produced 13th annual report of NTP activities

Planned activities

- Hold training courses for health staff at all levels on leadership, logistic management, budget and planning
- Upgrade the Upper Myanmar TB laboratory to increase capacity to provide culture and DST services to the northern part of the country
- Develop guidelines for the management of TB in children

Challenges

- Filling the almost 25% of NTP posts that are vacant because of high staff turnover
- Expanding EQA for smear microscopy to all diagnostic units (currently less than 5% of laboratories are covered)
- Completing implementation of laboratory supervision plan, which has been delayed due to lack of funding for transport and staff
- Improving case-finding and treatment outcomes in a selected number of important townships (border and remote) with high treatment interruption rates and low community involvement in TB control
- Reconciling the major funding gaps for staff and programme supervision activities following termination of GFATM grant support in August 2006
- Mobilizing resources for first-line anti-TB drugs after GDF grant expires in 2008

Address TB/HIV, MDR-TB and other challenges

Budget (2006): US$ 0.4 million
Budget (2007): US$ 1.1 million
Gap (2006): US$ 0.3 million
Gap (2007): US$ 1.0 million

Achievements

- Formed national TB/HIV coordinating body
- Published guidelines for the treatment of HIV-infected TB patients
- Established 2 additional pilot sites for collaborative TB/HIV activities (Myitkyina and Taunggyi), and performed integrated TB/HIV surveillance in 5 sites
- Established committee to develop national guidelines on the programmatic management of MDR-TB patients

Planned activities

- Initiate pilot project on IPT for people with HIV
- Scale up collaborative TB/HIV activities to additional sites, including VCT at TB centres
- Apply to the GLC for second-line anti-TB drugs for the management of MDR-TB patients in Yangon and Mandalay divisions
- Establish mobile teams to reach communities and TB patients in remote areas for better case detection and treatment success (each team is provided with transport, microscopes, drugs, reagents, consumables and core staff)

Challenges

- Obtaining funding for expansion of collaborative TB/HIV activities
- Improving availability of ART services (including antiretroviral drugs) for HIV-infected TB patients
- Strengthening supervision, monitoring and evaluation of collaborative TB/HIV activities
- Improving capacity to diagnose and treat MDR-TB patients
- Providing high-quality TB services for the Thai–Myanmar cross-border populations

Contribute to health system strengthening

Budget (2006): US$ 0
Budget (2007): US$ 0
Gap (2006): US$ 0
Gap (2007): US$ 0

Achievements

- Provided sputum collection or microscopy centres to station hospitals, and supplied binocular microscopes to townships
- Offered training in diagnosis and treatment of TB for basic health staff
- Involved Ministries of Labour, Defence and Home Affairs in planning of TB control activities

Planned activities

- Initiate PAL activities in 2007

Challenges

- Increasing the number of laboratory technicians working in the health system

[1] Unless otherwise specified, achievements are for financial year 2005; planned activities are for financial year 2006. Budgets and gaps are for financial years.

IMPLEMENTING THE STOP TB STRATEGY

Engage all care providers

Budget (2006): US$ 0.4 million
Budget (2007): US$ 0.04 million
Gap (2006): US$ 0.3 million
Gap (2007): US$ 0.04 million

Achievements

- Included PPM in the 3-year national operational plan and the plan under the Three Diseases Fund
- Collaborated with Population Services International, which is scaling up engagement of private general practitioners through a social franchise scheme
- Engaged with the Myanmar Medical Association (MMA) to enhance TB referral system and introduce PPM projects in 25 townships through the MMA
- Developed PPM training materials and provided training to private practitioners on TB control

Planned activities

- Continue PPM activities in 11 townships, scale up PPM activities in 1 township and start up 5 additional township projects in collaboration with MMA, JICA and Population Services International (PSI)
- Improve public–public partnerships
- Pilot PPM in the new Yangon General Hospital to cover an additional 1.7 million population

Challenges

- Maintaining the quality of services during PPM scale up
- Improving the implementation of DOTS in large hospitals outside the NTP and by ministries other than the MoH, including weak referral and feedback mechanisms with high default rates

Empower people with TB, and communities

Budget (2006): US$ 1.7 million
Budget (2007): US$ 0.6 million
Gap (2006): US$ 0.9 million
Gap (2007): US$ 0.6 million

Achievements

- Involved communities in 20% of townships in treatment support for TB patients, and TB case-finding
- Continued collaboration between NTP and the Myanmar Maternal and Child Welfare Association

Planned activities

- Develop targeted IEC materials and ACSM national strategy
- Hold more than 1500 advocacy meetings at all levels by the end of 2006 to mobilize partners countrywide to strengthen TB prevention and control

Challenges

- Promoting the Patients' Charter for Tuberculosis Care
- Increasing the number of communities involved in TB control through advocacy meetings, training and mass media activities

Enable and promote research

Budget (2006): US$ 0.2 million
Budget (2007): US$ 0.3 million
Gap (2006): US$ 0.04 million
Gap (2007): US$ 0.3 million

Achievements

- Included operational research in the 5-year national TB strategic plan
- Conducted research into effectiveness of FDCs and daily regimens, treatment delay, and effectiveness of LQA vs. conventional EQA
- Conducted sub-national TB prevalence survey in Yangon in partnership with NTP, WHO, JICA, RIT, GFATM and UNDP
- Published data from 2002 national drug resistance survey in an international journal

Planned activities

- Conduct a TB KAP survey, including a health-seeking behaviour component, with focus on populations in remote areas
- Carry out a second national drug resistance survey
- Plan a national prevalence disease survey for 2008

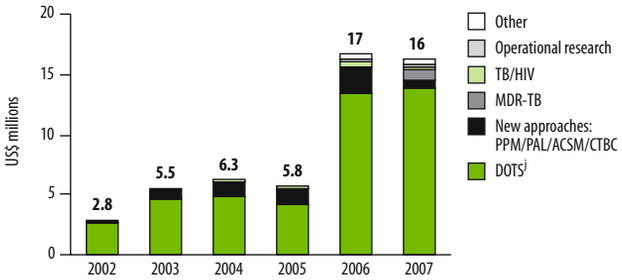
Challenges

- Securing funding to urgently start the second national drug resistance survey

FINANCING THE STOP TB STRATEGY

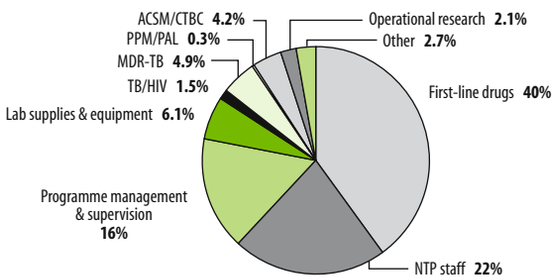
NTP budget by line item

Increased budget, mainly component 1 of Stop TB Strategy (Pursue high-quality DOTS expansion and enhancement); PPM budget in 2007 likely to increase when budget for all implementing partners is included; operational research includes budget for national disease prevalence survey



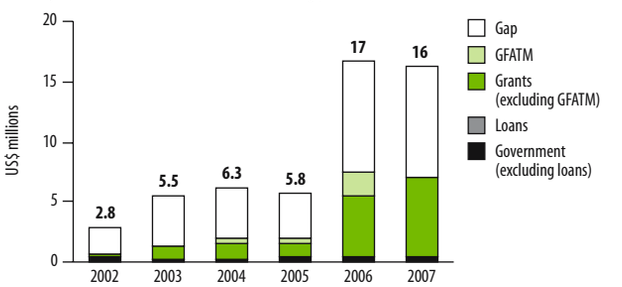
NTP budget by line item, 2007

Budget for first-line drugs includes a 1-year buffer stock



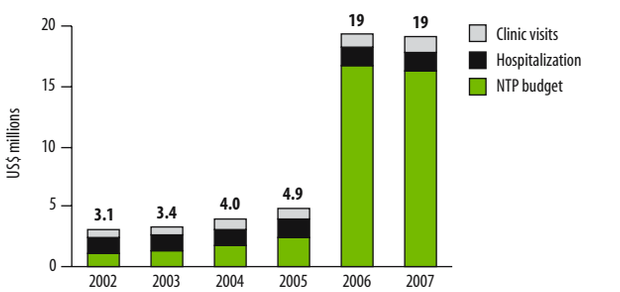
NTP budget by source of funding

Important increase in budget for 2006 and 2007, mainly due to revision of needs and inclusion of all implementing partners; part of funding gap in 2006 and 2007 likely to be filled by the 3 Diseases Fund and implementing partners



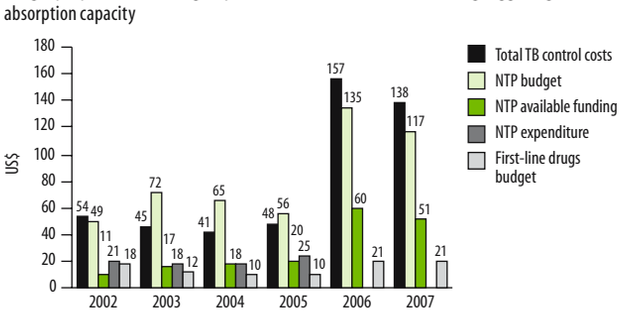
Total TB control costs by line item[k]

Cost of hospitalization estimated based on the number of TB beds available in the country (n = 1500)



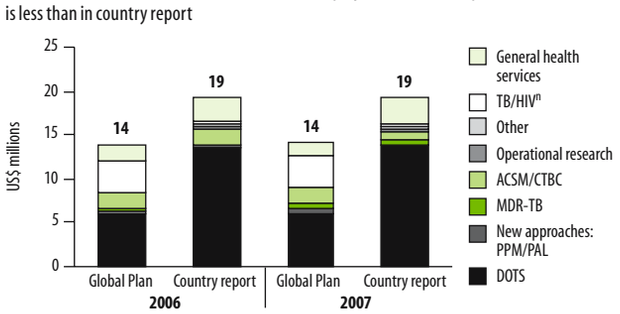
Per patient costs, budgets and expenditures[l]

Budget per patient increasing; expenditures similar to available funding suggests good absorption capacity



Comparison of country report and Global Plan:[m] total TB control costs, 2006–2007

Global Plan estimates for DOTS are lower because projected number of patients to be treated is less than in country report



SOURCES, METHODS AND ABBREVIATIONS

[a] *World population prospects – the 2004 revision*. New York, United Nations Population Division, 2005.

[b] 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 decline with growing proportion of cases treated.

[c] 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 417/100 000 pop and mortality 50/100 000 pop/yr.

[d] Estimate of HIV prevalence in incident TB cases (15–49 yo) derived from UNAIDS estimate of HIV prevalence in the general population, using assumed incidence rate ratio of 6.

[e] MDR-TB figures shown in regular type are survey data from the database of the WHO/IUATLD Global Project on Anti-Tuberculosis Drug Resistance Surveillance. Figures in italics are estimates from the following source: Zignol M et al. Global incidence of multidrug-resistant tuberculosis. *Journal of Infectious Diseases*, 2006, 194:479–485.

[f] Completeness of reporting assessed at lowest level in reporting hierarchy for which information is available.

[g] 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.

[h] No national data available; 2109 TB patients tested for HIV as part of Integrated HIV Care pilot project in Mandalay province in 2005, of whom 29% found HIV-positive. Of HIV-positive TB patients in pilot project, 50% received CPT, 31% received ART.

[i] Case detection within DOTS areas calculated by dividing national case detection rate (new ss+) by DOTS coverage.

[j] DOTS includes the following components shown in the pie chart at right: first-line drugs, NTP staff, programme management and supervision, and laboratory supplies and equipment.

[k] Total TB control costs for 2002–2005 are based on expenditure, whereas those for 2006–2007 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.

[l] NTP available funding for 2004–2005 is based on the amount of funding actually received, using retrospective data; available funding for 2002–2003 and 2006–2007 is based on prospectively reported budget data, and estimated as the total budget minus any reported funding gap.

[m] Estimates in the Global Plan were presented for regions rather than countries. See Methods for explanation of calculation of individual country estimates from regional estimates.

[n] Global Plan estimates cover the full costs of collaborative TB/HIV activities, but these costs may be budgeted for by either the NTP or the National AIDS Programme. In this graph, country reports include only the NTP budget. This may explain the apparent discrepancy between the Global Plan and country reports.

– 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.