

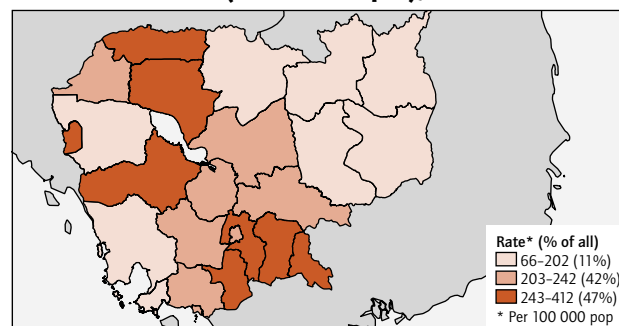
Cambodia

The NTP has sustained high treatment success rates of over 90% for more than a decade. Although the case detection rate is assessed to be less than 70%, the results of a recent national population census suggest that this target may have been achieved. In 2007, the NTP published a national strategic plan for the TB laboratory network and guidelines for diagnosis and treatment of TB in children. The third national seroprevalence survey showed a further decline in HIV prevalence among TB patients from 11.8% in 2003 to 7.8% in 2007. Collaborative TB/HIV activities and community-based DOTS have been further expanded. An MDR-TB project initiated by an NGO in partnership with the NTP has demonstrated the feasibility of expanding implementation to public sector facilities outside the capital. However, human resource capacity, and laboratory capacity to perform smear microscopy, culture, DST and new diagnostic technologies, remain major challenges.

SURVEILLANCE AND EPIDEMIOLOGY

Population (thousands) ^a	14 444	
Estimates of epidemiological burden, 2007^b	ALL	IN HIV+ PEOPLE
Incidence		
All forms of TB (thousands of new cases per year)	72	5.6
All forms of TB (new cases per 100 000 pop/year)	495	38
Rate of change in incidence rate (%), 2006-2007	-1.0	-9.6
New ss+ cases (thousands of new cases per year)	32	1.9
New ss+ cases (per 100 000 pop/year)	219	13
HIV+ incident TB cases (% of all TB cases)	7.8	—
Prevalence		
All forms of TB (thousands of cases)	96	2.8
All forms of TB (cases per 100 000 pop)	664	19
2015 target for prevalence (cases per 100 000 pop)	464	—
Mortality		
All forms of TB (thousands of deaths per year)	13	1.8
All forms of TB (deaths per 100 000 pop/year)	89	13
2015 target for mortality (deaths per 100 000 pop/year)	60	—
Multidrug-resistant TB (MDR-TB)		
MDR-TB among all new TB cases (%)	0	—
MDR-TB among previously treated TB cases (%)	3.1	—

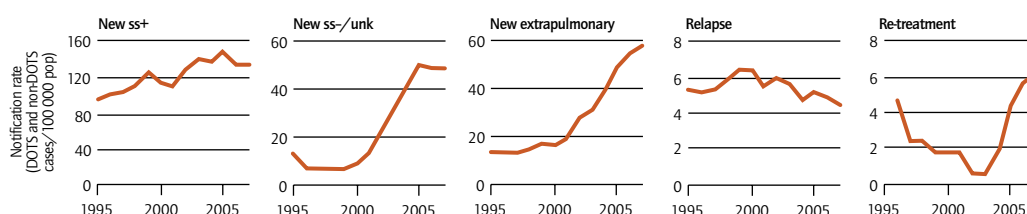
TB notification rate (new and relapse), 2007



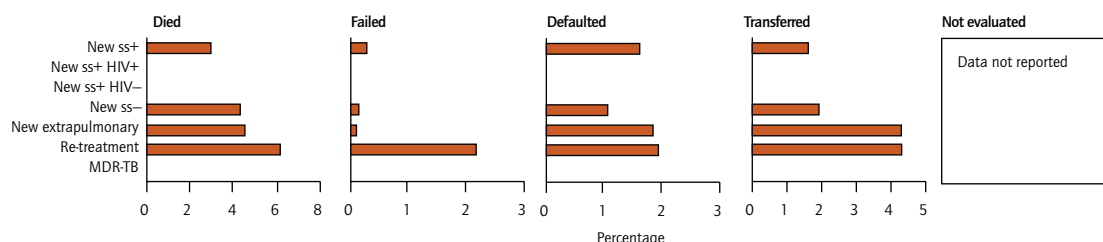
Total notifications, 2007

Notified new and relapse cases (thousands)	36
Notified new and relapse cases (per 100 000 pop/year)	246
Notified new ss+ cases (thousands)	19
Notified new ss+ cases (per 100 000 pop/year)	134
as % of new pulmonary cases	73
sex ratio (male/female)	1.1
DOTS case detection rate (% of estimated new ss+)	61
Notified new extrapulmonary cases (thousands)	8.4
as % of notified new cases	24
Notified new ss+ cases in children (<15 years) (thousands)	0.1
as % of notified new ss+ cases	0.6

Case notifications



Unfavourable treatment outcomes, 2006 cohorts



	2000	2001	2002	2003	2004	2005	2006	2007
DOTS coverage (%)	99	100	100	100	100	100	100	100
Notification rate (new & relapse cases/100 000 pop)	148	147	186	209	225	255	244	246
% notified new & relapse cases reported under DOTS	100	100	100	100	100	100	100	100
Notification rate (new ss+ cases/100 000 pop)	116	110	130	140	138	150	136	134
% notified new ss+ cases reported under DOTS	100	100	100	100	100	100	100	100
Case detection rate (all new cases, %)	27	27	35	40	43	49	48	49
Case detection rate (new ss+ cases, %)	50	48	57	62	62	68	62	61
Treatment success (new ss+ patients, %)	91	92	92	93	91	93	93	—
Re-treatment success (ss+ patients, %)	90	92	89	87	86	76	85	—

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	Referral hospital
Number of units (DOTS/total), 2007	77/77
Location of NTP services	
Rural	Health centre
Urban	Referral hospital
NTP services part of general primary health-care network?	Yes
Location where TB diagnosed	
Rural	Former district hospital
Urban	Referral hospital
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(HR)ZE/4(HR)
Treatment free of charge	All patients in all units
External review missions	last: 2006 next: –

Political commitment

National strategic plan?	Yes (2006–2010)
Mechanism for national interagency coordination?	Yes (established 2001)
National Stop TB Partnership?	No (planned –)

Financial indicators, 2009

(see final page for detailed presentation)	%
Government contribution to NTP budget (incl loans)	10
Government contribution to total cost TB control (incl loans)	27
Government health spending used for TB control	14
NTP budget funded	65

Per capita health financial indicators, 2009

	US\$
NTP budget per capita	0.7
Total costs for TB control per capita	0.9
Funding gap per capita	0.3
Government health expenditure per capita (2005)	6.9
Total health expenditure per capita (2005)	29

Quality-assured bacteriology

National reference laboratory?	Yes
--------------------------------	-----

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	201	1.4	186	70	3	1.0	1	0.7	1.0	100%
2008	205	1.4	205	–	5	1.7	1	0.7	1.0	–

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)	Burden and impact assessment		last	next
% of BMUs reporting to next level in 2007		In-depth analysis of routine surveillance data	No	–	–
Case-finding	100%	Prevalence of disease survey	Yes, national	2002	2010
Treatment outcomes	100%	Prevalence of infection survey	Yes, national	2002	2010
		Drug resistance survey	Yes, national	2001	Ongoing
		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	92	93	94
Diagnosed and notified	– (–%)	– (–%)	16 (17%)
Registered for treatment	– (–%)	– (–%)	11 (12%)
GLC	0	0	11
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	14 245
as % of all notified TB patients	39
TB patients with positive HIV test	2 922
as % of all estimated HIV+ TB cases	53
HIV+ TB patients started or continued on CPT	1 101
as % of HIV+ TB patients notified	38
HIV+ TB patients started or continued on ART	610
as % of HIV+ TB patients notified	21

Screening for TB in HIV-positive patients, 2007

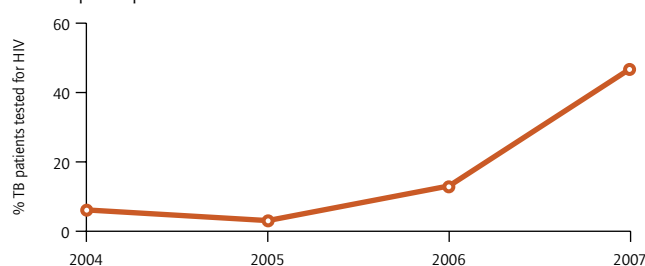
HIV+ patients in HIV care or ART register	11 641
Screened for TB	5 318
as % of HIV+ patients in HIV care or ART register	46
Started on TB treatment	1 801
as % of HIV+ patients in HIV care or ART register	15
Started on IPT	77
as % of HIV+ patients without TB in HIV care or ART register	0.8

High-risk groups, 2007

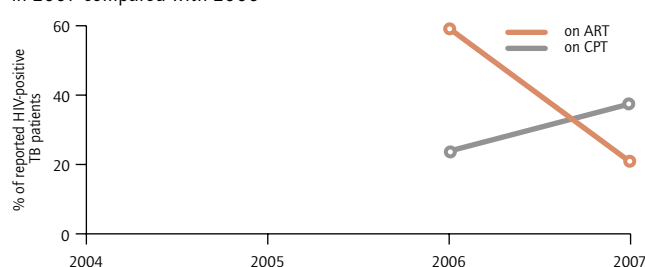
Number of close contacts of ss+ TB patients screened	–
Number of TB cases identified among contacts	–
% of contacts with TB	–
Contacts started on IPT	–
% of contacts without TB on IPT	–

HIV testing for TB patients

Between 2006 and 2007 the proportion of TB patients screened for HIV almost quadrupled

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

The proportion of HIV-positive TB patients receiving ART fell substantially in 2007 compared with 2006

**CONTRIBUTING TO HEALTH SYSTEM STRENGTHENING**

Control of TB is fully integrated into the primary health-care system, within which it has contributed to strengthening laboratory capacity. TB control is well aligned with the national health plan, the SWAP and with the Medium-term Expenditure Framework for health. The NTP is a leader in engaging private pharmacies to deliver public health interventions.

Practical Approach to Lung Health (PAL), 2007

Number of health-care facilities providing PAL services	0	As % of total number of health-care facilities	0
---	---	--	---

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	– (–)	–	–
Private sector	1 358 (–)	–	2.3

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)**

The NTP participated in an ACSM workshop and drafted a 12-month action plan for implementation of ACSM activities and a national strategic plan. Materials for World TB Day included a 10-minute video of senior ministry officials, health care staff and TB patients explaining what they were doing to stop TB. A communication strategy to raise awareness about TB among indigenous communities in north-east Cambodia was also developed. IEC materials produced by the NTP are widely used, including by NGOs.

Community participation in TB care and Patients' Charter

Approximately 50% of public health centres in the country are implementing activities to involve communities in TB control; the target is to increase this to >80% by 2010. In areas where the initiative has been implemented, treatment supporters ("DOT watchers") are often involved in other support groups or NGOs and are supervised regularly by health centre staff. The Patients' Charter is not yet being used in health facilities.

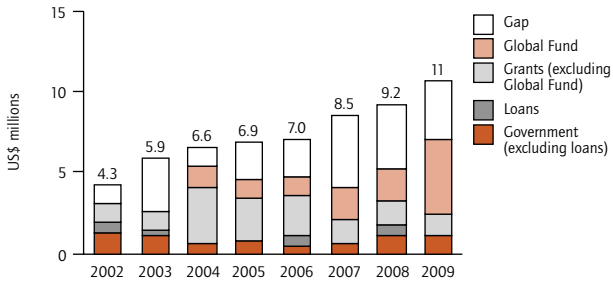
ENABLING AND PROMOTING RESEARCH**Programme-based operational research, 2007**

Operational research budget (% of NTP budget)	3.5%
---	------

FINANCING

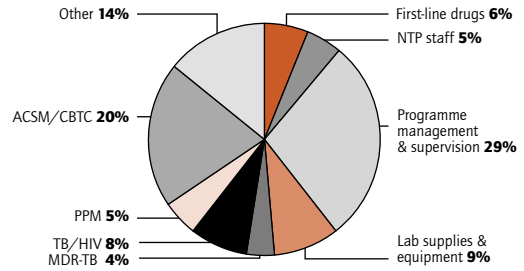
a. NTP budget by source of funding

Continued increase in budget with increased funding in 2009; Global Fund is now the main source of financing



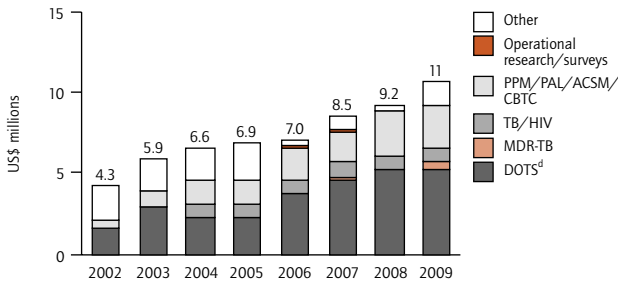
b. NTP budget line items in 2009

DOTS accounts for almost half (49%) of the NTP budget; large share of the budget is for ACSM, especially compared with other HBCs



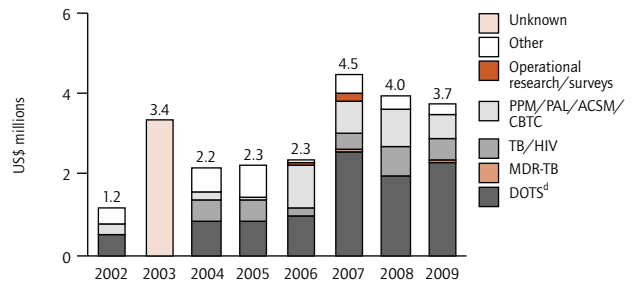
c. NTP budget by line item

Large increase in budgets for DOTS and ACSM since 2004



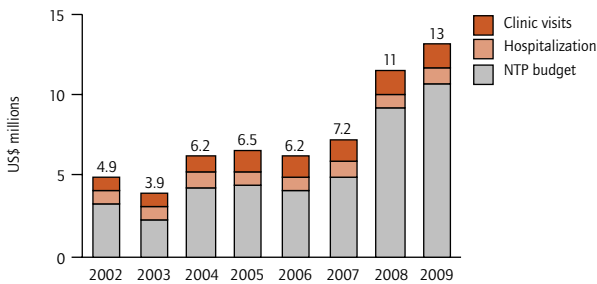
d. NTP funding gap by line item

Funding gaps have persisted and within DOTS are mainly for programme management and supervision



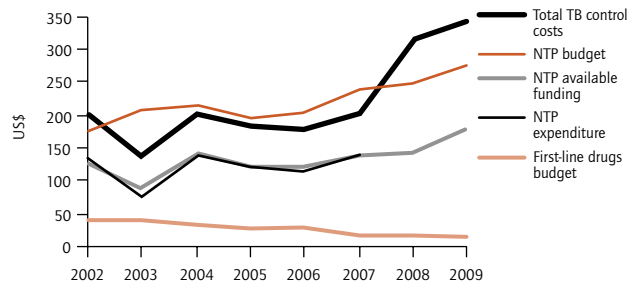
e. Total TB control costs by line item¹

Cost of clinic visits based on 64 visits per patient during treatment for new TB patients; hospitalization costs are for 1200 TB beds



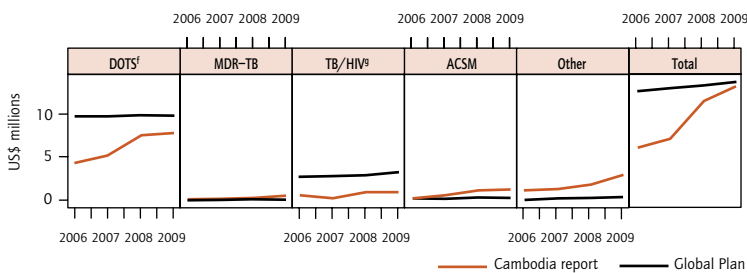
f. Per patient costs, budgets and expenditures²

Increased cost, expenditure and available funding per patient but declining first-line drugs budget per patient; expenditures close to available funding



g. Global Plan compared with country reports^a

Global Plan funding requirements higher for DOTS and TB/HIV due to higher projections of patients to be treated (ss-/extrapulmonary under DOTS and HIV+ TB patients on ART, respectively); country plan ahead of Global Plan for other categories



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

Component	2009 BUDGET	GAP
DOTS expansion and enhancement	5.2	2.3
TB/HIV, MDR-TB and other challenges	1.3	0.6
Health system strengthening	0	0
Engage all care providers	0.5	0.2
People with TB, and communities	2.2	0.5
Research and surveys	0	0
Other	1.5	0.2

SOURCES, METHODS AND ABBREVIATIONS

^{a-g} Please see footnotes page 169.

¹ 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.

² 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.