

# China

## Overview of TB control system

Under the direction of the MoH, China's CDC has the task of maintaining DOTS where it has already been introduced, of expanding DOTS to other parts of the country, and of supervising all TB dispensaries. Implementation of TB control is the responsibility of county TB dispensaries. In areas implementing the DOTS strategy patients suspected of TB should be referred by village doctors, township hospitals, or county hospitals to the local TB dispensary for diagnosis and treatment. Patients diagnosed with smear-positive disease in TB dispensaries are given free treatment under the supervision of a village doctor or township medical staff. In areas where DOTS has not yet been implemented, the majority of patients must pay for diagnosis and treatment of TB, as for all other conditions.

## Surveillance, planning, operations

There has been little progress in TB control in China since the mid 1990s, as judged from surveillance data collected to the end of 2002. The treatment success rate has remained high (96% reported for the 2001 cohort), but the case notification rate fell slightly in 2002, as did the smear-positive case detection rate by the DOTS programme. The ratio of case detection to DOTS population coverage – a measure of the case detection rate within DOTS areas – also dropped between 2001 (42%) and 2002 (35%). All these indices have changed little over the past 8 years. The fall between 2001 and 2002 could be due to the delay between the end of the first World Bank-funded project (1990–2000) and the start of the new World Bank/DFID and GFATM projects

(2003). However, with old and new projects scaling up in 27 provinces, it is expected that major improvements in case detection will be reported for 2003 and 2004.

The MoH, Ministry of Finance, and the National Development and Reform Commission (NDRC) are currently carrying out a national evaluation to assess progress in implementing the 10-year national TB control plan. This evaluation, due to be completed in January 2004, will measure government commitment at all levels to TB control. Despite strong commitment to, and solid planning for, TB control at the central level, barriers remain at lower government levels. The lack of properly functioning TB dispensaries in some counties and no

dispensaries at all in other counties; poor coordination between hospitals and the NTP; and a lack of staff resources to ensure proper diagnosis, treatment, and management of the TB programme are major barriers to case detection within designated DOTS areas. Many patients are not directed to TB dispensaries for diagnosis and treatment and remain in county hospitals with uncertain diagnoses and unsupervised treatment. Linking hospitals, dispensaries, and village doctors through PPM partnerships is, therefore, critical for the effective implementation of DOTS.

Following the recent SARS epidemic, the government strengthened public health services, and included TB among 4 priority diseases. As a

## PROGRESS IN TB CONTROL IN CHINA

### Indicators

• Treatment success 2001 cohort	96%
• DOTS detection rate, 2002	27%
• NTP budget available, 2003	92%
• Government contribution to NTP budget, including loans, 2003	77%
• Government contribution to total TB control costs, including loans, 2003	77%
• Government health spending used for TB, 2003	0.3%

### Constraints to achieving targets

- Insufficient political commitment by some provincial governments resulting in inadequate local funding for DOTS
- Insufficient staff to implement DOTS, especially at central and provincial levels
- Poor referral of TB patients and weak collaboration between hospitals and TB dispensaries
- Weak TB institutions in many impoverished areas
- Poor multisectoral response to TB control
- Weak monitoring and evaluation by NTP

### Remedial actions needed

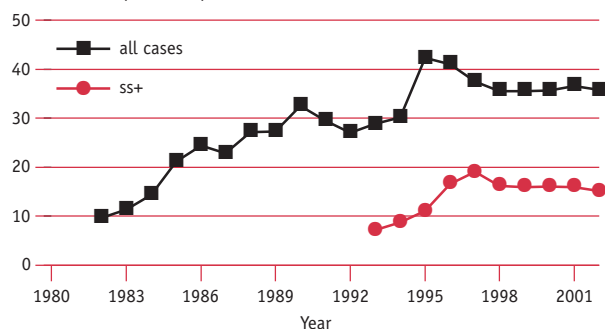
- Strengthen political commitment locally and expand international support
- Central government to formally evaluate political commitment, degree to which national TB control plan is implemented, and funding needed and available at lower governmental levels
- Hire experienced staff and enhance training through proposed DOTS training site
- Revise/develop HRDP to strengthen staffing
- Test innovative approaches to strengthening collaboration between hospitals and TB dispensaries
- Provide essential equipment and vehicles in impoverished areas
- Develop strategies to strengthen multisectoral response to TB
- Strengthen monitoring and evaluation system of NTP

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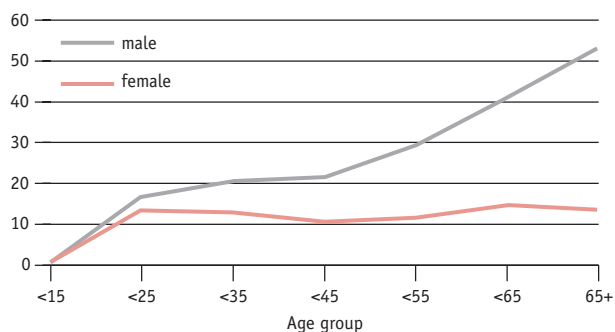
LATEST ESTIMATES <sup>a</sup>		TRENDS	1999	2000	2001	2002
<b>Population</b>	<b>1 294 866 589</b>	DOTS population coverage (%)	64	68	68	78
Global rank (by est. number of cases)	2	Notification rate (all cases/100 000 pop)	36	36	37	36
Incidence (all cases/100 000 pop)	113	Notification rate (new ss+/100 000 pop)	16	16	16	15
Incidence (new ss+/100 000 pop)	51	Detection of all cases (%)	32	32	32	32
Prevalence (ss+/100 000 pop)	107	Detection of new ss+ cases (%)	31	32	31	30
TB mortality per 100 000 pop	21	DOTS detection of new ss+ (%)	28	29	28	27
% of adult (15-49y) TB cases HIV+	0.7	DOTS detection of new ss+/coverage(%)	43	42	42	35
% of new cases multi-drug resistant	5.3	DOTS treatment success (new ss+, %)	96	95	96	—

## Notification rate (per 100 000 pop)

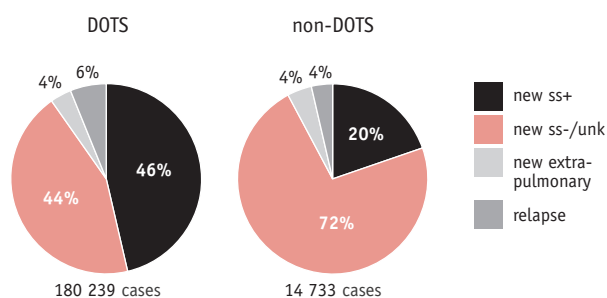
Notification (all cases) = 1 294 589 in 2002



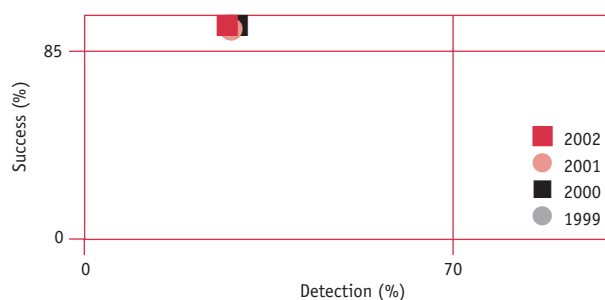
## Notification rate by age and sex (new ss+)<sup>b</sup>



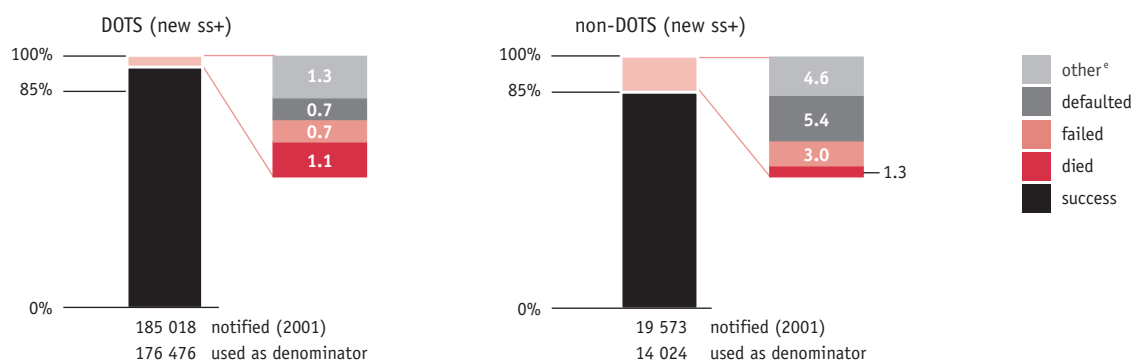
## Case types notified<sup>c</sup>



## DOTS progress towards targets<sup>d</sup>



## Treatment outcomes<sup>e</sup>



## Notes

ss+ Indicates smear-positive; ss-, smear-negative; pop, population; unk, unknown.

<sup>a</sup> See Methods for data sources.

<sup>b</sup> The sum of cases notified by age and sex is less than the number of new smear-positive cases notified for some countries.

<sup>c</sup> Non-DOTS is blank for countries which are 100% DOTS, or where no non-DOTS data were reported.

<sup>d</sup> DOTS progress towards targets: DOTS detection rate for given year, DOTS success rate for cohort registered in previous year.

<sup>e</sup> "Other" includes transfer out and not evaluated, still on treatment, and other unknown.

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### Budget estimates, existing funding, and budget gaps for fiscal year 2003, US\$ millions

	REQUIRED FUNDING	EXPECTED FUNDING				FUNDING GAP
		GOVERNMENT	LOANS	GRANTS	OTHER	
<b>NTP budget</b>						
Drugs	10.4	6.4	1.5	2.5	—	—
Dedicated staff working exclusively for TB control	37.2	37.2	—	—	—	—
New activities to raise case detection and cure rates	—	—	—	—	—	—
Buildings, equipment, vehicles	11.5	—	5.1	—	4.8	1.6
All other line items	35.7	9.2	14.0	1.1	5.3	6.1
<b>TOTAL NTP BUDGET</b>	<b>94.8</b>	<b>52.8</b>	<b>20.6</b>	<b>3.6</b>	<b>10.1</b>	<b>7.7</b>
<b>Costs not covered by NTP budget<sup>a</sup></b>						
Hospital stay	—	—	—	—	—	—
Clinic visits for DOT and monitoring	—	—	—	—	—	—
<b>TOTAL COSTS NOT COVERED BY NTP BUDGET</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>TOTAL TB CONTROL COSTS</b>	<b>94.8</b>	<b>52.8</b>	<b>20.6</b>	<b>3.6</b>	<b>10.1</b>	<b>7.7</b>

— Indicates zero; NA, not available

<sup>a</sup> WHO estimates, data not provided by the NTP

result, the government is considering further increases in funding for these and other diseases. In addition, the MoH is building a new disease surveillance system that will improve the reporting of infectious diseases, such as TB, from hospitals to the public health system.

The threat of MDR-TB is a further motivation for DOTS expansion. China has completed DRS surveys in 6 provinces, 3 more are under way, and 4 are planned for 2004. By the end of 2004, over 40% of the country will have been surveyed. Results to date show high MDR-TB rates in some areas, especially those without an effective DOTS programme. MDR-TB prevalence among new cases surveyed ranges from 2.1% in Hubei to 7.8% and 8% in Henan and Liaoning<sup>1</sup> provinces respectively. The NTP does not yet have a clear policy on MDR-TB management and does not treat MDR-TB cases; these patients only receive treatment within the hospital sector, though the NTP has plans to develop policies in the future that will allow for treatment. In view of the significant production of second-line anti-TB drugs in the country, a national

drug regulatory mechanism needs to be developed.

Additional projects to test new approaches for increasing case detection have started in 3 provinces. Planning for a pilot project to address TB among the mobile population is underway. EQA guidelines for sputum microscopy are under development and will be tested and implemented nationwide in 2004.

Some collaborative TB/HIV activities are carried out by the MoH and by research organizations but no national TB/HIV coordinating body exists. An HIV surveillance system for TB patients is planned. TB programmes are not involved in ART delivery, and do not yet plan to be involved.

With its vast territory and complexity, the NTP in mainland China resembles TB control programmes in 31 different countries ranging in size from 2 to 100 million people. Some of the provinces, autonomous regions, and municipalities have much experience in implementing DOTS and are doing well. Others are still in the early implementation phase and face many difficulties. For 2004, the MoH, CDC, and international partners will provide additional assistance to those high priority provinces that are performing relatively poorly.

### Partnerships

Funding for China's TB control programme has come from several sources including the central and local governments, a Government of Japan grant through JICA, a World Bank/DFID loan, the GFATM, and grants from CIDA and DFB. The first batches of anti-TB drugs financed through JICA and by China's central government arrived in February and June 2002, respectively, providing free anti-TB drugs for smear-positive cases in most parts of the country. The World Bank/DFID and the GFATM projects provide funding for a comprehensive DOTS programme in 24 provinces. By the end of September 2003, 1087 (70%) counties in 16 provinces had launched the new World Bank/DFID project, and 1044 counties in 24 provinces had started implementation using the recently received GFATM grant funds. A further 88 counties with a combined population of 64.2 million are now supported by CIDA/WHO, and the DFB covers Tibet, Inner Mongolia and Qinghai.

Technical partners include WHO and KNCV, with WHO being the primary technical agency for the MoH and partners. WHO has stationed one TB expert in the country since 1999, and a second joined in 2003. The MoH

<sup>1</sup> A suspected 25–30% of new drug-resistant cases were misclassified. Therefore, MDR among new cases is estimated at 8% rather than 10%.

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has coordinated the new resources from various partners to support the comprehensive expansion of DOTS. The NICC met in January 2003 to review progress and to identify further challenges. Informal TB working group meetings were held so that partners and the MoH could discuss and resolve matters concerning coordination. Joint TB monitoring missions between MoH and international partners were held in 2002 and 2003, and produced comprehensive recommendations for the NTP.

### **Budgets and expenditures**

Expenditures by the NTP in fiscal year 2002 (from 1 January) are not known. However, funds of US\$ 61 million were provided for TB control nationwide, almost all of which came from the government. Total TB control costs for 2002 can therefore be estimated at US\$ 61 million, or about US\$ 153 per TB patient notified. The NTP budget for the fiscal year 2003 was much higher, at US\$ 94.8 million (given that TB control is delivered through a vertical TB dispensary system, all TB control costs, including clinic visits, are included in this

budget). The NTP estimated that it would treat nearly 480 000 patients (smear-positive cases and others) during 2003, implying a higher budget per patient (US\$ 199) than in 2002. The drug budget, at US\$ 10.4 million, was equivalent to US\$ 22 per patient. As in India, there was a substantial budget (US\$ 37.2 million, more than one third of the total budget) for dedicated staff. Almost all of the funding required for 2003 (92%) was available, with the vast majority provided by the government in the form of either domestically generated funds (US\$ 52.8 million) or loans (US\$ 20.6 million).