

Fighting TB – Forging Ahead

Overview of the Stop TB Special Project
in the Western Pacific Region



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Regional Office for the Western Pacific

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2002



WORLD HEALTH ORGANIZATION — Western Pacific Regional Office



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The Stop TB Special Project
World Health Organization
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Acronyms

AIDS	acquired immunodeficiency syndrome
AusAID	Australian Agency for International Development
CCM	Country Coordination Mechanism
CIDA	Canadian International Development Agency
DFID	Department for International Development (United Kingdom)
DOTS	directly observed treatment, short-course
DRS	drug resistance surveillance
DTM	district tuberculosis manager
GDP	gross domestic product
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
HIV	human immunodeficiency virus
ICC	Inter-Agency Coordinating Committee
INH	Isoniazid
JICA	Japan International Cooperation Agency
MPA	Minimum Package of Activities
NGO	non-governmental organization
NTC	National Tuberculosis Centre
PTC	provincial tuberculosis coordinator
TAG	Technical Advisory Group
TB	tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
USAID	United States Agency for International Development
WFP	World Food Programme
WHO	World Health Organization
WPRO	Western Pacific Regional Office

Foreword



This report is an overview of the STOP TB Special Project, including the progress achieved and challenges ahead. It seeks to describe the epidemiological situation of TB control in the Western Pacific Region and outlines the progress in building and implementing the Special Project. It, furthermore, discusses the issues and challenges in reducing TB prevalence in the seven most high-risk countries in the Region and appraises the Special Project's financial resources and requirements up to 2005.

TB continues to be the leading infectious killer of adults and youth in the Western Pacific Region, with approximately 1000 people dying from the disease each day. In fact, one in three people with TB live in the Western Pacific Region. In response to the growing epidemic, the Regional Committee declared a tuberculosis crisis at its fiftieth meeting in September 1999 and, in response, the STOP TB Special Project was established in February 2000.

A major goal for the STOP TB Special Project is to reduce the prevalence and deaths due to TB by 50% in 10 years, from 1999 levels, thereby contributing to poverty reduction. In order to reach this goal, it will be necessary to provide DOTS to all TB patients in the Region by 2005. The STOP TB Special Project is tackling emerging issues in TB control, such as the threat of rising HIV rates on the TB epidemic. Multi-drug resistance is also a growing concern. Partner agencies have an important role to play in meeting financial and technical shortfalls at the country-level, and resolving these shortfalls is critical if the STOP TB goals are to be successfully achieved by 2005.

The number of countries and areas implementing DOTS in the Region increased from 21% in 1998 to 28% in 2000. The percentage of newly detected patients enrolled in DOTS in the Region also increased, from 69% of all new cases in 1999 to 74% in 2000.

The time has now come for a determined effort to accelerate the implementation strategy. The years 2002 and 2003 will be crucial if the special project's goals on expanding DOTS implementation are to be achieved by 2005. All stakeholders – Member States, international partners and WHO – will need to redouble their efforts if DOTS expansion is to be accelerated. The challenge is great; but with stronger partnerships and improved management capacity, the goals can be achieved.

A handwritten signature in black ink that reads "Shigeru Omi".

Shigeru Omi, MD, Ph.D
Regional Director

The Progress Achieved, the Challenges Ahead

The Stop TB Special Project

It is estimated that 20 000 people develop TB every day and 5000 die from the disease. Unless governments, the medical profession and the development community face the TB menace squarely, within the next decade the problem may well spiral out of control and claim as many as 30 million lives.

Since the 1950s, TB has been curable. Yet there are more patients suffering from the disease today than there were 20 years ago and TB remains the world's leading infectious killer. In the Western Pacific Region, TB kills more young people and adults than malaria and HIV/AIDS combined. Untreated, one person with infectious TB can infect between 10 and 15 others a year. And if the disease goes untreated, TB will kill up to 60% of those infected. It is estimated that 20 000 people develop TB every day and 5000 die from the disease. Unless governments, the medical profession and the development community face the TB menace squarely, within the next decade the problem may well spiral out of control and claim as many as 30 million lives.

The rise in TB incidence worldwide is partly due to population increases and the spread of the HIV virus. But in many countries, it is also because of poor or inadequate treatment that fails to cure patients, leaving them infectious or — worse — drug-resistant. A drug-resistant TB case is more difficult and 100 times more expensive to cure. The problem is exacerbated by the disproportionate impact of TB on the poor. About 60% of TB-related deaths occur among the poorest 20% of the global population — those with the most limited access to health care.

The notification rate of smear-positive pulmonary TB cases in the Western Pacific Region has increased by 40% since 1993. This increase is visible not only in low-income countries, but also in the industrialized parts of the Western Pacific Region. The Region carries more than one quarter of the global TB burden. Moreover, TB remains the top infectious disease in the Region, claiming more than 1000 lives each day.

As the TB situation reached alarming proportions, the Western Pacific Regional Committee of the World Health Organization (WHO), the Organization's governing body in the Region, was prompted in September 1999 to declare a TB crisis. It urged Member States to give high priority and allocate sufficient resources for the strengthening of TB control. To this end, it endorsed the establishment of the Stop TB Special Project.

This report:

- (i) describes the epidemiological situation of TB control in the Western Pacific Region,
- (ii) outlines the progress in building and implementing the Stop TB Special Project,

- (iii) discusses the issues and challenges in reducing TB prevalence in the seven most high-risk countries in the Region, and
- (iv) appraises the special project's financial resources and requirements up to 2005.

Adequate funds are essential to the success of the Stop TB Special Project and to reaching the targets in TB control. This report thus gives special attention to the seven TB high burden countries' national Stop TB plans, including their partnership-building and resource mobilization. A summary of their five-year plans, which were endorsed by the second Technical Advisory Group (TAG) meeting of Beijing in June 2001, can be found in Annex 1.

Mapping the Burden

The Western Pacific Region member countries and areas can be grouped according to the burden of TB and health infrastructure:

- Group 1: High-Burden Countries — with a case notification rate for smear-positive TB of more than 50 per 100 000 population.
- Group 2: Intermediate-Burden Countries — with a smear-positive case notification rate of between 5 and 50 per 100 000 population.
- Group 3: Pacific Island Countries (except Papua New Guinea) — with less than one million population and in the initial phase of the DOTS strategy.
- Group 4: Low-Burden Countries — with a smear-positive notification rate of less than five per 100 000 population.

Group 1

Cambodia
China
The Lao People's Democratic Republic
Mongolia
Papua New Guinea
The Philippines
Viet Nam

Group 2

Brunei Darussalam
Hong Kong, China
Japan
The Republic of Korea
Macao, China
Malaysia
Singapore

Group 3

American Samoa
Cook Islands
Fiji
French Polynesia
Guam
Kiribati
The Commonwealth of the Northern Mariana Islands
Marshall Islands
The Federated States of Micronesia
Nauru
New Caledonia
Niue
Palau
The Pitcairn Islands
Samoa
Solomon Islands
Tokelau
Tonga
Tuvalu
Vanuatu
Wallis and Futuna

Group 4

Australia
New Zealand

1

Taking Stock The Situation in the Region

Widespread and Persistent: The TB Burden

Significantly, less than half of the patients that ultimately succumb to TB in the Western Pacific Region have access to the recommended treatment strategy called DOTS.

The TB problem is particularly acute in the Western Pacific Region. There are an estimated two million cases of all types of TB in the Region, including new pulmonary smear-positive cases, relapses, new pulmonary smear-negative cases and extrapulmonary cases. Of these, about 850,000 are infectious smear-positive cases (Figure 1). However, less than half of infectious cases are actually detected. This reflects the need for more vigorous TB control, as detection is the first step towards treatment.

The global cost of TB amounts to \$12 billion annually. But the disease takes a particularly high economic toll in the Western Pacific Region, where 77% of TB patients are at the “productive age” of 15 to 54 years old, with the highest number in the 25–34 age group. The cost to a family, if the main breadwinner is stricken by TB, is two to three months of the household income. And, given the concentration of TB in the “working age” groups, the cost to human development and a country’s economy is likewise profound. Unfortunately, less than half of the patients that ultimately succumb to TB in the Western Pacific Region have access to the recommended treatment strategy — directly observed treatment, short-course (DOTS).

Moreover, the TB problem is especially perilous in the Western Pacific Region where the TB detection rate is low at 41% of estimated incidence. In addition, the Region is home to four of the 22 countries in the world with the highest concentrations of TB — Cambodia, China, the Philippines and Viet Nam. Together, these four countries account for one quarter of the global TB burden.

The seven high TB burden countries in the Region — Cambodia, China, the Lao People’s Democratic Republic, Mongolia, Papua New Guinea, the Philippines and Viet Nam (Table 2) — together account for 94% of TB prevalence in the whole Region. Nearly half of the cases in these countries are believed to be infectious, but the detection rate, at 44%, is even lower than the regional average of 45% and far below the target case detection rate of 70%. So, while the population coverage of DOTS in these countries may have increased significantly in recent years, the low detection rates indicate the need for more aggressive TB control.

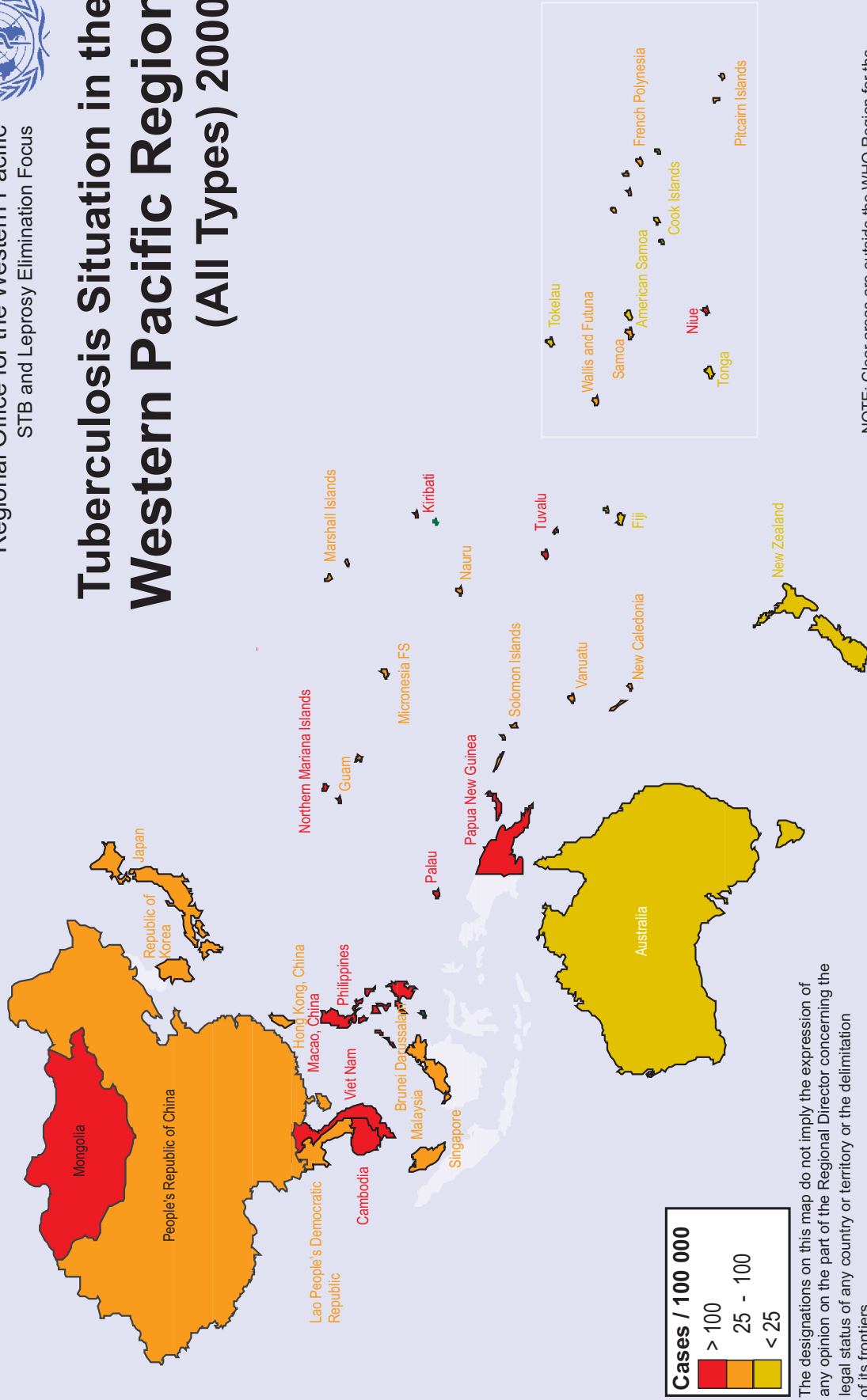
The seven high TB burden countries are all developing economies that suffer varying degrees of the same constraints. These include the absence of universal DOTS coverage, uncertain sustainability of progress already achieved in TB control and shortages of funds

Figure 1



World Health Organization
Regional Office for the Western Pacific
STB and Leprosy Elimination Focus

Tuberculosis Situation in the Western Pacific Region (All Types) 2000



The designations on this map do not imply the expression of any opinion on the part of the Regional Director concerning the legal status of any country or territory or the delimitation of its frontiers.
PIC group of islands not to scale.

NOTE: Clear areas are outside the WHO Region for the Western Pacific.

Table 1 TB Notification and Detection Rates in the Western Pacific, 2000

Countries	Notified		Estimated		Case Detection Rates in 2000 (%)	
	All Types	Smear +	All Types	Smear +	All Types	Smear +
American Samoa	3	2	23	11	13	18
Australia	1043	251	1525	685	68	37
Brunei Darussalam	307	84	199	89	154	94
Cambodia	18 864	14 823	74 921	33 490	25	44
China	46 373	213 766	1 364 851	583 936	34	37
Cook Islands	1	1	7	3	14	33
Fiji	144	62	281	126	51	49
French Polynesia	59	29	81	36	73	81
Guam	54	42	135	61	40	69
Hong Kong, China	5141	1240	6250	2809	82	44
Japan	39 384	11 853	45 927	20 665	86	57
Kiribati	210	54	72	32	292	169
Republic of Korea	21 782	8216	28 887	12 970	75	63
Lao PDR	2234	1526	8457	3806	26	40
Macao, China	449	133	972	437	46	30
Malaysia	15 057	8156	24 719	11 074	61	74
N. Mariana Islands	75	27	63	28	119	96
Marshall Islands	34	11	44	20	77	55
Micronesia FS	91	15	106	48	86	31
Mongolia	3109	1389	5463	2458	57	57
Nauru	4	4	4	2	100	200
New Caledonia	86	38	187	84	46	45
New Zealand	344	74	403	181	85	41
Niue	0	0	1	0	0	
Palau			17	7		
Papua New Guinea	12 121	2267	12597	5656	96	40
Philippines	128 495	67 056	249 404	112 146	52	60
Pitcairn Islands						
Samoa	43	13	55	25	78	52
Singapore	1728	248	1920	862	90	29
Solomon Islands	302	109	388	175	78	62
Tokelau	0	0	1	0	0	
Tonga	24	15	34	15	71	100
Tuvalu			4	2	0	0
Vanuatu	152	63	171	77	89	82
Viet Nam	89 792	53 169	147 725	66 476	61	80
Wallis and Futuna			5	2	0	0
WPR Total	804 579	384 755	1 975 899	858 494	41%	45%

for TB programmes, resulting in insufficient supplies of TB drugs, laboratory networks and trained personnel. Based on the UN Human Development Index, which monitors progress in human development globally based on three variables — life expectancy, educational attainment and income — six high TB burden countries are in the bottom rung of the group that achieved medium human development, while the Lao People's Democratic Republic ranks among the low human development countries. Real gross domestic

product (GDP) per capita among the seven is substantially lower than other countries in the Region, ranging from \$3520 (the Philippines) to \$1290 (Cambodia). Malaysia, in comparison, has a real GDP per capita of \$8140; Australia \$20 210; and Hong Kong, China \$24 350.

The latest Human Poverty Index — a yardstick to gauge the extent of deprivation in four basic dimensions of human life: health and life expectancy; knowledge; economic provisioning (including access to health services and safe water, since in developing countries, public provisioning is more important than private income); and, social inclusion — reveals that poverty in the seven high TB burden countries ranges from 16.3% (the Philippines) to 38.9% (the Lao People's Democratic Republic). The numbers lend further credence to the correlation between poverty incidence and TB.

Table 2 TB in the High Burden Countries in the Western Pacific, Estimated and Detected, 2000

Countries	Population 2000 (x 1000) (p)	Case Notification 2000				Est'd Incidence 2000		Case Detection Rate (%)	
		Number		Rate / 100 000		All Types (c)	New Smear + (d)	All Types (a) / (c)	New Smear + (b) / (d)
		All Types (a)	New Smear + (b)	All Types (a) / (p)	New Smear + (b) / (p)				
Cambodia	12 014	18 891	14 822	157	123	74 921	33 490	25	44
China	1 236 722	463 373	213 766	37	17	1 364 851	583 936	34	37
Lao PDR	5287	2234	1526	42	29	8457	3806	26	40
Mongolia	2380	3109	1389	131	58	5463	2458	57	57
Papua New Guinea	5131	12 121	2267	236	44	12 597	5656	96	40
Philippines	76 348	128 495	67 056	168	88	249 404	112 146	52	60
Viet Nam	76 900	88 792	53 169	117	69	147 725	66 476	61	80
Sub-total 7, high burden countries	1 414 782	718 015	353 995	51	25	1 863 420	807 968	38	44
Total (WPR)	1 648 250	804 579	384 755	49	23	1 975 899	858 494	41	45

TB/HIV Co-infection

Twenty years after it was first identified, AIDS has emerged as “the most devastating disease” in human history, according to the Joint UN Programme on HIV/AIDS (UNAIDS). Not only is the disease continuing to spread dramatically in some of the world's most populous countries, but prevention is also clearly failing in parts of the developed world. About 25 million people have already died from the disease, while 40 million are living with the virus that causes it. Although not yet reaching the levels seen in Africa, the HIV pandemic has accelerated in the Western Pacific Region. In a recent resolution, the Western Pacific Regional Committee noted “with apprehension” the spread of HIV in the Region “in the absence of coordinated approaches” to address the problem. UNAIDS estimates that worldwide (end of 2000), more than 36 million people are infected with HIV, while in all of Asia, the number of newly infected people in the past year exceeded one million. The disease is centred on the young, with more than half of patients aged 20 or below. Amid the

Of the seven high TB burden countries in the Region, Cambodia is classified as having high HIV/AIDS prevalence; Papua New Guinea and Viet Nam as having moderate HIV/AIDS prevalence; and China, the Lao People's Democratic Republic, Mongolia and the Philippines as having low prevalence.

massive migration within the Region, the problem cannot be overemphasized. The number of HIV-positive cases in the Western Pacific Region has shot up, increasing the risk of TB/HIV co-infection, because persons with HIV are 10 times more likely to develop TB. TB, it should be stressed, is responsible for one third of all HIV deaths worldwide.

Of the seven high TB burden countries in the Region, Cambodia is classified as having high HIV/AIDS prevalence; Papua New Guinea and Viet Nam as having moderate HIV/AIDS prevalence; and China, the Lao People's Democratic Republic, Mongolia and the Philippines as having low prevalence. A marked increase in co-infection has been noted in some of the countries in the Region. HIV co-infection in new TB cases detected in 1998 was 6% in Malaysia, 5.2% in Cambodia and 1% in Viet Nam. A 1999 survey of TB patients in the Cambodian capital of Phnom Penh alone indicated that about 14% were HIV-positive. In the wake of the accelerated migration flows accompanying globalization, the TB/HIV co-infection levels are expected to rise in the next few years. At a recent Meeting of Medical Parliamentarians in the Region, WHO estimated TB/HIV incidence in Cambodia to have reached 16% in 2001. National HIV/AIDS control programmes in the Region indicate TB/HIV infection to be an emerging problem also in Malaysia and Viet Nam.

The creeping HIV epidemic in the Region will have direct implications for the effectiveness of national TB control programmes. This is especially so in terms of resource allocation, as the principles of the DOTS strategy are the same for all TB patients, whether HIV-positive or HIV-negative. Thus, a systematic HIV programme complements efficient TB control.

Drug Resistance

Drug resistance, which is caused mainly by poorly managed treatment of TB, is also a growing problem. WHO and the International Union Against Tuberculosis and Lung Diseases have worked together on global surveillance for drug resistance since 1995. An initial survey of drug resistance in nine Western Pacific countries and areas showed high resistance among newly diagnosed cases to any one of the standard TB drugs, from 4.8% to 32.9%, with a mean of 19.4%. Multidrug resistance, or resistance to at least two of the standard TB drugs — Rifampicin and Isoniazid (INH) — was also high, ranging from 0.1% to 5.3%, with a mean of 2.6%. It was notably high in three provinces in China — Guangdong, Shandong and Zhejiang — where the multidrug resistance rate among newly diagnosed cases was 2.9% to 5.3%, and even higher among retreatment cases, at 16% to 35%. Malaysia and Viet Nam are also showing signs of worsening drug resistance and, to a lesser extent, multidrug resistance.

The data indicate a high transmission rate of drug-resistant TB in the Region and underscore the need for immediate action. Drug-resistant TB can be controlled by improving cure rates and expanding the WHO-recommended DOTS strategy.

The Seeds of a Solution: The Expansion of DOTS

TB can be cured. And, despite appearances, the TB menace in the Western Pacific Region can be tackled. Praised by the World Bank as “one of the most cost-effective of all health interventions,” the WHO recommended DOTS strategy combines the essentials of TB control: (i) government commitment to sustained TB control; (ii) diagnosis by microscopy; (iii) standardized treatment with anti-TB drugs, (iv) standard monitoring, recording and reporting; and (v) regular, uninterrupted supplies of anti-TB drugs.

Since the early 1990s, when DOTS was recommended by WHO, more and more countries have adopted DOTS or a similar strategy in their TB control programmes. Today, about 45% of the global population has access to DOTS.

But in the face of continued trends, such as population growth and urbanization, and the outbreak of the HIV epidemic, TB incidence worldwide has also been aggravated, increasing by almost 5% in the four years from 1997 to 1999. This situation warrants swifter and wider expansion of DOTS.

How Effective is DOTS?

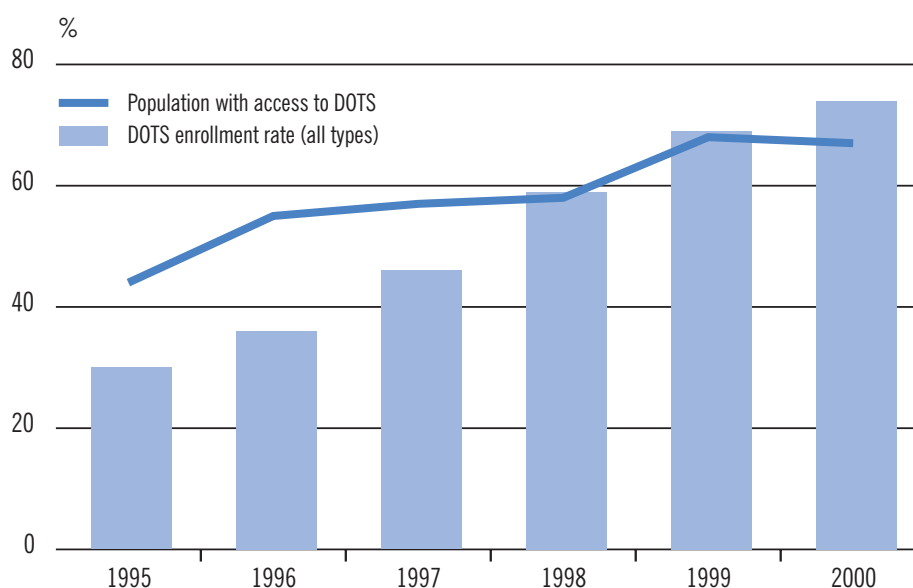
Within the space of one year (1998–1999), progress in TB control can be seen in 22 of 30 Western Pacific Region countries using DOTS or a strategy consistent with this:

- The DOTS detection of new smear-positive cases increased to 36% in 1999, from 32% in 1998.
 - The DOTS enrollment rate of new smear-positive cases increased to 78% in 1999, from 72% in 1998.
 - The treatment success rate of new smear-positive cases in DOTS areas was 94.8% in 1998, compared with 69% in non-DOTS areas.
-

In the Western Pacific Region, WHO has adopted a partnership approach to the expansion of DOTS, linking with technical and financial partners at the regional and national levels to ensure coordinated support for country TB programmes. As a result, among the high TB burden countries, 68% of the population had access to DOTS by end-2000, less than a decade after the introduction of the strategy in the Region (Figure 2).

As early as 1985, Viet Nam had adopted a strategy consistent with DOTS. It is one of only two high TB burden countries worldwide to achieve universal DOTS coverage, the other being Peru. DOTS was first introduced on a pilot basis in Cambodia and China in 1991–1995, then in the Lao People’s Democratic Republic, Mongolia, Papua New Guinea and the Philippines in 1996–2000. Over the years, DOTS was expanded to achieve nationwide coverage in Mongolia and Viet Nam, and more than 90% coverage in Cambodia. In some parts of China, DOTS has been made available to more than 50% of the population through aid from the World Bank.

Figure 2 DOTS in the Region, 1995–2000



Today, the detection rates among the seven high TB burden countries vary from 7% in Papua New Guinea to 81% in Viet Nam. For the seven, 71% of detected TB cases and 88% of detected new smear-positive cases have access to DOTS (Table 3).

Table 3 Case Notification and DOTS Coverage by Country, 2000

Countries	Total Population 2000 (x 1000) (a)	Population (x 1000) with Access to DOTS		Cases Notified, All Types	Notified New Smear-positive		New Smear-positive		
		Number (b)	% (b) / (a)		DOTS (c)	Non-DOTS (d)	DOTS Enrolment Rate (%) (c) / [(c) + (d)]	Estimated Incidence (e)	DOTS Case Detection Rate (%) (c) / (e)
Cambodia	12 014	11 894	99	18 891	14 822	0	100	30 155	49
China	1 236 722	840 971	68	463 373	191 280	22 486	89	568 892	34
Lao PDR	5287	3701	70	2234	1526	0	100	3965	38
Mongolia	2380	2380	100	3109	1389	0	100	2190	63
Papua New Guinea	5131	410	8	12 121	403	1864	18	5747	7
Philippines	76 348	68 713	90	128 495	49 991	17 065	75	107 651	46
Viet Nam	76 900	76 746	100	89 792	53 169	0	100	65 365	81
Sub-total, High-Burden Countries	1 414 782	1 004 815	71	718 015	312 580	41 415	88	783 965	40
Total (WPR)	1 648 250	1 100 151	67	804 579	326 993	57 741	85	832 685	39

2

The Stop TB Special Project High-Gear Action

The goal of a 50% reduction in TB prevalence and mortality by 2010 can be achieved in the Region by ensuring 100% coverage of DOTS by 2005.

Towards the end of the 1990s, the problem of TB in the Western Pacific Region reached alarming proportions — with the number of detected cases rising between 1994 and 1998 by as much as 33%. The WHO Western Pacific Regional Committee, the governing body of WHO in the Western Pacific Region, declared a TB crisis, at its 50th session in September 1999. It endorsed the establishment of the Stop TB Special Project, whose first step was to convene in February 2000 a TAG composed of TB control experts. The first TAG meeting developed a concrete plan of action, the “Regional Strategic Plan to Stop TB in the Western Pacific,” essentially an intensified campaign to cut TB prevalence and mortality by half by 2010. The Regional Strategic Plan was endorsed by the Regional Committee at its next session, and thereafter its goals were adopted by other WHO regions. Following the Western Pacific Regional Committee’s initiative, the goal of halving TB prevalence and mortality by 2010 is now a global one.

The Stop TB Special Project constitutes “going the extra mile” in the Region, particularly in the high TB burden countries, to push their respective TB programmes closer to realizing the three global targets in TB control:

- 100% DOTS coverage;
- 70% case detection; and
- 85% treatment success.

The Stop TB campaign seeks more aggressive anti-TB actions from governments, the private sector, and international health and development organizations, including WHO, to enable the Region to achieve the goal of cutting TB prevalence and mortality by half by 2010. The main strategy of the Stop TB campaign for equipping countries with the resources and capabilities to meet that ultimate objective is the expansion of DOTS. That is, the goal of a 50% reduction in TB prevalence and mortality by 2010 can be achieved in the Region by ensuring 100% coverage of DOTS by 2005.

The Stop TB Special Project identified the two goals to be accomplished within 2001 so that countries can mount the effective and coherent TB control programmes that the Stop TB campaign seeks: (i) DOTS expansion plans, or the development of comprehensive Five-Year (2001–2005) National Stop TB Plans; and (ii) and partnership building, or the establishment of national Inter-Agency Coordinating Committees (ICCs) to assist in the development and implementation of these plans. The ICCs, designed to serve as the coordinating mechanisms at the regional and national levels for the systematic and coherent implementation of DOTS, are composed of the donor organizations, health groups and

practitioners, and private-sector and civil society formations that are the leading partners with WHO and the health ministries of these governments in their TB control efforts.

The TAG met for the second time in Beijing in June 2001 to evaluate and endorse the countries' Stop TB plans, and to harness support from the Regional ICC.

Blueprint for 2001–2005: The National Stop TB Plans

Critical to the expansion of DOTS and the success of Stop TB is a medium-term development plan in each country that details all the technical and financial requirements and mechanisms of collaboration between the different government agencies and other sectors.

Critical to the expansion of DOTS and the success of Stop TB is a medium-term development plan in each country that details all the technical and financial requirements and mechanisms of collaboration between the different government agencies and other sectors. In formulating these plans, governments are fast realizing the need to shed the traditional notion of a “public health sector” as the only major actor in a country’s health activities. Instead, they have shown an appreciation of the need to achieve synergy in various health activities through cooperation with the private sector.

Group 1: High-Burden Countries

The governments of the seven high TB prevalence countries were provided technical support in their development of Five-Year National Stop TB Plans (2001–2005). WHO staff collaborated with agencies and managers of these countries to develop DOTS expansion plans. They also provided guidelines and benchmarks needed for governments to determine the financial requirements for 2001–2005.

Group 2: Intermediate-Burden Countries

Although these countries have achieved high levels of socio-economic development, the case detection rate for TB is much higher than in European countries with a similar gross national product per capita. Moreover, the decline of TB has stagnated in virtually all of these countries (except the Republic of Korea) over the past few years. To help assess trends in the disease’s epidemiology in intermediate TB burden countries, WHO analyzed surveillance data in collaboration with the Research Institute of Tuberculosis in Japan to determine why there has been no decline in the notification rate of newly diagnosed TB cases in this group. One apparent reason is the progressive ageing of their populations. Another is government complacency. Meanwhile, in some countries, significant numbers of TB cases have been reported among immigrant groups.

Group 3: Pacific Island Countries (except Papua New Guinea)

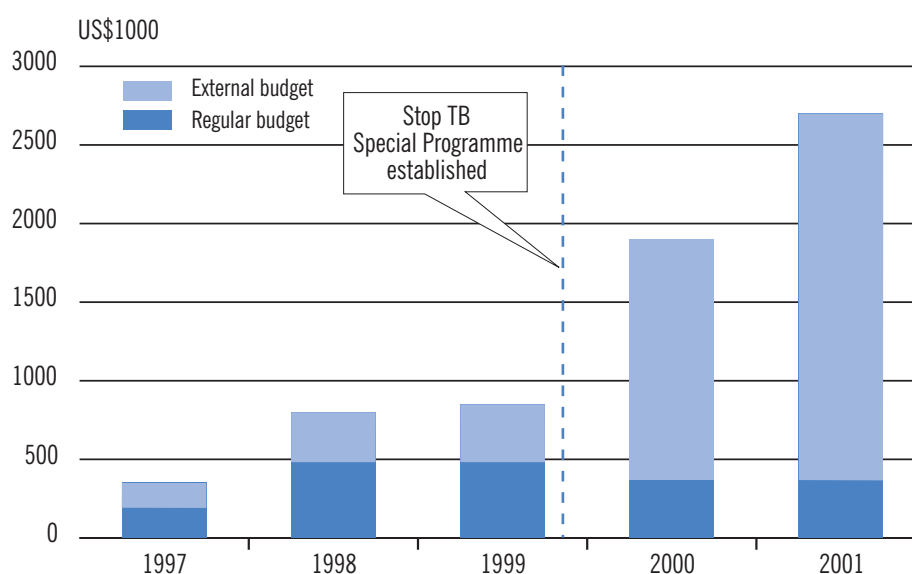
In collaboration with the Secretariat of the Pacific Community, the first Stop TB meeting in the Pacific Islands was held in Nouméa, New Caledonia, in June 2000. The meeting assessed the TB situation, and reviewed and endorsed the Strategic Plan to Stop TB in the Pacific Island Countries. It also established the Pacific Stop TB Initiative, which aims to introduce DOTS across the Pacific by 2002 and to ensure 100% enrollment of all detected cases by 2005. Action plans for the expansion of DOTS were also developed. The meeting was likewise successful in strengthening the collaboration between countries and international partners in TB control.

ICCs for Partnership Building

A Regional ICC was activated with the declaration of a TB crisis in the Region in September 1999. Its work in mobilizing resources for TB control since then has increased contributions to regional-level Stop TB activities three-fold (Figure 3).

The major ICC partners in the Region are the Australian Agency for International Development (AusAID), the Department for International Development (DFID) of the United Kingdom, the Government of Japan and Japan International Cooperation Agency (JICA), the United States Agency for International Development (USAID) and the World Bank. Together they account for more than 70% of the support to regional-level Stop TB activities.

Figure 3 Budget for TB Control in the Western Pacific, 1997–2001



National ICCs, in collaboration with the Regional ICC, will engage in developing partnerships in TB control, particularly to address the financial shortfall for the country-level expansion of DOTS.

It is envisaged that national ICCs, in collaboration with the Regional ICC, will engage in developing partnerships in TB control, particularly to address the financial shortfall for the country-level expansion of DOTS. Among the seven high TB burden countries, only three — Cambodia, the Philippines and Viet Nam — have established ICCs so far, with assistance from WHO. Before submitting country proposals to the Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM), the remaining four countries established their ICC, which in the GFATM context is called the Country Coordinating Mechanism (CCM). The ICCs are being strengthened to be able to undertake a more effective pursuit of support from the private sector and the development community as a whole. In the Philippines, for example, the ICC is instrumental in catalyzing collaboration between the public and private sectors that could serve as a model for the public-private mix in the delivery of TB care.

In the countries without formal ICCs, WHO has played a major role in tapping into support from various development organizations. In China, for example, a co-operation agreement between DFID, JICA, the World Bank and WHO was established to sustain TB control there beyond the project duration of a World Bank loan that ended in 2001.

The Centrepiece: Expansion of DOTS

With only one in four TB cases in the Region having access to the DOTS strategy, DOTS expansion is the basic building block of the Stop TB Special Project. The expansion of DOTS is the premise of the global targets in TB control. Unless a country increases the availability of DOTS to ensure 100% coverage of the population by 2005, achieving the goal of halving TB incidence and mortality by 2010 is unrealistic. Related to this, in July 2000, the leaders of the eight industrialized countries (G8) committed to working in partnership with stakeholders to deliver the critical UN targets in promoting peace and prosperity, including the 50% reduction of TB incidence and mortality by the end of the decade. Then, in November 2000, the high TB burden countries all over the world, 22 in all, met in Cairo to develop a Global DOTS Expansion Plan.

There are four important aspects to expanding the DOTS strategy: (i) political commitment and partnership development, (ii) securing TB drugs, (iii) monitoring and surveillance, and (iv) capacity building for DOTS management.

Political Commitment and Partnership Development

The clearest expression of the commitment of member states in the Region to tackle the worsening TB situation was their consensus, during the Regional Committee Meeting (RCM)

Stop TB is an attempt to push TB high on the agenda of governments, particularly in the high TB burden countries, and to mobilize increased international support for the expansion of DOTS.

in Macao, China in 1999, to establish the Stop TB Special Project. However, politicians and decision makers must further be convinced of the social and economic returns that would justify long-term investments in TB control. Stop TB is an attempt to push TB high on the agenda of governments, particularly in the high TB burden countries, and to mobilize increased international support for the expansion of DOTS.

High-level officials of four of the high TB burden countries — Cambodia, China, the Philippines and Viet Nam — attended the Ministerial Conference on TB and Sustainable Development in Amsterdam in March 2000. TB was also a major agenda item at the Meeting of Ministers and Directors of Health in Madang, Papua New Guinea, in March 2001. The governments represented at the meeting committed themselves to DOTS implementation and expansion, and to ensuring its sustainability. They also recommended the implementation of National Stop TB Plans by the Pacific island countries.

Then, in collaboration with the International Medical Parliamentarians Organization, WHO hosted the Meeting of Medical Parliamentarians on Tuberculosis and Health Development in April 2001 at the Western Pacific Regional Office in Manila. Government representatives from 10 countries in the Region tackled how DOTS and TB prevention programmes could be made more accessible, particularly to poor communities. A major outcome of the meeting was a “Call for Action” that urges governments to act as a “Voice of the Poor” through a sound TB control programme.

The link between poverty and TB is incontrovertible. The World Bank attributes 80% of the difference in the health status between the rich and the poor to communicable diseases, including TB. The disease affects the poor disproportionately. About 95% of new TB cases and 99% of TB deaths occur in developing countries. It is estimated that the poorest 20% of the world’s population bears the burden of more than 60% of the world’s TB cases. In the Philippines, for instance, the prevalence of TB in the low-income urban population is double that of the urban population as a whole.

Securing TB Drugs

Accelerating DOTS means securing a stable supply of quality TB drugs through national or bilateral sources. However, because the necessary financing mechanisms are still not in place in the high TB burden countries in the Region, with the exception of Papua New Guinea whose national budget is sufficient to meet its TB drug requirements, WHO has had to assume the role of broker. For instance, it has provided assistance to Cambodia and China in designing their applications for grants to secure their drug requirements, and mobilized resources for emergency TB drug supplies in Mongolia.

In the Philippines, partly as a result of Stop TB, the 2000 national budget allocation for securing TB drugs was doubled to cover 100% of smear-positive cases and more than

50% of smear-negative cases. Viet Nam is in discussions with The Netherlands and the World Bank regarding drug supply, while in China, WHO has helped to develop strengthened quality control of TB drugs. Japan also supports China's TB drug requirements.

The Ministerial Conference on TB and Sustainable Development in Amsterdam in March 2000 yielded a plan for a Global TB Drug Facility that will ensure universal access to, and availability of, TB drugs. It is envisioned that the Global TB Drug Facility will be a mechanism that will assist governments in setting up efficient systems of procurement and distribution of their TB drug supply. Thus, embedded in the plan for a Global TB Drug Facility is an attempt to retard the spread of drug resistance, which is principally caused by incomplete or incorrect intake of standard or first-line TB drugs. The World Health Assembly endorsed the plan in May 2000.

It is envisioned that the Global TB Drug Facility will be a mechanism that will assist governments in setting up efficient systems of procurement and distribution of their TB drug supply.

Because accurate and complete information on pricing will lead to better drug production and supply, a survey of the factors determining drug prices in the Region is taking place. Some of the developing countries — those who can least afford it — face at least four times more than the average prices contained in the tenders received by international development agencies on the international market.

Monitoring and Surveillance

In several countries and areas in the Region, prevalence or notification data are unavailable or unreliable. Stop TB aims for timely and accurate prevalence surveys, epidemiological reviews and drug resistance surveillance (DRS), which require collaboration between WHO and the managers of the national TB programmes. Technical and logistical support was given to Cambodia, China, Malaysia and Viet Nam in the preparation and conduct of prevalence surveys. Trends in TB epidemiology have been assessed in the intermediate TB burden countries.

Cambodia, China, Mongolia and the Philippines received technical assistance in their DRS activities. China added four more provinces to the coverage of the country's DRS. WHO assisted some countries in drawing support for DRS in the Region from partner agencies such as the Pasteur Institute and the Research Institute of Tuberculosis. A draft report on the current status of DRS in the Western Pacific was recently completed in collaboration with the Korean Institute of Tuberculosis, and was due to be published in early 2002.

Together with staff of the national TB programmes and other partners, WHO staff have visited DOTS areas in the Region to monitor the progress of DOTS. These visits are considered useful for national staff and partners as they emphasize the importance of regular monitoring and supervision.

Capacity Building for DOTS Management

The effectiveness and expansion of DOTS depend on adequate human resources at the country level.

The effectiveness and expansion of DOTS depend on adequate human resources at the country level. WHO has supported the supplementing of central-level staffing of national TB programmes. Almost universally, with the increasing trend towards decentralized governance, governments in the Region have reduced the central-level workforce assigned to TB control to the bare minimum. At the same time, however, the lack of human resources constrains TB work at the local level. Dispersing the basic State-provided social services has dissipated centralized planning, monitoring, quality control and capability-building. WHO has subsequently coordinated with national governments to strengthen TB management at the central level in China, the Lao People's Democratic Republic and Papua New Guinea, and has supported country-level training in DOTS management and laboratory diagnosis. In collaboration with the Research Institute of Tuberculosis, for example, WHO supported the attendance of such training conducted in the Solomon Islands and Vanuatu.

Partner agencies held regular international TB training courses and conferences, for which WHO sponsored the participation of candidates from the Region, including

- the annual TB management course jointly organized by the International Union Against Tuberculosis and Lung Diseases and the Royal Netherlands Tuberculosis Association, held in Ha Noi, Viet Nam, in August 2000 and 2001;
- the TB training course organized by the Research Institute of Tuberculosis and sponsored by JICA, held in Tokyo, Japan, in January to February 2001 and 2002;
- the Eastern Region Conference of the International Union Against Tuberculosis and Lung Diseases convened in Manila in March 2001; and
- the TB management course in September 2001, organized by the Korean Institute of Tuberculosis and the Korean International Cooperation Agency.

Developments within the Western Pacific Regional Office

Upon reviewing the scope of work for the Stop TB Special Project and its technical and financial requirements, it is clear that significant changes in WHO's TB control work have taken place. Stop TB demands a wide range of additional strategic, normative, coordination and managerial functions within the Organization. An inter-divisional Stop TB Task Force was established in the Western Pacific Regional Office in January 2000 to concentrate on providing the necessary support in planning, policy development and technical work. Composed of staff from the Stop TB unit, and the HIV/AIDS, Pharmaceuticals, Health Systems, Information (advocacy) and Expanded Programme on Immunizations units, the Stop TB Task Force is responsible for internal coordination of the project. It ensures that technical support to countries is consistent and that the mandate of public health strengthening and

development is carried out. In cooperation with the Division of Health Sector Development, the Stop TB Task Force also has to respond to issues relating to TB and poverty, and to the expansion of DOTS in the context of developing countries' health sector or overall health system.

Country action for accelerating DOTS will benefit from increased support from the Western Pacific Regional Office. The number of WHO posts for Stop TB activities was expanded, from only two in 1999 to 10 in 2001. Five of these have been filled in 2000 and 2001, two — in Fiji and Viet Nam — will be filled in the first half of 2002, with support from AusAID, JICA and USAID. The remaining three posts are expected to be filled later in 2002 in China, the Philippines and in the Western Pacific Regional Office itself.

Realizing the need for the coordination of the HIV and TB programmes at the country level, WHO called for a regional strategy for TB/HIV co-infection control, during the first meeting of the Global TB/HIV Working Group in April 2001.

The Western Pacific Regional Office relies on the advice and support of the TAG and ICCs for strategic planning. It also seeks continual feedback from countries and shares information and developments with them through forums such as National TB Programme Manager meetings. These activities are critical for a coordinated response to the call to accelerate DOTS in the Region.

This has meant constant and numerous interventions by the Western Pacific Regional Office to assist the Region's severely strained health systems. Among its initiatives was the analysis of TB control and economic development at the International Medical Parliamentarians Meeting on Tuberculosis and Health in the Western Pacific in Manila in April 2001. The conference reaffirmed governments' resolve to attend to the TB menace in the Region. At the same time, it called for the support of donor groups and the private sector — foundations and non-governmental organizations — in the anti-TB effort.

Realizing the need for the coordination of the HIV and TB control programmes at the country level, WHO called for a regional strategy for TB/HIV co-infection control, during the first meeting of the Global TB/HIV Working Group in April 2001. Following the development of a global strategic framework for the appropriate approach and management of TB/HIV co-infection, a draft regional framework was developed based on risk factors and risk behavior (men having sex with other men, injecting drug users and female sex workers) found in the Region. Projects for the collaboration of governments' TB and HIV/AIDS programmes were considered. The continued participation of the Western Pacific Regional Office in the global TB/HIV Working Group is imperative to mitigate the risks of co-infection. This is especially so, since the problems of most countries' HIV/AIDS programmes are similar to those that characterize their TB control programmes, particularly incomplete recognition, diagnosis and reporting.

The Stop TB Special Project has set up its own Web site to provide up-to-date information on TB in the Region and an overview of Stop TB strategies and activities. The site allows visitors to download documents and presentations and provides links to related sites. Stop TB also distributed Advocacy Kits for the World TB Day in 2000, 2001 and 2002 that are aimed at increasing awareness about TB throughout the Region.

Stop TB Plans At Full Throttle

Accelerating DOTS

The push to make DOTS available to all TB patients requires a focus on new modalities and supplemental approaches to reach patients in settings usually overlooked or marginalized — the poorest communities in urban centres, remote villages in the countryside and prisons.

To reach the tactical targets of Stop TB and the global target of cutting the current TB burden by half by 2010, the Stop TB Special Project will focus on sustaining strong political commitment to TB control and maintaining high levels of quality DOTS implementation in 2006–2010.

Indeed, in most countries, governments have professed DOTS to be a priority and made it available through the primary health care network. However, more than one third of the population remains without access to DOTS. The push to make DOTS available to all TB patients requires a focus on new modalities and supplemental approaches to reach patients in settings usually overlooked or marginalized — the poorest communities in urban centres, remote villages in the countryside and prisons. This task demands stronger partnerships so that the capacity of the private sector, communities, HIV/AIDS care networks, and NGO networks is enhanced and tapped, in partnership with national health agencies. The constraints on resources should be bridged, the necessary systems should be institutionalized, drug supplies secured, and health personnel trained.

The past two years of Stop TB have laid the foundation for an accelerated and coordinated TB control effort in the Western Pacific over the next four years. The infrastructure is now in place in the high TB burden countries for the thorough and swift expansion of DOTS to 100% coverage by 2005. The Five-Year National Stop TB Plans of the seven high TB burden countries have been formulated, reviewed and approved, and the institutional mechanisms put in place for more active partnerships to ensure the necessary resources and support. The Region is one step closer to meeting the objective of halving TB prevalence and mortality by the end of the decade — provided it is able to mobilize the financing and other forms of support that the different national plans require. Without strong partnership and mobilized resources, the plans remain unattainable, leaving TB to continue afflicting millions, particularly the impoverished, in the Region.

4

High TB Burden Countries Five-Year Plans

Highlights

The plans have a common goal — the expansion of DOTS to ensure universal coverage ... However, the overall framework, specific activities and general pacing of the work involved depend on the existing health infrastructure network and services, and the availability of financial and technical resources.

Out of the renewed commitment of the high TB burden countries to halve TB prevalence and mortality by 2010 has come the development of a set of five-year national TB control plans. The plans have common goals — the expansion of DOTS to ensure universal coverage, detection of at least 70% of smear-positive TB cases, and the curing of at least 85% of those detected. However, the overall framework, specific activities and general pacing of the work involved depend on the existing health infrastructure network and services, and the availability of financial and technical resources. Each country elaborated on its own priorities and strategies to reach national targets. Some, for example, are faced with particularly difficult issues or trends such as a TB/HIV co-infection epidemic, or the challenges posed by the decentralization of public health services. In Viet Nam, DOTS is already available to the entire population and the Government has reached the target of 70% case detection and 85% treatment success. The agenda, instead, is to bring DOTS closer to hard-to-reach groups including prisoners, those living in remote areas, women, the homeless and drug users.

For all seven countries, the plans were prepared in collaboration with staff and consultants of the WHO Western Pacific Regional Office, and other partners working in or with the different countries. WHO assisted in the countries' costing of TB control activities and budget preparation — the first time that detailed financial requirements were made available in relation to each country's DOTS expansion plan. The source of data on the current TB situation in each setting was WHO, specifically its publication *Global Tuberculosis Control: WHO Report 2001*.

An urgent issue to be addressed common to all seven countries is the limited human resources for TB control. Decentralization in Cambodia, China, the Lao People's Democratic Republic, Mongolia and the Philippines has reduced the amount of central-level personnel usually assigned to strategic planning, monitoring and evaluation, and quality control. In Mongolia, the situation is compounded by the adjustment necessary following the cessation of the subsidies from the former Soviet Union and the consequent adoption of localized and preventive approaches to health care. The shift in governance in these countries demands vigorous capacity-building activities — training and re-training — of health personnel working at the local or periphery levels. The problem is particularly pronounced in Papua New Guinea where there is a serious lack of personnel at all levels and areas — detection, diagnosis and treatment, planning and management.

A related challenge is how to harness private sector support so that it does not compete with the public health system. In the Lao People's Democratic Republic, the Philippines and Viet Nam, for example, the private sector may well serve as a "better option" for government TB control workers in search of higher incomes. The disparities in the approach to TB between government (DOTS) and the private sector in the Lao People's Democratic Republic and the Philippines is also a concern, as is the need to control the sale of TB drugs on the open market in Viet Nam.

Among the most urgent issues in TB control is the rising incidence of TB/HIV co-infection in the Mekong Basin countries of Cambodia, the Lao People's Democratic Republic and Viet Nam, as well as in parts of China. The need to contain TB/HIV co-infection has a profound impact on the national TB control plans of these countries in terms of both the higher TB burden and additional financing needed. The plans of Cambodia, China and Viet Nam likewise feature actions to check drug resistance and multidrug resistance, including tighter surveillance.

The key to success in all seven high TB burden countries is financing. Over the next five years, the aggregate requirement of the planned DOTS expansion in these countries is an estimated \$665 million. Based on confirmed grant and loan commitments from partner

Progress in the High TB Burden Countries

In the seven high TB burden countries, WHO has worked closely with governments in formulating their Five-Year National Stop TB Plans, and in identifying the budget requirements and securing adequate resources for full implementation of these plans. Some of the major achievements of Stop TB at the country level are described below.

Cambodia. With the recent adoption of operational strategies for the district health centres, a pilot project for ambulatory DOTS was completed in collaboration with JICA and WHO.

China. A WHO medical officer is in position in China to participate in a TB control programme that will disburse more than \$100 million per year. For this programme, the Government of China is collaborating with DFID, JICA, the World Bank and WHO.

The Lao People's Democratic Republic. In collaboration with the Damien Foundation of Belgium, a partnership strategy was developed to ensure a steady supply of TB drugs. A Damien Foundation Regional Medical Officer has been assigned to Vientiane since April 2001.

Mongolia. WHO collaborated with the Government of Japan to mobilize resources for DOTS expansion, allocated funds for emergency drug supplies and provided technical support for drug resistance surveillance.

Papua New Guinea. A Stop TB Medical Officer has been in place since November 2000 through support from AusAID. The Medical Officer provides support to the design, technical requirements and implementation of the National TB Programme.

The Philippines. Technical support for monitoring visits to DOTS areas has been provided, a drug resistance surveillance manual has been developed, a DOTS Plus pilot project established, research capacity strengthened and a pilot Private-Public Mix DOTS project is under development, all in collaboration with WHO. The *Manual of Operations* of the National TB Programme has also been revised.

Viet Nam. WHO assisted in a review of the country's TB laboratory network and the administration of a national prevalence survey. It also helped sustain political support by coordinating the participation of high-level officials at the Ministerial Conference on TB and Sustainable Development in Amsterdam in March 2000.

organizations, the financing gap remains wide at \$260 million. The shortfall ranges from 4% in Viet Nam to 40% in Cambodia and the Lao People's Democratic Republic, and 45% in China.

The success or failure to secure the financing requirements of the high TB burden countries will spell the success — or failure — of their attempts to control and ultimately halve the TB burden. A financial shortfall is bound to yield a downsizing of the scope of DOTS expansion, i.e., DOTS cannot be made available to as many areas or groups as the plans envision. In the discussions of the plans at the second TAG meeting, the consensus was that TB is a disease that knows no boundaries, so that, despite the governments' encouraging commitment to the global targets in TB control, the impacts of their efforts are being substantially diminished by the lack of financial resources. Conversely, the ability to secure the financing needs of these seven countries promises significant relief in the global TB burden.



First Things First

A Financial Needs Assessment

The Cost to High-Burden Countries

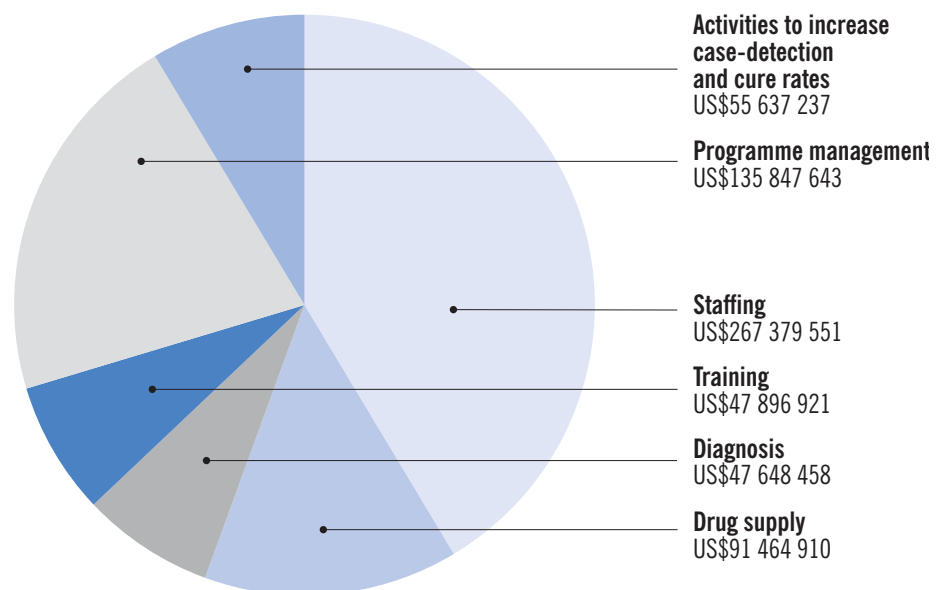
Over the next four years (2002–2005), the projected cost of accelerating DOTS and ensuring “DOTS for all” by 2005 in the seven high TB burden countries alone is \$665 million.

Stop TB entered a more intense phase with the full implementation of the country Five-Year National Stop TB Plans. Using budget guidelines prepared by WHO, the Stop TB team worked with the seven high TB burden countries to cost their five-year plans, which were presented during the second TAG meeting in June 2001. A common denominator of these national plans is the acceleration of DOTS, no doubt a measure that requires more funding than before, and substantially more than the seven countries can afford.

Over the next four years (2002–2005), the projected cost of accelerating DOTS and ensuring “DOTS for all” by 2005 in the seven high TB burden countries alone is \$665 million* (Figure 4). Governments’ commitment to the campaign is evident in their national funding for TB control, which totals almost \$380 million. To date, external assistance commitments spanning the four-year period amount to almost \$25 million. There remains a funding gap of about \$260 million (Figure 5).

All seven high TB burden countries anticipate a shortfall in their scheduled budgets for programme management, ranging from 15% in Mongolia to 23% in the Philippines and

Figure 4 Budget Requirement for Seven High TB Burden Countries by Component, 2001–2005 (excluding building and miscellaneous [China] needs of \$20 million)

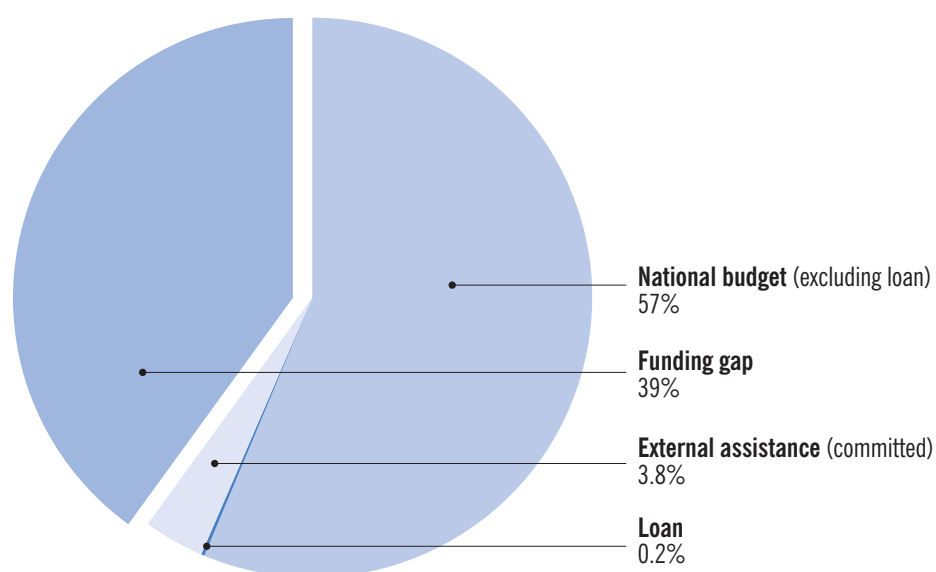


* The total of \$665 million includes a \$20 million budget for building and miscellaneous purposes in China.

45% in China. In Mongolia, the ability to provide for a basic requirement such as heating in the TB centres will depend on whether it can find ways to fill the budget gap.

Similarly, all the countries in the high TB burden group anticipate a shortfall in financing their activities to increase case detection and cure rates, which include advocacy, operational research, and pilot projects. This task includes, for example, steps to improve the surveillance, detection and management of TB/HIV co-infection in Cambodia and public-private sector participation in expanding DOTS in the Philippines.

Figure 5 **Source of Funding High TB Burden Countries, 2002–2005**



The availability of drugs of sufficient supply and quality is one of the most important premises of all DOTS programmes. The prices of TB drugs have been declining in most countries, with the cost to treat new smear-positive patients averaging from \$10 to \$20. However, so far, Papua New Guinea and the Philippines are the only countries in the high TB burden group that have secured adequate financing for their drug requirements through 2005. Unless additional resources are mobilized, the other countries will experience drug shortages within the four-year period: Cambodia (2003), China (2002), the Lao People's Democratic Republic (2003), Mongolia (2002) and Viet Nam (2004). Funding for the high TB burden countries' drug supplies accounts for about 20% of the total budget gap.

Activities designed to improve countries' diagnosis capabilities are among the areas affected by the \$260 million shortfall. Although the average cost for one smear examination is only \$0.36, countries are beset by a lack of microscopes, the procurement of which accounts for two thirds of the anticipated cost to improve capabilities in diagnosis. Most countries rely only on external assistance for the purchase of microscopes and other diagnostic equipment and consumables, including stain reagents, sputum containers and slides.

Similarly, all countries expect difficulties in financing their training requirements, including workshops for regional or district TB coordinators. The deficit amounts to 20% in the Lao People's Democratic Republic and 100% in Mongolia, which, given the political, economic and social transition it is undergoing, is unable to generate any financing internally to build its human resources in TB control.

While staffing comprises the largest proportion of the budget for TB control in the high TB burden group, all countries have secured the resources for this. But significant gaps exist in the area of programme management, affecting monitoring and supervision.

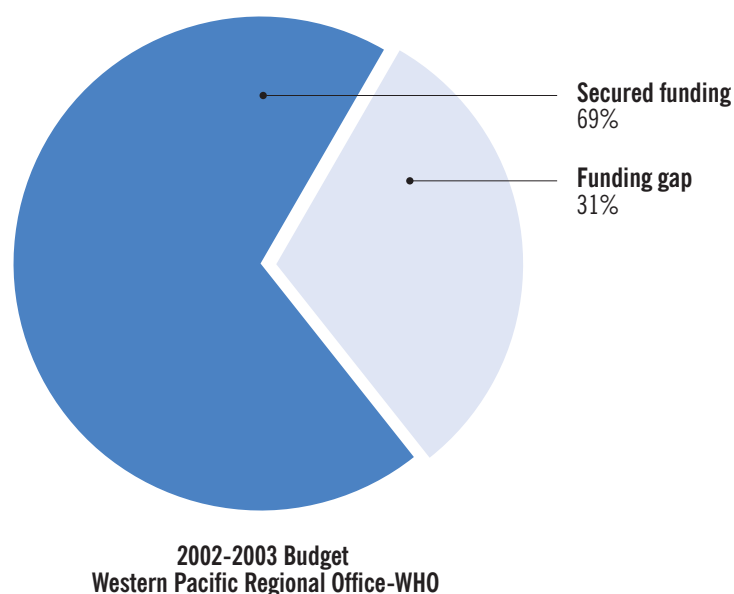
The Cost to the Western Pacific Regional Office

The total budget of the Western Pacific Regional Office for 2000–2001 was \$4.3 million. Of this, \$787 000 (15%) was sourced from the regular budget while \$3.5 million came from external sources, including AusAID, the Government of Japan and USAID.

The larger part of the Western Pacific Regional Office's expenditure on Stop TB was used to support staffing requirements, both Manila-based and country-based (57%), followed by support to member countries' programme management (28%) and activities strengthening promoting political commitment to, and partnership development in, TB control (15%).

As outlined in its 2002–2003 plan, an intensified Stop TB multiplies the tasks of the Western Pacific Regional Office in terms of resource mobilization, technical strategy development, policy guidance and direct technical support. The total budget required by

Figure 6 Financing Gap of the Western Pacific Regional Office, 2002



the Western Pacific Regional Office is nearly \$8.1 million, of which about \$1.3 million is allocated for leprosy. Almost 70% of this, or \$5.6 million, has been secured, leaving a gap of slightly more than \$2.5 million (Figure 6).

In summary, accelerating DOTS will require increased investments in TB control, both within countries and at the regional level. The countries have responded by preparing for accelerated action. The international community has raised TB control high on the development agenda. The Western Pacific Regional Office is committed to increasing its technical assistance, particularly to the high TB burden countries, to control a deadly though curable disease such as TB, though it can do so only as financial resources will allow. By responding to the challenges before them and mobilizing the necessary financial resources to fill the budgetary gaps, partner agencies bring TB control in the Western Pacific Region closer to success.

Summary of Country Five-Year Plans to Stop TB

TB Control Status

The Context for TB Control

TB Control Infrastructure

Issues and Constraints

The Five-Year Plan

- Objective
- Targets
- Key Areas

Partners

Financial Situation, 2001–2005

Tables

- Strategic Partners in the National TB Programme

Figures

- DOTS Detection and Treatment Success Rates
- Breakdown of Budget Requirements

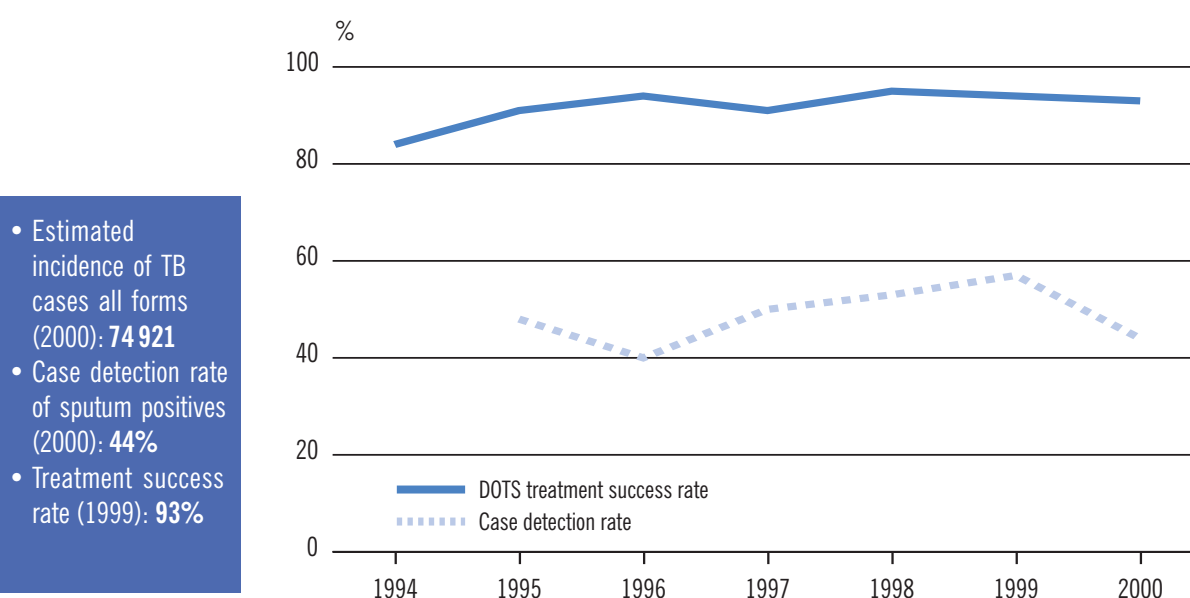
Cambodia*

TB Control Status

Cambodia adopted DOTS in 1994. Within five years, DOTS was available in all provinces and municipalities of the country. The consistently high treatment success rates (93% in 1999) amid rapid expansion illustrate the quality of DOTS implementation. Cambodia had about 19 000 new TB cases (all forms) notified in 2000. The case detection rate was about 44% of the infectious sputum-positive cases. To reach the targeted 70% by 2005, further expansion of DOTS within provinces is planned.

Population	10 945 289
Estimated incidence (all forms/100 000 population)	624
Global rank (by estimated number of new cases)	20
Regional rank	4
DOTS status	DOTS (1994)
Case detection rate of sputum positive cases (2000)	44%
Treatment success rate (1999)	93%
TB cases that are HIV-positive	7.9%
Multidrug resistance (new cases, %)	no data

Figure 7 Case Detection and DOTS Treatment Success Rates



- Estimated incidence of TB cases all forms (2000): **74 921**
- Case detection rate of sputum positives (2000): **44%**
- Treatment success rate (1999): **93%**

*Sources: *National TB Programme in Cambodia: A TB Control Strategy for 2000–2004*, National TB Programme, Ministry of Health, Cambodia, 1999. *Introducing User Feed at Public Sector Health Facilities in Cambodia: An Overview*, Health Economics Task Force, Ministry of Health, Cambodia, 2000. Personal Communication with National TB Programme. WHO Report 2002: *Global Tuberculosis Control*.

The Context for TB Control

Since 1994, Cambodia has adopted a decentralized and integrated approach to the provision of primary health care that involves devising a population-based distribution of health districts. Health centres are to operate within 73 districts to provide primary health care to surrounding communities and serve as the base for community outreach. The Government plans that TB control, specifically ambulatory DOTS, should be among the services provided by all health centres through an integrated package of essential care services called the Minimum Package of Activities (MPA). At present, 70 health centres (out of 940) are piloting the provision of ambulatory DOTS.

The provinces receive 40% of the operational budget for TB control. However, the budget for TB drug procurement is maintained at central level to ensure cost savings, quality control and stable supply. The procurement and distribution of TB drugs are integrated within the essential drugs package.

Although Cambodia introduced in 1997 user fees at referral hospitals and health centres, the provision of care for TB, however, has remained free of charge. To compensate for the loss of user fees when caring for TB patients, the Ministry of Health is studying mechanisms for providing incentives to staff working with TB patients.

TB Control Infrastructure

DOTS is available in all 24 provinces and municipalities, and in 72 of 73 operational districts. Each province has one medical TB supervisor and one laboratory supervisor. The Government hopes to be able to appoint a TB supervisor for each operational district.

Most TB patients receiving care at the provincial and district levels are hospitalized during the initial phase of treatment. As DOTS is expanded within the districts, more patients will be able to receive DOTS on an ambulatory basis through the MPA health centres.

There are about 150 TB diagnostic facilities in the country and every facility that provides DOTS is linked to a laboratory. Quality control of the laboratory network is conducted through supervision and re-reading of slides by the central reference laboratory. Training for laboratory technicians is conducted at the National TB Centre. Plans for expanding the laboratory network in line with the expansion of DOTS are being developed.

A unique feature of the Cambodia TB programme is its link with the World Food Programme (WFP). WFP provides the equivalent of more than \$1 million per year in food supplies to

TB patients as an incentive for them to complete treatment. No formal evaluation of this incentive strategy on patient compliance has yet been conducted.

At the provincial level, supervisory visits to health centres and TB units take place every one to three months. These supervisory visits could be an opportunity to provide refresher training as well as to monitor quality of DOTS provision.

The National TB Centre hosts regular five-day training workshops and refresher training courses. In addition, provinces are encouraged to plan and implement training activities as part of the provincial health plan and budget. A national TB manual was developed in 1993–1994, but this was not made widely available. The manual has been revised and will be distributed to all health centres.

Issues and Constraints

Human Resources

The main operational constraint on expanding DOTS is a lack of human resource capacity. Following years of war and despite recent attempts to rebuild technical capacity, the number of trained health professionals is limited. In 1998, Cambodia had fewer than three medical personnel (including medical assistants) per 10 000 population (WHO/Western Pacific Regional Office, *Country Health Information Profiles*, 1999). Low salaries add to the challenge of recruiting and maintaining trained staff.

The health infrastructure is being revitalized and the sector reorganized. However, the ongoing reforms within the health sector have often contributed to the delay in planning and implementing sound DOTS expansion. This problem is compounded by the lack of awareness of TB as a prevalent but curable disease, further hindering efforts to increase case detection.

HIV/AIDS

The HIV/AIDS epidemic is rapidly worsening. As of 1999, an estimated 3.75% of the sexually active population was HIV-infected. By 2006, between 500 000 and one million Cambodians will be infected by HIV. Sentinel surveillance indicates that among HIV-infected individuals, close to 6% have TB. The number of cases of TB/HIV co-infection may continue to increase and threaten to add to the burden of the national TB programme.

The Five-Year Plan

Objective

Reduce TB morbidity and mortality by half by 2010.

Targets

- Expand DOTS to the 940 health centres that provide the minimum package of activities.
- Increase case detection to 70% of all estimated new sputum positive cases by 2004.
- Maintain at least 85% treatment success.

Key Areas

1. Ensure that TB control remains a priority for the Government.
 - Advocacy in international, national and provincial forums.
 - Planning and provision of the national TB drug supply.
 - Budgeting and planning in collaboration with partners at the national and provincial levels.
 - Employing an incentive system for staff working on TB control or resource mobilization for subsidies to qualified staff while maintaining free TB services.
2. Build management capacity to expand DOTS in the changing health system.
 - Managerial training at national, provincial and district levels.
 - Increased on-the-job training through regular supervision.
 - Appointment of TB supervisors at district level.
 - Provision of the national-, provincial- and district-level planning for TB control.
 - Institutionalizing collaboration with the health sector reform team in the Ministry of Health.
3. Attain 70% case detection.
 - Building public confidence in the TB control programme by strengthening the capacity of the referral hospital.
 - Introduction of DOTS in all operational district referral hospitals by 2002.
 - Introduction of ambulatory DOT in all operational district MPA health centres by 2005.
 - Raising public awareness of TB as a prevalent but curable disease in collaboration with the National Health Promotion Centre and NGOs.
 - Increasing the number of symptomatic cases referred for sputum examination.
 - Training and supervision at the health-centre level.

4. Address the special issues related to TB control.
 - Development of an approach to the emerging TB/HIV co-epidemic.
 - Prevalence surveys.
 - Continued monitoring of drug resistance.
 - Impact assessment of TB on the poor, and of the economic benefits of DOTS.
5. Conduct health education and advocacy.
 - Development of materials and a media campaign for the general public.
 - Exchange of information with local and international partners.
 - Promotion of World TB Day.
6. Strengthen partnerships.
 - Engaging NGOs and the private sector in TB control.
 - Increasing the participation of Cambodia's National TB Programme in regional and global Stop TB activities.

Partners

The National TB Programme in Cambodia works in close collaboration with a consortium of technical and financial partners. With World Bank support, the national budget is the primary funding source for operational costs. Funding through JICA bridges the gaps or delays in the disbursement of the national budget, and has positioned a medical officer for TB control in the country to provide support to the Ministry of Health. WHO regional and country offices work closely with the National TB Programme and JICA to support DOTS expansion, address constraints in controlling TB and foster collaboration with the Ministry's

Table 4 Strategic Partners in the National TB Programme

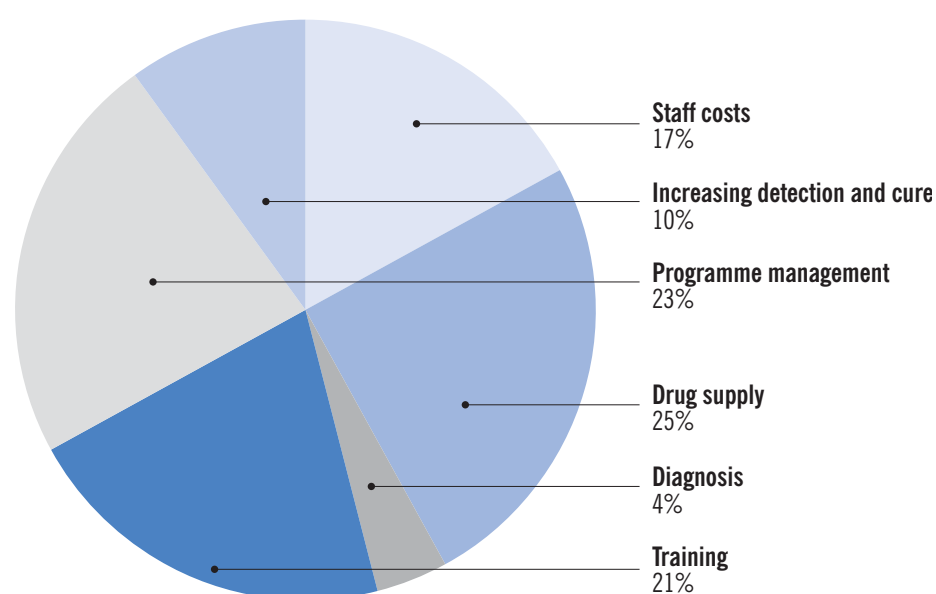
Partner	Type of Support	Duration of Commitment
WHO	Technical advice	Through 2010
World Bank	Loan for "Cambodia Disease Control Project"	<ul style="list-style-type: none"> • Current loan ends March 2002 • New loan expected for 2003–2007
JICA	Technical Assistance Project (including operational costs and equipment)	Through July 2004
Government of Japan	<ul style="list-style-type: none"> • National TB Centre (facility) • Rehabilitation of three TB units and laboratories • TB drugs (anticipated) 	<ul style="list-style-type: none"> • 2001 • 2002–2004 • 2002–2004
WFP	Food for TB patients	Through 2003
USAID	<ul style="list-style-type: none"> • Information, education and communication • Training of health volunteers through NGOs 	Beginning 2001
Research Institute for Tuberculosis	Training and quality control for drug resistance surveillance	Ongoing
Pasteur Institute, Cambodia	Cultures for drug resistance surveillance	Ongoing
Médicins sans frontières	DOTS in selected areas	Ongoing

health systems development and the HIV/AIDS programme. The Government of Japan is an important partner, providing resources for rehabilitation of laboratories and three TB units, and in the future, for drugs. USAID is the newest addition to the network of partners, expressing interest in technically and financially supporting development and training efforts. In recognition of the poor socio-economic condition of most TB patients and to promote treatment completion, WFP provides food for all TB patients.

Financial Situation, 2001–2005

Cambodia requires more than \$23.3 million for the five-year period 2001–2005, of which \$13 million has been secured. This leaves a shortfall of \$10.3 million. The largest share of the budget is for the drug supply (25%), followed up by programme management (23%) and training (21%).

Figure 8 Breakdown of Budget Requirements



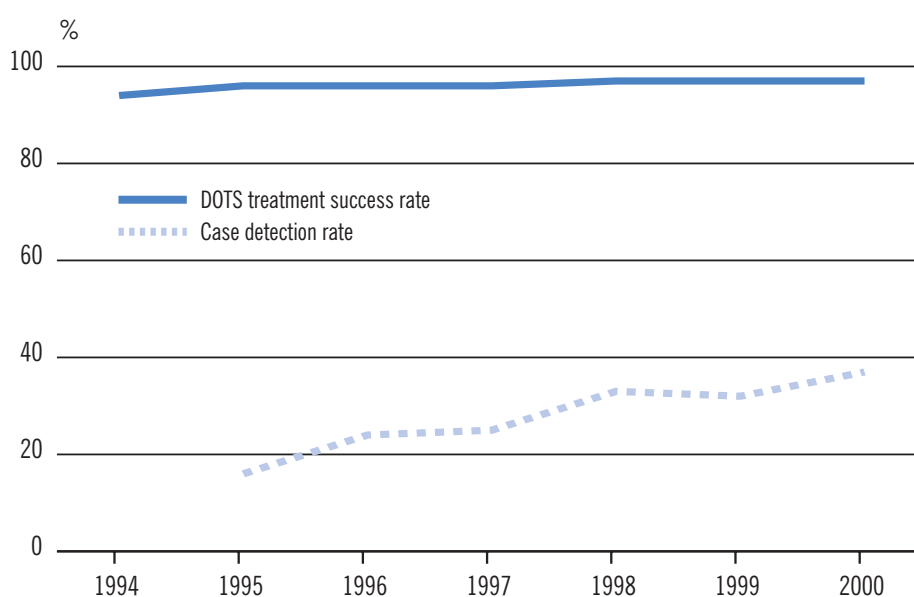
China*

TB Control Status

China has made significant progress in TB control over the past decade. Since a World Bank-assisted TB control project was carried out, covering 13 provinces and half of the country's population in 1991, and a second smaller project covering about 15% of the population in 1994, more than 1.5 million patients have been treated for TB and about 90% of these have been cured. In both projects, the Ministry of Health adopted the WHO-recommended DOTS strategy.

Population	1 236 722 000
Estimated incidence (all forms/100 000 population)	110
Global rank (by estimated number of new cases)	2
Regional rank	1
DOTS status	DOTS (1991)
Case detection rate of sputum positive cases (2000)	37%
Treatment success rate (1999)	97%
TB cases that are HIV-positive	0.4%
Multidrug resistance (new cases)	2.9% to 5.3% (three provinces)

Figure 9 Case Detection and DOTS Treatment Success Rates



- Estimated incidence of TB cases (all forms, 2000): **> 1 364 851**
- Case detection rate of sputum positives (2000): **37%**
- Treatment success rate (1999): **97%**

*Sources: *Summary of Strategic Plan: China*, National TB Program, Ministry of Health, China, 2000. *Country Profiles*, The Stop TB Initiative, WHO/CDS/STB/2000.3. Personal Communication with National TB Programme. WHO Report 2002: Global Tuberculosis Control. "Financing Health Care: Issues and Options for China," in *Health Services and their Financing*, 1993.

The 2000 National TB Prevalence Survey shows a 38% decline in the prevalence of TB since 1990 in areas implementing the World Bank project. By contrast, the decline was only 2% in other areas. This is clear evidence of the effectiveness of the national effort to control TB.

The Context for TB Control

Spread across the country are more than 200 000 health facilities and 5.3 million health professionals. The responsibility for planning and implementation, as well as the budget, of public health activities is largely decentralized to provinces. Public health services are delivered to rural areas through a three-tiered health system financed mainly by patient fees. At the community level, the village health workers — often trained as barefoot doctors — diagnose and treat patients on a fee-for-service basis. Patients may be referred to the second tier, the township health centres or hospitals where user fees are again incurred. The third tier is the network of county hospitals.

The provincial and county governments provide limited subsidies for services at the county hospitals or the township health centres. A small percentage of the population has health insurance. Although the Government is planning urban and rural health insurance schemes, this is unlikely to have immediate impact because more than 90% of TB cases are in the rural areas, where the development of such an insurance system is expected to be slow.

The private sector is small but growing. Most village doctors are already functioning as private practitioners.

TB Control Infrastructure

About 68% of the country is covered by a DOTS programme. In the 13 provinces covered by the World Bank-assisted project, more than 95% of the population has access to DOTS. In the rest of the country, such access is available to 25% to 30% of the population.

Another project funded through the Ministry of Health, the “Promoting and Strengthening Tuberculosis Control Project,” covers an additional 160 million of the population. Under this project, however, patients’ costs are based on their ability to pay through medical insurance or out-of-pocket. The poorest patients are exempted from payment.

The TB control programme is administered through the TB dispensary system. However, TB patients usually access the township or county/district hospitals first before being referred to the TB dispensary.

There are other, more substantial, differences in the TB control infrastructure of areas covered by the World Bank-assisted project, compared to those under the Ministry of Health project and areas without any specially designed TB programme. In areas under the World Bank-assisted project, all the components of DOTS are in place — there are well-trained staff at all levels, around 80% of the patients receive DOTS from a health care worker, and a recording and reporting system is in place, TB laboratories are available, and a drug supply is ensured by central procurement and distribution. The patients receive free diagnosis and treatment if they are sputum smear-positive. In the areas covered by the Ministry of Health project, a few, though not all, of the DOTS components are available. In the non-project areas, the TB control infrastructure is generally poor and virtually none of the components of DOTS is in place.

Issues and Constraints

Sustained Financing

The main constraint in expanding DOTS is lack of funding. The central Ministry of Finance recently allocated an additional \$4.8 million per year to TB control. This will be used to assist the poorer provinces in TB control programmes. The central Government is hoping the provincial and lower levels of government will follow its lead and also increase their funding for TB control. Still, the bulk of health expenditure comes from the out-of-pocket payments of patients. The identification of financing to secure free provision of TB services, including free TB drugs, is crucial to expanding DOTS in China.

Variations in Socio-Economic Status and Health Care Infrastructure

The socio-economic status within China varies widely. Many counties, especially the poorer ones, have inadequate health care infrastructure and lack the resources to improve this. The implementation of DOTS, however, is contingent on a functional health system and basic financial resources. Without extra assistance to these poor counties, an effective TB control programme will not be feasible.

Low TB Case Detection

Linked to the financing constraints is the issue of low case detection within the National TB Control Programme. It is estimated that only 37% of all sputum positive cases are being identified and treated.

Managerial Capacity

The managerial capacity for implementing DOTS has to be strengthened. In particular, attention must be given to improving the central TB control unit and the national TB reference laboratory.

Then the effort has to fan out to the provinces. Poor management in many prefectures, cities and counties results in reduced effectiveness of the programme.

Epidemics of Drug Resistant TB and HIV/AIDS

China appears to have among the highest multidrug resistance rates in the Region. Drug-resistance surveillance studies in a small number of provinces point to multidrug resistance rates of 2.9% to 5.3% among new cases.

The HIV/AIDS epidemic is a full-blown menace in China. The prevalence varies from province to province, but the epidemic is slowly moving from risk groups into the general population. The future success of TB control will depend on whether the epidemics of drug-resistant TB and HIV/AIDS can be contained.

The Five-Year Plan

Objective

To diagnose and treat two million infectious TB cases by 2005.

Targets

- Expand DOTS to cover 90% of the population by 2005.
- Maintain at least 85% treatment success rate.

The Government seeks to maintain cure rates of at least 85% while expanding DOTS coverage as follows:

2001: 70%

2003: 85%

2005: 90%

Key Areas

1. Secure the needed financing for nationwide coverage of DOTS.
 - Use of the recently increased fund from the central Government to assist poorer provinces.
 - Advocacy in the provincial and lower levels of government to increase their funding for TB control and to use the funds to assist poorer counties.

- Determination of the financing gap and seeking assistance from national and local governments and international development agencies.
2. Increase case detection.
 - Securing sufficient financial and human resources for DOTS expansion and sustained implementation.
 - Expansion of the policy of free treatment of infectious TB cases to the entire country.
 - Needs assessment and development of mechanisms to expand DOTS to special groups such as prisoners, those infected with HIV/AIDS, minorities and members of the “floating” or non-resident population.
 3. Strengthen managerial capacity for the National TB Control Programme.
 - Building administrative, supervisory and monitoring capacity at the central level.
 - Strengthening the National Reference TB Laboratory.
 - Developing programme implementation capacity within Provincial TB Control Institutes.
 4. Contain the epidemics of HIV/AIDS and multidrug-resistant TB.
 - Building linkages and collaboration between the prevention and care programmes of TB and HIV/AIDS.
 - Continued monitoring of the levels of, and trends in, drug-resistant TB.
 - Development of measures to strengthen case management.

Partners

A World Bank loan funded the large TB control project that accounts for the significant decline in TB prevalence in the areas covered. Negotiations between the Government and the World Bank and DFID for a new TB project have been successfully concluded. This Project will support TB control activities in up to 16 provinces in China, with special

Table 5 Strategic Partners in the National TB Programme

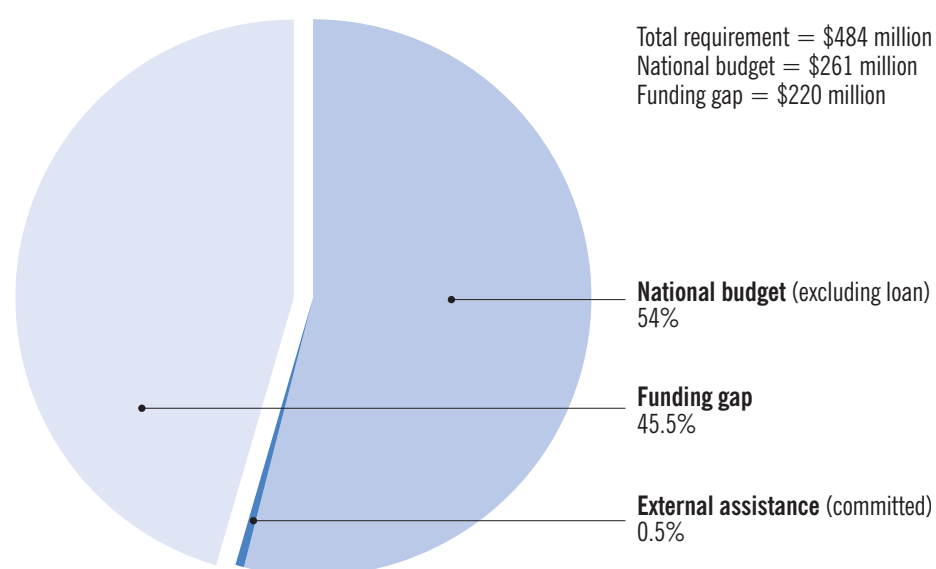
Partner	Type of Support	Duration of Commitment
Damien Foundation of Belgium	Financial and technical support to several counties in two provinces	Through 2005
DFID	Possible grant incorporated into an expected new World Bank loan (<i>see World Bank</i>)	Expected for 2002–2008
Government of Japan	TB drugs and microscopes in 11 provinces	2002; possible renewal yearly
Royal Netherlands Tuberculosis Association	Technical support to the National TB Programme	Ongoing
World Bank	<ul style="list-style-type: none"> • Loan for current TB control project • New loan in collaboration with DFID 	<ul style="list-style-type: none"> • Ends 2001 • Expected for 2002–2008
WHO	<ul style="list-style-type: none"> • Technical support to NTP • Co-ordination of partners • Placement of in-country Medical Officer for TB 	Ongoing

attention given to the poor provinces. The Government of Japan is committed to assisting in the financing of TB drugs and microscopes required by 11 provinces, while by 2003 the Damien Foundation of Belgium will have extended its support to provide assistance to TB control in three other provinces.

Financial Situation, 2001–2005

For its National TB Programme over the next five years, the total budgetary requirement of China, whose population is pushing 1.3 billion, reaches nearly \$484 million. Financing is a major concern as the projected funding gap (before securing the World Bank/DFID loan) is \$220 million, or 45% of the entire budget. Unlike the other six high TB burden countries, China has included budget requirements for two additional components: building and miscellaneous activities (e.g., X-ray protection and transportation).

Figure 10 Breakdown of Budget Requirements



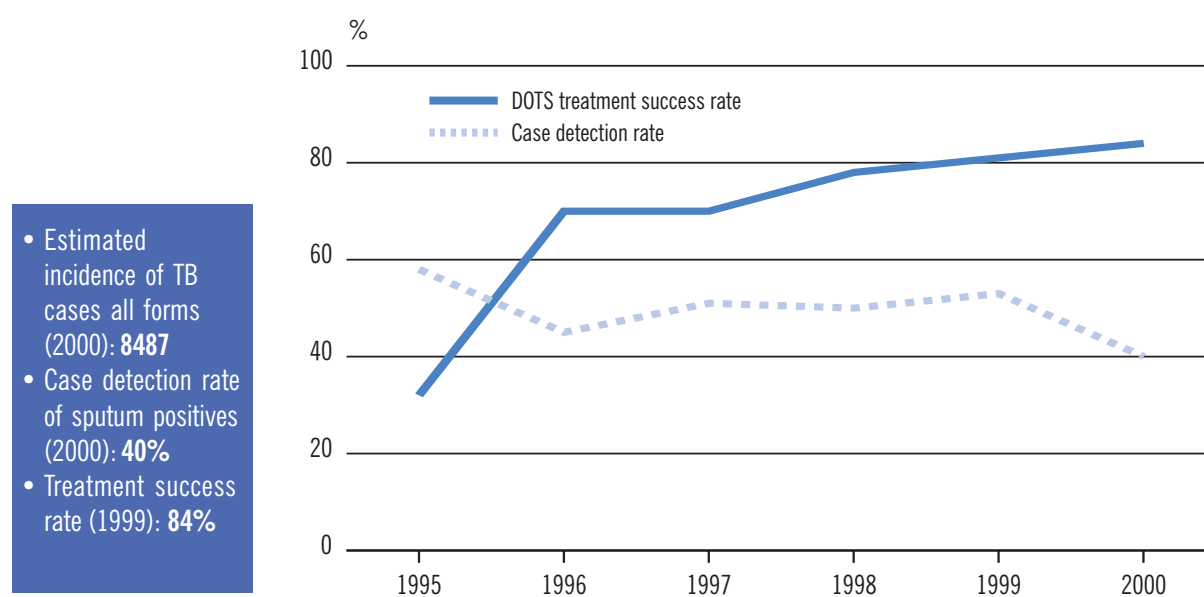
The Lao People's Democratic Republic*

TB Control Status

Until the end of 1994, the scope of work of the National TB Centre was limited to Vientiane and a few provinces. A revised National TB Control Policy based on the DOTS strategy was expanded after this was introduced into Savannakhet Province in late 1994. By 1999, DOTS was being implemented in 13 out of 18 provinces, with 70% of the total population having access to DOTS. More than 90% of all new sputum positive cases detected in DOTS areas are now given short-course treatment.

Population	5 287 000
Estimated incidence (all forms/100 000 pop.)	160
Global rank (by estimated number of new cases)	83
Regional rank	9
DOTS status	DOTS (1994)
Case detection rate of sputum positive cases (2000)	40%
Treatment success rate (1999)	84%
TB cases that are HIV-positive	0.3%
Multidrug resistance (new cases, %)	no data

Figure 11 Case Detection and DOTS Treatment Success Rates



*Sources: *National Plan of Action to Stop TB 2001–2005*, The National TB Centre of the Lao People's Democratic Republic, 2001. Personal Communication with National TB Programme. WHO Report 2002: *Global Tuberculosis Control*.

The Context for TB Control

Despite considerable improvements in the quality of life over the past two decades, the general health of the population remains relatively poor. Only 53% of the population has access to safe drinking water and 42% has access to safe sanitation. Communicable diseases, particularly malaria, acute respiratory infections and diarrhea, are the major causes of child mortality and morbidity.

The Lao People's Democratic Republic is an ethnically diverse country, with 47 officially recognized ethnic groups that have their own customs and dialects. Poverty is widespread, with many households unable to meet daily food requirements or satisfy basic human needs (*Common Country Assessment*, United Nations, 2001). The extent of poverty is worse in rural areas, especially in the northern provinces, among ethnic minorities and the uneducated.

The Government has introduced a policy of decentralization to build up the province as the strategic unit, the district as the planning and budgetary unit, and the village as the implementing unit. Many health facilities are in urgent need of physical renovation and most lack essential drugs and equipment as well as professional medical and administrative staff. Continually short of financial and human resources, the health sector remains dependent on external assistance.

The mountainous geography restricts both the quantity and quality of agricultural land, and poses difficulties in the development of trade, social infrastructure and transport and communication links. This condition also creates tremendous challenges in the National TB Programme's distribution of supplies and equipment, and hinders communication and access in remote areas.

TB Control Infrastructure

More than 90% of new sputum positive and retreatment TB cases are treated through DOTS in areas covered by the National TB Programme, which operates in Vientiane and 12 provinces. There has been no DOTS expansion since 1998.

TB control is administratively under both the Department of Hygiene and Prevention and the Department of Curative Care of the Ministry of Health. At the central level, there is a director, deputy director, National TB Programme coordinator and three national senior supervisors. At the provincial level, there is a provincial TB coordinator (PTC); and at the district level, a district TB manager (DTM), usually either a doctor or a medical assistant. The PTCs and DTMs usually have other responsibilities apart from TB control.

Service delivery is from within government health services in provincial and district hospitals. At the health centre (village) level, health personnel are responsible for identifying TB suspects and referring these to the district or provincial hospital for diagnosis. Health centre staff in a few areas participate in the treatment of TB patients, particularly in the continuation phase of treatment.

Every district and province under the DOTS programme has a trained laboratory technician with access to a good microscope and laboratory supplies, provided through the Damien Foundation of Belgium. At present, there is no national reference laboratory, although there are plans to introduce one, together with a system for quality assurance of sputum smear examinations at provincial and district levels, by 2002.

The total requirement of drugs for the National TB Programme is provided by the Damien Foundation of Belgium. Distribution from the central store to provinces, and from provinces to districts, is four times a year. Because of the country's mountainous terrain, the supply to some remote provinces has been irregular and unbalanced.

The private sector is not formally involved in TB control, but there are initiatives to enlist its support to the DOTS programme

Issues and Constraints

Socio-Economic Situation

The poor socio-economic conditions of both staff and patients — including income levels insufficient to cover basic needs — have a profound impact on the success of TB control. Staff may well leave the National TB Programme for more lucrative jobs in the private sector, while patients are often burdened by food insecurity.

Human Resources

The amount of available qualified personnel at all levels, though especially in the periphery, is insufficient. In addition, there is a high turnover of staff, particularly at the district level. Related to this, bureaucratic delays, including the delayed release of funds, may constrain National TB Programme activities.

Private Sector Expansion

The rapid expansion of the private medical sector, especially in urban areas, has resulted in less control of diagnosis, prescription of therapeutic regimens and case-holding.

HIV/AIDS

HIV testing is not widely available. However, sentinel surveillance in one province demonstrated a prevalence of between 4% and 6% of TB/HIV co-infection.

The Five-Year Plan

Objective

Reduce TB morbidity and mortality by half by 2010.

Targets

- Expand DOTS coverage to 100% by 2005.
- Detect 70% of all estimated new sputum positive cases by 2005.
- Obtain a treatment success rate of 85% for all new sputum positive cases by 2003.

In expanding DOTS coverage from the present 70% of the population (13 provinces and 78 districts) to 100% by 2005, the National TB Programme has set the following timetable:

- 2001 one province (Luang Namtha) and six districts
- 2002 two provinces (Bokeo and Huapan) and 15 districts
- 2003 two provinces (Phongsaly and Special Zone) and 18 districts
- 2004 14 districts
- 2005 11 districts

Key Areas

1. Increase case detection rates.
 - Staff training and retraining.
 - Strengthened supervision.
 - A quality assurance system.
 - Expansion of the policy of passive contact tracing already used in Vientiane in all provinces by 2005.
 - Sputum examination in all suspected cases.
 - Establishment of a national reference laboratory.
 - Second national tuberculin survey in 2002 (the first was in 1995).
2. Improve treatment outcomes.
 - Decentralization of treatment administration (and ambulatory DOTS) to all the peripheral health centres by 2004.

- Improved patient compliance through hospitalization and provision of daily food requirements in the interim (until ambulatory DOTS is available and hospitalization becomes unnecessary).
 - Quality control of first-line DOTS to reduce the need for retreatment.
3. Improve National TB Programme management.
- Integration of TB control with primary health care.
 - Training of staff in TB control at the province and district levels as DOTS is being introduced.
 - Regular supply of drugs, laboratory materials and equipment, and monitoring forms and registers to provinces and districts.
 - Development of an efficient distribution system.
 - Regular visits to provincial hospitals and districts and central-level collection of data on case detection and treatment outcomes from the provinces.
 - Publication and nationwide distribution of the “Guidelines for the Quality Control of AFB Microscopy.”
 - Internal evaluation every two years and external evaluation of the programme with two international experts every three years.
4. Engage in advocacy to strengthen political commitment at all levels to TB control.
- Impact evaluation of the present poster campaign and, if indicated, the continuation of this.
 - Development of an information campaign for broadcast by provincial radio stations.
 - Development of other media strategies for effective information programmes.
 - Engaging decision makers from the Ministry of Health and other relevant offices in TB-related discussions and forums.
 - Promotion of legislation regulating the sale of TB drugs.

Partners

The major agency for the control of TB in the Lao People’s Democratic Republic is the Ministry of Health. The Ministry is responsible for providing the salaries of all National TB Programme staff, buildings and other capital infrastructure, transportation and operational costs in areas not covered by the Damien Foundation, and duty-free importation of supplies and equipment for the National TB Programme. While the monetary value of making the existing infrastructure available to the TB programme was not included in the calculation of the country’s financial requirements, it is a significant contribution from the Ministry.

The Damien Foundation of Belgium has designated a Regional Medical Officer in Vientiane to provide technical support to the National TB Programme and neighbouring countries. WHO provides technical support through training, supervision, diagnostic support, quality control and activities to increase case detection.

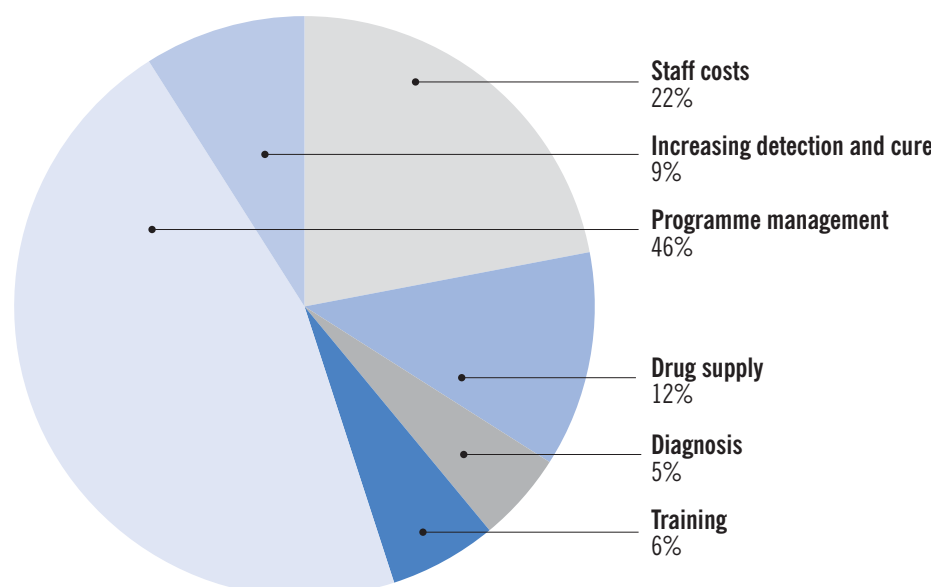
Table 6 Strategic Partners in the National TB Programme

Partner	Type of Support	Duration of Commitment
WHO	Technical support	Ongoing
Damien Foundation of Belgium	<ul style="list-style-type: none"> • Medical officer • Support to National TB Programme operations 	Through 2005
International Union Against Tuberculosis and Lung Diseases	Technical support	Ongoing

Financial Situation, 2001–2005

The Lao People's Democratic Republic needs \$3.2 million to carry out its planned TB control effort in the next five years. However, a substantial 47% of this amount, or \$1.5 million, still needs to be sourced. The total cost of management of the National TB Programme accounts for nearly half (46%) of the projected budget, followed by staff costs (22%) and drug supply (12%).

Figure 12 Breakdown of Budget Requirements



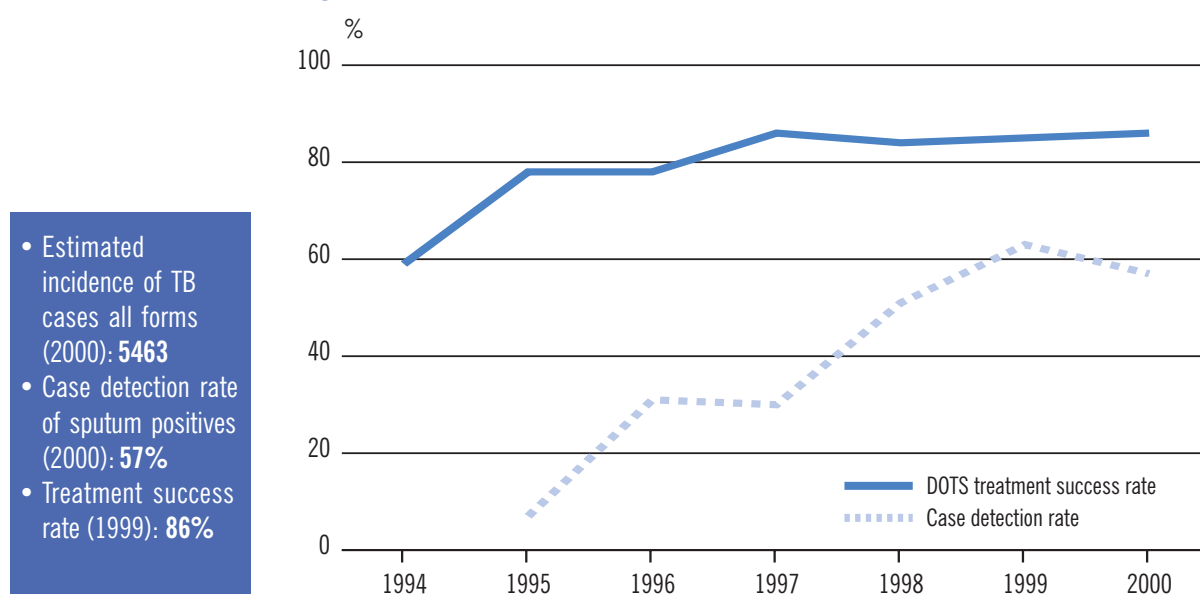
Mongolia*

TB Control Status

TB is a major public health problem and was the third most common detected communicable disease in 1997, following viral hepatitis and gonorrhoea. The proportion of new sputum positive cases among pulmonary cases increased from less than 30% in 1995 to more than 60% in 1999. As in most countries in the Western Pacific Region, TB is common among people in the most economically productive age group, with 72% of detected cases occurring among those aged 15–44. So far, Mongolia has seen no incidence of TB/HIV co-infection.

Population	2 380 000
Estimated incidence (all forms/100 000 population)	230
Global rank (by estimated number of new cases)	95
Regional rank	11
DOTS status	DOTS (1994)
Case detection rate of sputum positive cases (2000)	57%
Treatment success rate (1999)	86%
TB cases that are HIV-positive	0%
Multidrug resistance (new cases, %)	no data

Figure 13 Case Detection and DOTS Treatment Success Rates



- Estimated incidence of TB cases all forms (2000): **5463**
- Case detection rate of sputum positives (2000): **57%**
- Treatment success rate (1999): **86%**

*Sources: *Five-Year Plan of Action for TB Control* (available in Mongolian), Ministry of Health, Mongolia. Personal Communication with National TB Programme. WHO Report 2002: *Global Tuberculosis Control*.

A revitalized National TB Programme, based on the DOTS strategy, was approved in 1995. Nationwide coverage was achieved by the end of 1999, i.e., all 21 provinces (called Aimags) and eight of the nine districts in Ulaanbaatar City use DOTS. The case detection rate consequently increased from 5.7% in 1995 to 62.5% in 1999, with a sustained cure rate of around 80%.

The Context for TB Control

Until 1990, 30% of the country's GDP came from Russia in the form of subsidies. Health care was fully financed by the Government, as were education, pension funds and other social welfare benefits. However, 40% to 65% of the national budget was subsidized by the Soviet Union. Because of the political changes and budgetary constraints that the dismemberment of the Soviet Union set off, however, the Government was compelled to reform the entire health sector. The system of health care delivery has shifted from a top-down, specialized and curative approach, to a community-based and preventive approach. Within the first seven years, the number of staff in the health sector declined by 25%. The reform process has decentralized decision-making power to the periphery, and a health insurance system has been introduced.

The transition has reduced household food security, while exacerbating poverty and unemployment. The United Nations Development Programme reported a rise in the poverty incidence from 15.2% in 1991 to 37.1% in 1996. In the TB hospital in Ulaanbaatar City, 58.1% of TB patients are unemployed.

TB Control Infrastructure

Due to the distance between health facilities and communities, TB patients receive the first two months of treatment in a hospital.

At the provincial or Aimag level, the TB centre has a laboratory and maintains a TB register. Patients accessing care at the lower Soum level are referred to the Aimag TB centres for sputum smear examination. Confirmed cases are hospitalized at the Aimag centre during the intensive phase of their treatment. Patients receive treatment under supervision of the doctor at the Soum level during the continuous phase. In the prison hospital in Ulaanbaatar City, there are 100 beds for TB patients and a microscopy laboratory.

Training materials for health workers and laboratory technicians, which are based on materials from WHO and the International Union Against Tuberculosis and Lung Diseases, have been translated into Mongolian. Periodic training is conducted by the National TB Centre (NTC), which recently became the TB Department in the National Centre for Communicable Diseases. The Aimag TB centre staff also conduct supervisory missions to the lower levels as a way of providing refresher training and technical support to decentralized levels.

The NTC plans, procures and coordinates the distribution of TB drugs, equipment, forms, laboratory supplies and health education materials, in collaboration with donor agencies and the Government. Sale of TB drugs is prohibited in the private market and there is no active private sector in TB treatment.

The NTC TB reference laboratory has been conducting training, supervision and quality assurance in the laboratories of the Aimag TB centres, district tuberculosis dispensaries, TB hospitals and prison hospitals. All laboratories have binocular microscopes and errors in microscopy results are at acceptable levels. Only the TB reference laboratory can perform sputum culture.

Issues and Constraints

Health Sector Reform

The National TB Programme has successfully expanded DOTS since 1995. The delivery of DOTS depends on the network of Aimag TB centres and support from the primary health care network at the lower levels. With the health services shifting from specialized, curative care to community-based preventive care, however, the implementation structure of the National TB Programme will seem inconsistent with the other areas of the health sector. The resources for TB control are becoming more and more limited. Human resource constraints due to an increase in the workload brought about by the integration of services, coupled with low salaries, hamper the potential of the National TB Programme.

Increasing TB Burden

New challenges in TB control are emerging. There is a marked rise in the TB burden among some population groups, such as the unemployed and prisoners. In addition, increasing poverty affects the access of TB symptomatic cases and patients to the health facilities.

Sustained Financing

Since 1996, the National TB Programme has been technically and financially supported by external partners. However, the external funding needed for drugs, laboratory supplies, training and other operating expenses has been declining. Reaching and maintaining the national targets require a substantial budget. More vigorous mobilization of financial resources to sustain the activities of the National TB Programme is needed. The coordination of partner inputs and marshalling of technical resources will also become increasingly important.

The Five-Year Plan

Objective

Reduce TB prevalence and mortality by half by 2010.

Targets

- Ensure the DOTS strategy is incorporated into the Mongolian National Health Plan for health sector development.
- Ensure cure rates of at least 85% for new sputum positive cases by 2005.
- Ensure at least 70% of estimated sputum positive cases are enrolled in DOTS by 2005.
- Ensure at least 95% BCG vaccination coverage at birth by 2005.

Key Areas

1. Increase cure rates of new sputum positive cases.
 - Workshop on case management during TB coordinators' meetings.
 - Increased supervision to Aimags with an emphasis on analyzing operational constraints and identifying solutions.
 - Development of a communication network among Aimags, Soums and Bags.
 - Pilot study on ambulatory DOTS at the Soum level (2001–2002).
2. Increase DOTS case detection rates.
 - Dissemination of information, education and advocacy materials, and training to improve health providers' awareness of TB symptoms (2001, 2003 and 2005).
 - Introduction of new TB treatment facilities in low access areas such as Selenge (2002) and districts of Ulaanbaatar City (2001).
 - Strengthened collaboration with prisons doctors for improved detection of TB cases in prisons.
 - Maintenance of a laboratory network with an active quality assurance system.
3. Improve TB control services at the basic (local) levels.
 - Training of health workers and family doctors on National TB Programme policies and guidelines (2001, 2003 and 2005).
 - Strengthening of the referral system to and from Aimag TB centres, particularly for smear examinations and treatment follow-up.
 - Building the relationship with the EPI department to ensure the implementation and quality of BCG vaccination.
4. Sustain political commitment to TB control.
 - Establishment of a National TB Advisory Committee to discuss the future direction of the National TB Programme.

- Revision and updating of the National TB Programme manual, with approval from the Government (2003).
 - Collaboration with NGOs for a study on the epidemiology of TB in high-risk groups (2002).
 - Meetings and workshops with the National TB Programme partners at the national level (2001 and 2004).
5. Improve diagnosis skills.
- Review of current diagnostic procedures, especially for sputum negative cases and extrapulmonary cases (2001–2002).
 - Training during TB coordinators' meetings in reading X-rays.
 - Study on the effectiveness of the diagnosis committee in diagnosing negative pulmonary and extrapulmonary TB cases in Ulaanbaatar City (2001–2002).

Partners

Since the 1960s, WHO has provided technical and financial support to the National TB Programme. It has also provided funds for national and international training of health workers since 1995. In addition, WHO has funded laboratory supplies. The Danish International Development Agency is a partner in the procurement of TB drugs while the Japan Anti-Tuberculosis Association sponsors periodic national seminars attended by TB coordinators at the decentralized level. JICA funded a short-term consultant to the TB reference laboratory in 2000, provided laboratory equipment and allocated seats for international training in Japan. A health volunteer has been assigned by the United Nations Development Programme to the TB reference laboratory to strengthen the quality assurance system for sputum smear examinations. The Open Society Foundation supported case-finding activities in prisons during 1999–2000 and quality assurance activities for BCG vaccination in 2001.

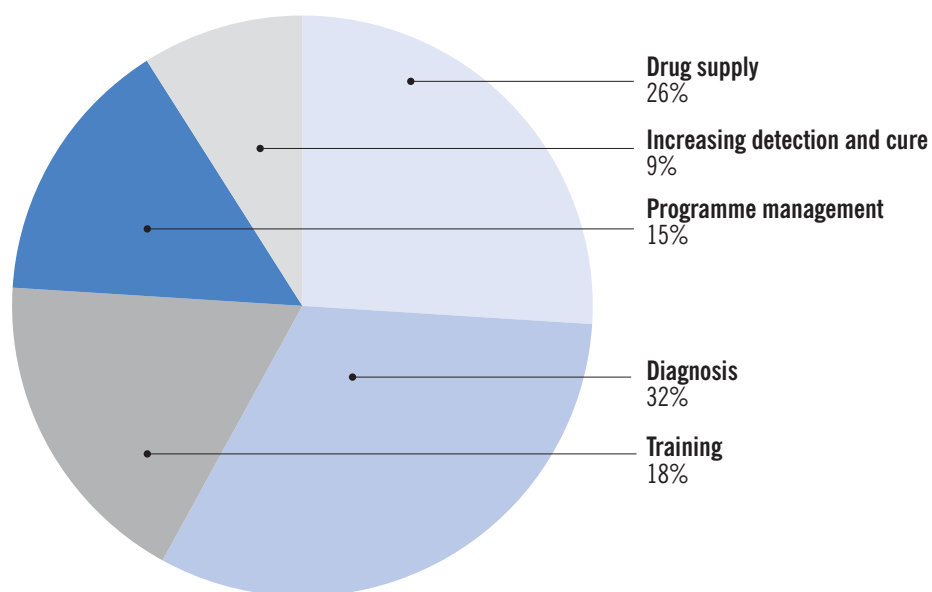
Table 7 Strategic Partners in the National TB Programme

Partner	Type of Support	Duration of Commitment
WHO	<ul style="list-style-type: none"> • Technical support • Training • Laboratory supplies 	Ongoing
JICA	<ul style="list-style-type: none"> • Technical support • Laboratory equipment • International training in Japan 	Ongoing
Danish International Development Agency	TB drugs	Through September 2001
Japan Anti-Tuberculosis Association	<ul style="list-style-type: none"> • Seminars • Technical support 	Ongoing
Open Society Foundation	<ul style="list-style-type: none"> • Case finding in prisons • Quality assurance of BCG 	<ul style="list-style-type: none"> • 2000 • 2001

Financial Situation, 2001–2005

Mongolia needs \$6.5 million for its National TB Programme. The largest share of the budget will go to improving diagnosis skills (32%), followed by ensuring the consistency of the drug supply (26%), and training and retraining (18%). The Government has secured an estimated 72% of the financial requirements and needs to identify possible partners in bridging the gap of \$1.7 million, or roughly 28% of the budgetary requirement.

Figure 14 Breakdown of Budget Requirements



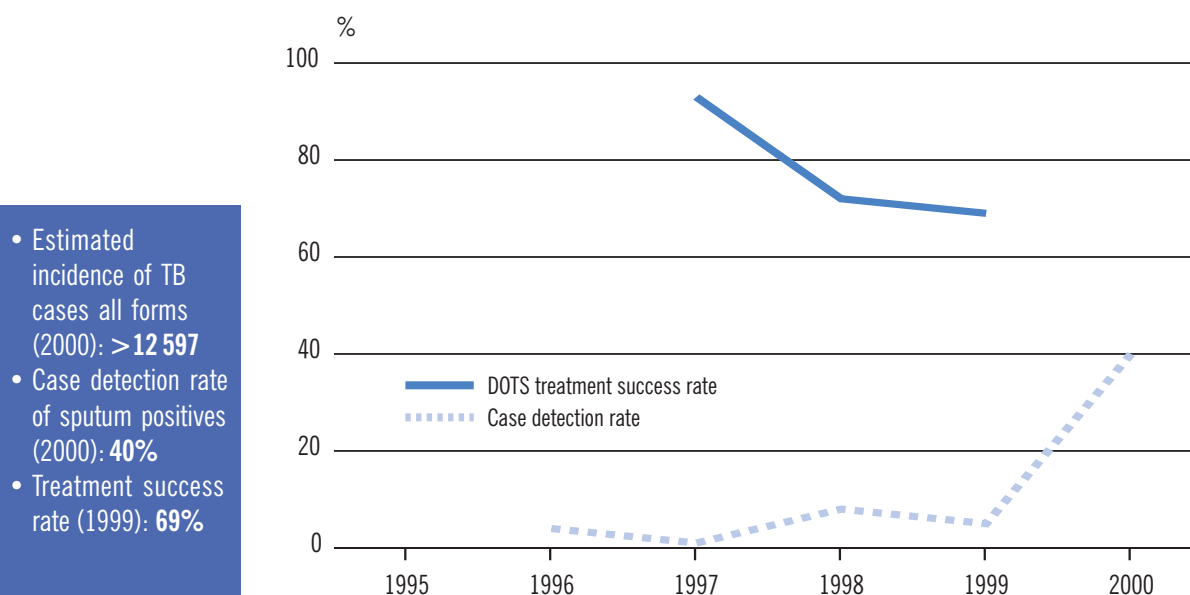
Papua New Guinea*

TB Control Status

Although TB treatment is available in most health centres throughout the country, only about 6% of the population lives in areas where treatment is under the DOTS strategy. About 8000 TB cases were detected in 1999 through the public health network. Of those in DOTS areas, 72% completed treatment. The emphasis of the Ministry of Health is the rapid expansion of DOTS coverage to all provinces by 2005.

Population	5 130 000
Estimated incidence (all forms/100 000 population)	245
Global rank (by estimated number of new cases)	71
Regional rank	8
DOTS status	DOTS (1997)
Case detection rate of sputum positive cases (2000)	40%
Treatment success rate (1999)	69%
TB cases that are HIV-positive	1.3%
Multidrug resistance (new cases, %)	no data

Figure 15 Case Detection and DOTS Treatment Success Rates



- Estimated incidence of TB cases all forms (2000): > 12 597
- Case detection rate of sputum positives (2000): 40%
- Treatment success rate (1999): 69%

*Sources: 2001–2005 DOTS Expansion Plan (Draft), Ministry of Health, Papua New Guinea. National Health Plan 2001–2010: Health Vision 2010, Ministry of Health, Papua New Guinea. Personal Communication with National TB Programme. WHO Report 2002: Global Tuberculosis Control.

The Context for TB Control

The Ministry of Health initiated dramatic health sector reform policies in 1995 in response to the declining health of the population. A national health plan highlighting the priorities and aims of the Ministry of Health for the years 2001–2010 was developed. The plan emphasizes two main areas of work: strengthening priority programmes and improving the access of rural populations to health services. TB control is a priority within this plan.

The 10-year national health plan cites the following constraints on the health system that will affect nationwide implementation of the National TB Programme:

- Declining real per capita spending on health.
- Inadequate access to basic health services.
- Closure of many district health facilities (called “aidposts”).
- Uneven delivery of services to the rural areas.
- Frequent harassment of health staff, theft of equipment and vandalism of facilities.
- Poor community support for health services.

The primary health network operates throughout the 19 provinces and the National Capital District. There are 89 districts within these areas. DOTS is at present available in the National Capital District and in one province where six of nine districts implement DOTS.

The national Government maintains the responsibility for operating public hospitals at the provincial level, while provincial and local governments are responsible for rural health services, including the operation of the district aidposts. A budget is allocated to whichever level, national or provincial, is responsible for implementation. However, responsibility for the procurement and distribution of essential drugs, including TB drugs, is maintained at the national level.

Private sector involvement in the provision of health care is minimal. Side by side, the few NGOs active in health care are church-managed facilities, which are considered an integral part of the primary health care network and subsidized by the national Government.

TB Control Infrastructure

The Ministry of Health has adopted the DOTS strategy and the treatment completion rates are high in DOTS areas. About 26% of the patients notified in a cohort that started treatment in 1999, however, defaulted from treatment.

TB treatment is provided through the primary health care network present in all provinces. All provinces and districts have a Disease Control Officer who can be the focal point for TB

control activities and specifically, the expansion of DOTS. The central unit has a medical officer assigned to TB and leprosy, but staffing is insufficient for DOTS expansion.

Diagnosis is often not confirmed by sputum smear microscopy as the laboratory network is insufficient, inadequate and in a poor state of maintenance.

Issues and Constraints

Weak Public Health Infrastructure

The primary constraint on expanding DOTS in Papua New Guinea is the country's generally weak health infrastructure. However, where primary health care services are provided, DOTS implementation can take place. The laboratory network is inadequate for DOTS expansion and needs to be upgraded.

Human Resources

The plan for DOTS will be guided by the central unit at the Ministry of Health. At the provincial level, physicians or medical officers in charge of TB will play a major role in the plan, as they will steer a management committee that will include all stakeholders. At the peripheral level, all units will be involved in implementation, including diagnosis at the laboratories, at the health centre level and treatment up to the aidpost level.

However, there is a general lack of qualified personnel for TB detection, diagnosis and treatment. And, whether at the national, provincial or district level, the staff lack training in TB control planning and management.

Sustained Financing

Rapid DOTS expansion will require a substantial and sustained budget. Coordination of partner inputs and mobilization of additional human and financial resources will be instrumental in ensuring adequate support for the ambitious five-year plan.

The Five-Year Plan

Objective

Reduce TB morbidity and mortality by half by 2010.

Targets

- Achieve 100% DOTS coverage by 2005.
- Increase case detection to 70% by 2005.
- Increase the treatment success rate to 85% by 2005.

To reach the national targets for DOTS coverage, the National TB Programme of Papua New Guinea aims to expand DOTS to four additional provinces each year, reaching national coverage by 2005. The schedule of the expansion is as follows:

2001	6 provinces	16 districts
2002	10 provinces	28 districts
2003	14 provinces	49 districts
2004	18 provinces	70 districts
2005	20 provinces	89 districts

Key Areas

1. Establish a network of TB diagnostic and treatment centres within the primary health care network.
 - Mapping of the available and functioning health facilities where DOTS can be introduced.
 - Upgrading, i.e., ensuring the availability of a functioning microscope, reagents and supplies, of some 150 laboratories to provide TB diagnosis to surrounding catchment areas.
 - Development of a quality assurance system for laboratories and treatment facilities including supervisory schedules and terms of reference, and quality control of smear examinations.
 - Planning TB control activities at the provincial level.
2. Strengthen the central unit of the National TB Programme through recruitment and training of additional staff to support planning, training, supervisory, and other technical and managerial aspects of DOTS expansion.
3. Building the technical and management capacity of health workers to expand DOTS to all provinces.
 - Managerial training at national, provincial and district levels.
 - Increased on-the-job training through regular supervision.
 - Development of a two-day course on DOTS for health centres, health sub-centres and the periphery-level aidposts.
 - Training of all staff in provincial health facilities in TB control under the DOTS strategy.
 - Quarterly meetings of provincial TB coordinators to provide refresher training, address technical and operational constraints and monitor progress.
 - Training-of-trainer workshops at provincial level for echoing at the district level.

- Design of a one-week refresher course for all laboratory technicians in sputum smear examinations, use of laboratory registers and the role of the laboratory in DOTS.
 - Updating of the national TB control manual for distribution to all health facilities.
4. Strengthen drug planning and management by designing and introducing a system for monitoring the inventory at district, provincial and national levels.
 5. Introduce a standardized recording and reporting system.
 - Training of TB focal points at district and provincial levels in conducting quarterly cohort analysis and interpreting the results.
 - Dissemination of DOTS-based recording and reporting forms to all laboratories and health facilities.
 - Refresher training on the use of recording and reporting forms during supervisory visits and training activities.
 6. Conduct health education and advocacy by developing information and education materials for distribution to TB patients and the public.
 7. Strengthen partnerships.
 - Engaging NGOs, specifically the National Capital District Anti-TB Association and Morobe Anti-TB Association in DOTS expansion.
 - Promotion of the establishment of anti-TB associations in all districts and the creation of a national partnership of such associations.
 - Mobilization of additional financial and technical partners to support DOTS expansion.
 - Larger role of grassroots organizations and church-based organizations in DOTS.

Partners

Papua New Guinea works with various partners in strengthening the health sector. WHO provides technical advice and seconded a medical officer to the country, in cooperation

Table 8 Strategic Partners in the National TB Programme

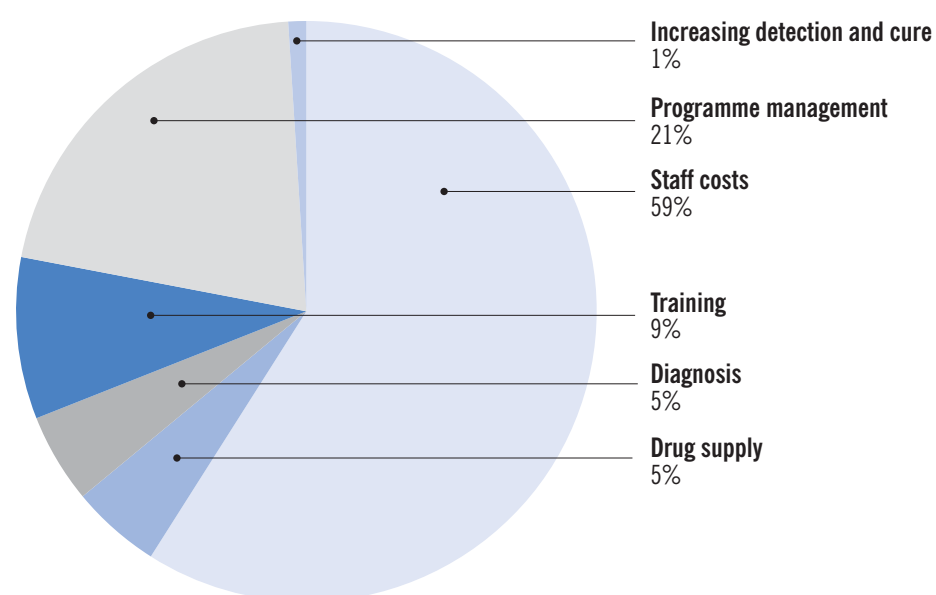
Partner	Type of Support	Duration of Commitment
WHO	<ul style="list-style-type: none"> • Technical advice • Medical officer for TB control 	Ongoing
Asian Development Bank	<ul style="list-style-type: none"> • TB drugs • Supplies and equipment • Transport 	Through 2002
AusAID	<ul style="list-style-type: none"> • Funding of WHO post • Implementation of activities in selected provinces 	Through 2002
JICA	<ul style="list-style-type: none"> • Fellowships 	Through 2010

with AusAID, which is also financing TB control activities in some provinces. The Asian Development Bank lends support in terms of TB drugs, supplies and equipment, and transport, while some fellowships were made available by JICA. Because the expansion of DOTS is an integral part of the National Health Plan, the support of these partners to TB control will also be instrumental.

Financial Situation, 2001–2005

The Government is committed to providing about 79% of the total budget of \$15.3 million required by the National TB Programme, while hoping to bridge the 21% gap, or \$3.3 million with the help of donors. After personnel costs, which represent the largest share (59%) and are being financed by the Government, the largest proportion of the remaining items is taken up by the management of the National TB Programme (21%).

Figure 16 **Breakdown of Budget Requirements**



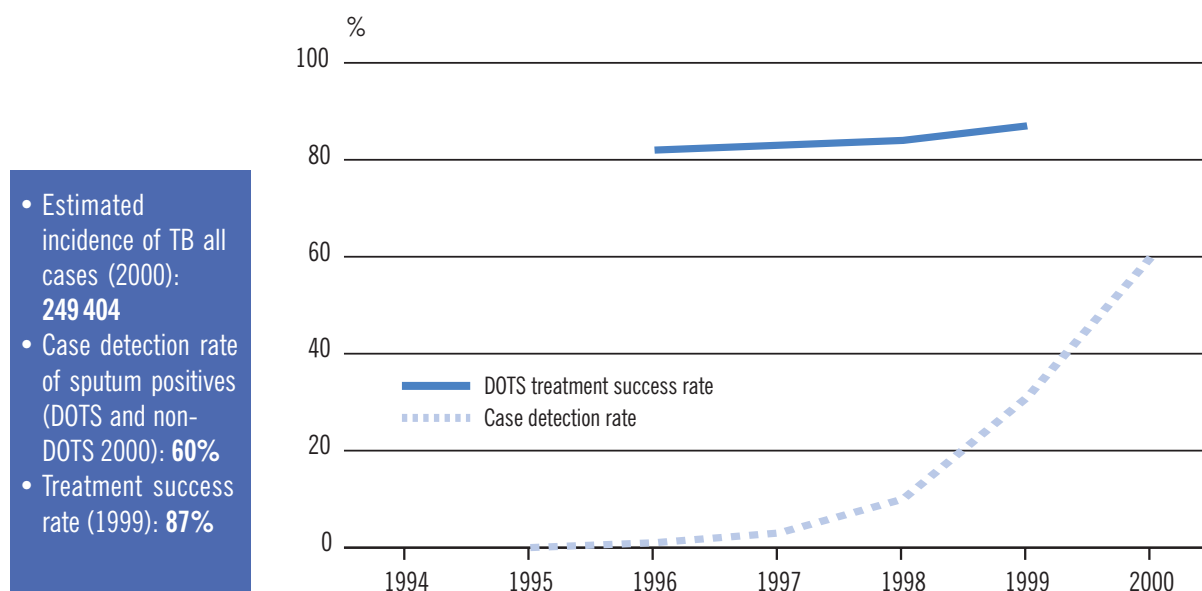
Philippines*

TB Control Status

The Government counts TB control as one of the top five disease control priorities. The Philippines adopted DOTS in 1996 and has since then been rapidly expanding the population's access. By the end of 2000, DOTS coverage should have reached 90% of the population. The National TB Programme has maintained treatment success rates in excess of 80%.

Population	76 348 000
Estimated incidence (all forms/100 000 population)	327
Global rank (by estimated number of new cases)	7
Regional rank	2
DOTS status	DOTS (1994)
Case detection rate of sputum positive cases (2000)	60%
Treatment success rate (1999)	87%
TB cases that are HIV-positive	0.4%
Multidrug resistance (new cases, %)	no data

Figure 17 Case Detection and DOTS Treatment Success Rates



*Sources: *Universal DOTS in 2004* (project description), National TB Programme, Department of Health, Philippines, 2000. *Country Profiles*, The Stop TB Initiative, WHO/CDS/STB/2000.3. Personal Communication with the National TB Programme. WHO Report 2002: *Global Tuberculosis Control*.

The Context for TB Control

TB control enjoys strong national political commitment. The successful rapid expansion of DOTS was in large measure due to the Government's budget allocations. But part of the process of decentralization that the Government embarked on in 1992 was the increasing localization of the responsibility of expanding DOTS.

The decentralization process also featured the integration of the National TB Control Programme, at the central level, into the National Center for Disease Prevention and Control, even as many of the central-level staff and their functions were decentralized. Given this backdrop of decentralization of governance, the political will of local governments must be further strengthened.

The small budgets available for TB control in the provinces makes capacity building in planning and implementation at the provincial level the locus of human resource development. Funding for TB drugs comes from both the national and local government budgets, though the central unit has maintained responsibility for their procurement.

An estimated one third of TB patients seek treatment through the Philippines' large and active private sector. However, at present, many private sector providers do not supply TB control services consistent with the DOTS strategy. Around 40 private entities have joined forces under the Philippine Coalition Against Tuberculosis to support the aims of the National TB Programme and standardize treatment.

TB Control Infrastructure

At present, DOTS is available in 66 of the country's 77 provinces. The Provincial Health Office is responsible for planning, implementation, monitoring and supervision of health programme activities, including DOTS, in the municipalities.

Most provinces have two TB coordinators, one focusing on aspects of service delivery and the other on reporting and recording. In other areas, a third supervisor is in charge of laboratory services. These coordinators conduct quarterly supervisory visits to the municipal rural health units.

Laboratories with TB diagnostic capacity are available in each municipal health centre, which serves a population of about 30 000. Spread throughout the country are about 3000 TB diagnostic facilities.

At present, the TB control programme plans on an annual basis. The question of drug supply thus depends on the yearly allocation of adequate resources. But the Department of

Health is asking Congress to pass a multi-year budget that will ensure sustained financing for universal DOTS coverage.

The national manual for TB control is being updated and was due to be completed by the end of 2001.

Issues and Constraints

Human Resources

The central unit of the infectious disease cluster is under-staffed. Personnel trained and experienced in TB control have been reassigned to other areas. Capacity building is an urgent need at the central, regional and lower levels to ensure adequate supervision and training of additional health workers.

Quality Control

Insufficient treatment supervision during the intensive phase has led to low conversion rates and cure rates in some large cities. In some areas newly implementing DOTS, insufficient monitoring and poor performance have been noted.

Without increased supervision and ample drug supply, drug resistance may not be controlled. In some areas, drug management needs to be further strengthened. In addition, the quality control of the microscopy network needs to be strengthened considering there is already nationwide implementation.

Political Commitment and Sustained Financing

The weak commitment of some local governments to expanding DOTS limits the potential of the programme. The DOTS expansion plan requires considerable funding. Equally critical is the development of a plan for sustained financing once full DOTS coverage is reached.

Large Private Sector

The regulation of the sale of TB drugs through private pharmacists is not strictly followed. Private practitioners are not required to follow the technical standards established by the Department of Health and there is substantial evidence of wide disparities in treatment practices.

The Five-Year Plan

Objective

Reduce TB morbidity and mortality by half by 2010.

Targets

- Achieve 100% DOTS coverage by 2001.
- Increase case detection to 70% by 2005.
- Maintain at least 85% treatment success.

Key Areas

1. Ensure political commitment to TB control as a priority within the national health plan and among local governments.
 - Lobby for increased human resources for TB control at the central and regional levels.
 - Inclusion of TB control indicators as indicators of development of the local health system.
 - Mobilization of funding from local government units for TB drugs and the salaries of laboratory technicians in provinces and municipalities.
2. Build the capacity to implement DOTS within the changing health sector.
 - Technical support to regions and local government units to ensure appropriate planning, implementation and monitoring of TB control activities in their respective health plans.
 - Regular and uninterrupted procurement and supply of TB drugs.
 - Upgrade of microscopy centres through training of microscopists, provision of microscopes, and establishment and maintenance of a quality control system.
 - Training of health workers and laboratory technicians.
 - Grants to local government units to stimulate training in DOTS and new programme policies.
 - Establishment of DOTS centres within hospitals as part of the public health unit, and mandating the adoption of DOTS as a prerequisite in the financing of hospital upgrades.
3. Intensify monitoring of DOTS implementation.
 - Review and revision of current monitoring policies.
 - Regular supervisory visits to all DOTS-implementing units by all levels with a focus on quality data collection and timely submission of reports.

- Regular workshops for regional TB coordinators (yearly) and provincial TB control staff (quarterly).
4. Strengthen quality control mechanisms.
 - Strategies to address the quality control issues in diagnosis and treatment procedures.
 - Support to the expansion of TB diagnostic committees to improve quality of diagnosis and treatment of sputum negative cases, especially in large cities.
 - Surveillance network for drug resistance and a national drug resistance survey.
 - External joint evaluation of DOTS implementation among the provinces that started DOTS in 1996 and 1997.
 5. Secure adequate financing for TB control.
 - Development of financing schemes that cover drug costs for outpatient TB patients as part of the health insurance package.
 - Evaluation of alternative financing schemes, such as through the social security system and employer-based insurance programmes.
 6. Raise public awareness of TB.
 7. Institutionalize public-private sector collaboration.
 - Dissemination of the consensus on TB diagnosis, treatment and control issued by the Philippine Society of Microbiologists and Infectious Disease Specialists, Philippine Coalition Against Tuberculosis and Department of Health.
 - Development of a model for private sector participation (private-public mix) in the implementation of DOTS.
 - Collaboration with the private sector to develop and introduce programmes targeting special groups, e.g., children.
 8. Strengthen partnerships.
 - Continued engagement of partners in TB control through regular consultation and coordination of projects and activities, e.g., Project Assistance to Control TB.
 - Technical support to collaborating centres and reference laboratories.

Partners

The Philippines receives technical and financial support from a wide consortium of partners. WHO provides technical and logistical support. JICA funds TB control in 23 provinces and cities in four regions (representing 18% of the population) and the national reference laboratory. Three other partnership projects, one with World Vision and the Canadian International Development Agency (CIDA), another with Medicos del Mundo, and a third with USAID make DOTS accessible to a combined 29% of the population. Recent World Bank assistance was used for building the TB infrastructure and financing drug procurement and training.

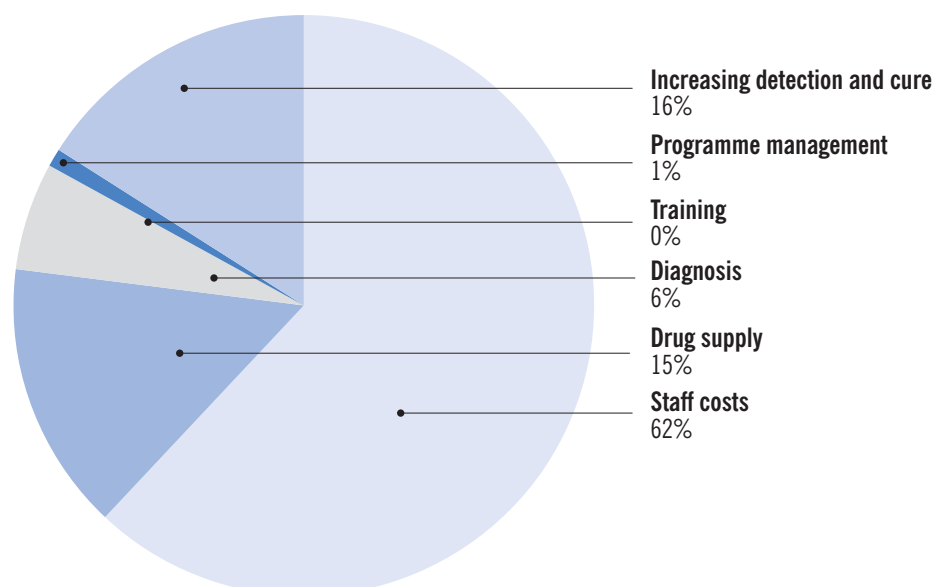
Table 9 Strategic Partners in the National TB Programme

Partner	Type of Support	Duration of Commitment
WHO	Technical and logistical support	Ongoing
World Bank	<ul style="list-style-type: none"> • Infrastructure • Training • TB drugs 	Urban Health and Nutrition Project, ended June 2001
JICA	<ul style="list-style-type: none"> • TB control in 23 provinces and cities in four regions • National TB reference laboratory 	August 2002
18% of population	<ul style="list-style-type: none"> • TB control in four provinces/cities 	2002
USAID	<ul style="list-style-type: none"> • Technical and logistical support • Training 	2004
2% of population	<ul style="list-style-type: none"> • TB control in 24 provinces and cities • Technical and logistical support 	2002
World Vision / CIDA	<ul style="list-style-type: none"> • TB control in eight provinces/cities • Technical and logistical support 	Ongoing
23% of population	<ul style="list-style-type: none"> • Training 	
Medicos del Mundo	<ul style="list-style-type: none"> • Drug resistance survey • Quality control of laboratory network 	
4% of population		
Research Institute of Tuberculosis		

Financial Situation, 2001–2005

The target of “DOTS for all” by 2001 entails a budget of \$109 million, of which activities to improve case detection and cure rates comprise the second largest share at 16%, after staffing (62%). Drug procurement accounts for 15% of the financing requirement, followed by activities to improve diagnosis capabilities at 6%. The regular budget allocation of the Government to its National TB Programme is equivalent to 74% of that required, while donors’ commitments so far assure 3% is sourced, leaving a budget gap of 23%, or \$25 million.

Figure 18 Breakdown of Budget Requirements



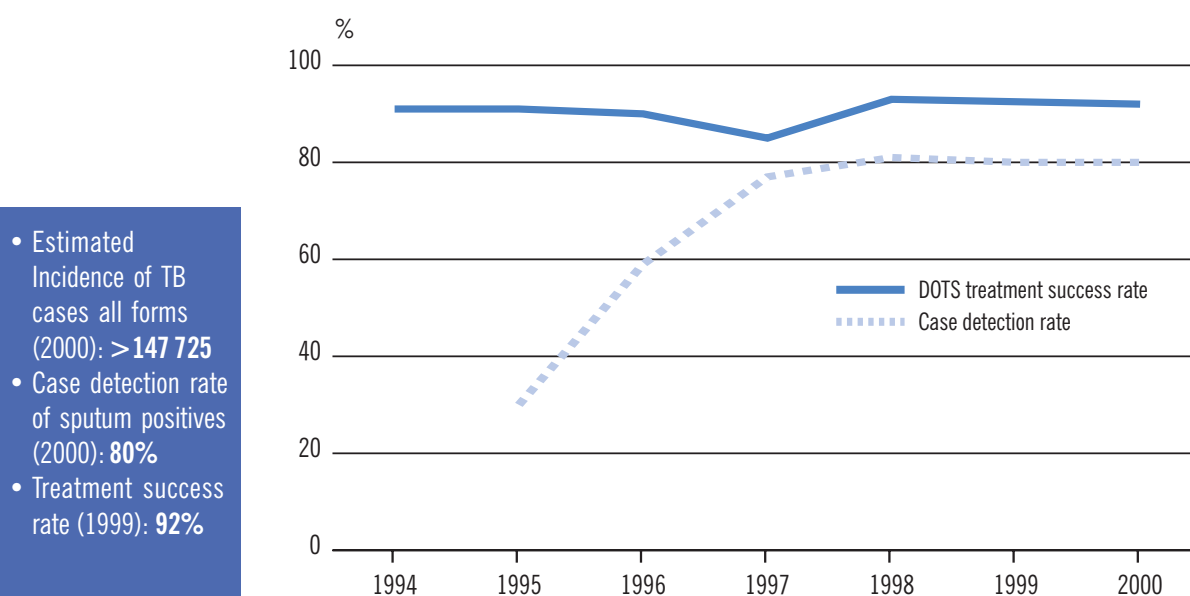
Viet Nam*

TB Control Status

TB control is a priority for the Viet Nam Government. A revitalized National TB Programme based on the DOTS strategy was launched in Viet Nam in 1985. By 1995, DOTS was available nationwide. National resources, including loans from the World Bank, finance more than 70% of TB control programme costs. With the country reaching the global targets for TB control, the focus is to further extend DOTS coverage to special at-risk populations and to ensure sustained success of the programme.

Population	76 900 000
Estimated incidence (all forms/100 000 population)	192
Global rank (by estimated number of new cases)	13
Regional rank	3
DOTS status	DOTS (1986)
Case detection rate of sputum positive cases (2000)	80%
Treatment success rate (1999)	92%
TB cases that are HIV-positive	1.4%
Multidrug resistance (new cases, %)	no data

Figure 19 Case Detection and DOTS Treatment Success Rates



- Estimated Incidence of TB cases all forms (2000): **>147 725**
- Case detection rate of sputum positives (2000): **80%**
- Treatment success rate (1999): **92%**

*Sources: *Development Plan of the National TB Control Programme for the Period of 2000-2004*, Ministry of Health, Socialist Republic of Viet Nam, 2000. *Paying for Health Care in Vietnam: Extending Voluntary Health Insurance Coverage*, Jowett, M. and Thompson, R., University of York, England, 1999. Personal Communication with National TB Programme. WHO Report 2002: *Global Tuberculosis Control*.

The Context for TB Control

About 80% of Viet Nam's 78 million people live and work in rural areas. The World Bank estimates that 50% of the population live in poverty. (Poverty in this case reflects those with a monthly income of less than \$7. *World Bank Development Report*, 1995.)

Public expenditure in health accounts for 0.8% of gross domestic product; that of private expenditure accounts for 4% (World Bank, *World Development Indicators: 2001*). Fees are charged for most primary care services provided through the public sector.

To promote access to health care, particularly among the poor, Viet Nam introduced compulsory insurance in 1993. This covers all government and formal sector workers. A voluntary insurance scheme covers those working in informal sectors. Once TB is diagnosed, treatment is free of charge for patients in the public sector.

A private sector is emerging in Viet Nam, and a quarter to more than half of doctors work in this. In urban areas such as Ho Chi Minh City, this figure may be as high as 90% (Gellert, G. et al., *The Influence of Market Economics on Primary Health Care in Vietnam, International Journal of Health Planning and Management* 11 (1): 69-84, 1995). Private sector practitioners are not regulated in terms of compliance with national TB treatment protocols or the reporting of treatment results.

TB Control Infrastructure

Viet Nam's TB control programme is often cited by WHO as a model in terms of organizational infrastructure and programme results. The programme is fully integrated in the general health system at the provincial and district levels. In remote areas where primary health care access is limited, the programme works through village health workers and links with commune health posts or, where no health posts are available, EPI and malaria staff.

Planning is conducted or coordinated mainly by the central level, although efforts to strengthen decentralized planning at the provincial level are ongoing. Awareness raising is carried out through mass media and the distribution of health education materials.

The central unit handles the procurement and distribution of all drug and laboratory supplies. All levels maintain buffer stocks and use a management system to monitor and replenish stocks quarterly.

The laboratory network extends to all districts and is being continually upgraded. Plans are underway to ensure that all district health centres have a binocular microscope and

that 75% of provinces can perform culture examination. There are three reference laboratories providing valuable quality control and surveillance services. In addition to patient monitoring, surveillance activities include prevalence surveys, monitoring of drug resistance, and an assessment of HIV infection among TB patients.

A national TB control manual was updated in 1999.

Issues and Constraints

Human Resources

The workload of the National TB Programme staff is steadily increasing, in part due to expansion, but mainly because of the mounting managerial complexities of managing a World Bank loan and working within governmental financial management procedures. The staff have limited management training, and the salaries are low — a situation that leads to high turnover.

Special Groups

Having reached the global targets in DOTS population coverage, case detection and treatment success, the emphasis of Viet Nam is shifting towards an extension of DOTS to populations facing constraints in health care access, particularly prisoners, people living in remote areas, women, the homeless and drug users. Appropriate approaches to make DOTS available to these groups are needed.

HIV/AIDS

The rising prevalence of HIV is leading to additional cases of TB, a situation that poses a threat to the already overburdened public health system. A UNAIDS estimate puts the number of people with HIV/AIDS at 100 000.

Drug Resistance

A recent national drug resistance prevalence survey indicates high levels of initial drug resistance in Viet Nam. The study found 32.5% of cases resistant to one or more drugs (24% to Isoniazid and 3.6% to Rifampicin). A constraint in the containment of drug resistance is the lack of legislation to regulate private medical practice as well as the sale of TB drugs on the open market.

Sustained Financing

At present, 71% of funding for the National TB Programme comes from national sources. However, it must be noted that about 34% of government funds are inputs from a World

Bank loan that concludes in 2004. The sustainability of the programme after 2004 is an issue for proactive discussion.

The Five-Year Plan

Objective

Reduce TB incidence by half by 2015.

Targets

- Maintain a case detection rate of at least 70%.
- Maintain at least 92% treatment success.
- Achieve 100% population coverage of DOTS, including special groups such as prisoners, the homeless, illegal residents and minority groups in remote areas.

Key Areas

1. Maintain case detection and treatment success rates by sustaining activities related to securing drugs and laboratory supplies, training, supervision, monitoring, case management and public awareness raising.
 - Evaluation and revision, if necessary, of the effectiveness of health education activities.
 - Health education materials for minority populations and special target groups.
 - Collaboration with the Ministry of Education to include TB education in the school curriculum.
 - Engaging the health, planning and investment, and finance ministries in planning for the sustainability of TB control activities at the conclusion of the World Bank loan in 2004.
 - Partner meetings at national and provincial levels in the fields of research, training and education in TB control.
 - Resource mobilization for the operational aspects of TB control to secure support from the Ministry of Health and NGOs.
 - Higher commitment to TB control at provincial and district levels.
2. Build management and planning capacity.
 - Training for management and planning at national, provincial and district levels.
 - Development and dissemination of new training modules.
 - Facilitation of annual and quarterly planning for TB control at district levels.
 - Development/training of three supervisory teams, each to be designated to a sub-grouping of provinces to provide on-the-job training and support to provincial teams in

management, planning, supplies logistics and other technical aspects of programme implementation.

3. Strengthen surveillance.

- Evaluation of the prevalence survey of 2000.
- Establishment and training of a fourth team of tuberculin testers to cover the middle of the country.
- Extension of the laboratory network to support an increase in access to DOTS in remote areas and among target groups.
- Continued drug resistance surveillance.
- Increased monitoring of TB/HIV co-infection.

4. Improve diagnostic capacity.

- Upgrade the laboratory network so that all district health centres have binocular microscopes and 75% of provinces have culture capacity.
- Continue training of provincial laboratory technicians at the national reference laboratory.
- Protocols for the diagnosis of sputum negative cases.

5. Extend DOTS coverage to hard-to-access populations.

- Assessment of sociological factors contributing to lower detection rates among women.
- Integration of TB control into the package of services provided through the prison health system.
- Engaging village health workers and health staff working on malaria or EPI in remote areas to also undertake TB control and establishment of links, through the commune health posts, to the diagnostic and drug supply network.
- Introduction of training for peer group health workers to facilitate DOTS delivery among the homeless and drug users.
- Assessment of the feasibility of using HIV/AIDS home-based care networks to provide TB care.

6. Develop strategies to involve the private sector.

- Legislation to regulate the TB control activities of the private sector, and to control the sale of drugs in the open market.
- Evaluation of the use of incentives to motivate the private sector in TB care.

Partners

Since 1982, the National Tuberculosis Programme has received support from the Royal Netherlands Tuberculosis Association, which visits Viet Nam twice yearly to lend technical support. WHO also provides technical support through its regional and country offices. Financial support for the programme has been made available from The Netherlands and in limited amounts from WHO. The World Bank contributes to the government budget for TB control through a loan supporting the National Health Support Project.

Table 10 Strategic Partners in the National TB Programme

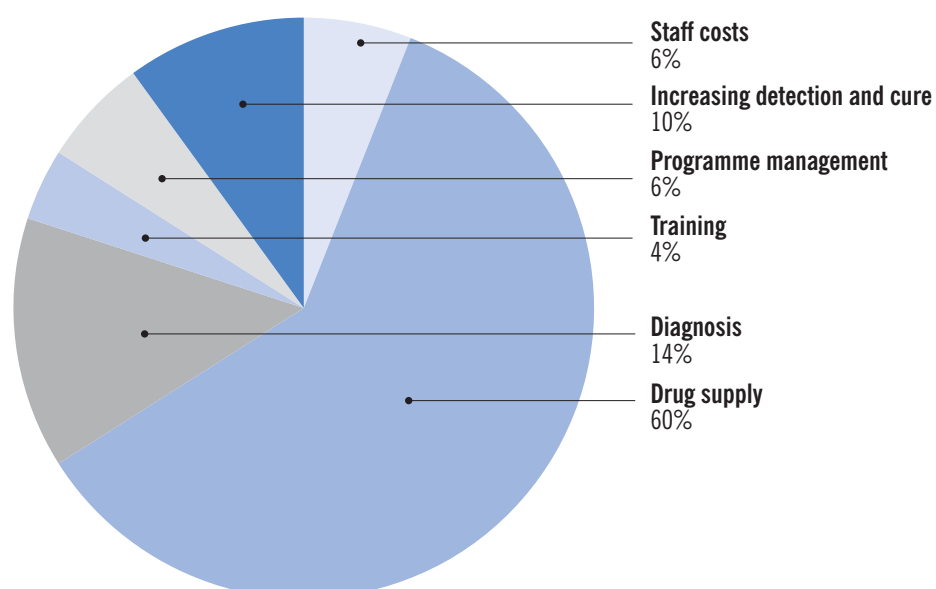
Partner	Type of Support	Duration of Commitment
WHO	Technical and financial support	Ongoing
World Bank	Financial support through the National Health Support Project	Through 2004
Centers for Disease Control and Prevention (United States of America)	Technical support for surveillance	Ongoing
Royal Government of The Netherlands	Drug and programme operational costs	Through 2004
Royal Netherlands Tuberculosis Association	Technical advice	Through 2004
Medical Committee Netherlands-Vietnam	Funding for technical assistance, including training, research and health education	Ongoing

Financial Situation, 2001–2004

Implementation of the National TB Programme will cost about \$23.6 million within 2001–2004. On top of the government allocation equal to 37% of this budget, an additional estimated 34% budget allocation was made possible through a World Bank loan. Confirmed aid commitments total 24% of the budget. The country thus faces a shortfall of \$1.2 million or 5% of the budget needed by its TB programme. Beyond 2004, moreover, other possible sources of funding TB control in Viet Nam will have to be identified.

Drug supplies constitute the largest expenditure of the programme at 60% of the total budget, followed by activities to improve diagnosis capabilities at 14%. Staffing and programme management costs amount to 6% of the budget each.

Figure 20 Breakdown of Budget Requirements



Summary of WPRO's Plans to Stop TB in the Region

The annual Regional Committee meeting in Brunei Darussalam in September 2001, which included the Stop TB Special Project in its agenda, was expected to help strengthen political commitment to accelerating DOTS. The resulting conference resolution even spelled out the expected involvement of the finance ministries of the high TB burden countries to help carry out the medium-term plans. The Western Pacific Regional Office will continue to participate in policy discussions as part of the work of its technical support missions so that the various activities drawn up are put into action.

Through the Stop TB Special Project, WHO will be able to offer more comprehensive support to countries as they embark on their comprehensive TB control programmes and DOTS expansion plans. WHO will also be able to assist the governments to pursue their partnerships with donors, financiers and technical agencies. WHO intends to broaden the partnership base within the Regional ICC while working on the strengthening of national ICCs in the other high TB burden countries that until recently did not have such a mechanism — China, the Lao People's Democratic Republic, Mongolia and Papua New Guinea. Within the emerging partnerships, it will advocate for increased investments by donors and governments, and will assist countries in coordinating donor and partner inputs.

The acceleration — and sustainability — of DOTS require that TB control becomes a multi-sectoral priority. The Stop TB Task Force within the Western Pacific Regional Office, in collaboration with the Division of Health System Development, will develop an evidence base that further examines the correlation between poverty, equity and TB. The task force will work with countries to position TB control not only as an essential government function and a mechanism for improving the health of the poor, but also as a poverty reduction strategy. After all, the burden of TB in the Region is such that it hurts the poor most of all, especially those in the economically productive age groups. TB control hence becomes a disease control agenda as well as a poverty elimination strategy.

In this context, WHO will support countries in: (i) adaption of the most cost-effective approaches for the delivery of DOTS through primary health care networks (Cambodia, Mongolia and Papua New Guinea); (ii) ensure the continuity and quality of DOTS implementation in reforming public health care systems (Cambodia and the Philippines); and (iii) evaluate approaches to reaching the poor (Cambodia).

The Stop TB Unit in the Western Pacific Regional Office will also actively participate in the following working groups: (i) DOTS Expansion, (ii) TB/HIV, (iii) DOTS Plus (the committee

dealing with the management of drug resistance and with the more expensive second-line TB drugs), while it will keep track of (iv) TB Vaccine Development Coalition, (v) the TB Diagnostics Initiative, and (vi) the Global Alliance for Tuberculosis Drug Research and Development. Through these forums, the task force will share the experiences and lessons learned from working with the different countries in the Region and bring back to these countries up-to-date strategies and technologies.

Advocacy activities to support the aims of strengthening political commitment, mobilizing resources, stimulating demand for effective TB control and raising awareness will be sustained. WHO will continue developing tools such as an annual advocacy kit, World TB Day materials and publications related to progress in TB control in the Region.

Securing TB Drugs

Accelerating DOTS means ensuring the sufficient supply of TB drugs. The budget assessment in each of the high TB burden countries already gives a clearer picture of the financing gap regarding drug supply. Armed with this information, WHO is better positioned to use its comparative advantage in brokering and coordinating support from partners for the funding of TB drugs through a combination of national budgets, grants, loans and in-kind contributions. The information allows WHO more leeway as it negotiates the procurement of emergency drug supplies for countries with unstable supply mechanisms, even as it works to strengthen these countries' planning and logistical capacities.

Another way the Stop TB Special Project will help close the financing gap for TB drugs is by working with countries to reduce drug prices and establish or strengthen quality control systems. It is undertaking an assessment of the factors that determine the prices of TB drugs in the different high TB burden countries. The data gathered from such a study would help WHO in working with governments to remedy any inefficiencies there may be in current drug production and distribution.

Several countries in the Region have highlighted the need for technical support in drug management. In response, WHO will work with countries to introduce fixed-dose combination drugs and blister packs. These are two specific steps that are expected to improve patient compliance and treatment outcomes. In all areas related to drug supply, Stop TB will collaborate closely with the pharmaceutical unit of the Regional Office for guidance.

Monitoring and Surveillance

The adoption of new approaches to delivering DOTS and the rapid scaling up of DOTS programmes may raise issues on the quality of implementation. As a safeguard, technical support to the high TB burden countries in monitoring DOTS will be increased.

While the indicators of the long-term impact of any TB control programme — prevalence and mortality — are valid, they are not easily measured through routine data collection. The Stop TB Special Project will elaborate on a strategy for monitoring the progress in achieving the strategic targets in TB control with global experts and other partners. A framework for the development of such a strategy was due to be proposed during the third TAG meeting scheduled for February 2002 in Osaka, Japan.

As part of progress monitoring of DOTS acceleration, the Project will collaborate with the Korean Institute of Tuberculosis and Japan Anti-Tuberculosis Association, through the Research Institute of Tuberculosis, to provide technical and logistical support to the prevalence surveys in Cambodia, Malaysia and Viet Nam, to be conducted in 2002. China is also receiving assistance in its ongoing analysis of the 2000 prevalence survey.

The Project will continue to provide technical assistance to improve the quality of a DOTS Plus pilot project in the Philippines, in collaboration with the Green Light Committee. The committee is the body receiving, appraising and acting on applications for preferential prices of the second-line TB drugs for the treatment of drug-resistant TB that DOTS Plus has negotiated with pharmaceutical companies. Some companies even refuse to sell these second-line TB drugs (e.g., Amikacin, Ciprofloxacin, Kanamycin, Para-Aminosalicylic Acid or PAS) to projects not endorsed by the Green Light Committee. This pilot project in the Philippines is being developed into a model for public sector-private sector collaboration in TB control that WHO would like to see replicated in other countries if it ultimately proves successful.

In collaboration with international efforts to monitor trends in drug resistance, the Stop TB Special Project will provide technical support to drug resistance surveillance in Cambodia, China, Mongolia and the Philippines. In addition, it will seek input from its technical partners in establishing norms to determine to what extent of multidrug resistance prevalence should the recommended treatments be modified. A report highlighting regional data on drug resistance will be published in 2002.

The determination to improve TB control surveillance necessitates a more systematic approach to data management. A regional database for TB surveillance will be developed in 2002 and regularly updated. The Western Pacific Regional Office will also continue to publish an annual TB surveillance report for the Region and ensure the latest data on TB in the Region is available on its Web site.

Capacity Building for DOTS Management

The Project will assist countries in building their capacities for accelerating DOTS through formal training in DOTS. The planned training includes international courses similar to that in Viet Nam conducted by the International Union Against Tuberculosis and Lung Diseases,

and those in Japan given by the Research Institute of Tuberculosis. Specifically, The Project will extend financial assistance to participants and technical inputs to the courses.

Capacity building for accelerated DOTS also refers to the need to strengthen the national expertise in infrastructure and strategic development. The Project will assist in:

- Strengthening laboratory networks throughout the Region: Technical assistance will be made available to improve quality control in sputum examinations in high TB burden countries, in cooperation with the international reference laboratories in Australia; Hong Kong, China; Japan; and the Republic of Korea.
- Strengthening management capacity of national TB programmes: WHO will provide support in improving the planning, training, coordination, monitoring and normative roles of central-level staff. For countries accelerating DOTS at the provincial and district levels such as Cambodia, China, the Lao People's Democratic Republic, Papua New Guinea and the Philippines, decentralized training workshops in DOTS management will be conducted.
- Developing the public-private sector mix in service delivery: The DOTS Plus pilot project in the Philippines may yet be an example of the benefits of collaboration between government and the private sector in tackling the TB problem. The concept of "partnership" has to be internalized by governments and private sector providers alike in implementing DOTS. In exploring the possible modalities of a public-private cooperation in TB control, the Project is working with the Center for Disease Control and the Philippine Coalition Against TB. The experience from this will serve as a starting point for policy development elsewhere in the Region.

Special Groups, Tough Issues

The outbreak of the HIV epidemic in the Region, if not addressed promptly and sufficiently, will affect the capacity of these countries to reach their TB control targets. With the Member States' resources for health limited, governments have to work out an integrated approach to and programme for HIV/AIDS, TB and TB/HIV co-infection. Otherwise, they will be squandering their limited resources.

The Stop TB Task Force and the HIV/AIDS unit in the Western Pacific Regional Office need to collaborate with partners to arrive at a plan that pinpoints the short- and long-term activities (for example, the logistical and information requirements of promoting 100% condom use) needed to eliminate HIV and TB. Such a plan has to maximize whatever institutions, personnel and other resources are already available. The first of these cooperation initiatives between the two WHO units was the meeting in Melbourne in October 2001 that proposed a regional framework for the surveillance, prevention and control of TB/HIV co-infection. Towards this end, WHO will support an initiative in Cambodia geared to the TB/HIV epidemic to ensure coordination and symmetry between the country's TB and HIV/AIDS control programmes.

The Intermediate-Burden Countries and Pacific Islands: The Next Steps

Among the Intermediate TB Burden Countries, a key issue is the reversal of stagnation in the decline of TB and a revitalization of countries' TB control programmes. By the end of 2001, the Stop TB Special Project completed an analysis of the factors contributing to the stagnated decline of TB, in collaboration with the Research Institute of Tuberculosis in Japan. This analysis will form the basis in determining the appropriate strategy to update TB control efforts. The results and proposals for action included in the analysis were to be brought before the third TAG meeting in Osaka, Japan, in February 2002, for discussion with partner agencies.

In the Pacific Island countries, the implementation of DOTS will be broadened in collaboration with the Secretariat of the Pacific Community to realize "DOTS for all" by 2002. As a follow-up to the establishment of the Pacific Stop TB Initiative in 2000, the Western Pacific Regional Office conducted a training course in support of accelerating DOTS, and is planning for the Second Stop TB meeting for the Pacific Island countries in 2003.
