Pakistan

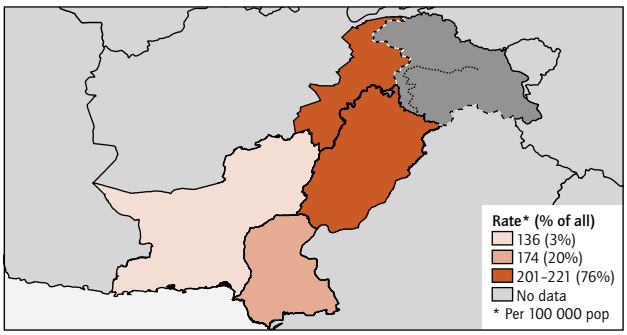
The case detection rate is increasing and is just below target at 67%, while the treatment success rate has reached 88%. PPM initiatives account for an increasing share of notifications, notably from tertiary hospitals and a social franchising project involving private clinics that is implemented by an NGO in five cities. A new recording and reporting system introduced in 2008 will allow precise quantification of the contribution of PPM to total notifications. An EQA system has been implemented and is being expanded to cover the entire TB microscopy network. However, the network of services for culture and DST is inadequate. MDR-TB case management has been initiated, and collaborative TB/HIV activities have not yet been scaled up. A much needed TB prevalence survey is planned in 2009. ACSM activities have been expanded, although the national Stop TB Partnership launched in 2004 is not yet fully functional.

SURVEILLANCE AND EPIDEMIOLOGY

Population (thousands)[a] 163 902

Estimates of epidemiological burden, 2007[b]	ALL	IN HIV+ PEOPLE
Incidence		
All forms of TB (thousands of new cases per year)	297	6.2
All forms of TB (new cases per 100 000 pop/year)	181	3.8
Rate of change in incidence rate (%), 2006–2007	**0**	**6.2**
New ss+ cases (thousands of new cases per year)	133	2.2
New ss+ cases (per 100 000 pop/year)	81	1.3
HIV+ incident TB cases (% of all TB cases)	2.1	–
Prevalence		
All forms of TB (thousands of cases)	365	3.1
All forms of TB (cases per 100 000 pop)	**223**	1.9
2015 target for prevalence (cases per 100 000 pop)	**215**	–
Mortality		
All forms of TB (thousands of deaths per year)	48	1.4
All forms of TB (deaths per 100 000 pop/year)	**29**	0.9
2015 target for mortality (deaths per 100 000 pop/year)	**25**	–
Multidrug-resistant TB (MDR-TB)		
MDR-TB among all new TB cases (%)	3.2	–
MDR-TB among previously treated TB cases (%)	35	–

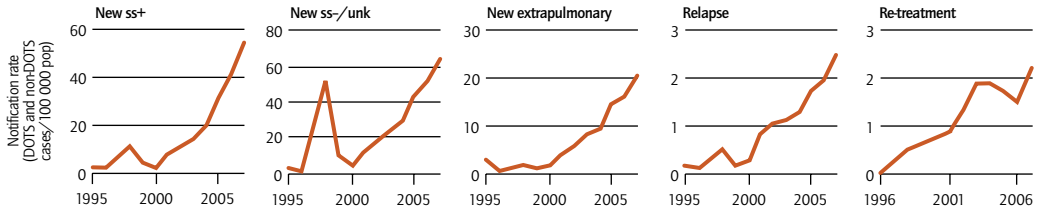
TB notification rate (new and relapse), 2007



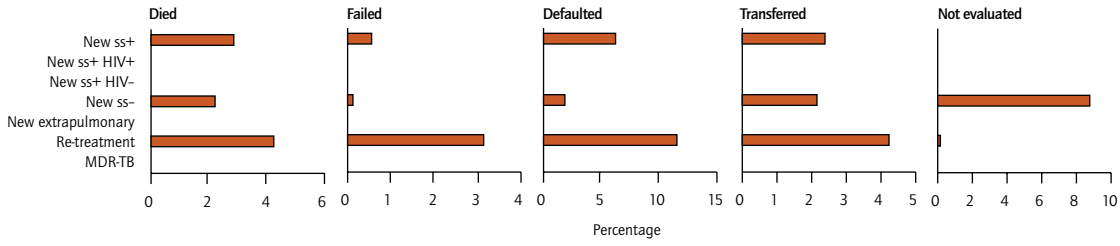
Total notifications, 2007

Notified new and relapse cases (thousands)	230
Notified new and relapse cases (per 100 000 pop/year)	141
Notified new ss+ cases (thousands)	89
Notified new ss+ cases (per 100 000 pop/year)	54
as % of new pulmonary cases	46
sex ratio (male/female)	1.1
DOTS case detection rate (% of estimated new ss+)	**67**
Notified new extrapulmonary cases (thousands)	34
as % of notified new cases	15
Notified new ss+ cases in children (<15 years) (thousands)	3.5
as % of notified new ss+ cases	3.9

Case notifications



Unfavourable treatment outcomes, 2006 cohorts



	2000	2001	2002	2003	2004	2005	2006	2007
DOTS coverage (%)	9.0	24	44	66	79	100	100	99
Notification rate (new & relapse cases/100 000 pop)	7.7	23	35	46	61	90	110	141
% notified new & relapse cases reported under DOTS	100	53	90	100	100	100	100	100
Notification rate (new ss+ cases/100 000 pop)	2.3	7.4	11	14	20	31	41	54
% notified new ss+ cases reported under DOTS	100	57	94	100	100	100	100	100
Case detection rate (all new cases, %)	4.1	12	19	25	33	49	59	76
Case detection rate (new ss+ cases, %)	2.8	9.1	13	17	25	38	50	67
Treatment success (new ss+ patients, %)	74	77	78	79	82	83	88	–
Re-treatment success (ss+ patients, %)	54	–	66	66	78	76	77	–

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	Diagnostic centre
Number of units (DOTS/total), 2007	1130/1130
Location of NTP services	
Rural	District hospital, subdistrict hospital, TB clinic
Urban	Tertiary care, teaching hospital, district hospital
NTP services part of general primary health-care network?	Yes
Location where TB diagnosed	
Rural	All except basic health units, dispensaries
Urban	All except basic health units, dispensaries
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	Family member
Category I regimen	2HRZE/6HE
Treatment free of charge	All patients in all units
External review missions	last: 2008
	next: 2009

Political commitment

National strategic plan?	Yes, (2005–2010)
Mechanism for national interagency coordination?	Yes (established 2001)
National Stop TB Partnership?	Yes (established 2004)

Financial indicators, 2009

(see final page for detailed presentation)	%
Government contribution to NTP budget (incl loans)	19
Government contribution to total cost TB control (incl loans)	24
Government health spending used for TB control	14
NTP budget funded	53

Per capita health financial indicators, 2009

	US$
NTP budget per capita	0.3
Total costs for TB control per capita	0.3
Funding gap per capita	0.1
Government health expenditure per capita (2005)	2.5
Total health expenditure per capita (2005)	15

Quality-assured bacteriology

National reference laboratory?	No (planned for 2008)

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	1 131	0.7	360	44%	3	0.1	1	0.1	0	–
2008	1 131	0.7	906	–	5	0.1	1	0.1	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	–	Some units	Some units
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 2001)
% of BMUs reporting to next level in 2007	
Case-finding	–
Treatment outcomes	–

Burden and impact assessment		last	next
In-depth analysis of routine surveillance data	No	–	–
Prevalence of disease survey	Yes, national	1987	2009
Prevalence of infection survey	Yes, national	1987	2009
Drug resistance survey	–	–	–
Mortality survey	Yes	2006	–
Analysis of vital registration data	Yes	2008	–

MDR-TB, TB/HIV AND OTHER CHALLENGES

Multidrug-resistant TB (MDR-TB)

	2005	2006	2007
	Number (% of estimated ss+ MDR-TB)		
Estimated incidence of ss+ MDR cases	7 659	7 796	7 939
Diagnosed and notified	– (–%)	– (–%)	– (–%)
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	–
as % of all notified TB patients	–
TB patients with positive HIV test	–
as % of all estimated HIV+ TB cases	–
HIV+ TB patients started or continued on CPT	–
as % of HIV+ TB patients notified	–
HIV+ TB patients started or continued on ART	–
as % of HIV+ TB patients notified	–

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

Data not reported

CPT and ART for HIV-positive TB patients

Data not reported

CONTRIBUTING TO HEALTH SYSTEM STRENGTHENING

TB services are fully integrated into the public health care system. Human resource constraints and difficulties in providing outreach services, particularly in rural areas and conflict zones, affect services to control TB. In urban areas many hospitals and other tertiary institutions are not yet fully linked to the NTP, and an unregulated private health sector is a problem throughout the country. The NTP has collaborated with other public health programmes to improve the capacity of laboratories, human resources and supervision and monitoring. Innovative approaches for engaging hospitals, NGOs and the private sector are being scaled up.

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 of providers collaborating with the NTP[c]

	Number collaborating (total number of providers)	% total notified TB Diagnosed	Treated
Public sector	19 (–)	0.5	0.5
Private sector	5 005 (100 030)	19	19

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)

ACSM activities continue to be prioritized. The revised National ACSM Strategy is in place, and a National Steering Committee on ACSM is operational. There is strong collaboration with the private sector for use of mass media and with NGOs for social mobilization. National guidelines on monitoring and evaluation in the private sector are available. Major challenges for the NTP are ensuring continued commitment to ACSM at all levels of the NTP, developing strong evidence of Scam's contribution to increasing rates of case detection and treatment success, and implementing Global Fund-related workplan in a timely manner.

Community participation in TB care and Patients' Charter

There are >100 000 lady health workers working in the public sector who assist national preventive and curative programmes, including the NTP. In parts of the country, religious leaders have been actively engaged in raising awareness of TB. Patients are included in the country coordination mechanism. The Patients' Charter has been translated into local languages and widely distributed to health facilities. Coalitions of community-based organizations are being established in 57 districts. A pilot initiative to promote TB messages in schools has also been initiated.

ENABLING AND PROMOTING RESEARCH

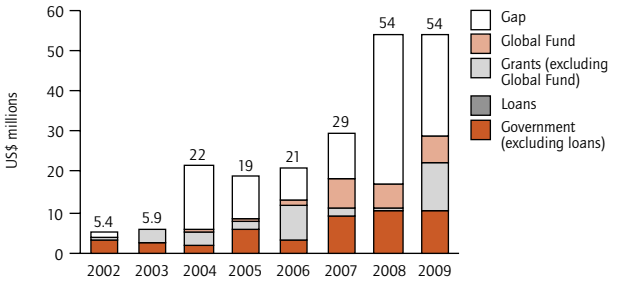
Programme-based operational research, 2007

Operational research budget (% of NTP budget)	0.7%

FINANCING

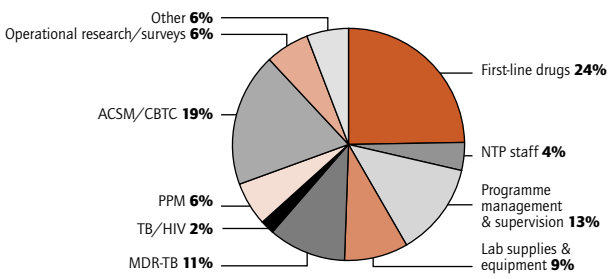
a. NTP budget by source of funding

NTP budget 10 times higher in 2009; funding increased due to increased donor financing; funding gap will be reduced if US$ 25 million Global Fund round 8 application is successful



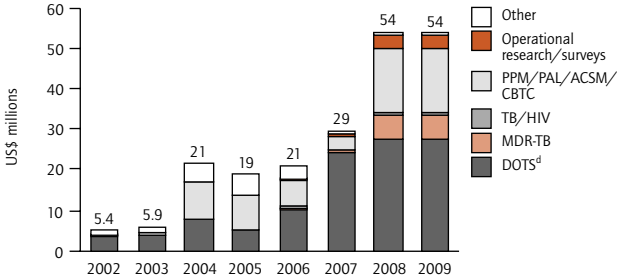
b. NTP budget line items in 2009

Most of the budget is for DOTS (51%) and PPM/PAL/CBTC/ACSM (29%)



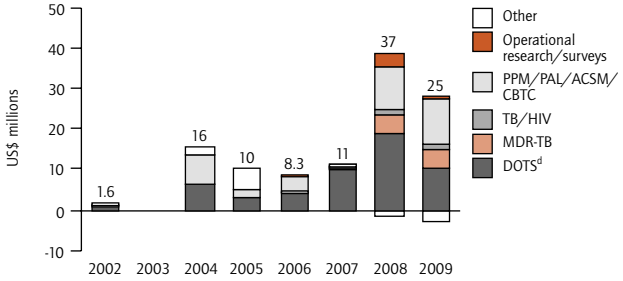
c. NTP budget by line item

Major growth in DOTS budget since 2002; from 2008 big increases in budgets for PPM (with over 1000 private providers engaged), ACSM, MDR-TB; most of the budget within operational research is for a disease prevalence survey



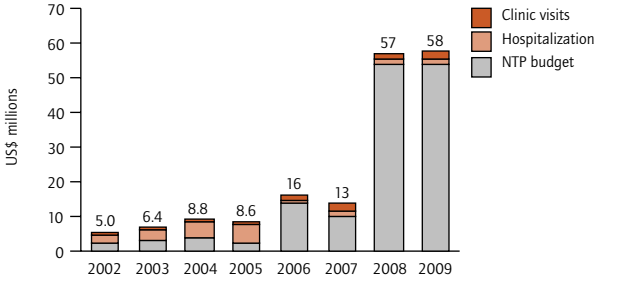
d. NTP funding gap by line item

Increased funding gap in 2008; MDR-TB gap to be financed through public sector funds and other donors; large ACSM gap to be filled with funding from round 6 Global Fund grant



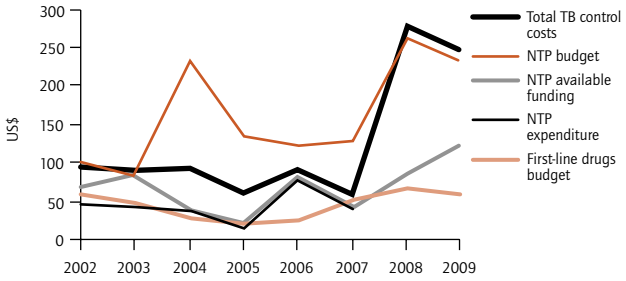
e. Total TB control costs by line item[1]

Almost all costs for TB control will be included in the NTP budget after 2008 if funds are mobilized and spent; lower use of hospitalization as DOTS expands



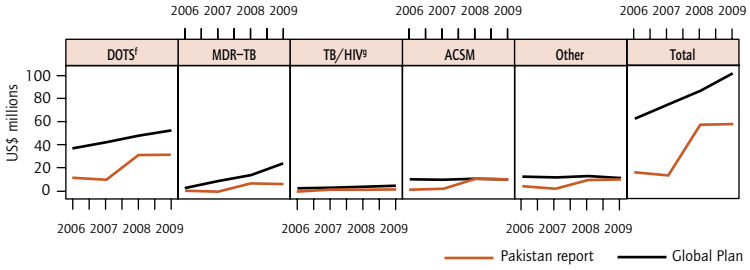
f. Per patient costs, budgets and expenditures[2]

Costs and budget per patient increasing as new elements of Stop TB Strategy are introduced; first-line drugs budget highest in 2009 due to purchase of buffer stock



g. Global Plan compared with country reports[e]

Country assessment of funding requirements lower than Global Plan estimates, except for TB/HIV, ACSM and Other



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

	2009 BUDGET	GAP
DOTS expansion and enhancement	27	10
TB/HIV, MDR-TB and other challenges	7.1	5.7
Health system strengthening	2.5	2.5
Engage all care providers	3.0	1.2
People with TB, and communities	10	7.8
Research and surveys	3.2	0.8
Other	0.7	-3.0

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.