

# Myanmar

Results from the prevalence survey in Yangon and increasing case notifications in the FIDELIS project suggest that the TB burden in Myanmar is underestimated and that current estimates need to be reviewed. A GLC-approved MDR-TB project and a project providing IPT for HIV-positive people began in 2008. Data from the second national drug resistance survey will be available in 2009; TB/HIV surveillance data indicate that 11% of TB patients are coinfecting with HIV. Cohort review meetings have been expanded across poorly performing townships alongside innovative activities for improved case-finding, including sputum collection points, mobile teams and contact tracing. PPM-DOTS has been scaled up to more than 150 out of 325 townships. The large budget gap for TB control and uncertainty about the supply of first-line anti-TB drugs beyond 2009 remain major challenges.

## SURVEILLANCE AND EPIDEMIOLOGY

Population (thousands)<sup>a</sup> 48 798

Estimates of epidemiological burden, 2007<sup>b</sup> ALL IN HIV+ PEOPLE

### Incidence

All forms of TB (thousands of new cases per year)	83	9.1
All forms of TB (new cases per 100 000 pop/year)	171	19
Rate of change in incidence rate (%), 2006–2007	0	-4.8
New ss+ cases (thousands of new cases per year)	37	3.2
New ss+ cases (per 100 000 pop/year)	75	6.5
HIV+ incident TB cases (% of all TB cases)	11	—

### Prevalence

All forms of TB (thousands of cases)	79	4.6
All forms of TB (cases per 100 000 pop)	162	9.3
2015 target for prevalence (cases per 100 000 pop)	206	—

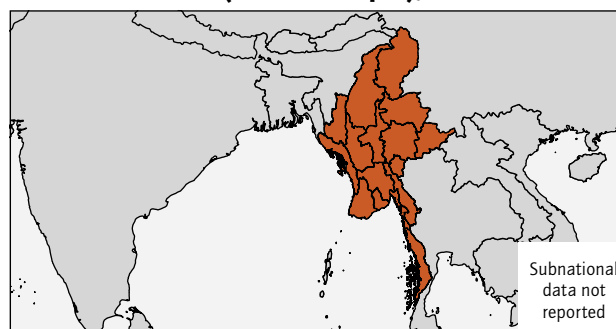
### Mortality

All forms of TB (thousands of deaths per year)	6.3	0.9
All forms of TB (deaths per 100 000 pop/year)	13	1.9
2015 target for mortality (deaths per 100 000 pop/year)	26	—

### Multidrug-resistant TB (MDR-TB)

MDR-TB among all new TB cases (%)	4.0	—
MDR-TB among previously treated TB cases (%)	16	—

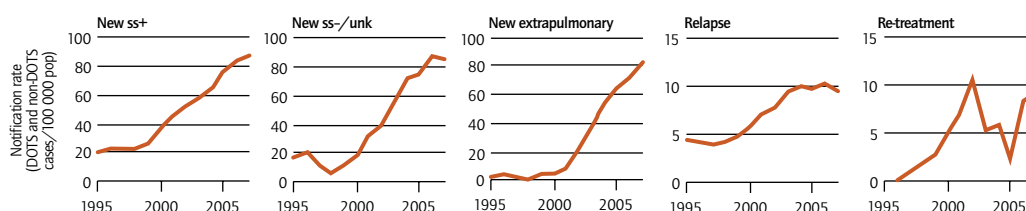
### TB notification rate (new and relapse), 2007



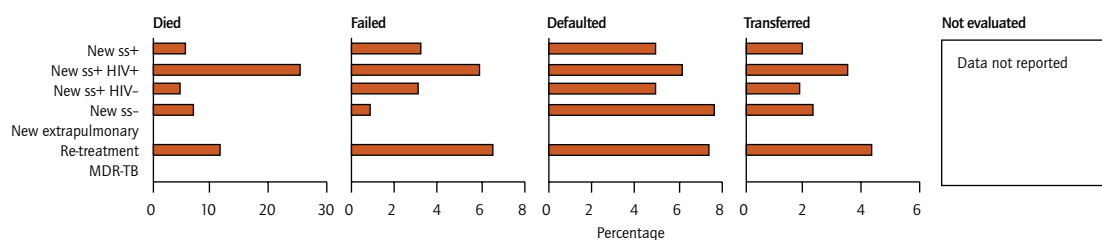
### Total notifications, 2007

Notified new and relapse cases (thousands)	129
Notified new and relapse cases (per 100 000 pop/year)	265
Notified new ss+ cases (thousands)	43
Notified new ss+ cases (per 100 000 pop/year)	87
as % of new pulmonary cases	50
sex ratio (male/female)	1.9
DOTS case detection rate (% of estimated new ss+)	116
Notified new extrapulmonary cases (thousands)	40
as % of notified new cases	32
Notified new ss+ cases in children (<15 years) (thousands)	0.3
as % of notified new ss+ cases	0.7

### Case notifications



### Unfavourable treatment outcomes, 2006 cohorts



	2000	2001	2002	2003	2004	2005	2006	2007
DOTS coverage (%)	77	84	88	95	95	95	95	95
Notification rate (new & relapse cases/100 000 pop)	67	92	122	161	203	223	253	265
% notified new & relapse cases reported under DOTS	100	96	100	100	100	100	100	100
Notification rate (new ss+ cases/100 000 pop)	38	46	52	58	66	76	83	87
% notified new ss+ cases reported under DOTS	100	98	100	100	100	100	100	100
Case detection rate (all new cases, %)	36	50	67	88	113	125	142	149
Case detection rate (new ss+ cases, %)	50	61	69	78	88	102	111	116
Treatment success (new ss+ patients, %)	82	81	81	81	84	84	84	—
Re-treatment success (ss+ patients, %)	74	74	75	70	74	71	70	—

Note: notification, case detection and treatment success rates are for the whole country (i.e. DOTS and non-DOTS cases combined).

**DOTS EXPANSION AND ENHANCEMENT**

**Overview of services for diagnosis of TB and treatment of patients**

Description of basic management unit	Township TB centre
Number of units (DOTS/total), 2007	314/324
<b>Location of NTP services</b>	
Rural	Rural health centre for drug distribution only
Urban	Township TB centre
NTP services part of general primary health-care network?	Yes
<b>Location where TB diagnosed</b>	
Rural	Township TB centre
Urban	Township TB centre
Diagnosis free of charge?	Yes (all suspects)
Treatment supervised?	All patients in all units
Intensive phase	Health-care worker, community member, family member
Continuation phase	Health-care worker, community member, family member
Category I regimen	2(HRZE)/4(HR)
Treatment free of charge	All patients in all units
External review missions	last: 2007 next: 2010

**Political commitment**

National strategic plan?	Yes (2006-2010)
Mechanism for national interagency coordination?	Yes (established 2000)
National Stop TB Partnership?	No (planned 2009)

**Financial indicators, 2009**

(see final page for detailed presentation)	%
Government contribution to NTP budget (incl loans)	11
Government contribution to total cost TB control (incl loans)	25
Government health spending used for TB control	62
NTP budget funded	60

**Per capita health financial indicators, 2009**

	US\$
NTP budget per capita	0.2
Total costs for TB control per capita	0.3
Funding gap per capita	0.1
Government health expenditure per capita (2005)	0.4
Total health expenditure per capita (2005)	4.0

**Quality-assured bacteriology**

National reference laboratory?	Yes
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**All TB laboratories performing EQA of smear microscopy or DST under the supervision of the National Reference Laboratory**

	Smear				Culture		DST			
	Number	per 100 000	EQA	% adeq perf	Number	per 5 000 000	Number	per 10 000 000	EQA	% adeq perf
2007	324	0.7	54	52%	2	0.2	1	0.2	—	—
2008	324	0.7	324	—	2	0.2	1	0.2	—	—

Note: for routine diagnosis, there should be at least one laboratory providing smear microscopy per 100 000 population. To provide culture for diagnosis of paediatric, extra-pulmonary and ss-/HIV+ TB, as well as DST of re-treatment and failure cases, most countries will need one culture facility per 5 million population and one DST facility per 10 million population. EQA column shows number of laboratories for which EQA was done. Adeq perf; adequate performance for microscopy based on results of EQA.

**System for managing drug supplies and laboratory equipment**

	Central level			Peripheral level		
	2005	2006	2007	2005	2006	2007
Stock-outs of laboratory supplies?	—	No	No	—	No	No
Stock-outs of first-line anti-TB drugs?	No	No	No	No	No	No

**Monitoring and evaluation system, and impact measurement**

NTP publishes annual report?	Yes (since 1995)	<b>Burden and impact assessment</b>		last	next
% of BMUs reporting to next level in 2007		In-depth analysis of routine surveillance data	Yes	2007	2008
Case-finding	97%	Prevalence of disease survey	Yes	2006	2009
Treatment outcomes	97%	Prevalence of infection survey	No	—	—
		Drug resistance survey	Yes, national	2003	—
		Mortality survey	No	—	—
		Analysis of vital registration data	No	—	—

**MDR-TB, TB/HIV AND OTHER CHALLENGES**

	2005	2006	2007
	Number (% of estimated ss+ MDR-TB)		
Estimated incidence of ss+ MDR cases	2 287	2 309	2 331
Diagnosed and notified	— (—%)	666 (29%)	600 (26%)
Registered for treatment	— (—%)	— (—%)	— (—%)
GLC	0	0	0
non-GLC	—	—	—

**MDR-TB, TB/HIV AND OTHER CHALLENGES (continued)**

**Detection and treatment of HIV in TB patients, 2007**

TB patients for whom the HIV test result was known	2 825
as % of all notified TB patients	2.1
TB patients with positive HIV test	873
as % of all estimated HIV+ TB cases	9.6
HIV+ TB patients started or continued on CPT	846
as % of HIV+ TB patients notified	97
HIV+ TB patients started or continued on ART	437
as % of HIV+ TB patients notified	50

**Screening for TB in HIV-positive patients, 2007**

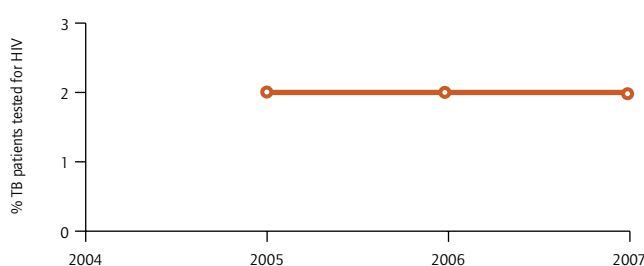
HIV+ patients in HIV care or ART register	—
Screened for TB	—
as % of HIV+ patients in HIV care or ART register	—
Started on TB treatment	—
as % of HIV+ patients in HIV care or ART register	—
Started on IPT	—
as % of HIV+ patients without TB in HIV care or ART register	—

**High-risk groups, 2007**

Number of close contacts of ss+ TB patients screened	—
Number of TB cases identified among contacts	—
% of contacts with TB	—
Contacts started on IPT	—
% of contacts without TB on IPT	—

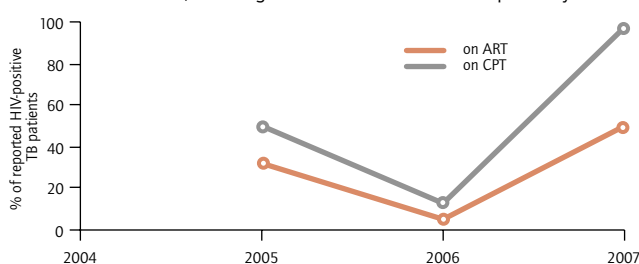
**HIV testing for TB patients**

The proportion of TB patients screened for HIV was low and stable from 2005 to 2007



**CPT and ART for HIV-positive TB patients**

The proportion of HIV-positive TB patients receiving ART and CPT increased from 2005, reaching 50% and 97% in 2007 respectively



**CONTRIBUTING TO HEALTH SYSTEM STRENGTHENING**

The national health system operates under severe resource constraints, with limited human resources and poor outreach services in some areas. The NTP, in conjunction with the HIV and malaria control programmes, is attempting to improve the management of general health systems and supervisory and delivery capacity at the township level, with funding from the Three Diseases Fund. The NTP is also scaling up initiatives to engage the private sector in TB control and is helping to improve the capacity of the Myanmar Medical Association to provide services for public health.

**Practical Approach to Lung Health (PAL), 2007**

Number of health-care facilities providing PAL services	—	As % of total number of health-care facilities	—
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**ENGAGING ALL CARE PROVIDERS**

**Public-public and public-private approaches (PPM), 2007**

	Number collaborating (total number of providers)	% total notified TB	
		Diagnosed	Treated
Public sector	4 (365)	0.1	0.1
Private sector	856 (—)	9.1	9.1

**International Standards for Tuberculosis Care (ISTC)**

ISTC endorsed by professional organizations?	No
ISTC included in medical curriculum?	No

**EMPOWERING PEOPLE WITH TB, AND COMMUNITIES**

**Advocacy, communication and social mobilization (ACSM)**

A KAP survey is planned for 2009.

**Community participation in TB care and Patients' Charter**

The community is involved in all basic management units in the country, although not in all health centres. Involvement has been initiated through public health centres and NGOs, which organize community-based treatment support, sensitization activities and referral of suspects. The presence of community health workers and various NGOs throughout the country mean that there is potential for countrywide coverage of community-based TB care. No data on use of the Patients' Charter were reported in 2008.

**ENABLING AND PROMOTING RESEARCH**

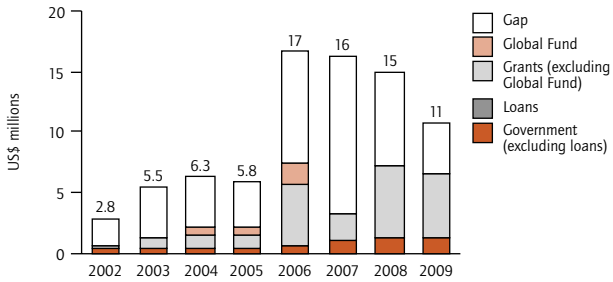
**Programme-based operational research, 2007**

Operational research budget (% of NTP budget)	0.8%
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FINANCING

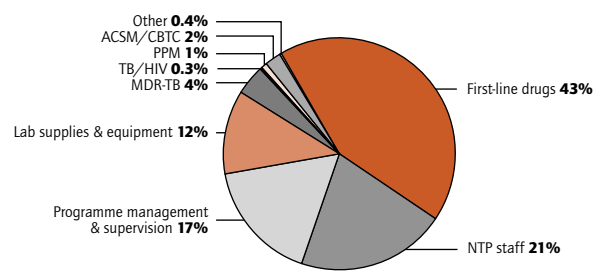
a. NTP budget by source of funding

Increased funding from 2006 from Three Diseases Fund, but large funding gaps remain



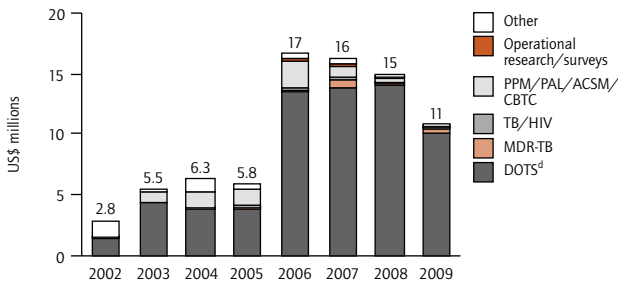
b. NTP budget line items in 2009

Almost all (92%) of the budget is for DOTS implementation



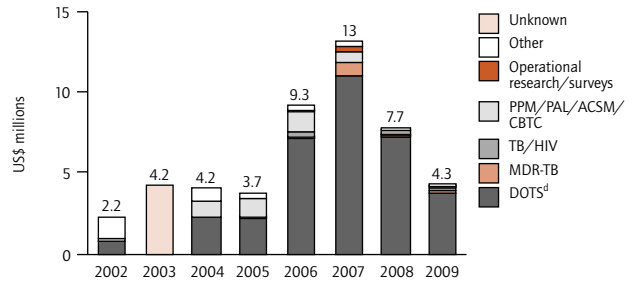
c. NTP budget by line item

Decreased budget in 2009 mainly because buffer stock of first-line drugs was included in 2008 budget



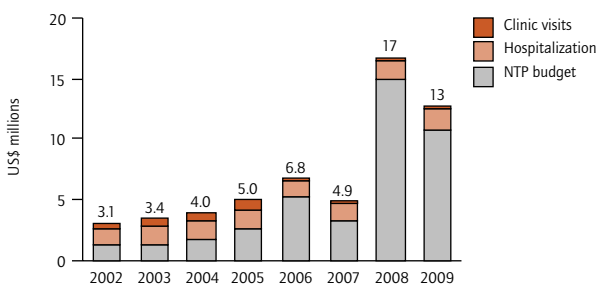
d. NTP funding gap by line item

Funding gap within DOTS mainly for first-line drugs, routine programme management and supervision, and dedicated NTP staff



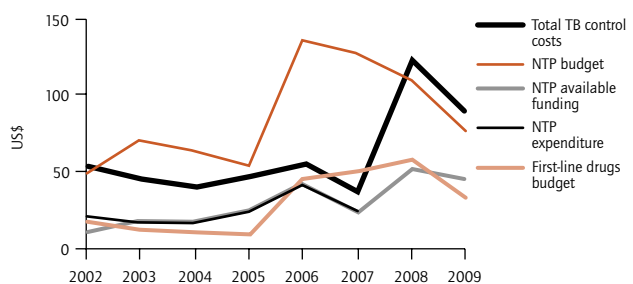
e. Total TB control costs by line item<sup>1</sup>

Hospitalization costs are for 1500 dedicated TB beds; costs for clinic visits based on 28 clinic visits during TB treatment for 2002-2005 and 3 visits for 2006-2009, reflecting more reliance on community-based DOT



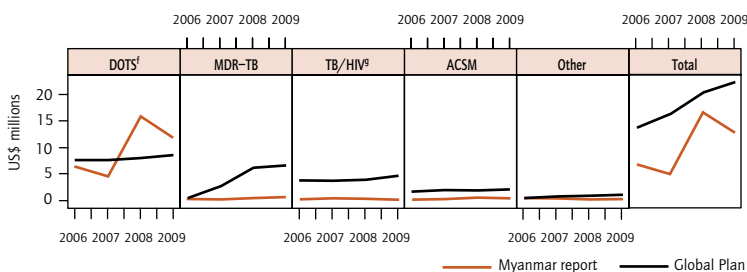
f. Per patient costs, budgets and expenditures<sup>2</sup>

High first-line drugs budget per patient 2006-2008 reflects planned purchase of buffer stock; expenditures almost the same as available funding suggesting good absorption capacity



g. Global Plan compared with country reports<sup>\*</sup>

Country implementation behind Global Plan targets (2006-2007), in part due to lack of funds; country assessment of funding required for DOTS 2008-2009 higher than Global Plan due to higher projections of patients to be treated; country plan for scaling up MDR-TB treatment has less ambitious targets than the Global MDR/XDR-TB Response Plan



h. NTP budget and funding gap by Stop TB Strategy component (US\$ millions)

Component	2009 BUDGET	GAP
DOTS expansion and enhancement	10	3.8
TB/HIV, MDR-TB and other challenges	0.5	0.3
Health system strengthening	0	0
Engage all care providers	0.1	0.1
People with TB, and communities	0.2	0.2
Research and surveys	0	0
Other	0.05	0.04

SOURCES, METHODS AND ABBREVIATIONS

<sup>a-g</sup> Please see footnotes page 169.

<sup>1</sup> Total TB control costs for 2002-2007 are based on expenditure, whereas those for 2008-2009 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.

<sup>2</sup> NTP available funding for 2004-2007 is based on the amount of funding actually received, using retrospective data; available funding for 2002-2003 and 2008-2009 is based on prospectively reported budget data, and estimated as the total budget minus any reported funding gap.

- indicates not available or not applicable; pop, population; ss+, sputum smear-positive; ss-, sputum smear-negative pulmonary; unk, pulmonary - sputum smear not done or result unknown.