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Cover design by Tom Hiatt, Stop TB Department. The image depicts the remarkable decline in TB incidence, prevalence and mortality in China between 1990 and 2010. See Box 2.5.

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Abbreviations

ACSM	advocacy, communication and social mobilization
AFB	acid-fast bacilli
AFR	WHO African Region
AIDS	acquired immunodeficiency syndrome
AMR	WHO Region of the Americas
ARI	annual risk of infection
ART	antiretroviral therapy
BRICS	Brazil, the Russian Federation, India, China, South Africa
CDR	case detection rate
CPT	co-trimoxazole preventive therapy
CBC	community-based TB care
DOTS	the basic package that underpins the Stop TB Strategy
DRS	drug resistance surveillance or survey
DST	drug susceptibility testing
ECDC	European Centre for Disease Prevention and Control
EMR	WHO Eastern Mediterranean Region
EQA	external quality assurance
ERR	electronic recording and reporting
EU	European Union
EUR	WHO European Region
FIND	Foundation for Innovative New Diagnostics
GLC	Green Light Committee
GLI	Global Laboratory Initiative
Global Fund	The Global Fund to fight AIDS, Tuberculosis and Malaria
Global Plan	Global Plan to Stop TB, 2011–2015
GNI	gross national income
HBC	high-burden country of which there are 22 that account for approximately 80% of all new TB cases arising each year
HIV	human immunodeficiency virus
ICD-10	International Classification of Diseases (tenth revision)
IPT	isoniazid preventive therapy
IRR	incidence rate ratio
LED	light-emitting diode
LPA	line-probe assay
MDG	Millennium Development Goal
MDR-TB	multidrug-resistant tuberculosis (resistance to, at least, isoniazid and rifampicin)
NGO	nongovernmental organization
NTP	national tuberculosis control programme or equivalent
PAL	Practical Approach to Lung Health
PPM	public–private and public-public mix
SEAR	WHO South-East Asia Region
TB	tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNITAID	international facility for the purchase of diagnostics and drugs for diagnosis and treatment of HIV/AIDS, malaria and TB
USAID	United States Agency for International Development
VR	vital registration
WHA	World Health Assembly
WHO	World Health Organization
WPR	WHO Western Pacific Region
XDR-TB	extensively drug-resistant TB

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Executive summary

This is the sixteenth global report on tuberculosis (TB) published by WHO in a series that started in 1997. It provides a comprehensive and up-to-date assessment of the TB epidemic and progress in implementing and financing TB prevention, care and control at global, regional and country levels using data reported by 198 countries that account for over 99% of the world's TB cases.

The introductory chapter (**Chapter 1**) provides general background on TB as well as an explanation of global targets for TB control, the WHO's Stop TB Strategy and the Stop TB Partnership's Global Plan to Stop TB 2011–2015. The main findings and messages about the six major themes covered in the rest of the report are provided below.

The burden of disease caused by TB (Chapter 2)

In 2010, there were 8.8 million (range, 8.5–9.2 million) incident cases of TB, 1.1 million (range, 0.9–1.2 million) deaths from TB among HIV-negative people and an additional 0.35 million (range, 0.32–0.39 million) deaths from HIV-associated TB.

Important new findings at the global level are:

- The absolute number of TB cases has been falling since 2006 (rather than rising slowly as indicated in previous global reports);
- TB incidence rates have been falling since 2002 (two years earlier than previously suggested);
- Estimates of the number of deaths from TB each year have been revised downwards;
- In 2009 there were almost 10 million children who were orphans as a result of parental deaths caused by TB.

Updates to estimates of disease burden follow the completion of a series of consultations with 96 countries between 2009 and 2011, including China, India and 17 African countries in the past year, and much greater availability and use of direct measurements of TB mortality. Ongoing efforts to further improve measurement of TB cases and deaths under the umbrella of the WHO Global Task Force on TB Impact Measurement, including impressive progress on TB prevalence surveys and innovative work to strengthen surveillance, are summarized.

At country level, dramatic reductions in TB cases and deaths have been achieved in China. Between 1990 and 2010, prevalence rates were halved, mortality rates fell by almost 80% and TB incidence rates fell by 3.4% per year. Methods used to measure trends in disease burden in China – nationwide prevalence surveys, a sample vital registration system and a web-based case notification system – provide a model for many other countries.

Other results reinforce the findings of previous global reports:

- The world and all of WHO's six regions are on track to achieve the Millennium Development Goal target that TB incidence rates should be falling by 2015;
- TB mortality rates have fallen by just over a third since 1990, and the world as well as five of six WHO regions (the exception being the African Region) are on track to achieve the Stop TB Partnership target of halving 1990 mortality rates by 2015;
- The Stop TB Partnership target of halving TB prevalence rates by 2015 compared with 1990 is unlikely to be achieved globally, although the target has already been reached in the Region of the Americas and the Western Pacific Region is very close to reaching the target;
- There were 3.2 million (range, 3.0–3.5 million) incident cases of TB and 0.32 million (range, 0.20–44 million) deaths from TB among women in 2010;
- About 13% of TB cases occur among people living with HIV.

Case notifications and treatment outcomes (Chapter 3)

In 2010, there were 5.7 million notifications of new and recurrent cases of TB, equivalent to 65% (range 63–68%) of the estimated number of incident cases in 2010. India and China accounted for 40% of the world's notified cases of TB in 2010, Africa for a further 24% and the 22 high-TB burden countries (HBCs) for 82%. At global level, the treatment success rate among new cases of smear-positive pulmonary TB was 87% in 2009.

Between 1995 and 2010, 55 million TB patients were treated in programmes that had adopted the DOTS/Stop TB Strategy, and 46 million were successfully treated. These treatments saved almost 7 million lives.

Alongside these achievements, diagnosis and appropriate treatment of multidrug-resistant TB (MDR-TB) remain major challenges. Less than 5% of new and previously treated TB patients were tested for MDR-TB in

most countries in 2010. The reported number of patients enrolled on treatment has increased, reaching 46 000 in 2010. However, this was equivalent to only 16% of the 290 000 cases of MDR-TB estimated to exist among notified TB patients in 2010.

Financing TB care and control (Chapter 4)

In 97 countries with 92% of the world's TB cases for which trends can be assessed, funding from domestic and donor sources is expected to amount to US$ 4.4 billion in 2012, up from US$ 3.5 billion in 2006. Most of this funding is being used to support diagnosis and treatment of drug-susceptible TB, although funding for MDR-TB is growing and expected to reach US$ 0.6 billion in 2012. Countries report funding gaps amounting to almost US$ 1 billion in 2012.

Overall, domestic funding accounts for 86% of total funding, with the Global Fund accounting for 12% (82% of all international funding) and grants from other agencies for 2%, but striking contrasts between BRICS (Brazil, the Russian Federation, India, China and South Africa) and other countries are highlighted:

- BRICS invested US$ 2.1 billion in TB control in 2010, 95% of which was from domestic sources;
- In the other 17 HBCs, total expenditures were much lower (US$ 0.6 billion) and only 51% of funding was from domestic sources.

Most of the funding needed to scale up the treatment of MDR-TB towards the goal of universal access is needed in BRICS and other middle-income countries (MICs). If BRICS and other MICs fully finance the scale-up of treatment for MDR-TB from domestic sources, current levels of donor financing for MDR-TB would be almost sufficient to fund the scale-up of MDR-TB treatment in low-income countries.

Donor funding for TB is expected to reach US$ 0.6 billion in 2012, a 50% increase compared with US$ 0.4 billion in 2006, but far short of donor funding for malaria (US$ 1.8 billion in 2010) and HIV (US$ 6.9 billion in 2010).

New diagnostics and laboratory strengthening (Chapter 5)

The first data on the roll-out of Xpert MTB/RIF, a new rapid molecular test that has the potential to substantially improve and accelerate the diagnosis of TB and drug-resistant TB, are presented. By 30 June 2011, six months after the endorsement of Xpert MTB/RIF by WHO in December 2010, 26 of the 145 countries eligible to purchase GeneXpert instruments and Xpert MTB/RIF cartridges at concessional prices had done so. This shows that the transfer of technology to developing countries can be fast.

The continued inadequacy of conventional laboratory capacity is also illustrated:

- In 2010, 8 of the 22 HBCs did not meet the benchmark of 1 microscopy centre per 100 000 population;
- Among the 36 countries in the combined list of 22 HBCs and 27 high MDR-TB burden countries, 20 had less than the benchmark of 1 laboratory capable of performing culture and drug susceptibility testing per 5 million population.

Overall, laboratory strengthening needs to be accelerated, as is currently happening in 27 countries through the EXPAND-TB project supported by UNITAID.

Addressing the co-epidemics of TB and HIV (Chapter 6)

Progress in scaling up interventions to address the co-epidemics of TB and HIV has continued:

- In 2010, HIV testing among TB patients reached 34% globally, 59% in the African Region and ≥75% in 68 countries;
- Almost 80% of TB patients known to be living with HIV were started on cotrimoxozole preventive therapy (CPT) and 46% were on antiretroviral therapy (ART) in 2010;
- A large increase in screening for TB among people living with HIV and provision of isoniazid preventive therapy to those without active TB disease occurred in 2010, especially in South Africa.

Impressive improvements in recent years notwithstanding, much more needs to be done to reach the Global Plan targets that all TB patients should be tested for HIV and that all TB patients living with HIV should be provided with CPT and ART.

Research and development (Chapter 7)

The topic of research and development is discussed for the first time in the global report. There has been considerable progress in diagnostics in recent years, including the endorsement of Xpert MTB/RIF at the end of 2010; other tests including point-of-care tests are in the pipeline. There are 10 new or repurposed TB drugs in clinical trials that have the potential to shorten the treatment of drug-susceptible TB and improve the treatment of MDR-TB. Results from three Phase III trials of 4-month regimens for the treatment of drug-susceptible TB are expected between 2012 and 2013, and results from two Phase II trials of new drugs for the treatment of MDR-TB are expected in 2012. There are 9 vaccine candidates in Phase I or Phase II trials. It is hoped that one or both of the candidates currently in a Phase II trial will enter a Phase III trial in the next 2–3 years, with the possibility of licensing at least one new vaccine by 2020.

CHAPTER 1

Introduction

Tuberculosis (TB) is an infectious disease caused by the bacillus *Mycobacterium tuberculosis*. It typically affects the lungs (pulmonary TB) but can affect other sites as well (extrapulmonary TB). The disease is spread in the air when people who are sick with pulmonary TB expel bacteria, for example by coughing. In general, a relatively small proportion of people infected with *Mycobacterium tuberculosis* will go on to develop TB disease; however, the probability of developing TB is much higher among people infected with the human immunodeficiency virus (HIV). TB is also more common among men than women, and affects mostly adults in the economically productive age groups; around two-thirds of cases are estimated to occur among people aged 15–59 years.

The most common method for diagnosing TB worldwide is sputum smear microscopy (developed more than 100 years ago), in which bacteria are observed in sputum samples examined under a microscope. In countries with more developed laboratory capacity, cases of TB may also be diagnosed via culture methods (the current gold standard) or, increasingly, using rapid molecular tests.

Without treatment, mortality rates are high. In studies of the natural history of the disease among sputum smear-positive and HIV-negative cases of pulmonary TB, around 70% died within 10 years; among culture-positive (but smear-negative) cases, 20% died within 10 years.[1] Treatment using combinations of anti-TB drugs developed in the 1940s and 1950s can dramatically reduce mortality rates. In clinical trials, cure rates of above 90% have been documented; the treatment success rate among smear-positive cases of pulmonary TB reported to WHO reached 87% at the global level in 2009.

Despite the availability of highly efficacious treatment for decades, TB remains a major global health problem. In 1993, the World Health Organization (WHO) declared TB a global public health emergency, at a time when an estimated 7–8 million cases and 1.3–1.6 million deaths occurred each year. In 2010, there were an estimated 8.5–9.2 million cases and 1.2–1.5 million deaths (including deaths from TB among HIV-positive people).[2] TB is the second leading cause of death from an infectious disease worldwide (after HIV, which caused an estimated 1.8 million deaths in 2008).[3]

WHO has published a global report on TB every year since 1997 (**Figure 1.1**). The main aim of the report is to provide a comprehensive and up-to-date assessment of the TB epidemic and progress made in prevention, care and control of the disease at global, regional and country levels, in the context of global targets set for 2015 and WHO's recommended strategy for achieving these targets.

The 2015 global targets for reductions in disease burden (**Box 1.1**) are that TB incidence should be falling (MDG Target 6.c) and that prevalence and death rates should be halved compared with their levels in 1990. WHO's recommended strategy for achieving these targets is the Stop TB Strategy[4] (**Box 1.2**), which was launched in 2006 as an enhancement of the DOTS

BOX 1.1

Goals, targets and indicators for TB control

Millennium Development Goals set for 2015

Goal 6: Combat HIV/AIDS, malaria and other diseases

Target 6c: Halt and begin to reverse the incidence of malaria and other major diseases

Indicator 6.9: Incidence, prevalence and death rates associated with TB

Indicator 6.10: Proportion of TB cases detected and cured under DOTS

Stop TB Partnership targets set for 2015 and 2050

By 2015: Reduce prevalence and death rates by 50%, compared with their levels in 1990

By 2050: Reduce the global incidence of active TB cases to <1 case per 1 million population per year

[1] Tiemersma EW et al. Natural history of tuberculosis: duration and fatality of untreated pulmonary tuberculosis in HIV-negative patients: A systematic review. *PLoS ONE* 2011 6(4): e17601.

[2] These deaths are classified as HIV deaths in the *International statistical classification of diseases and related health problems, 10th revision (ICD-10)*, 2nd ed. Geneva, World Health Organization, 2007.

[3] **http://apps.who.int/ghodata**. These HIV deaths include 0.4 million deaths from TB.

[4] *The Stop TB Strategy: building on and enhancing DOTS to meet the TB-related Millennium Development Goals*. Geneva, World Health Organization, 2006 (WHO/HTM/TB/2006.368).

BOX 1.2

The Stop TB Strategy at a glance

THE STOP TB STRATEGY

VISION	A TB-free world
GOAL	To dramatically reduce the global burden of TB by 2015 in line with the Millennium Development Goals (MDGs) and the Stop TB Partnership targets
OBJECTIVES	• Achieve universal access to high-quality care for all people with TB
	• Reduce the human suffering and socioeconomic burden associated with TB
	• Protect vulnerable populations from TB, TB/HIV and drug-resistant TB
	• Support development of new tools and enable their timely and effective use
	• Protect and promote human rights in TB prevention, care and control
TARGETS	• MDG 6, Target 6.c: Halt and begin to reverse the incidence of TB by 2015
	• Targets linked to the MDGs and endorsed by the Stop TB Partnership: – 2015: reduce prevalence of and deaths due to TB by 50% compared with a baseline of 1990 – 2050: eliminate TB as a public health problem

COMPONENTS

1. **Pursue high-quality DOTS expansion and enhancement**
   a. Secure political commitment, with adequate and sustained financing
   b. Ensure early case detection, and diagnosis through quality-assured bacteriology
   c. Provide standardized treatment with supervision, and patient support
   d. Ensure effective drug supply and management
   e. Monitor and evaluate performance and impact
2. **Address TB/HIV, MDR-TB, and the needs of poor and vulnerable populations**
   a. Scale-up collaborative TB/HIV activities
   b. Scale-up prevention and management of multidrug-resistant TB (MDR-TB)
   c. Address the needs of TB contacts, and of poor and vulnerable populations
3. **Contribute to health system strengthening based on primary health care**
   a. Help improve health policies, human resource development, financing, supplies, service delivery and information
   b. Strengthen infection control in health services, other congregate settings and households
   c. Upgrade laboratory networks, and implement the Practical Approach to Lung Health
   d. Adapt successful approaches from other fields and sectors, and foster action on the social determinants of health
4. **Engage all care providers**
   a. Involve all public, voluntary, corporate and private providers through public–private mix approaches
   b. Promote use of the International Standards for Tuberculosis Care
5. **Empower people with TB, and communities through partnership**
   a. Pursue advocacy, communication and social mobilization
   b. Foster community participation in TB care, prevention and health promotion
   c. Promote use of the Patients' Charter for Tuberculosis Care
6. **Enable and promote research**
   a. Conduct programme-based operational research
   b. Advocate for and participate in research to develop new diagnostics, drugs and vaccines

FIGURE 1.1

Fifteen annual WHO reports on TB in 14 years, 1997–2010

strategy. DOTS was a five-point package that remains the first component and foundation of the Stop TB Strategy. The other components of the Stop TB Strategy highlight the need to address the challenge of drug-resistant TB and the co-epidemics of TB and HIV, the importance of engaging all care providers in TB care and control and of contributing to strengthening health systems, the role of communities and people with TB, and the fundamental role of research and development for new diagnostics, new drugs and new vaccines. The Stop TB Partnership's Global Plan to Stop TB for 2011–2015 has set out the scale at which interventions included in the Stop TB Strategy need to be implemented to achieve the 2015 targets for reductions in disease burden.[1] The plan comes with a price tag of US$ 47 billion and the main indicators and associated baselines and targets are summarized in **Table 1.1**.

This 2011 edition of WHO's annual global TB report – the 16th in the series – continues the tradition of previous reports. It is based primarily on data compiled in annual rounds of global TB data collection in which countries are requested to report a standard set of data to WHO.[2] In 2011, data were requested on the following topics: case notifications and treatment outcomes, including breakdowns by age, sex and HIV status; an overview of services for the diagnosis and treatment of TB; laboratory diagnostic services; drug management; monitoring and evaluation; surveillance and surveys of drug-resistant TB; management of drug-resistant TB; collaborative TB/HIV activities; human resource development; TB control in vulnerable populations and high-risk groups; TB infection control; the Practical Approach to Lung Health;[3] engagement of all care providers in TB control; advocacy, communication and social mobilization; the budgets of national TB control programmes (NTPs) in 2011 and 2012; utilization of general health services (hospitalization and outpatient visits) during treatment; and NTP expenditures in 2010. A shortened version of the online questionnaire was used for high-income countries (that is, countries with a gross national income per capita of ≥US$ 12 276 in 2010, as defined by the World Bank)[4] and/or low-incidence countries (defined as countries with an incidence rate of <20 cases per 100 000 population or <10 cases in total).

Since 2009, data have been reported using an online web-based system.[5] In 2011, the online system was opened for reporting on 15 March, with a deadline of 17 May for all WHO regions except the Region of the Americas (31 May) and the European Region (15 June). A total of 198 countries and territories accounting for over 99% of the world's estimated cases of TB reported data by the deadlines, including all or almost all countries in five of WHO's six regions (**Table 1.2**). Data were reviewed, and followed up with countries where appropriate, by a team of reviewers from WHO (headquarters and regional offices) and the Global Fund. Validation of data by respondents was also encouraged via a series of inbuilt and real-time checks of submitted data as well as a summary report of apparent inconsistencies or inaccuracies that can be generated at any time within the online system. The data contained in the global TB database on 21 June 2011 were used for the main part of this report. The detailed data in **Annex 2** and **Annex 3** reflect the data available on 2 September, the final deadline for receipt

[1] *The Global Plan to Stop TB, 2011–2015*. Geneva, World Health Organization, 2010 (WHO/HTM/STB/2010.2).

[2] The annual data collection form is designed for collecting aggregated national data. It is not recommended for collection of data within countries. WHO recommendations for recording and reporting within countries are described at: **www.who.int/tb/dots/r_and_r_forms/en/index.html**

[3] The Practical Approach to Lung Health (PAL) is a patient-centred approach to improving the quality of diagnosis and treatment for common respiratory illnesses in primary health-care facilities.

[4] **http://data.worldbank.org/about/country-classifications**

[5] **www.stoptb.org/tme**. Countries in the European Union submit notification data to a system managed by the European Centre for Disease Prevention and Control (ECDC). Data from the ECDC system were uploaded into WHO's online system.

TABLE 1.1

Summary of main indicators, baselines and targets set in the Global Plan to Stop TB 2011–2015

PLAN COMPONENT AND INDICATORS	BASELINE (2009)	TARGET (2015)
DOTS/laboratory strengthening		
Number of cases diagnosed, notified and treated according to the DOTS approach (per year)	5.8 million	6.9 million
Treatment success rate (in annual cohort)	86%	90%
Number of countries with ≥1 laboratory with sputum-smear microscopy services per 100 000 population	≥75	149
Drug-resistant TB/laboratory strengthening		
Percentage of previously treated TB patients tested for MDR-TB	7%	100%
Percentage of new bacteriologically-positive patients tested for MDR-TB	7%	20%
Number of countries among the 22 HBCs and 27 high MDR-TB burden countries with ≥1 culture laboratory per 5 million population	18–21	36
Percentage of confirmed cases of MDR-TB enrolled on treatment according to international guidelines	36%	100%
Number of confirmed cases of MDR-TB enrolled on treatment according to international guidelines	11 000	~270 000
Treatment success rate among confirmed cases of MDR-TB	60%	≥75%
TB/HIV/laboratory strengthening		
Percentage of AFB smear-negative, newly notified TB cases screened using culture and/or molecular-based test	<1%	≥50%
Percentage of TB patients tested for HIV	26%	100%
Percentage of HIV-positive TB patients treated with CPT	75%	100%
Percentage of HIV-positive TB patients treated with ART	37%	100%
Percentage of people living with HIV attending HIV care services who were screened for TB at their last visit	~25%	100%
Percentage of people living with HIV attending HIV care services who were enrolled on IPT; among those eligible	<1%	100%
Laboratory strengthening (additional to those above)		
Percentage of national reference laboratories implementing a quality management system (QMS) according to international standards	<5%	≥50%

AFB, acid-fast bacilli; ART, antiretroviral therapy; CPT, co-trimoxazole preventive therapy; HBC, high TB burden country; HIV, human immunodeficiency virus; IPT, isoniazid preventive therapy; MDR-TB, multidrug-resistant tuberculosis.

TABLE 1.2

Reporting of data in the 2011 round of global TB data collection

WHO REGION OR SET OF COUNTRIES	NUMBER OF COUNTRIES AND TERRITORIES	NUMBER OF COUNTRIES AND TERRITORIES REPORTING DATA[a]
African Region	46	45
Eastern Mediterranean Region	22	21
European Region	55	42
Region of the Americas	46	46
South-East Asia Region	11	10
Western Pacific Region	36	34
High-burden countries	22	22
WORLD	**216**	**198**

[a] Countries that did not report data included Comoros (African Region), Libyan Arab Jamahiriya (Eastern Mediterranean Region), Timor-Leste (South-East Asia Region), Japan and Wallis and Futuna Islands (Western Pacific Region). Countries that did not report in the European Region were mostly in Western Europe.

of data from countries in the European Union.[1] Besides the data reported through the standard TB questionnaire, the report uses data about screening for TB among people living with HIV and provision of isoniazid preventive therapy to those without active TB that are collected annually by the HIV department in WHO, as well as data and information that are available to WHO through separate mechanisms.

The report is structured in six major chapters. Each chapter is intended to stand alone, but links to other chapters are highlighted where appropriate. The six chapters are:

- **Chapter 2: The burden of disease caused by TB.** This chapter presents estimates of the numbers of TB cases and deaths caused by TB in 2010, estimates of trends in cases and deaths since 1990, and an assessment of whether the 2015 targets for reductions in cases and deaths will be achieved. This is done for the world as a whole, for WHO's six regions and for

[1] Countries can edit their data at any time. After the global report is published, the most up-to-date data can be downloaded from WHO's global TB database (**www.who.int/tb/data**). For most countries, there are few updates after the global report is published.

each of the 22 high TB burden countries (HBCs) that have been prioritized at global level since 2000.[1] The chapter also puts the spotlight on China, highlighting new evidence on impressive reductions in disease burden between 1990 and 2010. Progress in improving measurement of the burden of disease under the umbrella of the WHO Global Task Force on TB Impact Measurement is also discussed, covering efforts to strengthen TB surveillance and to implement national population-based surveys of the prevalence of TB disease in around 20 global focus countries.

- **Chapter 3: Case notifications and treatment outcomes.** This chapter includes data reported by NTPs on the number of TB cases diagnosed and treated, both overall and for multi-drug resistant TB (MDR-TB) specifically. Numbers of cases diagnosed and treated are compared with the targets included in the Global Plan to Stop TB. Progress in engaging the full range of care providers in diagnosis and treatment is illustrated, and estimates of the proportion of estimated incident cases of TB that were reported to NTPs in 1995, 2000, 2005 and 2010 – the so-called case detection rate (CDR) – are presented. The last part of the chapter summarizes data on treatment outcomes, both overall and for MDR-TB.
- **Chapter 4: Financing TB care and control.** This chapter presents breakdowns of funding for TB prevention, diagnosis and treatment from both domestic and donor sources for the 22 HBCs from 2002 to 2012, and for a total of 97 countries for which trends can be assessed since 2006. Breakdowns are provided for categories of expenditure and by source of funding. Funding gaps are quantified, and available resources are compared with both the funding requirements set out in the Global Plan to Stop TB and levels of international funding for HIV and malaria. Country-specific estimates of the cost per patient treated, and how these are related to levels of average income, are also featured.
- **Chapter 5: New diagnostics and laboratory strengthening for TB.** Laboratory strengthening including the roll out of new diagnostic tests and policies are recognized as top priorities for TB care and control. This chapter describes laboratory capacity in the 22 HBCs as well as 27 high MDR-TB burden countries (a total of 36 countries, given overlap between the two groups). It also assesses progress in efforts to strengthen laboratories, with particular attention to the EXPAND-TB project[2] and the uptake of recent WHO policy guidance on diagnostics. Following the endorsement by WHO of a new molecular diagnostic test for the rapid diagnosis of TB and rifampicin-resistant TB at the end of 2010 – Xpert MTB/RIF – progress in the roll-out of this test is assessed. New policies on TB diagnostics in 2011 and the evidence on which they are based are also summarized.
- **Chapter 6: Addressing the co-epidemics of TB and HIV.** Besides diagnosis and treatment of TB among HIV-positive people, WHO recommends a range of other interventions to jointly address the co-epidemics of TB and HIV. These include HIV testing among all TB patients, provision of co-trimoxazole preventive therapy and antiretroviral therapy for HIV-positive TB patients, intensified case-finding for TB among people receiving HIV care and isoniazid preventive therapy for HIV-positive people without active TB. Progress in

BOX 1.3

What's new in this report?

- The absolute number of TB cases arising each year is estimated to be falling globally
- Evidence of dramatic reductions in TB cases and deaths in China between 1990 and 2010
- Estimates of how many children become orphans as a result of parental deaths caused by TB
- Better estimates of TB mortality due to the greater availability and use of direct measurements from vital registration systems and mortality surveys
- An important update to estimates of TB cases and deaths in the African Region
- Discussion of how synergies between the work of the WHO Global Task Force on TB Impact Measurement and the new grant architecture of the Global Fund have the potential to substantially improve measurement of the burden of disease caused by TB
- Better data on the contribution of public-private and public-public mix (PPM) to TB notifications
- Analysis of the funding required to scale up diagnosis and treatment of multidrug-resistant TB (MDR-TB) in BRICS (Brazil, the Russian Federation, India, China and South Africa), other middle-income countries and low-income countries, combined with assessment of how donor funding could be better used to support this scale-up
- Data on the roll-out of Xpert MTB/RIF for the rapid diagnosis of TB and rifampicin-resistant TB following WHO's endorsement of the test in December 2010
- A chapter on the latest status of progress in developing new TB diagnostics, drugs and vaccines

[1] These countries are (in alphabetical order): Afghanistan, Bangladesh, Brazil, Cambodia, China, the Democratic Republic of the Congo, Ethiopia, India, Indonesia, Kenya, Mozambique, Myanmar, Nigeria, Pakistan, the Philippines, the Russian Federation, South Africa, Thailand, Uganda, the United Republic of Tanzania, Viet Nam and Zimbabwe.

[2] www.who.int/tb/publications/factsheet_expand_tb.pdf

scaling up provision of these services is described and discussed.

- **Chapter 7: Research and development.** The most commonly used diagnostic test for TB is over 100 years old, the anti-TB drugs used in first-line treatments are around 50 years old and the BCG vaccine to prevent TB is almost 100 years old. In the past decade, efforts to develop new drugs, new diagnostics and new vaccines have intensified. This chapter presents the current status of progress.

Annex 1 explains the methods that were used to produce estimates of the burden of disease caused by TB. **Annex 2** contains country profiles for the 22 HBCs and also highlights additional profiles that are available for all countries online.[1] **Annex 3** contains summary tables that provide data on key indicators for the world, WHO regions and individual countries.

[1] www.who.int/tb/data

CHAPTER 2

The burden of disease caused by TB

KEY MESSAGES

- There were an estimated 8.8 million incident cases of TB (range, 8.5 million–9.2 million) globally in 2010, 1.1 million deaths (range, 0.9 million–1.2 million) among HIV-negative cases of TB and an additional 0.35 million deaths (range, 0.32 million–0.39 million) among people who were HIV-positive.
- In 2009, there were an estimated 9.7 million (range, 8.5–11 million) children who were orphans as a result of parental deaths caused by TB.
- Globally, the absolute number of incident TB cases per year has been falling since 2006 and the incidence rate (per 100 000 population) has been falling by 1.3% per year since 2002. If these trends are sustained, the MDG target that TB incidence should be falling by 2015 will be achieved.
- TB mortality is falling globally and the Stop TB Partnership target of a 50% reduction by 2015 compared with 1990 will be met if the current trend is sustained. The target could also be achieved in all WHO regions with the exception of the African Region.
- Although TB prevalence is falling globally and in all regions, it is unlikely that the Stop TB Partnership target of a 50% reduction by 2015 compared with 1990 will be reached. However, the target has already been achieved in the Region of the Americas and the Western Pacific Region is very close to reaching the target.
- Dramatic reductions in TB cases and deaths have been achieved in China. Between 1990 and 2010, prevalence rates were halved, mortality rates were cut by almost 80% and incidence rates fell by 3.4% per year. In addition, methods for measuring trends in disease burden in China provide a model for many other countries.
- Between 2009 and 2011, consultations with 96 countries that account for 89% of the world's TB cases have led to a major updating of estimates of TB incidence, mortality and prevalence, particularly for countries in the African Region.
- Estimates of TB mortality have substantially improved in the past three years, following increased availability and use of direct measurements from vital registration systems and mortality surveys. In this report, direct measurements of mortality are used for 91 countries (including China and India for the first time).

The burden of disease caused by TB can be measured in terms of incidence (defined as the number of new and relapse cases of TB arising in a given time period, usually one year), prevalence (defined as the number of cases of TB at a given point in time) and mortality (defined as the number of deaths caused by TB in a given time period, usually one year). It can also be expressed in terms of the years of life lost or, to account for illness as well as mortality, the disability-adjusted life years (DALYs) lost. WHO publishes estimates of the burden of disease by major cause and risk factor using all of these metrics.[1]

The first three parts of this chapter present estimates of TB incidence, prevalence and mortality (absolute numbers and rates) between 1990 and 2010 and (for prevalence and mortality) forecasts up to 2015. These data are used to assess progress towards achieving the global targets set for 2015: that incidence should be falling (MDG Target 6.c) and that prevalence and death rates should be halved by 2015 compared with their levels in 1990 (**Box 1.1** in **Chapter 1**). Key aspects of the methods used to produce the estimates are provided at the beginning of each section; a detailed description is provided in **Annex 1**.[2] **Section 2.4** focuses on multidrug-resistant TB (MDR-TB), providing estimates of the number of cases of MDR-TB in 2010 and a new analysis of trends in such cases at global and regional levels.

There is uncertainty in all estimates of the burden of disease caused by TB (**Box 2.1**). The final part of the chapter profiles efforts to improve measurement of the burden of disease caused by TB under the umbrella of the WHO Global Task Force on TB Impact Measurement. These include efforts to strengthen surveillance of cases and deaths via notification and vital registration (VR) systems, and national surveys of the prevalence of TB disease in global focus countries.

The chapter also puts the spotlight on China, where considerable efforts to measure the burden of disease

[1] World Health Statistics 2010. Geneva, World Health Organization, 2010 (WA 900.1).

[2] Methods were fully updated in 2009 following 18 months of work by an expert group convened by the WHO Global Task Force on TB Impact Measurement. Improvements included systematic documentation of expert opinion and uncertainty intervals, simplification of models, updates to parameter values based on the results of literature reviews and much greater use of mortality data from vital registration systems. For further details, see the Task Force web site at: **www.who.int/tb/advisory_bodies/impact_measurement_taskforce**

BOX 2.1

Uncertainty in estimates of TB incidence, prevalence and mortality

TB incidence has never been directly measured at national level, since this would require long-term studies among large cohorts of people (hundreds of thousands) at high cost and with challenging logistics. In countries with a high burden of TB, prevalence can be directly measured in nationwide surveys using sample sizes of around 50 000 people and costs in the range of US$ 1–4 million per survey.[1] Relatively few countries with a high burden of TB have conducted prevalence surveys in recent years (although this is now changing), and sample sizes and costs become prohibitive in low and medium-burden countries. TB mortality among HIV-negative people can be directly measured if national vital registration (VR) systems of high coverage in which causes of death are accurately coded according to the latest revision of the international classification of diseases (ICD-10) are in place (and sample VR systems covering representative areas of the country provide an interim solution). Mortality surveys can also be used to directly measure deaths caused by TB. In 2010, most countries with a high burden of TB lacked national or sample VR systems and few had conducted mortality surveys. TB mortality among HIV-positive people is hard to measure even when VR is in place, since deaths among HIV-positive people are coded as HIV deaths and contributory causes (such as TB) are often not reliably recorded.

For all these reasons, the estimates of TB incidence, prevalence and mortality included in this chapter are presented with uncertainty intervals. When ranges are presented, the lower and higher numbers correspond to the 2.5th and 97.5th centiles of the outcome distributions (generally produced by simulations). The methods used to produce best estimates and uncertainty intervals are described in detail in **Annex 1**. Improvements to the estimates published in this report compared with previous years are profiled in **Box 2.2** and **Box 2.3**.

[1] *TB prevalence surveys: a handbook*. Geneva, World Health Organization, 2011 (WHO/HTM/TB/2010.17).

caused by TB have been made over the past 20 years. The impressive results and the methods used to produce them – which provide a model for many other countries – are highlighted as a special case study.

2.1 Estimates of the incidence of TB

The incidence of TB cannot be measured directly (**Box 2.1**). For 96 countries that account for 89% of the world's TB cases, estimates were thoroughly reviewed and updated between 2009 and 2011 in either regional or country workshops (**Figure 2.1**). This was done using a framework (**Figure 2.2**) and associated tools developed by the WHO Global Task Force on TB Impact Measurement. In-depth analyses of the available surveillance, survey and programmatic data were undertaken, and expert opinion about the fraction of cases diagnosed but not reported, or

FIGURE 2.1

Progress in applying the Task Force framework for assessment of TB surveillance data, as of July 2011[a]

[a] All countries shown in orange participated in regional workshops held from April 2009 to June 2010, with the exception of the United Republic of Tanzania where a country mission was undertaken in October 2009 and India where three country missions were undertaken between April and July 2011. As follow-up to the regional workshop held for countries in the Western Pacific Region in June 2010, a national workshop was also held in China in June 2011. Further details about these workshops are provided in **ANNEX 1**.

not diagnosed at all, was documented. Reliance on expert opinion is one of the reasons for uncertainty in estimates (**Box 2.1**); strengthening of surveillance and better quantification of under-reporting (i.e. the number of cases that are missed by surveillance systems) are needed to reduce this uncertainty (efforts to do this are discussed in **section 2.5**).

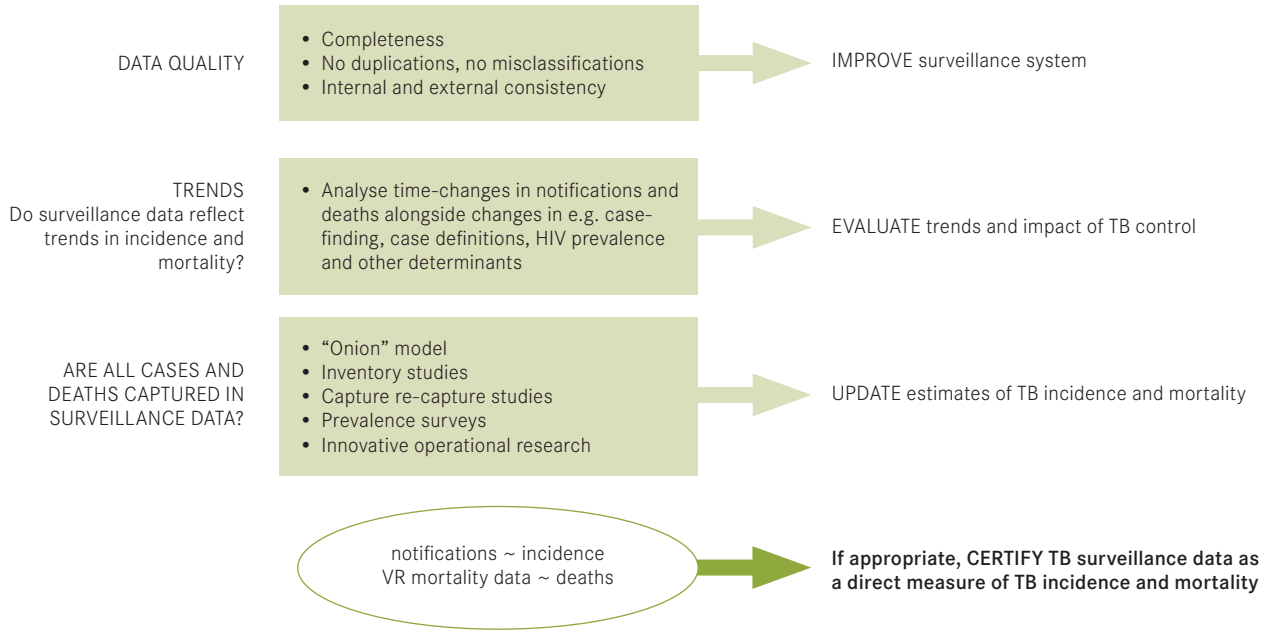
When the 2010 global report was published, 78 countries had been covered by regional or country workshops. Between November 2010 and July 2011, a further 17 countries in the African Region as well as India were covered, and a national-level workshop was held in China as follow-up to a regional workshop held in June 2010. Major revisions were made for most African countries (**Box 2.2**); these explain why the global estimates of cases (as well as deaths) that appear in this report – not only for 2010 compared with 2009, but also for the time-series dating back to 1990 – are lower than those published in previous reports. For countries not covered in workshops, estimates are based on extending previous time-series (see **Annex 1** for details).

In 2010, there were an estimated 8.8 million incident cases of TB (range, 8.5 million–9.2 million) globally, equivalent to 128 cases per 100 000 population (**Table 2.1**, **Table 2.2**, **Figure 2.3**). Most of the estimated number of cases in 2010 occurred in Asia (59%) and Africa (26%);[1] smaller proportions of cases occurred in the Eastern Mediterranean Region (7%), the European Region (5%) and the Region of the Americas (3%). The 22 HBCs that have been given highest priority at the global level since 2000 (listed in **Table 2.1** and **Table 2.2**) accounted for 81%

[1] Asia refers to the WHO regions of South-East Asia and the Western Pacific. Africa means the WHO African Region.

FIGURE 2.2

Framework for assessment of TB surveillance data (notification and vital registration data)



BOX 2.2

Revision of estimates of the burden of disease caused by TB in African countries

This report includes improved estimates of TB incidence, prevalence and mortality for countries in the African Region, following consultations with representatives from 17 countries during a five-day workshop held in Zimbabwe in December 2010. It was the first such workshop held in the African region for more than 10 years. In the interim, country missions were used to review and update estimates for Kenya (in 2006) and the United Republic of Tanzania (in 2009). Participants at the workshop represented the following countries: Botswana, Burkina Faso, Burundi, Côte d'Ivoire, the Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Malawi, Mali, Mozambique, Namibia, Nigeria, Rwanda, Uganda, Zambia and Zimbabwe.

Before the workshop, estimates of TB incidence were mostly based on assessments of the fraction of incident cases captured in notification data in the late 1990s. With the analysis of detailed national and sub-national surveillance data undertaken in the workshop, previous assumptions were found to be overestimating cases (and in turn, prevalence and mortality). Estimates of the proportion of cases being diagnosed and reported to national TB control programmes (NTPs) were heavily revised, mostly upwards; that is, fewer incident cases were assessed as being missed by NTPs. Following the workshop, the number of incident cases in the African Region was estimated at 2.3 million in 2010 (range, 2.1 million–2.5 million) and the number of deaths caused by TB (including those among HIV-positive people) was estimated at 254 000 (range, 227 000–282 000).

As with previous workshops in other regions, considerable attention was also given to assessments of surveillance systems. Recommendations for strengthening surveillance to move towards the ultimate goal of directly measuring cases and deaths from notification and VR data were defined.

A full report of the workshop in Zimbabwe can be found at:
www.who.int/tb/advisory_bodies/impact_measurement_taskforce/meetings

of all estimated cases worldwide. The five countries with the largest number of incident cases in 2010 were India (2.0 million–2.5 million), China (0.9 million–1.2 million), South Africa (0.40 million–0.59 million), Indonesia (0.37 million–0.54 million) and Pakistan (0.33 million–0.48 million). India alone accounted for an estimated one quarter (26%) of all TB cases worldwide, and China and India combined accounted for 38%.

Of the 8.8 million incident cases in 2010, 1.0 million–1.2 million (12–14%) were among people living with HIV, with a best estimate of 1.1 million (13%) (**Table 2.1**). The proportion of TB cases coinfected with HIV is highest in countries in the African Region (**Figure 2.4**); overall, the African Region accounted for 82% of TB cases among people living with HIV.

Globally, incidence rates fell slowly from 1990 to around 1997, and then increased up to around 2001 as the number of TB cases in Africa was driven upwards by

TABLE 2.1

Estimated epidemiological burden of TB, 2010. Numbers in thousands[a]

	POPULATION	MORTALITY[b]			PREVALENCE			INCIDENCE			HIV-POSITIVE INCIDENT TB CASES		
		BEST[c]	LOW	HIGH	BEST	LOW	HIGH	BEST	LOW	HIGH	BEST	LOW	HIGH
Afghanistan	31 412	12	8.6	16	110	51	180	59	49	71	–	–	–
Bangladesh	148 692	64	47	85	610	280	1 000	330	270	400	0.7	0.3	1.1
Brazil	194 946	5.0	3.1	8.3	92	34	160	85	70	100	18	15	22
Cambodia	14 138	8.6	6.2	12	93	42	150	62	53	72	4.0	3.4	4.7
China	1 341 335	54	52	56	1 500	1 300	1 700	1 000	910	1 200	18	10	28
DR Congo	65 966	36	27	45	350	160	560	220	190	250	18	13	24
Ethiopia	82 950	29	23	35	330	140	520	220	200	230	–	–	–
India[d]	1 224 614	320	210	470	3 100	2 000	4 600	2 300	2 000	2 500	110	75	160
Indonesia	239 871	64	42	91	690	300	1 200	450	370	540	18	9.9	29
Kenya	40 513	6.9	4.9	9.4	110	49	180	120	120	130	50	45	55
Mozambique	23 391	11	7.0	17	110	54	200	130	87	170	77	53	110
Myanmar	47 963	20	12	31	250	180	310	180	160	210	37	21	57
Nigeria	158 423	33	11	68	320	110	690	210	99	360	51	25	87
Pakistan	173 593	58	39	84	630	270	1 100	400	330	480	1.2	0.7	1.9
Philippines	93 261	31	21	43	470	410	530	260	210	310	1.0	0.5	1.8
Russian Federation	142 958	26	16	42	190	70	330	150	130	180	8.1	6.8	9.4
South Africa	50 133	25	16	38	400	180	630	490	400	590	300	240	350
Thailand	69 122	11	7.0	16	130	55	210	94	78	110	15	13	18
Uganda	33 425	5.1	3.3	7.3	64	32	100	70	56	85	38	30	46
UR Tanzania	44 841	5.8	4.7	6.9	82	39	130	79	75	85	30	28	32
Viet Nam	87 848	29	19	43	290	130	510	180	130	220	7.6	4.6	11
Zimbabwe	12 571	3.4	2.1	5.1	51	23	80	80	61	100	60	47	76
High-burden countries	**4 321 967**	**860**	**730**	**1 000**	**10 000**	**8 500**	**12 000**	**7 200**	**6 800**	**7 500**	**860**	**780**	**950**
AFR	836 970	250	220	280	2 800	2 300	3 300	2 300	2 100	2 500	900	820	980
AMR	933 447	20	17	23	330	260	410	270	250	280	35	31	38
EMR	596 747	95	74	120	1 000	670	1 500	650	580	730	12	9.8	15
EUR	896 480	61	48	75	560	430	720	420	390	450	20	19	22
SEAR	1 807 594	500	370	640	5 000	3 700	6 500	3 500	3 200	3 700	190	140	230
WPR	1 798 335	130	120	150	2 500	2 200	2 800	1 700	1 500	1 800	35	26	45
Global	**6 869 573**	**1 100**	**920**	**1 200**	**12 000**	**11 000**	**14 000**	**8 800**	**8 500**	**9 200**	**1 100**	**1 000**	**1 200**

– indicates no estimate available.
[a] Numbers for mortality, prevalence and incidence shown to two significant figures.
[b] Mortality excludes deaths among HIV-positive TB cases. Deaths among HIV-positive TB cases are classified as HIV deaths according to ICD-10.
[c] Best, low and high indicate the point estimate and lower and upper bounds of the 95% uncertainty interval.
[d] Estimates for India have not yet been officially approved by the Ministry of Health & Family Welfare, Government of India and should therefore be considered provisional.

the HIV epidemic (**Figure 2.5**). Since 2002, the incidence rate has fallen at around 1.3% per year and if this trend is sustained, MDG Target 6.c will be achieved. It should be highlighted that in previous reports in this series, incidence rates were estimated to have peaked in 2004; this has been revised following the major review of estimates of TB cases and deaths in African countries in December 2010 (**Box 2.2**). The absolute number of incident cases has also started to fall very slowly since 2006, when the decline in the incidence rate (per 100 000 population) started to exceed the rate of growth in the world's population.

Incidence rates are declining in all of WHO's six regions (**Figure 2.6**). The rate of decline varies from less than 1% per year in the Eastern Mediterranean Region to 1.8% per year in the African Region and 3.7% per year in the Region of the Americas. Incidence rates peaked around the mid-1990s in the Eastern Mediterranean Region, around 2000 in the European and South-East Asia regions and around 2004 in the African Region. The incidence rate has been declining since 1990 in the Region of the Americas and the Western Pacific Region.

The latest assessment for the 22 HBCs suggests that incidence rates are falling in 10 countries, approximately stable in 11 countries and increasing slowly in South Africa (**Figure 2.7**). Estimates of TB incidence have wide uncertainty intervals in Mozambique, Nigeria and Uganda; the prevalence surveys planned in these countries

TABLE 2.2

Estimated epidemiological burden of TB, 2010. Rates per 100 000 population except where indicated

	POPULATION (THOUSANDS)	MORTALITY[a]			PREVALENCE			INCIDENCE			HIV PREVALENCE IN INCIDENT TB CASES (%)		
		BEST[b]	LOW	HIGH	BEST	LOW	HIGH	BEST	LOW	HIGH	BEST	LOW	HIGH
Afghanistan	31 412	38	27	50	352	161	578	189	155	226	–	–	–
Bangladesh	148 692	43	32	57	411	188	671	225	184	269	0.2	0.1	0.3
Brazil	194 946	2.6	1.6	4.3	47	17	80	43	36	51	23	23	23
Cambodia	14 138	61	44	82	660	296	1 070	437	373	506	6.6	6.3	6.8
China	1 341 335	4.1	3.9	4.2	108	93	123	78	68	88	1.7	1.0	2.8
DR Congo	65 966	54	41	69	535	250	850	327	281	376	8.2	6.0	11
Ethiopia	82 950	35	28	42	394	173	623	261	240	282	–	–	–
India[c]	1 224 614	26	17	39	256	161	373	185	167	205	5.0	3.3	7.1
Indonesia	239 871	27	18	38	289	123	484	189	155	226	4.0	2.3	6.4
Kenya	40 513	17	12	23	283	122	448	298	286	311	41	37	45
Mozambique	23 391	49	30	74	491	233	844	544	374	746	61	60	61
Myanmar	47 963	41	24	65	525	381	643	384	328	445	20	10	30
Nigeria	158 423	21	7.2	43	199	70	438	133	63	228	25	24	25
Pakistan	173 593	34	22	49	364	154	611	231	189	277	0.3	0.2	0.5
Philippines	93 261	33	22	46	502	438	566	275	226	329	0.4	0.2	0.7
Russian Federation	142 958	18	11	29	136	49	233	106	90	124	5.3	5.2	5.4
South Africa	50 133	50	31	75	795	364	1 260	981	806	1 170	60	60	61
Thailand	69 122	16	10	23	182	80	300	137	112	163	16	16	17
Uganda	33 425	15	10	22	193	95	306	209	168	254	54	53	55
UR Tanzania	44 841	13	11	15	183	87	281	177	166	189	38	38	39
Viet Nam	87 848	34	21	49	334	147	576	199	152	253	4.3	2.9	6.2
Zimbabwe	12 571	27	17	40	402	185	639	633	486	799	75	75	76
High-burden countries	**4 321 967**	**20**	**17**	**23**	**231**	**196**	**268**	**166**	**158**	**174**	**12**	**11**	**14**
AFR	836 970	30	26	34	332	277	392	276	256	296	39	35	44
AMR	933 447	2.2	1.9	2.5	36	28	44	29	27	30	13	12	15
EMR	596 747	16	12	20	173	112	246	109	97	122	2.2	1.7	2.8
EUR	896 480	6.8	5.4	8.3	63	47	80	47	44	50	5.0	4.4	5.5
SEAR	1 807 594	27	21	35	278	206	360	193	179	207	5.4	4.1	6.9
WPR	1 798 335	7.5	6.6	8.5	139	124	156	93	85	102	2.1	1.5	2.7
Global	**6 869 573**	**15**	**13**	**18**	**178**	**156**	**201**	**128**	**123**	**133**	**13**	**12**	**14**

– indicates no estimate available.

[a] Mortality excludes deaths among HIV-positive TB cases. Deaths among HIV-positive TB cases are classified as HIV deaths according to ICD-10.

[b] Best, low and high indicate the point estimate and lower and upper bounds of the 95% uncertainty interval.

[c] Estimates for India have not yet been officially approved by the Ministry of Health & Family Welfare, Government of India and should therefore be considered provisional.

should help to improve estimates of disease burden (see section 2.5).

Estimates of the number of cases broken down by age and sex have been prepared by an expert group as part of an update to the Global Burden of Disease (GBD) study.[1] These indicate that women[2] account for an estimated 3.2 million incident cases (range, 3.0 million–3.5 million), equivalent to 36% of all cases. Estimates of the numbers of TB cases among women and children need to be improved through more reporting and more analysis of notification data disaggregated by age and sex.

2.2 Estimates of the prevalence of TB

The prevalence of TB can be directly measured in nationwide population-based surveys; WHO has recently published comprehensive theoretical and practical guidance on how to design, implement, analyse and report such surveys.[3] When repeat surveys are conducted, trends in TB prevalence can be directly measured as well. If sur-

[1] The expert group is convened by the WHO Global Task Force on TB Impact Measurement. The GBD study is an update to Lopez AD et al. *Global burden of disease and risk factors*. New York, Oxford University Press and The World Bank, 2006.

[2] Defined as females aged ≥15 years old.

[3] *TB prevalence surveys: a handbook*. Geneva, World Health Organization, 2011 (WHO/HTM/TB/2010.17).

FIGURE 2.3

Estimated TB incidence rates, 2010

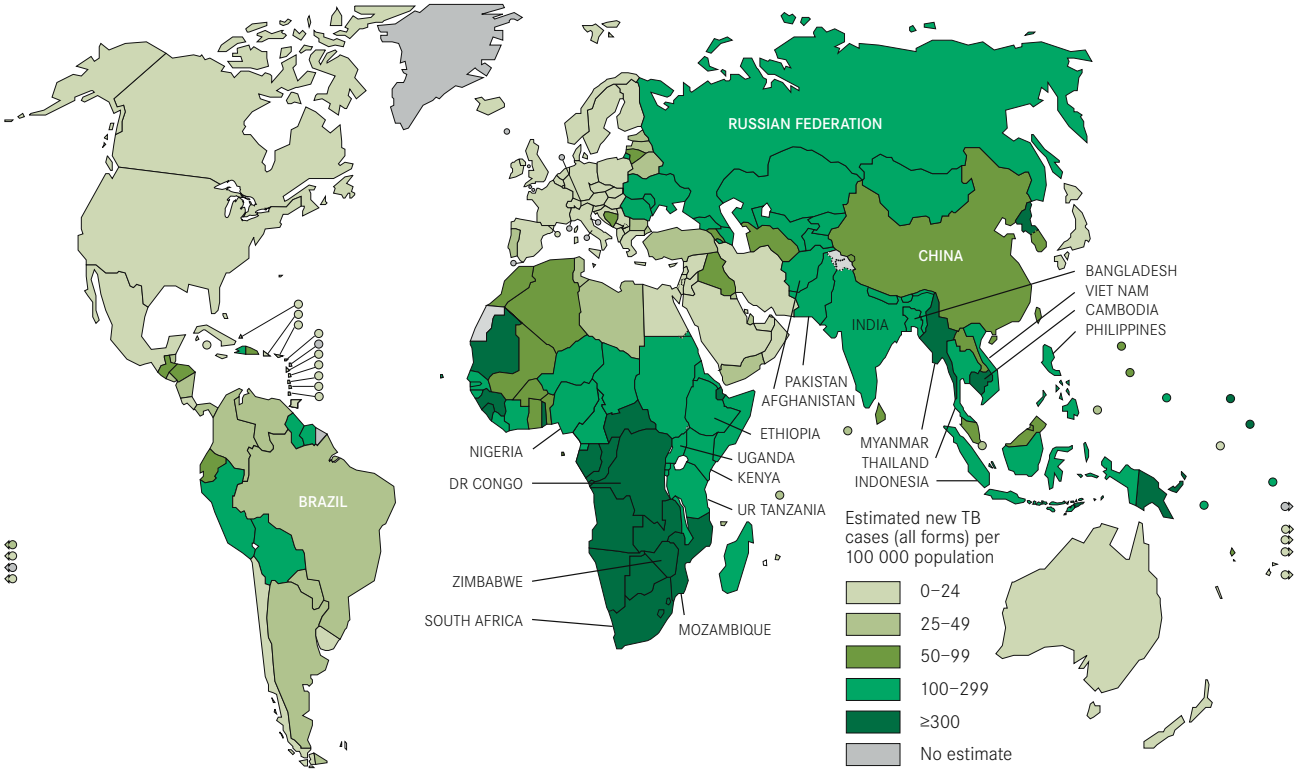


FIGURE 2.4

Estimated HIV prevalence in new TB cases, 2010

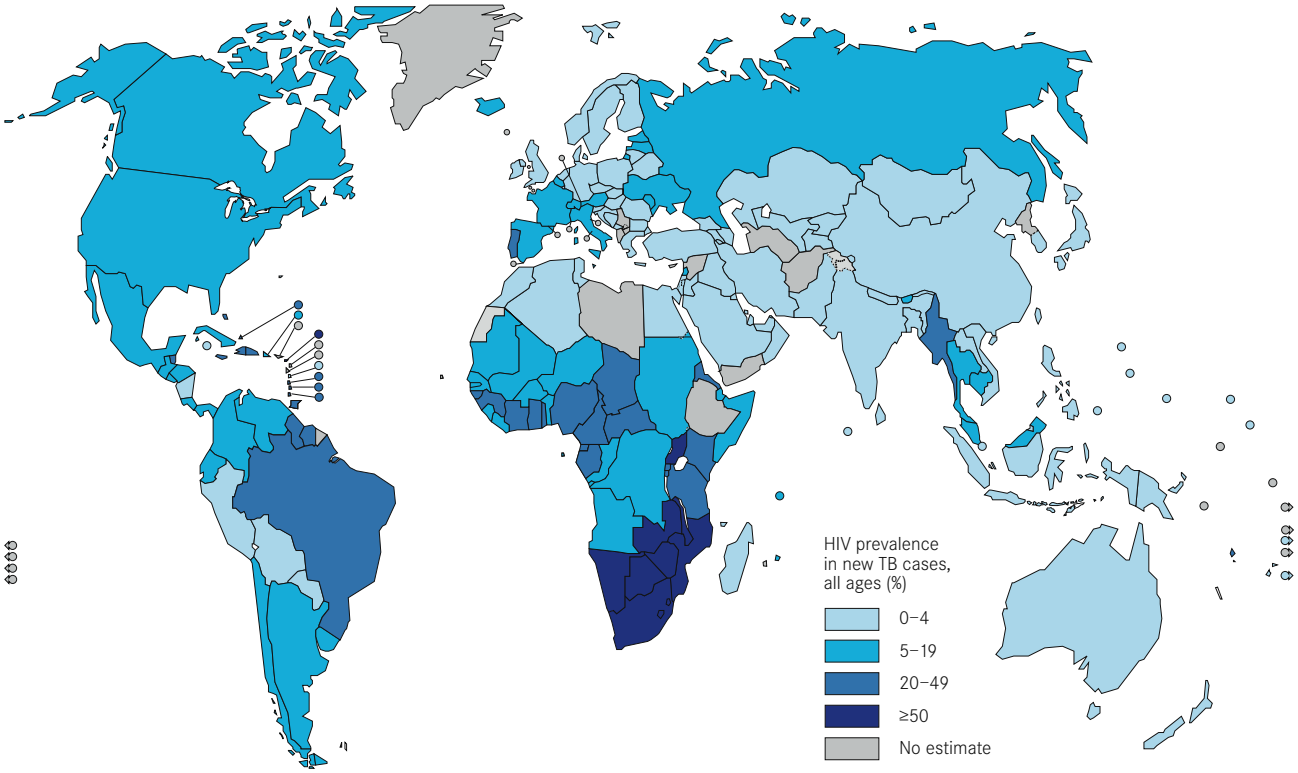


FIGURE 2.5

Global trends in estimated rates of TB incidence, prevalence and mortality. Left: Global trends in estimated incidence rate including HIV-positive TB (green) and estimated incidence rate of HIV-positive TB (red). Centre and right: Trends in estimated TB prevalence and mortality rates 1990–2010 and forecast TB prevalence and mortality rates 2011–2015. The horizontal dashed lines represent the Stop TB Partnership targets of a 50% reduction in prevalence and mortality rates by 2015 compared with 1990. Shaded areas represent uncertainty bands. Mortality excludes TB deaths among HIV-positive people.

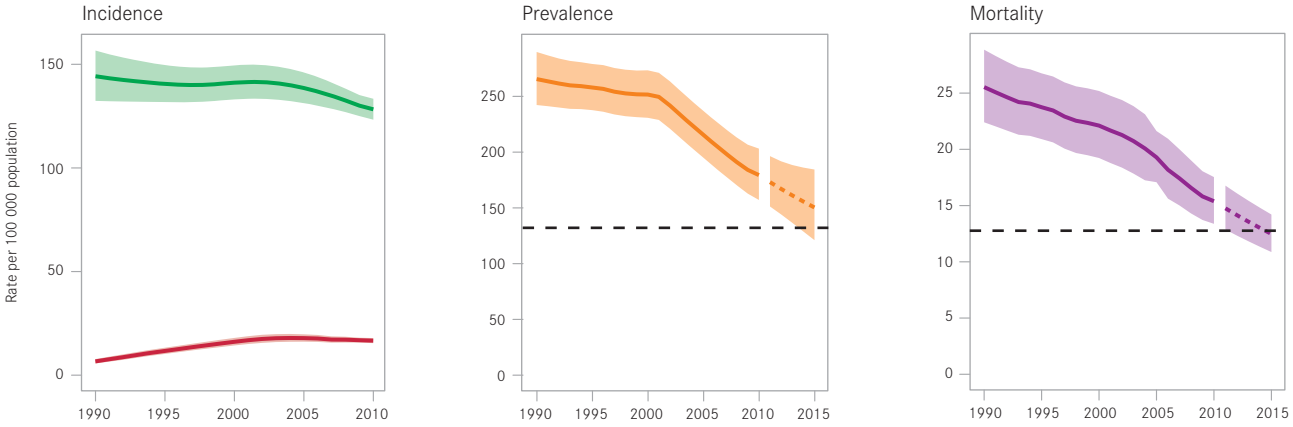


FIGURE 2.6

Estimated TB incidence rates by WHO region, 1990–2010. Regional trends in estimated TB incidence rates (green) and estimated incidence rates of HIV-positive TB (red). Shaded areas represent uncertainty bands.

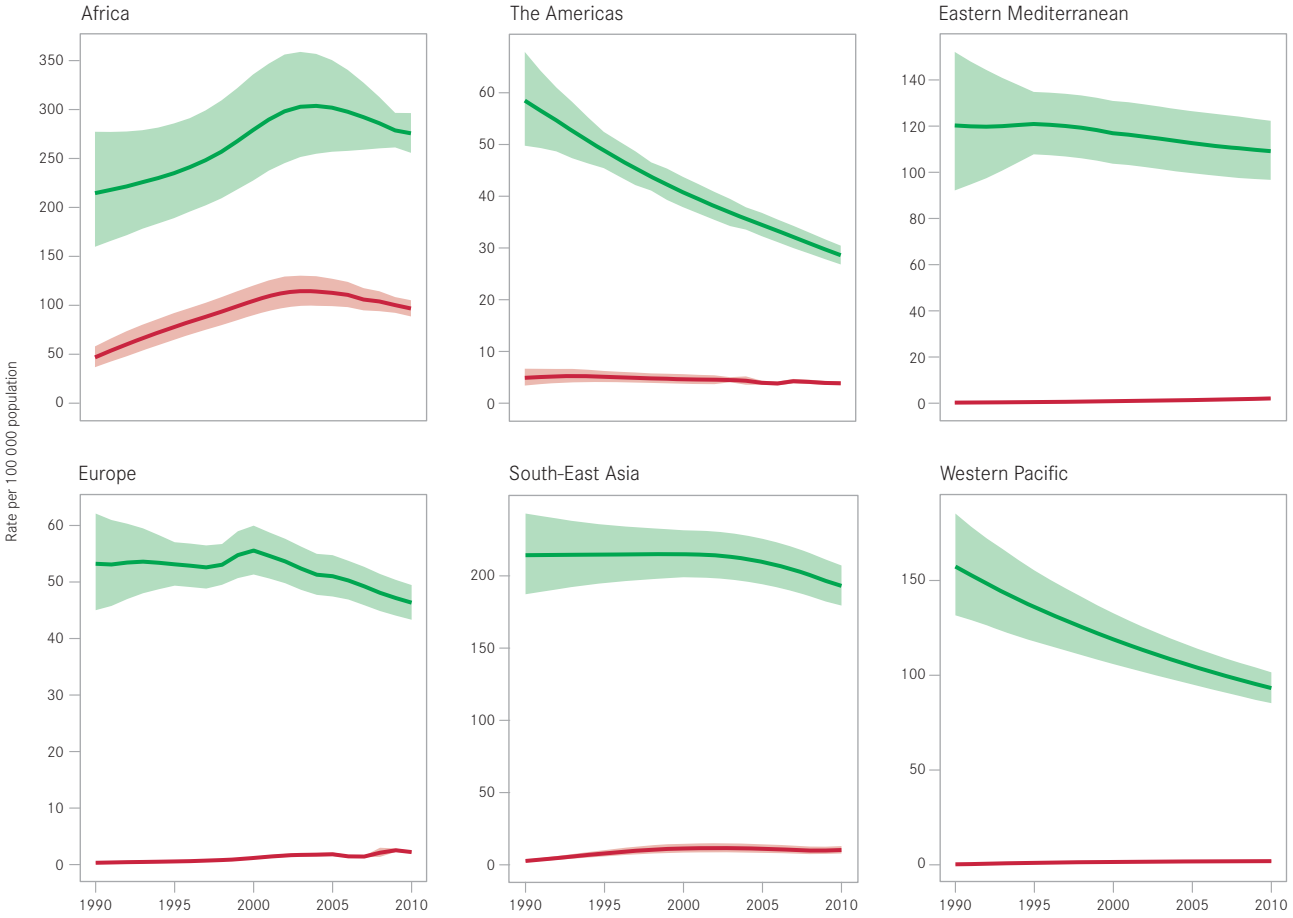
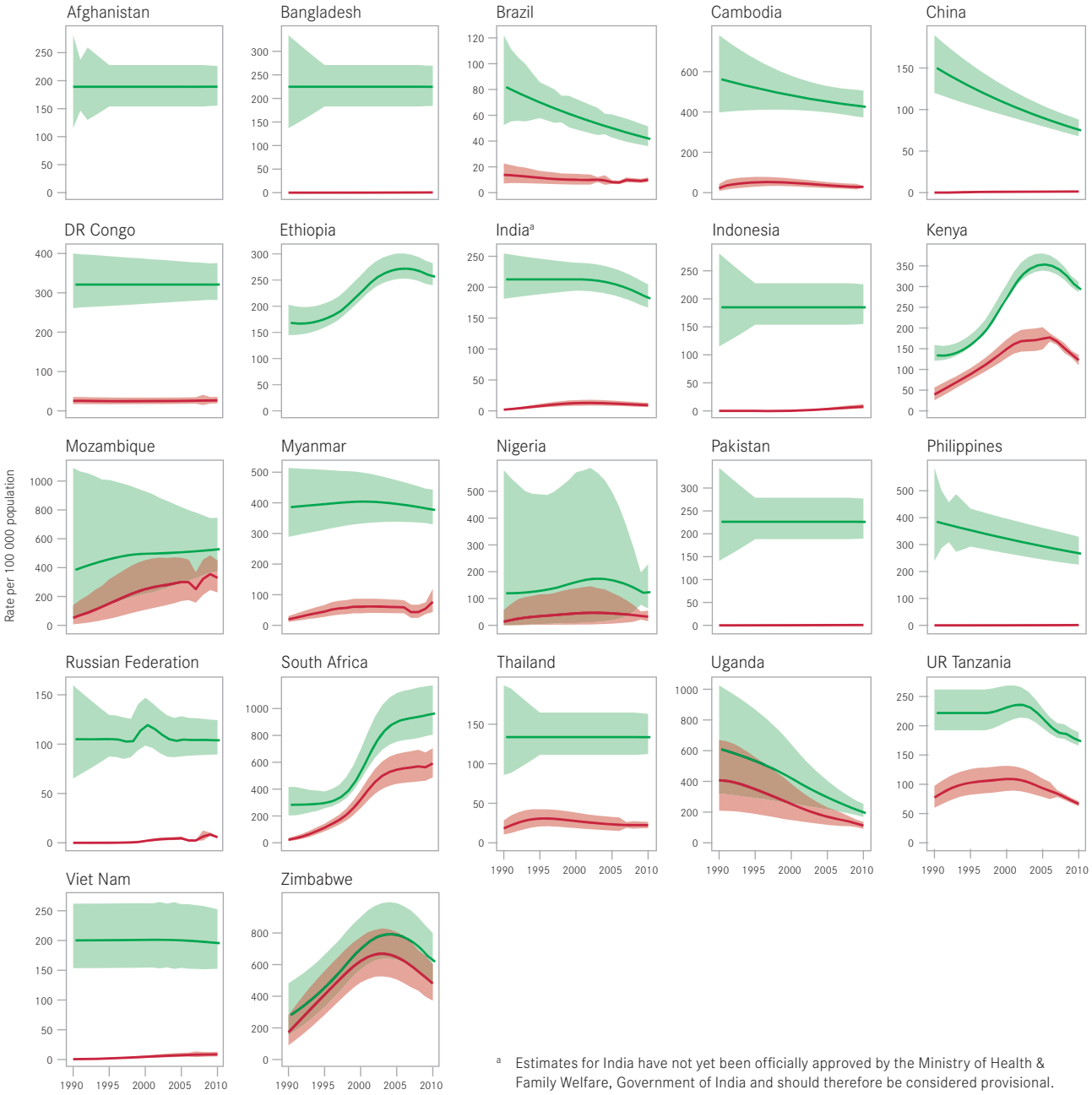


FIGURE 2.7

Estimated TB incidence rates, 22 high-burden countries, 1990–2010. Trends in estimated TB incidence rates (green) and estimated incidence rates of HIV-positive TB (red). Shaded areas represent uncertainty bands.



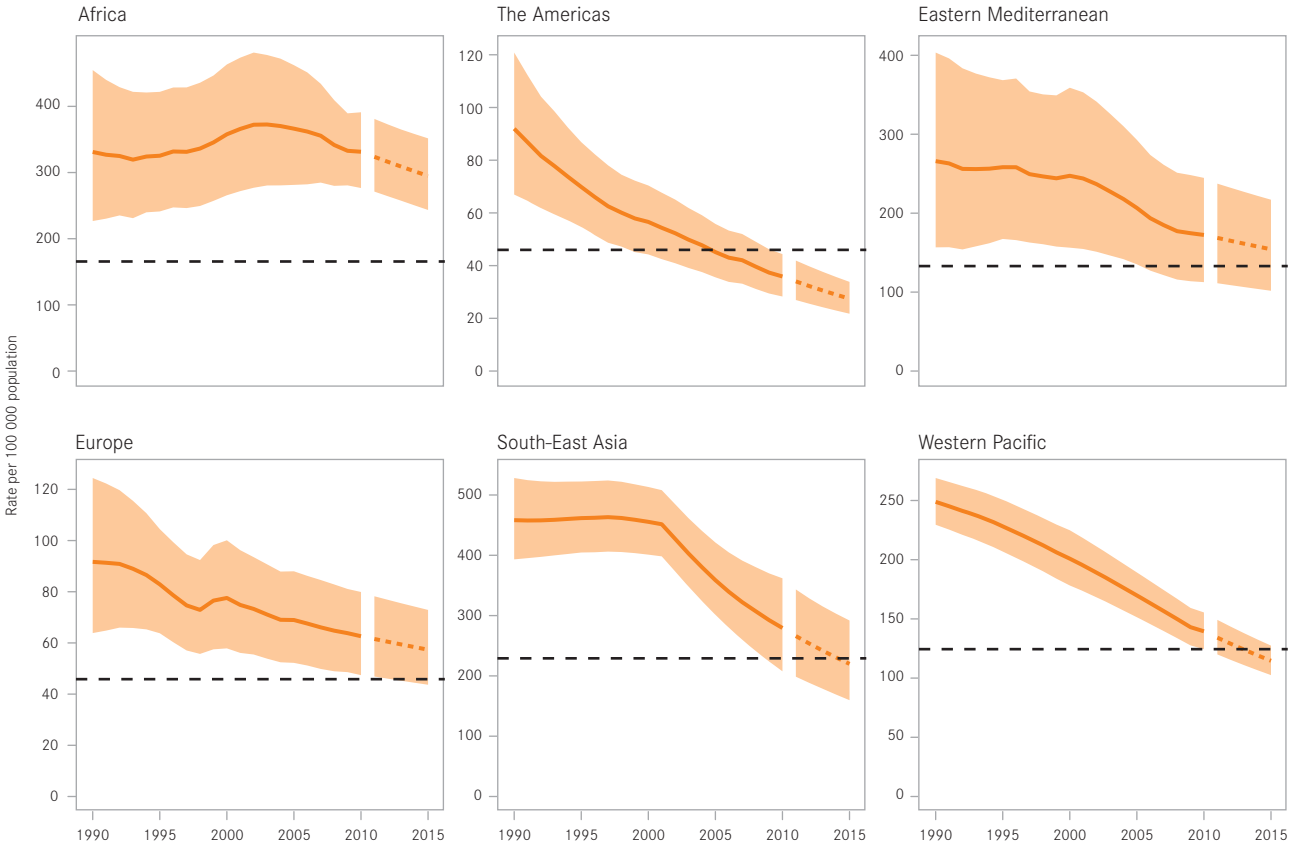
[a] Estimates for India have not yet been officially approved by the Ministry of Health & Family Welfare, Government of India and should therefore be considered provisional.

vey data are not available, prevalence can be indirectly estimated as the product of incidence and the average duration of disease, but with considerable uncertainty (**Annex 1**). Although the data available from prevalence surveys allow for a robust assessment of trends in the Western Pacific Region (especially in China and the Philippines) and are becoming more widely available for countries with a high burden of TB (see **section 2.5**), TB prevalence can be estimated only indirectly in most countries.

There were an estimated 12.0 million prevalent cases (range, 11.0 million–14.0 million) of TB in 2010 (**Table 2.1**). This is equivalent to 178 cases per 100 000 population (**Table 2.2**). Globally, prevalence rates have been falling since 1990, with a faster decline after 1997. However, current forecasts suggest that the Stop TB Partnership's target of halving TB prevalence by 2015 compared with a baseline of 1990 will not be met (**Figure 2.5**). Regionally, prevalence rates are declining in all of WHO's six regions (**Figure 2.8**). The Region of the Americas has halved the 1990 level of TB prevalence already, well in advance of the target year of 2015, and the Western Pacific Region is close to doing so. Reductions in TB prevalence in the Eastern Mediterranean, European and South-East Asia

FIGURE 2.8

Trends in estimated TB prevalence rates 1990–2010 and forecast TB prevalence rates 2011–2015, by WHO region
Shaded areas represent uncertainty bands. The horizontal dashed lines represent the Stop TB Partnership target of a 50% reduction in the prevalence rate by 2015 compared with 1990. The other dashed lines show projections up to 2015.



regions have been considerable since 1990, and appear to have accelerated since 2000. Nonetheless, current forecasts suggest that the 2015 target will not be reached. In the African Region, estimates of TB prevalence rates are far from the target level, and halving the 1990 rate by 2015 appears unlikely.

2.3 Estimates of deaths caused by TB

Mortality caused by TB can be directly measured if a national VR system of high coverage with accurate coding of causes of death according to the latest revision of the international classification of diseases (ICD-10) is in place. Sample VR systems can provide an interim solution, and mortality surveys can sometimes be used to obtain direct measurements of TB deaths in countries with no VR system. In the absence of VR systems or mortality surveys, TB mortality can be estimated as the product of TB incidence and the case fatality rate.

Until 2008, WHO estimates of TB mortality used VR data for only three countries. This was dramatically improved to 89 countries in 2009, although most of these countries were in the European Region and the Region of the Americas, which account for only 8% of the world's TB cases. The use of sample VR data from China and survey data from India for the first time in 2011 has enabled a further major improvement to estimates of TB mortality in this report (**Box 2.3**). The total of 91 countries for which estimates of TB deaths are now based on direct measurements represent 46% of the deaths caused by TB in 2010.

In 2010, an estimated 1.1 million deaths (range, 0.9 million–1.2 million) occurred among HIV-negative cases of TB (**Table 2.1**), including 0.32 million deaths (range, 0.20 million–0.44 million) among women. This was equivalent to 15 deaths per 100 000 population. In addition, there were an estimated 0.35 million deaths (range, 0.32 million–0.39 million) among incident TB cases that were HIV-positive (data not shown); these deaths are classified as HIV deaths in ICD-10.[1] Thus in total, approximately 1.4 million people (range, 1.2 million–1.5 million) died of TB in 2010. This estimate is considerably lower than the estimates of 1.3 million TB deaths among HIV-negative people and 0.4 million deaths from TB among HIV-positive people that were published in 2010,[2] following a major revision of esti-

[1] *International statistical classification of diseases and related health problems, 10th revision (ICD-10)*, 2nd ed. Geneva, World Health Organization, 2007.

[2] *Global tuberculosis control 2010*. Geneva, World Health Organization, 2010 (WHO/HTM/TB/2010.7).

BOX 2.3

Estimates of TB mortality are increasingly based on direct measurements

Estimates of TB mortality published in this report are much improved compared with those of previous years, following a major increase in the availability and use of direct measurements from national or sample vital registration (VR) systems as well as mortality surveys. In the 2010 global report, 602 country-year data points from 89 countries (including 3 high-burden countries – Brazil, the Russian Federation and the Philippines) were used. In this 2011 report, direct measurements from China and India have been used for the first time. In China, the data come from a sample VR system covering all 31 provinces. In India, data from 6 mortality surveys were pooled to obtain a national estimate for 2005, and to derive a complete time-series for 1990–2010. As a result, direct measurements of mortality from 91 countries with 720 country-year VR data points and 2 mortality survey data points were used; the proportion of global mortality due to TB that is measured directly has increased from 8% to 46%. Estimates for 2010 and trends since 1990 are now more robust, with narrower uncertainty intervals.

Deaths caused by TB in India were estimated at 408 000 in 2005 (range, 290 000–546 000), higher than the previous indirect estimate of 291 000 (range, 177 000–437 000). In China, TB deaths were previously estimated at 155 000 (99 000–226 000) in 2009; the updated estimate is 55 000 (53 000–57 000).

Measurements of TB mortality among HIV-positive people from VR data remain scarce and are often unreliable. HIV deaths may be miscoded as TB deaths, and TB deaths among HIV-positive people may be impossible to quantify because TB is only recorded as a contributory cause of death. About one third of countries submitting aggregated VR data on causes of death to WHO do not report data on contributory causes. Estimates of TB mortality in HIV-infected individuals thus remain highly uncertain.

Further efforts to implement national or sample VR systems are essential to strengthen TB surveillance and improve assessment of progress towards the 2015 global target for reductions in TB mortality.

BOX 2.4

Parental deaths caused by TB have created large numbers of orphans

Globally in 2009, there were an estimated 14 million (range, 13–15 million) children aged <15 years who were orphans as a consequence of a parental death caused by HIV/AIDS.[1] Of these children, an estimated 3.1 million (range, 2.7–3.5 million) had been orphaned as a result of a parental death from HIV-associated TB. There were also an estimated 6.5 million (range, 5.5–7.7 million) children who were orphans as a result of a parental death caused by TB among people who were HIV-negative.

In total in 2009, there were an estimated 9.7 million (range, 8.5–11 million) children who were orphans as a result of losing at least one of their parents to TB (including HIV-associated TB).

[1] UNAIDS. **www.unaids.org/en/dataanalysis/epidemiology**, accessed 27 June 2011.

mates of the numbers of TB cases and deaths in African countries (**Box 2.2**).

The number of TB deaths per 100 000 population among HIV-negative people plus the estimated number of TB deaths among HIV-positive people equates to a best estimate of 20 deaths per 100 000 population.

Globally, mortality rates (excluding deaths among HIV-positive people)[1] have fallen by more than one-third since 1990, and the current forecast suggests that the Stop TB Partnership's target of a 50% reduction by 2015 compared with a baseline of 1990 will be achieved (**Figure 2.5**). Mortality rates are also declining in all of WHO's six regions (**Figure 2.9**). The Region of the Americas and the Western Pacific Region halved the 1990 level of mortality by 2000 and 2003 respectively, well in advance of the target year of 2015. The Eastern Mediterranean and European regions appear to have halved the 1990 level of mortality by 2010, and the South-East Asia Region is on track to reach the target by 2015. It is only in the African Region that the target of halving mortality rates by 2015 looks out of reach.

Among the 22 HBCs, mortality rates appear to be falling with the possible exception of Afghanistan (**Figure 2.10**). Even allowing for uncertainty in the estimates, five countries have reached the target of halving the 1990 mortality rate by 2010 (Brazil, Cambodia, China, Uganda and the United Republic of Tanzania), and several other countries have a good chance of achieving the target by 2015.

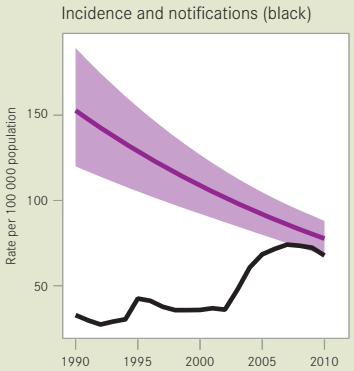
[1] Trends in TB mortality rates are restricted to TB deaths among HIV-negative people, given that TB deaths among HIV-positive people are classified as HIV deaths in ICD-10.

BOX 2.5

China has dramatically reduced the burden of disease caused by TB

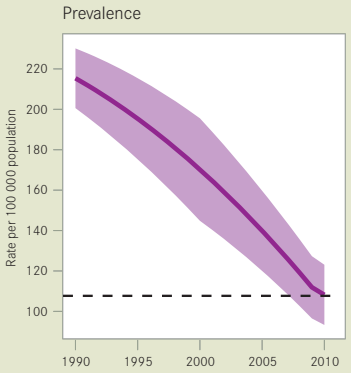
The past 20 years have seen major efforts to reduce the burden of TB in China and to measure trends to demonstrate impact. In the 1990s, a World Bank loan was used to fund the introduction and expansion of DOTS in 13 provinces of the country; this was followed by nationwide coverage. After the SARS [severe acute respiratory syndrome] epidemic in 2003, surveillance of TB cases was strengthened as part of wider improvements to surveillance of all infectious diseases, and reporting of cases and treatment outcomes from all providers – notably TB dispensaries – improved dramatically. National prevalence surveys were undertaken in 1990, 2000 and 2010. Following discussions with WHO during an epidemiology workshop for countries in the Western Pacific Region in June 2010, data on TB deaths recorded in a sample vital registration (VR) system covering all 31 provinces were analysed for the first time.

In June 2011, a workshop to review and update estimates of TB cases and deaths based on the new data was hosted by the Chinese Centers for Disease Control in Beijing. A team from WHO participated in this workshop. The main conclusions were that prevalence was halved between 1990 and 2010, mortality rates fell by almost 80% between 1990 and 2010 and that incidence rates have fallen by 3.4% per year since 1990. Further details are provided below.



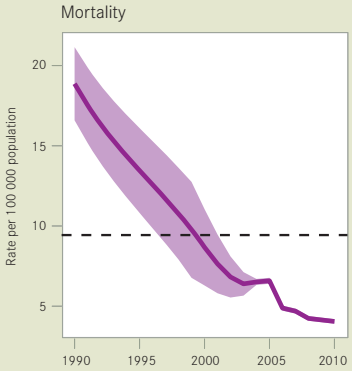
TB prevalence

National surveys found a prevalence rate of bacteriologically-confirmed pulmonary TB of 177 (165–189) per 100 000 population (all ages) in 1990, 160 (142–177) per 100 000 population (all ages) in 2000 and 119 (113–135) per 100 000 population aged ≥15 years in 2010. Adjusting for age and accounting for extrapulmonary TB, the estimated overall prevalence rate per 100 000 population fell from 215 (200–230) per 100 000 population in 1990 to 108 (93–123) per 100 000 population in 2010.[1] The rate of decline was 2.2% per year between 1990 and 2000, and 4.7% per year between 2000 and 2010. These estimated reductions in TB prevalence are likely to be conservative, because screening methods were improved over time (for example, full chest X-rays were taken in 2010 compared with the use of less sensitive fluoroscopy in 2000) and thus cases were more likely to be detected in successive surveys.



TB mortality

Data on TB mortality are available from two sources. The first is a series of two national mortality surveys conducted in 1989 and 1999. The second is a sample VR system in which mortality data are recorded for 161 counties with a population of about 76 million representing all 31 provinces of China. Standardized coding of causes of deaths has been in place since 2004, using a national coding scheme derived from ICD-10. The data from the surveys and the sample VR system are remarkably consistent. The ratio of TB deaths (excluding HIV) to TB notifications fell from 24% in 2000 to 6% in 2010, as a result of (i) a likely decline in case fatality rates associated with improvements in the quality of TB care and (ii) improved reporting of TB cases at the time of diagnosis, particularly after 2005 (see below). Overall, TB mortality has declined rapidly, at an average rate of 8.6% per year between 1990 and 2010.



TB incidence

If TB surveillance performs to very high standards, TB incidence is best measured from routine notification data. Since 2005, a web-based and mandatory TB reporting system has been fully operational and directly covers almost all health facilities in the country. In some remote areas where facilities are not linked directly to the system, reports are provided to the nearest facility that is linked to the system. In 2009, the TB surveillance system was assessed to capture close to 100% of all detected TB cases. When combined with measured trends in prevalence and mortality, incidence rates were estimated to have declined by 3.4% per year since 1990.

MDR-TB

Two sources of drug resistance surveillance (DRS) data are available: (i) data from surveys designed to measure the magnitude of drug resistance that were conducted among samples of notified TB cases in 10 provinces between 1995 and 2005 and at national level in 2007; and (ii) data from the TB prevalence surveys conducted in 2000 and 2010 in which all diagnosed culture-positive cases were tested for drug susceptibility. In the 2000 prevalence survey, 7.6% of culture-positive TB cases were found to have MDR strains (standard deviation (SD), 1.6%), compared with 5.4% (SD, 1.6%) in the 2010 prevalence survey. The difference is not statistically significant. However, the estimated number of prevalent MDR-TB cases in the general population, obtained from taking the product of TB prevalence and the observed proportion of prevalent cases with MDR-TB, fell from 164 000 (99 000–250 000) in 2000 to 78 000 (41 000–126 000) in 2010.

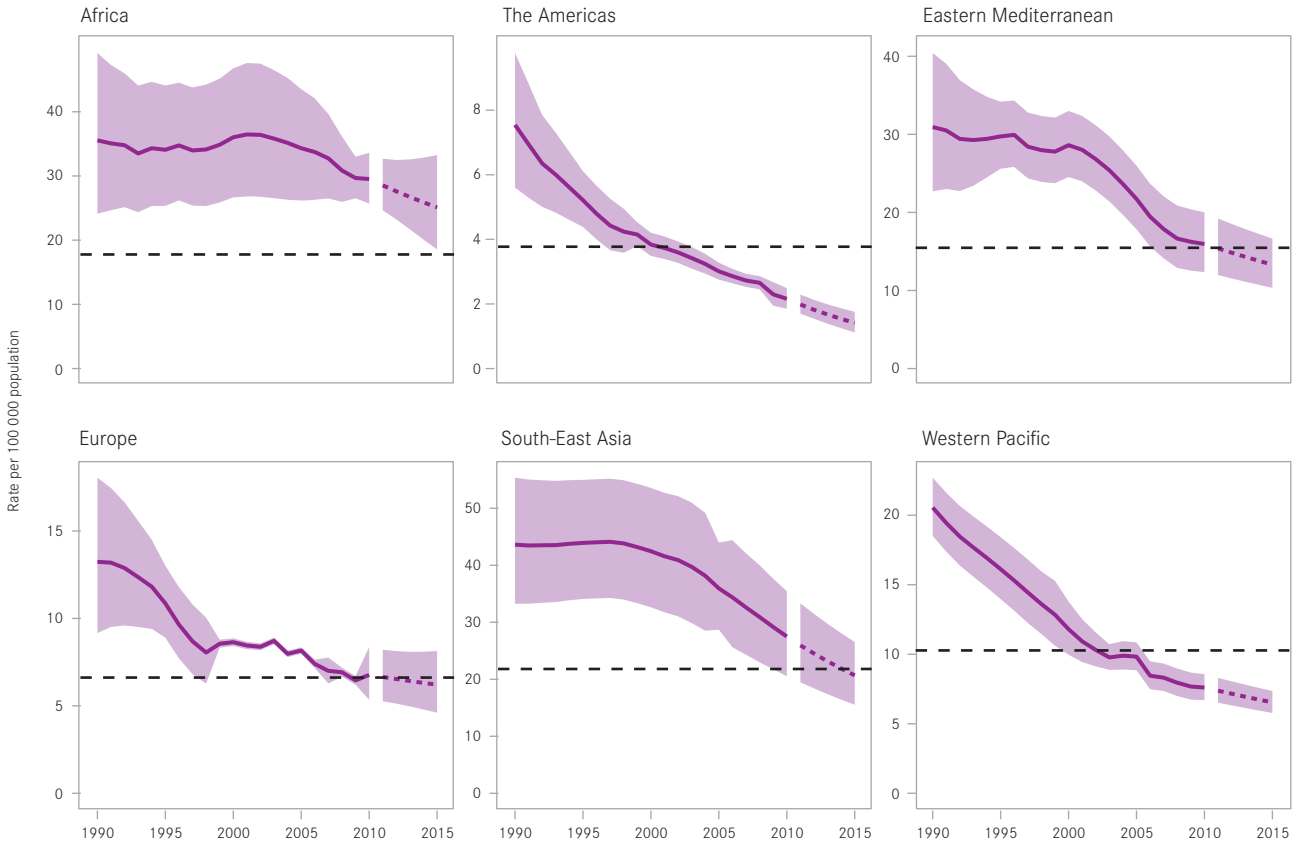
Trends in the proportion of notified cases that have MDR-TB in China cannot be established with confidence due to the highly heterogeneous trends across provinces in which surveys of drug resistance have been carried out. A second national drug resistance survey will provide a robust assessment of trends in the proportion of MDR-TB among notified cases.

[1] This is despite rapid aging of the population which, other things being equal, increases the burden of TB because TB is more common among adults. The proportion of children in the population fell from 28% in 1990 to 26% in 2000 and 20% in 2010.

FIGURE 2.9

Trends in estimated TB mortality rates 1990–2010 and forecast TB mortality rates 2011–2015, by WHO region

Estimated TB mortality excludes TB deaths among HIV-positive people. Shaded areas represent uncertainty bands.[a] The horizontal dashed lines represent the Stop TB Partnership target of a 50% reduction in the mortality rate by 2015 compared with 1990. The other dashed lines show projections up to 2015.



[a] The width of uncertainty bands narrows as the proportion of regional mortality estimated using vital registration data increases.

2.4 Estimates of the number of cases of MDR-TB

In previous reports in this series as well as WHO reports on drug-resistant TB specifically, estimates of the number of incident cases of MDR-TB have been presented.[1] For the first time in this report, estimates of the number of prevalent cases of MDR-TB are presented instead. The reasons are that MDR-TB is a chronic disease and without appropriate diagnosis and treatment for most of these cases (see **Chapter 3**), there are many more prevalent cases than incident cases; calculations of the number of prevalent cases of MDR-TB are more readily understood compared with the complex calculations needed to estimate the incidence of MDR-TB; and the number of prevalent cases of MDR-TB directly influences the active transmission of strains of MDR-TB.

The estimated number of prevalent cases of MDR-TB can be estimated at global level as the product of the estimated number of prevalent cases of TB and the best estimate of the proportion of notified TB patients[2] with MDR-TB at global level. In 2010, there were an estimated 650 000 cases of MDR-TB among the world's 12.0 million prevalent cases of TB. Estimates at country level are not presented for reasons explained in **Annex 1**. However, estimates of the proportion of new and retreatment cases that have MDR-TB are summarized in **Table 2.3**.

A recurring and important question is whether the number of MDR-TB cases is increasing, decreasing or stable. A reliable assessment of trends in MDR-TB requires data from Class A continuous surveillance[3] or data from periodic surveys of drug resistance that are designed, implemented and analysed according to WHO guidelines.[4] There has been substantial progress in the coverage of continuous surveillance and surveys of drug resistance (**Figure 2.11**). Unfortunately, progress is not yet sufficient to provide a definitive assessment of trends in MDR-TB globally or regionally (**Box 2.6**).

[1] In the 2010 WHO report on global TB control, it was estimated that there were 440 000 incident cases of MDR-TB in 2008.

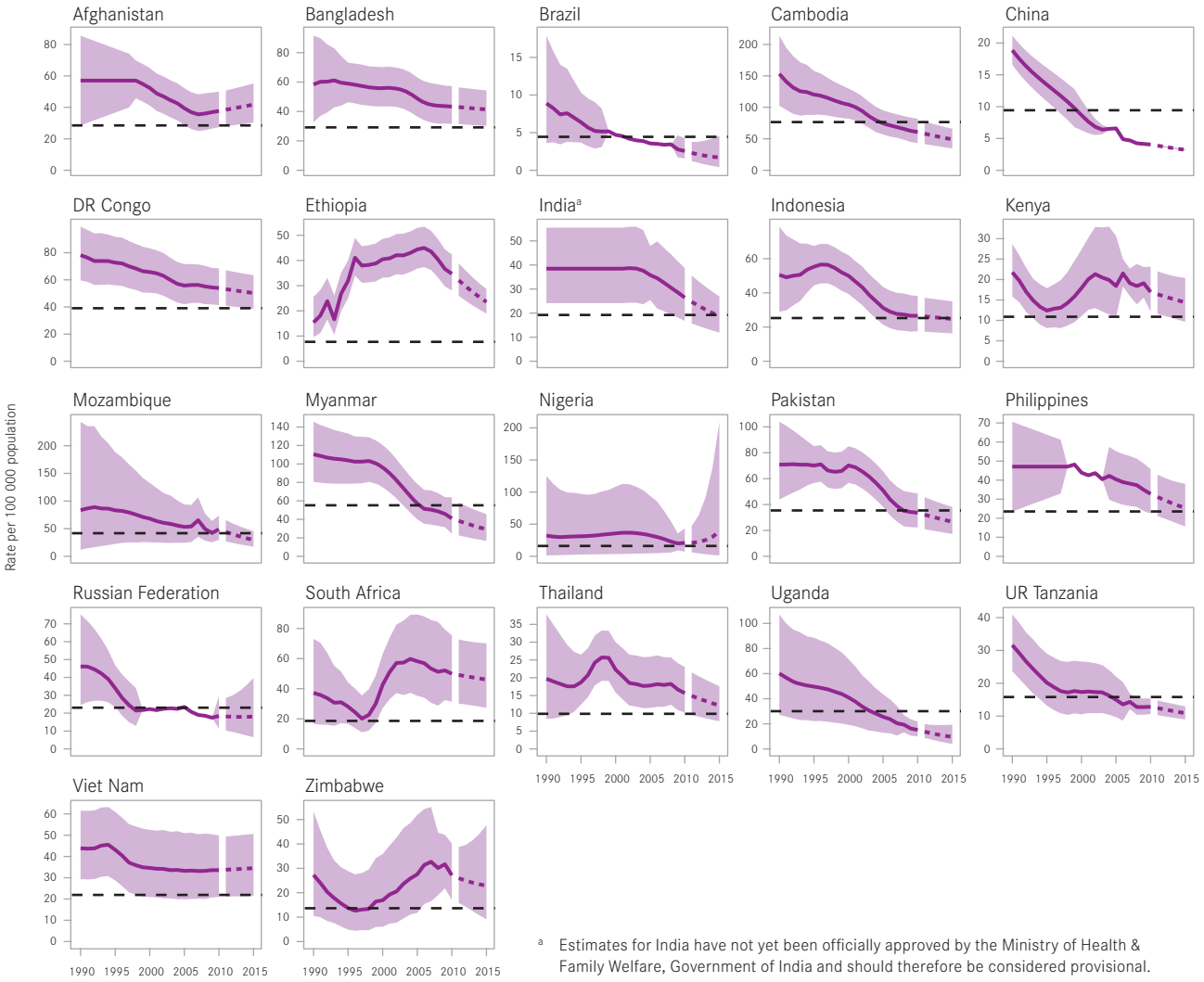
[2] This includes new and retreatment cases (see **Chapter 3** for definitions).

[3] Class A continuous surveillance refers to data from ongoing surveillance of drug resistance that are representative of the caseload of patients.

[4] *Guidelines for the surveillance of drug resistance in tuberculosis – 4th ed.* Geneva, World Health Organization, 2010 (WHO/HTM/TB/2009.422).

FIGURE 2.10

Trends in estimated TB mortality rates 1990–2010 and forecast TB mortality rates 2011–2015, 22 high-burden countries
Estimated TB mortality excludes TB deaths among HIV-positive people. Shaded areas represent uncertainty bands. The horizontal dashed lines represent the Stop TB Partnership target of a 50% reduction in the mortality rate by 2015 compared with 1990. The other dashed lines show projections up to 2015.



[a] Estimates for India have not yet been officially approved by the Ministry of Health & Family Welfare, Government of India and should therefore be considered provisional.

2.5 Strengthening measurement of the burden of disease caused by TB: the WHO Global Task Force on TB Impact Measurement

The estimates of TB incidence, prevalence and mortality and their trend presented in sections 2.1–2.4 are based on the best available data and analytical methods. In 2009, methods were fully reviewed and updated, and between April 2009 and July 2011 consultations were held with 96 countries accounting for 89% of the world's TB cases. Nonetheless, there is considerable scope for further improvement. In this final section of the chapter the latest status of efforts to improve measurement of the burden of disease caused by TB, under the umbrella of the WHO Global Task Force on TB Impact Measurement, are described.

Established in mid-2006, the mandate of the WHO Global Task Force on TB Impact Measurement is to ensure the best possible assessment of progress towards achieving the 2015 global targets for reductions in the burden of disease caused by TB, to report on progress in the interim and to strengthen capacity for monitoring and evaluation at the country level. The Task Force includes representatives from leading technical and financial partners and countries with a high burden of TB.[1]

[1] Partners that are actively participating in the work of the Task Force include the Centers for Diseases Control (United States of America), the European Centre for Disease Prevention and Control, the Global Fund, the Health Protection Agency in the UK, the KNCV Tuberculosis Foundation, the London School of Hygiene and Tropical Medicine in the UK, the Research Institute for Tuberculosis in Japan, the Union and USAID. Many countries with a high burden of TB are engaged in the work of the Task Force.

TABLE 2.3

Estimated proportion of TB cases that have MDR-TB, 27 high MDR-TB burden countries and WHO regions

	ESTIMATED % OF NEW TB CASES WITH MDR-TB[a]	CONFIDENCE INTERVAL	ESTIMATED % OF RETREATMENT TB CASES WITH MDR-TB[a]	CONFIDENCE INTERVAL
Armenia	9.4	7.0–12	43	38–49
Azerbaijan	22	19–27	56	50–62
Bangladesh	*2.1*	*1.7–2.5*	28	25–32
Belarus	26	24–28	60	58–63
Bulgaria	2.0	1.1–3.2	24	18–32
China	5.7	4.6–7.1	26	22–30
DR Congo	*2.2*	*0.1–5.3*	*9.4*	*1.9–17*
Estonia	18	13–24	44	32–58
Ethiopia	1.6	0.9–2.8	12	5.6–21
Georgia	9.5	8.2–11	31	27–35
India	2.1	1.5–2.7	15	13–17
Indonesia	1.8	1.1–2.7	17	8.1–26
Kazakhstan	14	11–18	45	44–47
Kyrgyzstan	*14*	*12–17*	*39*	*35–43*
Latvia	10	8.0–13	24	16–33
Lithuania	11	8.8–13	52	47–57
Myanmar	4.2	3.1–5.6	10	6.9–14
Nigeria	*2.2*	*0.1–5.3*	*9.4*	*1.9–17*
Pakistan	*3.4*	*0.8–6.0*	*21*	*7.3–34*
Philippines	4.0	2.9–5.5	21	14–29
Republic of Moldova	19	17–22	65	62–68
Russian Federation	18	16–19	46	41–52
South Africa	1.8	1.4–2.3	6.7	5.4–8.2
Tajikistan	17	11–24	62	53–70
Ukraine	16	14–19	44	40–49
Uzbekistan	14	11–19	49	42–56
Viet Nam	2.7	2.0–3.7	19	14–25
High MDR-TB burden countries	**3.8**	**2.0–5.7**	**21**	**14–28**
AFR	1.9	0.6–3.3	9.4	3.0–16
AMR	2.1	0.7–3.4	12	3.8–19
EMR	3.4	0.9–5.9	21	7.5–34
EUR	12	8.6–16	37	33–41
SEAR	2.1	1.7–2.5	17	17–18
WPR	4.9	3.6–6.1	23	20–27
Global	**3.4**	**1.9–5.0**	**20**	**14–25**

[a] Best estimates are for the latest available year. Estimates in italics are based on regional data.

At its second meeting in December 2007, the Task Force defined three strategic areas of work:[1]

- strengthening surveillance towards the ultimate goal of direct measurement of incidence and mortality from notification and VR systems;
- conducting surveys of the prevalence of TB disease in a set of global focus countries that met epidemiological and other relevant criteria; and
- periodic review and updating of the methods used to translate surveillance and survey data into estimates of TB incidence, prevalence and mortality.

The third area of work is discussed in more detail in **Annex 1**. The following sections focus on the first two strategic areas of work. Full details of the Task Force's work are available on its web site.[2]

2.5.1 Strengthening surveillance

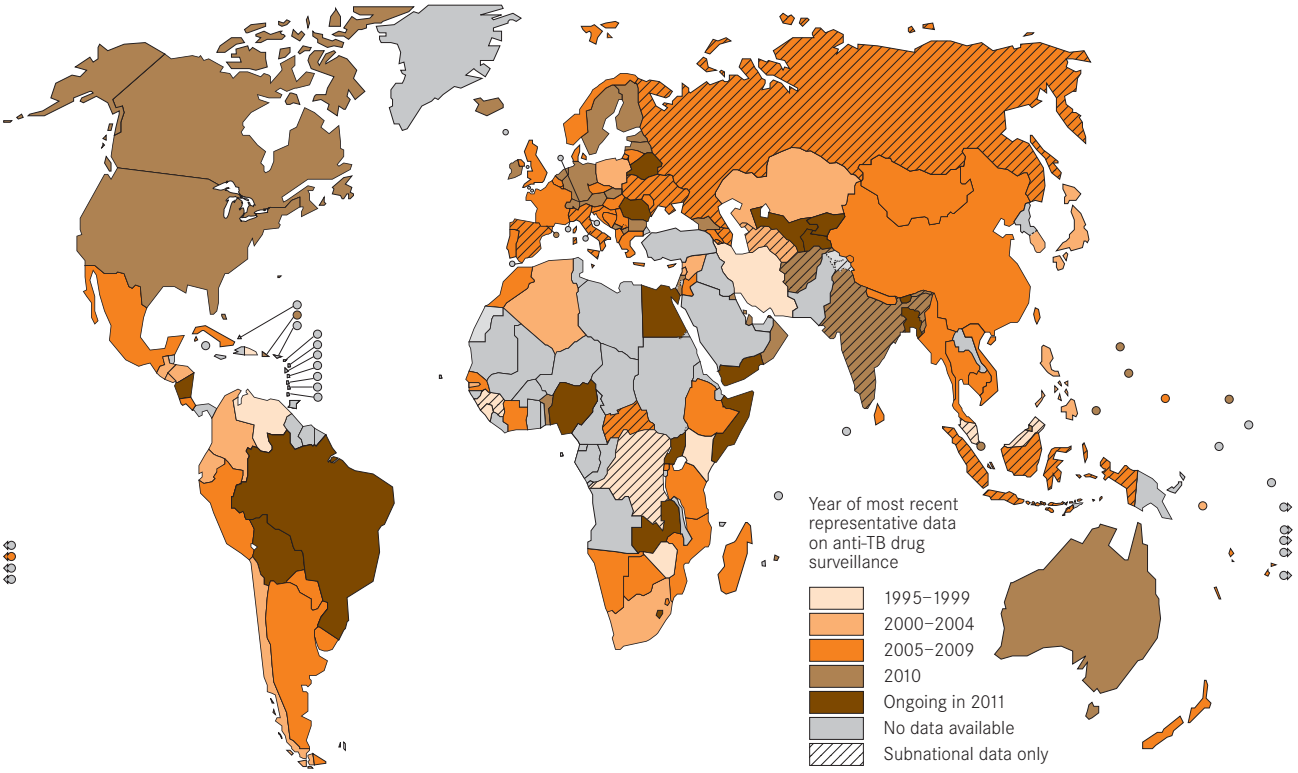
In 2008, the Task Force defined a conceptual framework for assessment of surveillance data, as a basis for updating estimates of the burden of disease caused by TB and for defining recommendations for how surveillance needs to

[1] *TB impact measurement: policy and recommendations for how to assess the epidemiological burden of TB and the impact of TB control.* Geneva, World Health Organization, 2009 (Stop TB policy paper no. 2; WHO/HTM/TB/2009.416).

[2] **www.who.int/tb/advisory_bodies/impact_measurement_taskforce**

FIGURE 2.11

Progress in global coverage of data on drug resistance, 1994–2010



be improved to reach the ultimate goal of direct measurement of TB cases and deaths from notification and VR data (**Figure 2.2**). Tools to implement it in practice were also developed, and used in the 96 country consultations illustrated in **Figure 2.1**.

Building on progress and lessons learnt in the past two years, the Task Force's four priorities in 2011 and 2012 are:

- defining standards and related benchmarks that must be met for notification and VR data to be considered a direct measurement of TB cases and deaths;
- development of guidance on inventory studies;
- development of guidance on patient or case-based electronic recording and reporting (ERR);
- institutionalizing assessments of trends in disease burden and related efforts to strengthen surveillance within the grant cycle of the Global Fund.

The mid-2011 version of the Task Force's framework for assessing surveillance data implicitly defines some of the standards required for notification and VR data to be considered a direct measurement of cases and deaths, respectively. For instance, notification data should be complete and without duplications or misclassifications. However, for some of the elements that are assessed, standards and benchmarks have not been explicitly defined. For example:

- the framework states that data should be internally and externally consistent, but it does not define what this means in practice;
- the framework states that no diagnosed cases should be missed by notification systems, but it does not specify how this should be demonstrated or at what level "under-reporting" would be considered acceptable (understanding that even the best surveillance systems do not capture all diagnosed cases);
- the framework states that TB deaths should be recorded in VR systems, but it does not specify the standards of coverage and accuracy in coding that must be met for VR data to be considered a direct measure of TB mortality.

In 2011, the Task Force convened an expert group to develop draft standards and benchmarks, and to field-test these in a variety of countries (including those with both strong and weaker surveillance systems). The aim is to reach agreement on a set of standards and benchmarks (and associated surveillance checklist) that can be used as a basis for efforts to strengthen surveillance in many countries (including all those with Global Fund grants – see below) as well as to determine the countries for which national surveillance data can already be used as a direct proxy for TB cases and deaths. By July 2011, field-testing was planned or underway in Brazil, China, Egypt, Kenya, Thailand, the UK and the United States of America.

BOX 2.6

Global and regional trends in MDR-TB

The Global Project on anti-tuberculosis drug resistance surveillance was launched in 1994 with two key objectives: (i) to estimate the magnitude of drug resistance; and (ii) to monitor trends in drug resistance. Since 1994, significant efforts to promote the monitoring of drug resistance through national surveys and continuous surveillance based on diagnostic testing have been made, with coordination at the global level by WHO. A total of six global reports on drug resistance and four editions of guidelines on the conduct of drug resistance surveys have been published. The coverage of data has improved considerably (**Figure 2.11**), and about 60% of countries now have at least one direct and representative measurement of the level of drug resistance among their TB patients. For some of these countries, data reported for successive years have allowed the analysis of trends.

The latest available data were used to conduct an analysis of trends in MDR-TB among new (previously untreated) TB patients for WHO regions and the world as a whole.[1] Data from 74 countries and territories with measurements for at least two years were used. There were on average 7 measurements for each of these 74 countries (range, 2–17 per country or territory). Missing country data were imputed from a pooled estimate for countries with similar epidemiological characteristics (these groups of countries are different from the WHO regions shown in the table), assuming that levels of MDR-TB as well as efforts to control MDR-TB were comparable among these countries. The annual change in the percentage of new TB patients with MDR-TB was calculated for each country or territory and then combined (with weighting according to the total number of new TB cases in the country) to produce regional and global estimates along with their uncertainty bounds. Results are presented in the table.

WHO REGION	ANNUAL CHANGE	ANNUAL CHANGE LOW ESTIMATE	ANNUAL CHANGE HIGH ESTIMATE
African	5.6%	−7.5%	18.7%
Americas	0.2%	−17.1%	17.5%
Eastern Mediterranean	−0.7%	−23.5%	22.0%
Europe	3.5%	−4.8%	11.9%
South-East Asia	−1.3%	−31.4%	28.8%
Western Pacific	−4.5%	−12.7%	3.8%
GLOBAL	**−0.3%**	**−14.7%**	**14.1%**

The best estimates suggest that levels of MDR-TB among new TB patients are relatively stable at global level and the Region of the Americas, falling in the Eastern Mediterranean, South-East Asia and Western Pacific regions, and increasing in the African and European Regions. However, there is considerable uncertainty as illustrated by the low and high estimates of rates of change. Despite rapid increases in the coverage of data on drug resistance, this means that a definitive answer to the question of whether the proportion of TB cases with MDR-TB is increasing, decreasing or stable at the global level cannot yet be provided.

Coverage of surveillance of anti-tuberculosis drug resistance must improve further and be considered an essential and fundamental element of TB surveillance. Recent technological advances now make the diagnosis of drug-resistant TB easier, quicker and more accessible (**Chapter 5**), and offer opportunities for rapid gains in global surveillance of drug-resistant TB. For this potential to be realized, anti-tuberculosis drug resistance surveillance must be prioritized by national TB control programmes and funding agencies.

[1] Data on the prevalence of MDR-TB among previously treated TB patients were too limited to allow assessment of trends.

Inventory studies with record-linkage are used to quantify the number of TB cases that are diagnosed but not recorded in notification data. They allow a much better estimation of TB incidence because they provide concrete evidence of the gap between notified cases and diagnosed cases (which may be especially big in countries with a large private sector), and under some circumstances allow estimation of the number of undiagnosed cases as well. They are also an essential part of the evidence needed to demonstrate that surveillance meets the standards required for notification data to be considered a direct measure of TB incidence. Unfortunately, inventory studies have been implemented in very few countries to date, and the lack of such studies is a major reason for uncertainty in estimates of TB incidence (**section 2.1**). Examples of countries where inventory studies have been implemented include the UK, the Netherlands and several countries in the Eastern Mediterranean Region (for example, Egypt, the Syrian Arab Republic and Yemen). To facilitate and encourage much wider implementation, WHO and its partners (notably the Centers for Disease Control, United States of America, and the Health Protection Agency in the UK) are developing a guide on how to design, implement, analyse and report on inventory studies. As this report went to press, the guide was due to be published by the end of 2011.

Assessment of various aspects of data quality is the first and most basic of the three major components of the Task Force's framework for assessing surveillance data (**Figure 2.2**). It was clear in all regional and country workshops that many aspects of data quality could not be assessed because of the absence of patient or case-based ERR systems. For example, it was not possible to assess whether notification data included duplicate entries or misclassified cases. Electronic datasets are also needed to facilitate analysis of data; for example, to check for

internal and external consistency. In 2011, WHO and its partners are developing a guide on ERR (**Box 2.7**).

The Global Fund is the major source of international funding for national TB control programmes (NTPs), amounting to US$ 0.5 billion in 2012 (**Chapter 4**). More than 100 low-income and middle-income countries receive grants for TB control from the Global Fund. In 2010, the Global Fund took steps to streamline several aspects of the grant cycle. These include transitioning from multiple grants within the same country to one consolidated grant, and periodically reviewing the performance of grants, including in-depth assessments of trends in the disease burden caused by TB using surveillance and survey data. These assessments of trends will in turn be linked to recommendations for strengthening surveillance; their implementation can be followed through the Global Fund's standard monitoring and evaluation processes. This new "grant architecture" offers an excellent opportunity to institutionalize assessments of surveillance systems and related efforts to strengthen surveillance in many countries (**Box 2.8**). The secretariat of WHO's Global Task Force on TB Impact Measurement is working closely with the Global Fund to make this opportunity a reality.

2.5.2 Surveys of the prevalence of TB disease

Nationwide population-based surveys of the prevalence of TB disease provide a direct measurement of the number of TB cases; repeat surveys conducted several years apart can allow direct measurement of trends in disease burden. Surveys are most relevant in countries where the burden of TB is high (otherwise sample sizes and associated costs and logistics become prohibitive) and surveillance systems are thought (or known) to miss a large fraction of cases. A good illustration of the value of prevalence surveys is provided by the results from three surveys in China (**Box 2.5**). Before 2007, however, few countries had implemented prevalence surveys (**Figure 2.12**). From 2002 to 2008, there was typically one survey per year. In the 1990s, national surveys were confined

BOX 2.7

New guidance on electronic recording and reporting

Surveillance systems depend on countries keeping good records of all TB cases notified to national TB control programmes (NTPs) and of TB treatment outcomes. This is a data-intensive activity that is increasingly moving away from paper-based to electronic recording and reporting (ERR).

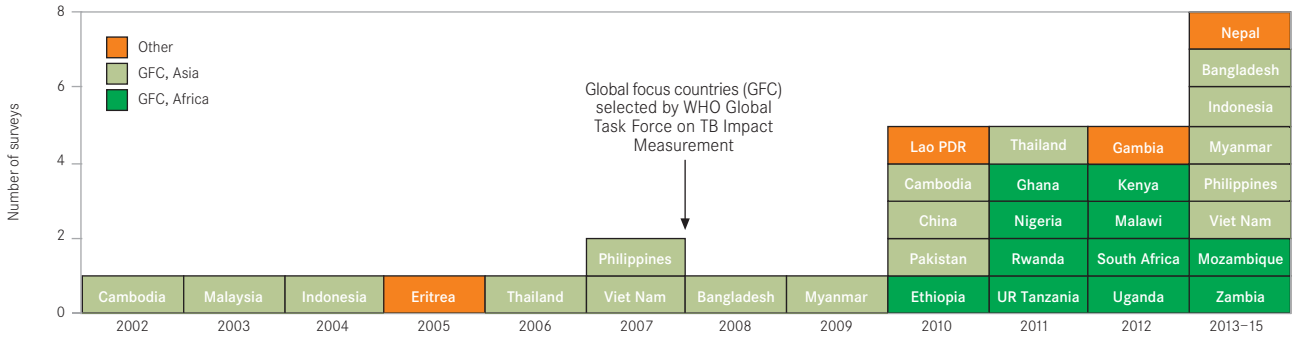
Advantages of ERR include:

- Better management of individual patients, for example by providing fast access to laboratory results;
- Better programme and resource management, by encouraging staff to use and act upon live data. This may help to prevent defaulting from treatment and assist with management of drug supplies (including avoidance of stockouts);
- Improved surveillance by making it easier for facilities not traditionally linked to the NTP, such as hospitals, prisons and the private sector, to report TB cases, and by reducing the burden of compiling and submitting data through paper-based quarterly reports;
- Greater analysis and use of data, since data can be readily imported into statistical packages, results are available to decision-makers more quickly and it is possible to detect outbreaks promptly;
- Higher quality data, since automated data quality checks can be used and duplicate or misclassified notifications can be identified and removed (which is very difficult or impossible to do nationally with paper-based systems). It is also easier to introduce new data items.

WHO is coordinating the development of a guide on how to design and implement ERR according to best-practice standards. It is due to be published in 2011.

FIGURE 2.12

Global progress in implementing national surveys of the prevalence of TB disease, actual (2002–2010) and planned (2011–2015)



BOX 2.8

Periodic reviews of Global Fund grants – an opportunity to improve measurement of trends in disease burden and strengthen surveillance worldwide

In November 2009, the Board of the Global Fund approved a new grant architecture.[1] This includes the introduction of a single grant agreement per disease (HIV, TB or malaria), in contrast to the old model in which each newly-approved proposal generated a separate grant agreement with its own budget and performance framework (such that some countries had multiple grants and multiple performance frameworks for multiple time-periods). The new grant architecture also introduces periodic reviews. These will be conducted at least once every three years and include an in-depth evaluation of how funds have been used, programmatic performance and progress towards the proposal targets, including targets for reductions in disease burden.[2] Results will determine funding levels in future years.

Periodic reviews replace the previous model of reviewing each grant agreement after two years, prior to the approval of Phase 2 (years 3–5 of the standard five-year grant). Existing country-led review processes (such as National Programme Reviews and Joint External Programme Evaluations) will be encouraged as inputs to the periodic review process.

With the introduction of periodic reviews, evaluations of progress in reducing the burden of TB disease will be closely linked to decisions about future funding commitments. The indicators that will be used to evaluate progress have been defined in consultation with partners including WHO. For all countries, assessments for TB will include analysis of trends in the case notification rate, after careful assessment of its suitability as a proxy for trends in TB incidence. Assessment of trends in notifications will require analysis of trends in case-finding efforts, the quality and coverage of surveillance and risk factors for TB. If data from national or sample vital registration systems are available, trends in mortality will be assessed and used to inform the periodic review. In countries that have conducted at least two surveys of the prevalence of TB disease, trends in TB prevalence will be assessed and used to inform the periodic review. In addition to case notification rates, the treatment success rate for new smear-positive TB cases will also be assessed. It is anticipated that analysis of trends in disease burden will be undertaken prior to the periodic review; to facilitate this work, the Global Fund will allocate the necessary resources within the monitoring and evaluation budget of grant agreements. An indicative budget of up to US$ 100 000 may be allocated.[3]

Periodic reviews provide an unprecedented opportunity for regular and systematic assessment of trends in the burden of disease caused by TB in more than 100 countries, using the framework and associated tools developed by the WHO Global Task Force on TB Impact Measurement.[4] If this opportunity is taken, periodic reviews will substantially improve estimates of trends in the burden of disease caused by TB and provide a foundation for strengthening surveillance of the disease worldwide.

[1] *New grant architecture*. Geneva, The Global Fund to Fight AIDS, Tuberculosis and Malaria, 2011 (also available at: **www.theglobalfund.org/en/grantarchitecture**).

[2] *Operational policy note on periodic reviews*. Geneva, The Global Fund to Fight AIDS, Tuberculosis and Malaria, 2011 (also available at: **www.theglobalfund.org/documents/core/manuals/Core_OperationalPolicy_Manual_en.pdf**)

[3] This is separate from the dedicated budgets required to undertake TB prevalence surveys (cumulative investments amount to US$ 25 million) or other studies that will feed into the assessment.

[4] The tool used to date is available at: **www.who.int/tb/advisory_bodies/impact_measurement_taskforce**. Additional tools including a surveillance checklist and associated standards and benchmarks (see section 2.5.1) will be made available on the same site as they become available.

to China, Myanmar, the Philippines and the Republic of Korea. Before 2009 and with the exception of Eritrea in 2005, the last national surveys in the African Region were undertaken between 1957 and 1961.

In 2007, WHO's Global Task Force on TB Impact Measurement identified 53 countries that met epidemiological and other criteria for implementing a survey. A set of 22 global focus countries were selected to receive particular support in the years leading up to 2015. Many of the global focus countries had already developed plans to implement surveys and had sought funding from the Global Fund at this time, but in most countries experience and expertise in such surveys were limited.

Since early 2008, the Task Force has made substantial efforts to support countries to design, implement, analyse and report on surveys. These efforts include close collaboration with the Global Fund to help secure full funding for surveys through reprogramming of grants (several surveys were initially under-budgeted); workshops to develop protocols; expert reviews of protocols; training courses for survey coordinators without prior experience of survey implementation, including an opportunity to observe field operations in Cambodia; training courses to build a group of junior international consultants who can provide technical assistance to countries; country missions by experts from the Task Force; and the facilitation of Asia–Africa collaboration in which survey coordinators from Asian countries provide guidance and support to those leading surveys in African countries where no recent experience exists (which should later develop into Africa–Africa collaboration). Besides WHO, those actively engaged in these efforts include the staff who have led and managed surveys in Cambodia, China, Myanmar and Viet Nam; the Centers for Disease Control, United States of America; the Global Fund; the KNCV Tuberculosis Foundation in the Netherlands; the

London School of Hygiene and Tropical Medicine, UK; and the Research Institute for Tuberculosis, Japan. All of this support is underpinned by a new handbook on TB prevalence surveys (also known as "the lime book"), which provides comprehensive theoretical and practical guidance on all aspects of surveys.[1] The book was produced as a major collaborative effort involving 15 agencies and institutions and 50 authors in 2010, and was widely disseminated in 2011.

As a result of these collaborative efforts, there is now major global and national momentum behind prevalence surveys. If surveys are implemented according to schedule, between five and eight surveys per year will be implemented during the period 2010–2015. These include surveys in 20 global focus countries – 9 in Asia and 11 in Africa (**Figure 2.12**).

A landmark achievement in 2011 was the successful completion of the first national prevalence survey in Ethiopia. This is the first such survey in Africa following WHO guidelines in more than 50 years. Results will be featured in the 2012 global report, alongside results from surveys undertaken in Cambodia and Pakistan.

[1] *TB prevalence surveys: a handbook*. Geneva, World Health Organization, 2011 (WHO/HTM/TB/2010.17).

CHAPTER 3

Case notifications and treatment outcomes

KEY MESSAGES

- In 2010, 6.2 million people were diagnosed with TB and notified to national TB control programmes. Of these, 5.4 million had TB for the first time and 0.3 million had a recurrent episode of TB after being cured of TB in the past. Besides a small number of cases whose history of treatment was not recorded, the remaining 0.4 million had already been diagnosed with TB but had their treatment changed to a retreatment regimen after treatment failed or was interrupted.
- India and China accounted for 40% of the world's notified cases of TB in 2010; Africa accounted for a further 24%, of which one quarter were in South Africa. The 22 high-TB burden countries accounted for 82%.
- Public-private and public-public mix (PPM) initiatives to engage the full range of care providers can help to increase case notifications. In 20 countries for which data were available, PPM contributed between about one fifth to around 40% of total notifications in 2010, in the geographical areas in which PPM was implemented.
- Treatment outcomes are most closely monitored among new cases with smear-positive pulmonary TB. Among cases treated in 2009, 87% were successfully treated – the highest level reported to date. Treatment success rates remained low in the European Region, at 67%, with high death and failure rates.
- There has been an increase in the number of TB patients diagnosed with MDR-TB in the last five years. However, patients enrolled on treatment for MDR-TB in 2010 only represented 16% of the MDR-TB cases estimated to exist among reported TB cases. Outcomes of treatment for MDR-TB are available for a small number of patients. The numbers of TB cases tested for MDR-TB, diagnosed with MDR-TB and successfully treated for MDR-TB lag far behind the targets set in the Global Plan.
- In most parts of the world, less than 5% of TB patients are tested for MDR-TB. Laboratory strengthening and new diagnostics are urgently needed to improve the coverage of diagnostic testing for MDR-TB.
- Between 1995 and 2010, 55 million TB patients were treated for TB in programmes that had adopted the DOTS/Stop TB Strategy; 46 million of these people were successfully treated. These treatments saved an estimated 6.8 million lives compared with the pre-DOTS standard of care.

The total number of TB cases that occur each year can be estimated for the world as a whole and for regions and individual countries, but with uncertainty (as explained in **Chapter 2**). This uncertainty reflects the fact that in most countries – especially countries that have the largest number of reported cases of TB – surveillance systems do not capture all TB cases. Cases may be missed by routine notification systems because people with TB do not seek care, seek care but remain undiagnosed, or are diagnosed by public and private providers that do not report cases to local or national authorities.

Routine recording and reporting of the numbers of TB cases diagnosed and treated by national TB control programmes (NTPs) and monitoring of the outcomes of treatment was one of the five elements of TB control emphasized in the DOTS strategy, and remains one of the core elements of the Stop TB Strategy (**Chapter 1**). Following the introduction and roll-out of the DOTS/Stop TB Strategy in most countries since the mid-1990s, data on the number of people diagnosed and treated for TB and associated treatment outcomes are routinely reported by NTPs in almost all countries, and in turn these data are reported to WHO in annual rounds of global TB data collection. With increasing engagement by NTPs of the full range of care providers, including those in the private sector and those in the public sector not previously linked to NTP reporting systems, data are also better reflecting the total number of diagnosed cases. The number of TB cases that are not diagnosed is expected to be low in countries where health care is of high quality and readily accessible. In other countries, the numbers of undiagnosed cases can only be estimated with considerable uncertainty, using relevant data sources such as population-based surveys of the prevalence of TB disease, inventory studies including record-linkage and capture re-capture modelling, and indicators on the coverage and cost of health services (for further details, see **Chapter 2**).

This chapter summarizes the total number of people who were diagnosed with TB and notified by NTPs in 2010 as well as trends in notifications of TB cases since 1990. It is assumed that notified cases were treated for TB. Data from 20 countries illustrating the contribution to total notifications of efforts to engage public and private providers not traditionally linked to the NTP are also presented. The chapter then summarizes information

BOX 3.1

Definitions of TB cases[1]

Definite case of TB A patient with *Mycobacterium tuberculosis* complex identified from a clinical specimen, either by culture or by a newer method such as molecular line probe assay. In countries that lack laboratory capacity to routinely identify *Mycobacterium tuberculosis*, a pulmonary case with one or more initial sputum specimens positive for acid-fast bacilli (AFB) is also considered to be a "definite" case, provided that there is functional external quality assurance (EQA) with blind rechecking.

Case of TB A definite case of TB (defined above) or one in which a health worker (clinician or other medical practitioner) has diagnosed TB and decided to treat the patient with a full course of TB treatment.

Case of pulmonary TB A patient with TB disease involving the lung parenchyma.

Smear-positive pulmonary case of TB A patient with one or more initial sputum smear examinations (direct smear microscopy) AFB-positive; or one sputum examination AFB+ and radiographic abnormalities consistent with active pulmonary TB as determined by a clinician. Smear-positive cases are the most infectious and thus of the highest priority from a public health perspective.

Smear-negative pulmonary case of TB A patient with pulmonary TB not meeting the above criteria for smear-positive disease. Diagnostic criteria should include: at least two sputum smear examinations negative for AFB; radiographic abnormalities consistent with active pulmonary TB; no response to a course of broad-spectrum antibiotics (except in a patient for whom there is laboratory confirmation or strong clinical evidence of HIV infection); and a decision by a clinician to treat with a full course of anti-TB chemotherapy. A patient with positive culture but negative AFB sputum examinations is also a smear-negative case of pulmonary TB.

Extrapulmonary case of TB A patient with TB of organs other than the lungs (e.g. pleura, lymph nodes, abdomen, genitourinary tract, skin, joints and bones, meninges). Diagnosis should be based on one culture-positive specimen, or histological or strong clinical evidence consistent with active extrapulmonary disease, followed by a decision by a clinician to treat with a full course of anti-TB chemotherapy. A patient in whom both pulmonary and extrapulmonary TB has been diagnosed should be classified as a pulmonary case.

New case of TB A patient who has never had treatment for TB or who has taken anti-TB drugs for less than one month.

Retreatment case of TB There are three types of retreatment case: (i) a patient previously treated for TB, who is started on a retreatment regimen after previous treatment has failed (treatment after failure); (ii) a patient previously treated for TB who returns to treatment having previously defaulted; and (iii) a patient who was previously declared cured or treatment completed and is diagnosed with bacteriologically-positive (sputum smear or culture) TB (relapse).

Case of multidrug-resistant TB (MDR-TB) TB that is resistant to two first-line drugs: isoniazid and rifampicin. For patients diagnosed with MDR-TB, WHO recommends treatment of at least 20 months with a regimen that includes second-line anti-TB drugs.

Note: New and relapse cases of TB are incident cases. Cases of TB started on a retreatment regimen following treatment failure or treatment interruption are prevalent cases.

[1] See *Treatment of tuberculosis guidelines*, 4th ed. Geneva, World Health Organization, 2010 (WHO/HTM/STB/2009.420).

on the diagnosis and treatment of multidrug-resistant TB (MDR-TB)[1] specifically, and compares the numbers of cases tested for MDR-TB and the numbers of cases diagnosed and started on treatment with the targets set out in the Global Plan to Stop TB 2011–2015 (**Chapter 1**). Finally, the chapter summarizes data on treatment outcomes among new sputum smear-positive cases of pulmonary TB, which have traditionally been the focus of efforts to monitor treatment outcomes, and the available data on treatment outcomes among TB patients diagnosed with MDR-TB who were treated with second-line anti-TB drugs.

3.1 Number of diagnosed and notified cases of TB

In 2010, 6.2 million people were diagnosed with TB and notified to NTPs. Of these, 5.4 million had TB for the first time and 0.3 million had a recurrent episode of TB after being previously cured of TB. Besides a small number of cases whose history of treatment was not recorded, the remaining 0.4 million had already been diagnosed with TB but had their treatment changed to a retreatment regimen after treatment failed or was interrupted (for definitions of each type of case, see **Box 3.1**).

Among people who were diagnosed with TB for the first time (new cases), there were 2.6 million cases of sputum smear-positive pulmonary TB, 2.0 million cases of sputum smear-negative pulmonary TB (including cases for which smear status was unknown) and 0.8 million cases of extrapulmonary TB (**Table 3.1**).[2] Of the new cases of pulmonary TB, 57% were sputum smear-positive.

[1] For definitions, see **Box 3.1**.

[2] No distinction is made between DOTS and non-DOTS programmes. This is because by 2007, virtually all (more than 99%) notified cases were reported to WHO as treated in DOTS programmes.

TABLE 3.1

Case notifications, 2010

	TOTAL NOTIFIED	NEW				RETREATMENT		NEW AND RELAPSE	HISTORY UNKNOWN	PERCENT NEW PULMONARY CASES SMEAR-POSITIVE
		SMEAR-POSITIVE	SMEAR-NEGATIVE/ UNKNOWN	EXTRA-PULMONARY	CASE TYPE UNKNOWN	RELAPSE	RETREATMENT EXCL. RELAPSE			
Afghanistan	28 238	12 947	7 085	6 248	633	1116	209	28 029		65
Bangladesh	158 252	105 624	21 420	23 438	3 231	2 989	1 550	156 702	0	83
Brazil	81 946	37 932	23 030	10 017	18	3 398	7 551	74 395	0	62
Cambodia	41 628	17 454	8 301	14 239	0	466	1 168	40 460	0	68
China	923 308	429 899	432 868	6 325	0	39 307	14 909	908 399	0	50
DR Congo	118 636	73 653	14 039	22 340	0	4 138	4 466	114 170	0	84
Ethiopia	156 928	46 634	54 979	50 417	0	2 664	2 234	154 694	–	46
India	1 522 147	630 165	366 381	231 121	1 508	110 691	182 281	1 339 866	–	63
Indonesia	302 861	183 366	101 247	11 659	0	4 387	2 202	300 659	0	64
Kenya	106 083	36 260	41 962	17 382	0	3 668	6 811	99 272	0	46
Mozambique	46 174	20 097	16 408	5 621	0	1 432	2 616	43 558	0	55
Myanmar	137 403	42 318	56 840	27 976	–	4 456	5 813	131 590	–	43
Nigeria	90 447	45 416	32 616	3 422	0	2 667	6 326	84 121	0	58
Pakistan	269 290	104 263	105 623	45 443	0	5 870	5 055	261 199	3 036	50
Philippines	174 389	89 198	72 440	1 610	0	3 075	8 066	166 323	0	55
Russian Federation	170 904	31 416	67 894	3 513	0	8 737	17 741	111 560	41 603	32
South Africa	400 391	128 571	155 071	52 090	0	18 509	46 150	354 241	0	45
Thailand	68 239	33 450	20 927	10 135	0	1 885	1 111	66 397	731	62
Uganda	45 546	23 456	13 567	4 571	0	1 291	2 661	42 885	0	63
UR Tanzania	63 453	24 769	21 184	13 715	–	1 430	2 355	61 098	–	54
Viet Nam	99 022	52 145	18 237	17 651	0	6 834	1 574	94 867	2 581	74
Zimbabwe	47 557	11 654	25 157	6 061	0	1 337	3 348	44 209	0	32
High-burden countries	**5 052 842**	**2 180 687**	**1 677 276**	**584 994**	**5 390**	**230 347**	**326 197**	**4 678 694**	**47 951**	**57**
AFR	1 478 356	597 364	480 665	246 997	642	53 603	98 872	1 379 271	213	55
AMR	226 669	116 828	52 169	32 184	2 130	10 410	12 135	213 721	813	69
EMR	421 384	168 563	137 256	91 947	633	11 201	8 598	409 600	3 186	55
EUR	355 258	81 155	130 897	33 314	387	23 683	37 943	269 436	47 879	38
SEAR	2 332 333	1 046 865	615 258	328 353	4 739	130 714	205 286	2 125 929	1 118	63
WPR	1 341 391	622 211	566 146	61 042	27	54 170	32 875	1 303 596	4 920	52
Global	**6 155 391**	**2 632 986**	**1 982 391**	**793 837**	**8 558**	**283 781**	**395 709**	**5 701 553**	**58 129**	**57**

– Indicates data not available.

India and China accounted for 40% of the 5.7 million new and relapse cases of TB that were notified in 2010 (24% and 16%, respectively). African countries accounted for a further 24% (of which one quarter were from one country – South Africa). The WHO European and Eastern Mediterranean regions and the Region of the Americas accounted for 16% of new and relapse cases notified in 2010. The 22 HBCs accounted for 82%.

Among the 22 HBCs, the percentage of new cases of pulmonary TB that were sputum smear-positive was relatively low in Zimbabwe (32%), the Russian Federation (32%), Myanmar (43%), South Africa (45%), Kenya (46%) and Ethiopia (46%). A comparatively high proportion of new cases of pulmonary TB were sputum smear-positive in Bangladesh (83%), the Democratic Republic of the Congo (84%) and Viet Nam (74%).

Globally, the number of TB cases diagnosed and notified per 100 000 population has stabilized since 2008, following a marked increase between 2001 and 2007 (**Figure 3.1**). Globally and in all WHO regions, a clear gap between the numbers of notified cases and the estimated numbers of incident cases exists, although this is narrowing, particularly in the Western Pacific Region (mostly driven by trends in China) and the Region of the Americas (**Figure 3.2**). Trends in the 22 HBCs are shown in **Figure 3.3**, and for other countries are illustrated in country profiles that are available online.[1]

[1] www.who.int/tb/data

BOX 3.2

Achievements in TB care and control at the global level, 1995–2010

The start of WHO's efforts to systematically monitor progress in TB control on an annual basis in 1995 coincided with global promotion and expansion of the DOTS strategy. Data compiled since then allow assessment of achievements in TB control since 1995.

Between 1995 and 2010, a total of 55 million TB patients were treated in programmes that had adopted the DOTS/Stop TB Strategy; 46 million of these people were successfully treated. Conservative estimates suggest that these treatments saved around 6.8 million lives, compared with the pre-DOTS standard of care.[1]

[1] Glaziou P et al. Lives saved by tuberculosis control and prospects for achieving the 2015 global target for reducing tuberculosis mortality. *Bulletin of the World Health Organization*, 2011, 89:573–582.

FIGURE 3.1

Global trends in case notification (black) and estimated TB incidence (green) rates, 1990–2010

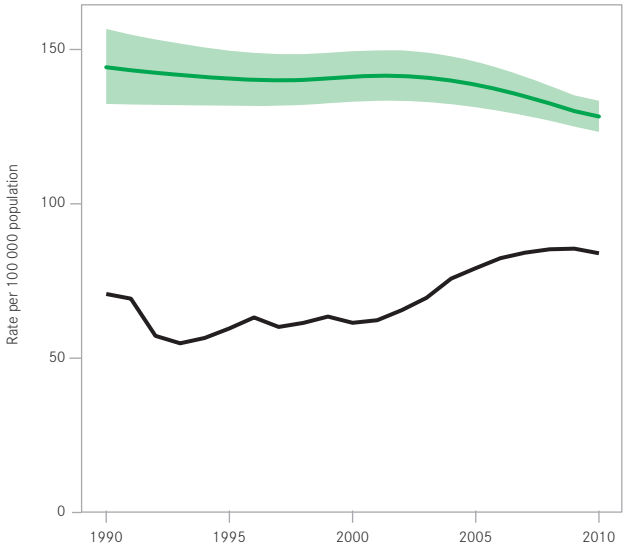


FIGURE 3.2

Case notification and estimated TB incidence rates by WHO region, 1990–2010. Regional trends in case notification rates (new and relapse cases, all forms) (black) and estimated TB incidence rate (green). Shaded areas represent uncertainty bands.

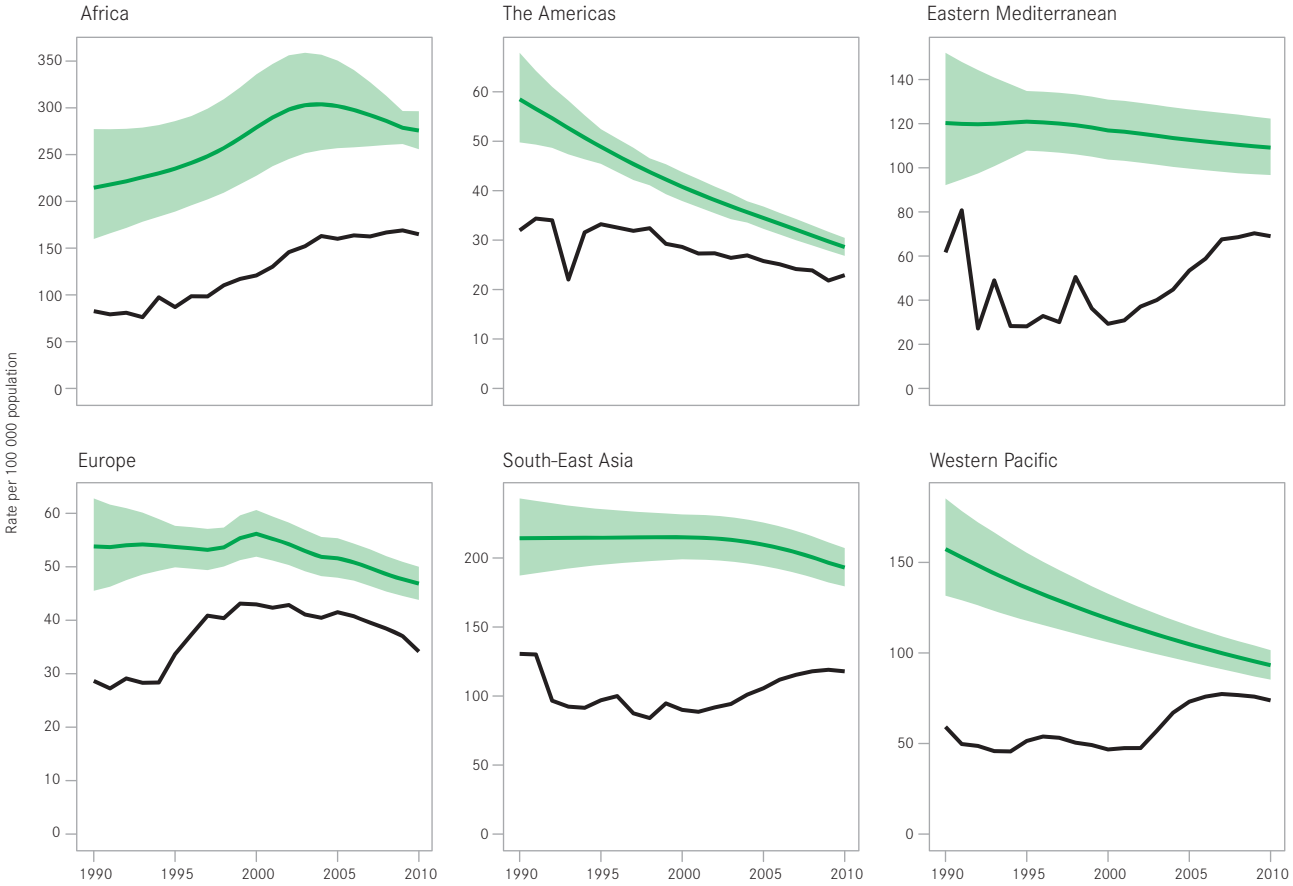


FIGURE 3.3

Case notification and estimated TB incidence rates, 22 high-burden countries, 1990–2010. Trends in case notification rates (new and relapse cases, all forms) (black) and estimated TB incidence rate (green). Shaded areas represent uncertainty bands.

[a] Estimates for India have not yet been officially approved by the Ministry of Health & Family Welfare, Government of India and should therefore be considered provisional.

3.2 Public–private and public–public mix (PPM) initiatives

In many countries, especially those with a large private sector, collaboration with the full range of health care providers is one of the best ways to ensure that all people with TB are promptly diagnosed, notified to NTPs and provided with standardized care. This is component 4 of the Stop TB Strategy (**Chapter 1**); its two subcomponents are:

- involving all public, voluntary, corporate and private providers through PPM approaches; and
- promoting the International Standards for Tuberculosis Care through PPM initiatives.

Efforts to engage all care providers through PPM initiatives, beyond those which fall under the direct responsibility of the NTP (termed "non-NTP providers" in this report), are being introduced and scaled up in many countries. Demonstrating this progress is not always possible: it requires systematic recording of the source of referral and place of TB treatment at the local level, reporting to the national level and analysis of aggregated data at the national level.[1] However, this recording and reporting is happening in a growing number of countries

[1] WHO recommends that the source of referral and the place of treatment should be routinely recorded and reported.

TABLE 3.2

Contribution of PPM[a] to notifications of TB cases in 20 countries

WHO REGION AND COUNTRY	TYPES OF NON-NTP CARE PROVIDERS ENGAGED	COVERAGE	NUMBER OF NEW TB CASES NOTIFIED IN 2010	CONTRIBUTION TO TOTAL NOTIFICATIONS OF NEW TB CASES
AFRICAN REGION				
Angola	Diverse private and public providers	Countrywide	15 676	37%
Ghana	Diverse private and public providers	Countrywide	2 032	14%
Kenya	Private clinics and hospitals, NGOs and diverse public providers	Countrywide	7 706	8.1%
Madagascar	Diverse private and public providers	Countrywide	6 749	29%
Nigeria	Private clinics and hospitals	Countrywide	31 656	39%
UR Tanzania	Private, faith-based organizations and NGO hospitals	Countrywide	11 156	19%
REGION OF THE AMERICAS				
Haiti	Private practitioners, NGOs and prison services	Countrywide	5 030	36%
Peru	Social security organizations and other public and private providers	Countrywide	5 993	21%
EASTERN MEDITERRANEAN REGION[b]				
Iran (Islamic Republic of)	Diverse private and public providers	Countrywide	4 271	43%
Pakistan	Private clinics and hospitals	Countrywide	51 563	20%
Egypt	Health insurance organizations, NGOs and other public providers	Countrywide	2 112	24%
Sudan	Diverse private and public providers	Countrywide	2389	9.4%
EUROPEAN REGION				
Ukraine	Prison and military services	Countrywide	1540	4.9%
SOUTH-EAST ASIA REGION				
Bangladesh	Hospitals, medical colleges, prison services and other public providers	Countrywide	44 732	29%
India	Diverse private, public and NGO providers	14 large cities (total population 50 million)	35 025	45% of new smear-positive cases
Indonesia	Public and private hospitals	Countrywide	48 391	16%
Myanmar	Diverse private, public and NGO providers	Countrywide	24 250	19%
WESTERN PACIFIC REGION				
China	General public hospitals	Countrywide	36 7607	42%
Philippines	Private clinics and hospitals	Countrywide	12 081	7.2%
Republic of Korea	Predominantly private providers	Countrywide	33 167	85%

NGO, non-governmental organization; FBO, Faith-based organization; NTP, national TB control programme.

[a] Private providers include private practitioners, private hospitals, private clinics, corporate services and NGOs and non-NTP public providers include hospitals, public medical colleges, prisons/detention centres and military facilities.

[b] For the Eastern Mediterranean Region, data are for the contribution of PPM to all TB cases, not just new cases.

and data for 20 countries are summarized in **Table 3.2**. In these 20 countries, the contribution of PPM initiatives typically ranges from between about one fifth to around 40% of total notifications, in the geographical areas in which PPM has been implemented.

NTPs have used a variety of approaches to engage non-NTP care providers, according to the local context. These include incentive-based schemes for individual and institutional providers (in India and Myanmar); a web-based system for mandatory reporting of TB cases by all providers (in China); and reimbursement for TB care delivered by private providers through health insurance, when care conforms with agreed-upon standards (in the Philippines). It is also noticeable that countries have prioritized different types of care providers. These include general public hospitals (in China), private clinics and hospitals (in Nigeria), social security organizations (in Peru) and private and NGO hospitals (in the United Republic of Tanzania). In general, the data illustrate the relevance of PPM in both African and Asian countries. A case study from Nigeria is provided in **Box 3.3**.

Typically, only a small proportion of targeted care providers collaborate actively with NTPs and contribute to TB case notifications in most countries. For this reason, it is not surprising that NTPs often give first priority to engaging institutional providers with whom establishing

BOX 3.3

PPM for TB care and control in Nigeria

Health services in Nigeria, including those for care of TB patients, are offered by a range of providers in the public, voluntary and private sectors. Mission hospitals run by faith-based organizations have a long history of collaboration with the National Tuberculosis and Leprosy Control Programme (NTBLCP), dating from shortly after the NTBLCP's establishment in 1989. In 1994, the NTBLCP introduced the DOTS strategy; DOTS was also implemented by mission hospitals, especially in the southern parts of the country. The private medical sector is estimated to provide health care to up to 60% of the population, although there is considerable variation within and across states. Private providers manage TB patients but rarely notify them to the NTBLCP.

To enhance access to quality-assured TB care and improve reporting of cases, the Stop TB Strategy was adopted by the NTBLCP in 2006. Efforts to engage all care providers through PPM approaches began in the same year. After a pilot project implemented in Anambra State with the support of the German Leprosy and TB Relief Association was successful, PPM was expanded systematically following WHO guidelines and with financial support from the Global Fund and the United States Agency for International Development. A comprehensive national situation assessment was conducted in 2007. Based on the findings of the assessment and lessons learnt from the pilot project, national PPM guidelines were developed. A curriculum and training modules specific to PPM were also prepared. PPM implementation was guided at the national level by a PPM Steering Committee; its counterparts at the provincial level – the State PPM Steering Committees – are operational in 12 states. In scaling up PPM and enabling productive collaboration with private providers, more than 500 medical officers, 1000 general health workers and 200 laboratory personnel have been trained. The number of private health facilities collaborating with the NTBLCP increased from about 100 in 2006 to 451 in 2010.

The expansion of PPM in Nigeria has faced several challenges. Only a proportion of private facilities tend to collaborate. Private providers have high expectations of incentives and enablers from the programme. An insufficient health work force and the high attrition rate of staff in private facilities make it difficult to maintain the quality of DOTS implementation. Under-reporting of patients managed in the private sector remains a problem. Despite these difficulties, PPM has helped to increase TB notifications and to improve TB case management in the private sector. In 2010, PPM care providers notified 31 656 cases, equivalent to 39% of the new TB cases that were notified in the country.

Further strengthening of PPM for TB care and control is planned. Current models of PPM will be evaluated and existing policies and guidelines reviewed. Advocacy to relevant stakeholders to increase the number of private facilities collaborating with the NTBLCP will be enhanced. It is anticipated that these efforts will improve access to care, save costs and ensure quality of TB services for patients seeking private care, while also increasing TB case notifications and maintaining high treatment success rates.

collaborative links may be less demanding and, for a given amount of effort, will yield a higher number of notifications. At the same time, involving front-line health workers such as community-based informal providers, private practitioners and pharmacies – who are often the first point of contact for people with symptoms of TB – can help to reduce diagnostic delays and the out-of-pocket expenditures of TB patients. The role of pharmacists is highlighted in **Box 3.4**.

3.3 Case detection rates

The case detection rate (CDR)[1] for TB is an indicator that is included within the Millennium Development Goals (**Chapter 1**). For a given country and year, the CDR is defined as the number of new and relapse TB cases (see **Box 3.1** for definitions) that were diagnosed and notified by NTPs (**Table 3.1**), divided by the estimated incident cases of TB that year. The CDR is expressed as a percentage; it gives an approximate[2] indication of the proportion of all incident TB cases that are actually diagnosed, reported to NTPs and started on treatment.

The best estimate of the CDR for all forms of TB at global level in 2010 was 65% (range, 63–68%), up from 54–60% in 2005 and 40–45% in 1995 – the year in which the DOTS strategy began to be introduced and expanded (**Table 3.3**). The highest CDRs in 2010 were estimated to be in the Western Pacific Region (best estimate 79%; range, 73–87%), the European Region (best estimate 73%; range, 68–78%) and the Region of the Americas (best estimate 80%; range, 75–85%). The other regions had estimated CDRs in the range 56–71%, with best estimates of around 60%. All regions have improved their estimated CDRs since the mid-1990s, with improvements particularly evident since 2000. Among the 22 HBCs, the highest rates of case detection in 2010 were estimated to be in Brazil, China, Kenya, the Russian Federation and the United Republic of Tanzania; the lowest rates were in Mozambique, Nigeria, Afghanistan and Bangladesh.

To close the gap between notified cases and estimated TB incidence, action is needed in three broad areas:

[1] The CDR is actually a ratio rather than a rate, but the term "rate" has become standard terminology in this context of this indicator.

[2] It is approximate because of uncertainty in the underlying incidence of TB and because notified cases are not necessarily a subset of incident cases that occurred in the same year; see **Chapter 2** for further discussion.

- **Strengthening surveillance.** This will help to ensure that all cases diagnosed with TB are reported and accounted for by routine notification systems. Establishing links with the full range of health-care providers through PPM, as well as stronger enforcement of legislation regarding notification of cases (where this is mandated by law), can help to minimize the under-reporting of TB cases. Inventory studies can be used to help quantify the extent to which diagnosed cases are unreported (the "surveillance gap"). WHO and its partners are currently developing guidance on how these studies can be done, building on pioneering work in implementing such studies in the Eastern Mediterranean Region and the UK (for further details, see **Chapter 2**).
- **Better diagnostic capacity.** This will help to ensure that people with TB who seek care are actually diagnosed. It may require better laboratory capacity as well as more knowledgeable and better trained staff, especially in peripheral-level health-care facilities.
- **Improved access to health care.** For people with TB who do not seek care, improved access (in financial and/or geographical terms) to health care as well as improved awareness of how to recognize the signs and symptoms of TB are important.

3.4 Diagnosis and treatment of MDR-TB

The diagnosis of MDR-TB (defined as resistance to isoniazid and rifampicin) requires that people with TB are tested for susceptibility to first-line anti-TB drugs. The Global Plan (**Chapter 1**) includes targets that by 2015 all new cases of TB considered at high risk of MDR-TB should be tested for drug susceptibility (estimated at about 20% of all new cases) and that 100% of retreatment cases should be tested (see **Box 3.1** for case definitions).

With the notable exception of the European Region, drug susceptibility testing (DST) for first-line drugs was done for only a small proportion of notified cases in 2010 (**Table 3.4**). Globally, less than 2% of new cases and 6% of retreatment cases were tested for MDR-TB, with particularly low levels of testing in the South-East Asia and

BOX 3.4

The role of pharmacists in TB care and control

Pharmacists can play an important role in delivering health care. Demographic and Health Surveys (DHS) carried out between 2004 and 2008 show that a high proportion of people seek care from private pharmacies: for example, in India, Nigeria, the Philippines and the United Republic of Tanzania, 11%, 27%, 24% and 75% of people in the lowest quintile of income had sought care from private pharmacies for fever, cough or diarrhoea.[1] The figures were 78%, 72%, 45% and 36% respectively for private care providers. A recent study estimating the sale of anti-TB medicines in the private sector found that in 10 high TB-burden countries (HBCs) that account for 60% of the global burden of disease caused by TB, the amount of anti-TB medicines dispensed in the private sector was sufficient to treat 66% of the estimated number of new cases of TB that occur each year in these countries. The same study estimated that the size of the private market in India was equivalent to the number of full treatment courses required to treat 1.2 times the number of patients reported and treated under the auspices of the Revised National TB Control Programme (RNTCP).[2]

To strengthen the contribution of pharmacists to TB care and control, WHO's Stop TB Department has been working with the International Pharmaceutical Federation (FIP) – a nongovernmental organization (NGO) representing more than 120 national associations of pharmacists that has an official relationship with WHO (**www.fip.org**). In September 2011, this collaboration culminated in the launch of a WHO/FIP Joint Statement on the "Role of pharmacists in TB care and control" at FIP's annual global conference in Hyderabad, India. This statement builds on WHO's mandate in public health and FIP's previous collaboration with WHO on important public health issues including HIV/AIDS, good pharmacy practice and prevention of antimicrobial resistance. The objective of publishing the statement is to stimulate national TB control programmes (NTPs) and national pharmacy associations (NPAs) to work together on effectively engaging pharmacists in TB care and control. Pharmacists can contribute in diverse ways: increasing awareness of TB among their clients, identifying people with symptoms of TB, referring them to a proper place for diagnosis, supervising and supporting TB patients to enhance treatment adherence, offering anti-TB medicines on valid prescriptions only and facilitating rational use of anti-TB medicines by prescribing physicians.

Some countries have already developed productive approaches to engaging pharmacists in TB care. In a project in Cambodia, over a period of three years, participating pharmacists referred 12 577 people with TB symptoms to health care services, among whom 6 403 attended health centres and 1418 were diagnosed with TB. Collaboration between the NTP and the NPA in Ghana helped to halt the sale of anti-TB medicines in private pharmacies.

Systematic efforts are required to enable NPAs and pharmacists to take on new tasks that could benefit TB control and potentially other health programmes. A logical first step would be to sensitize NTPs and NPAs on the benefits of working together. Country-specific models of collaboration can then be developed, tested, documented and scaled up. It is hoped that the WHO/FIP joint statement will help to catalyse such efforts in many countries.

[1] See **www.ps4h.org/globalhealthdata** (accessed 13 July 2011).
[2] Wells WA et al. Size and usage patterns of private TB drug markets in the high burden countries. *PLoS One*, 2011, 6(5): e18964.

TABLE 3.3

Estimates of the case detection rate for all cases (%), 1995–2010[a]

	1995			2000			2005			2010		
	BEST[b]	LOW	HIGH	BEST	LOW	HIGH	BEST	LOW	HIGH	BEST	LOW	HIGH
Afghanistan	–	–	–	16	14	20	42	35	51	47	39	57
Bangladesh	21	18	26	26	22	32	39	32	48	47	39	57
Brazil	79	66	97	74	61	91	84	71	100	88	74	110
Cambodia	25	20	32	31	26	37	58	50	67	65	57	77
China	33	27	40	33	28	39	74	65	86	87	77	100
DR Congo	30	25	36	38	32	45	52	45	61	53	46	61
Ethiopia	25	22	29	59	54	66	61	56	67	72	66	78
India[c]	58	51	67	49	44	54	49	44	54	59	53	65
Indonesia	9.4	7.8	12	21	17	26	59	49	73	66	55	81
Kenya	61	56	66	72	67	77	80	76	85	82	79	86
Mozambique	23	11	78	23	13	53	31	20	55	34	25	50
Myanmar	11	8.5	14	17	14	21	57	49	68	71	62	84
Nigeria	8.8	2.5	250	12	3.7	240	26	9.0	230	40	23	85
Pakistan	4.5	3.7	5.5	3.3	2.7	4.1	39	32	48	65	54	79
Philippines	48	40	59	47	39	58	53	44	66	65	54	79
Russian Federation	53	44	65	79	65	97	83	69	100	73	63	87
South Africa	56	47	69	59	49	72	61	51	75	72	60	88
Thailand	56	46	68	40	33	49	64	53	78	70	59	85
Uganda	22	14	42	29	20	49	47	36	66	61	51	76
UR Tanzania	59	51	69	68	60	78	74	69	80	77	72	82
Viet Nam	37	29	49	56	43	74	56	44	74	54	43	71
Zimbabwe	55	40	80	56	45	71	50	41	64	56	44	72
High-burden countries	**39**	**37**	**43**	**40**	**37**	**43**	**55**	**52**	**59**	**65**	**62**	**68**
AFR	37	30	46	43	36	53	53	46	62	60	56	64
AMR	68	63	73	70	65	75	75	70	80	80	75	85
EMR	23	21	26	25	22	28	47	42	54	63	56	71
EUR	63	58	67	76	71	83	80	75	87	73	68	78
SEAR	45	41	50	42	39	45	50	47	54	61	57	66
WPR	38	33	44	39	35	44	70	64	77	79	73	87
Global	**42**	**40**	**45**	**44**	**41**	**46**	**57**	**54**	**60**	**65**	**63**	**68**

– indicates data not available.

[a] Estimates for all years are recalculated as new information becomes available and techniques are refined, so they may differ from those published previously.

[b] Best, low and high indicate best estimates followed by lower and upper bounds. The lower and upper bounds are defined as the 2.5th and 97.5th centiles of outcome distributions produced in simulations.

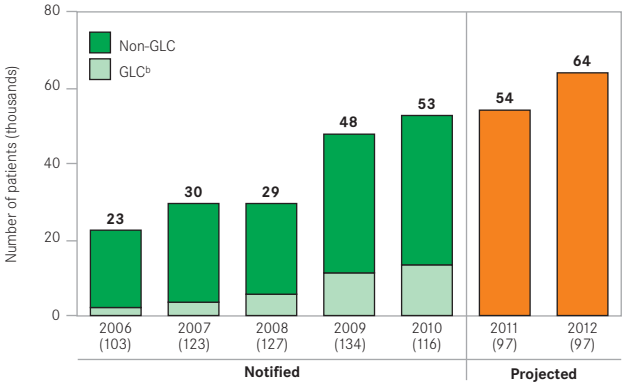
[c] Estimates for India have not yet been officially approved by the Ministry of Health & Family Welfare, Government of India and should therefore be considered provisional.

Western Pacific regions. In the European Region, 51% of retreatment cases and 30% of the new cases notified in 2010 were tested for MDR-TB. Among the 27 high MDR-TB burden countries, the proportion of notified cases that were tested was relatively high in 13 of the 15 European countries that reported data, ranging from 3% of new cases in Tajikistan to 79% of new cases in Estonia, and from 23% of retreatment cases in Tajikistan to over 90% of retreatment cases in Belarus, Latvia and Ukraine. While data on DST were not available for new and retreatment cases separately, overall more than 20% of notified cases were tested for drug resistance in South Africa (see **Annex 2**). In the other 11 countries, testing for MDR-TB among new cases was negligible or no data were reported. The proportion of retreatment cases that were tested in these 11 countries was slightly higher, but was still under 5% in countries that reported data, with the one exception of Ethiopia (10%). India and China, which collectively accounted for almost half of the global cases of MDR-TB estimated to exist among notified TB patients in 2010, did not report any data (**Table 3.5, column 2**). Improving the coverage of diagnostic DST is urgently needed to improve the diagnosis of MDR-TB, and requires strengthening laboratory capacity and introducing new rapid diagnostic tests (see **Chapter 5**).

Given low levels of testing for drug resistance in many countries, and with only 9% of TB basic management units worldwide providing curative services for MDR-TB patients, it is inevitable that the number of people who are diagnosed with MDR-TB remains low. Glob-

FIGURE 3.4

Notified cases of MDR-TB (2006–2010) and projected numbers of patients to be enrolled on treatment (2011–2012)[a]



[a] Numbers under years show the number of countries reporting data.

[b] GLC refers to project sites monitored by the Green Light Committee Initiative and known to adhere to WHO recommended norms in the care of MDR-TB patients. Non-GLC refers to all other projects that are not supported by the GLC mechanism, and include patients treated in all high-income countries.

ally, just over 50 000 cases of MDR-TB were notified to WHO in 2010, mostly by European countries and South Africa (**Table 3.5**, **Figure 3.4**). This represented 18% of the 290 000 (range, 210 000–380 000) cases of MDR-TB estimated to exist among patients with pulmonary TB who were notified in 2010. The proportion of TB patients estimated to have MDR-TB that were actually diagnosed was under 10% in all of the 27 high MDR-TB countries outside the European Region, with the notable exception of South Africa where 81% of estimated cases were diagnosed. In the 15 high MDR-TB burden countries in the European Region, the proportion of estimated cases that were diagnosed ranged from 24% (in Tajikistan) to over 90% of cases (in Belarus and Kazakhstan); no data were reported from Lithuania. In the Russian Federation, which ranks third in terms of estimated numbers of cases of MDR-TB at the global level, the proportion of estimated cases that were diagnosed was 44% in 2010. The numbers of patients diagnosed with MDR-TB and started on treatment with recommended second-line drug regimens in the high MDR-TB burden countries in 2010, at just under 40 000, was less than the number of cases notified.

Although the absolute numbers of TB cases tested for drug resistance, diagnosed with MDR-TB and started on appropriate treatment remain low, they are increasing (**Figure 3.4**). The reported number of patients enrolled on treatment for MDR-TB reached 45 553 in 2010, equivalent to 16% of the estimated 290 000 cases of MDR-TB among TB patients notified in 2010. According to country plans, further increases are expected in 2011 and 2012, although these show very small increases compared with 2010. The scale-up of diagnosis and treatment for MDR-TB falls far short of the targets set out in the Global Plan

TABLE 3.4

Diagnostic DST for rifampicin and isoniazid among new and retreatment cases of TB, 2010

	NEW CASES		RETREATMENT CASES	
	NUMBER WITH DST RESULT	% OF CASES WITH DST RESULT	NUMBER WITH DST RESULT	% OF CASES WITH DST RESULT
Armenia	471	35	220	47
Azerbaijan	493	9.6	–	–
Bangladesh	–	–	–	–
Belarus	1 972	45	1 697	152[a]
Bulgaria	801	35	165	47
China	–	–	–	–
DR Congo	–	–	100	1.2
Estonia	197	79	61	77
Ethiopia	42	<0.1	510	10
Georgia	1 987	45	558	40
India	–	–	–	–
Indonesia	0	0	324	4.9
Kazakhstan	5 214	33	4 655	51
Kyrgyzstan	–	–	–	–
Latvia	613	74	102	94
Lithuania	–	–	–	–
Myanmar	–	–	–	–
Nigeria	27	<0.1	19	0.2
Pakistan	9	<0.1	306	2.8
Philippines	3	<0.1	297	2.7
Republic of Moldova	1 234	33	1 077	64
Russian Federation	35 862	35	13 405	51
South Africa	–	–	–	–
Tajikistan	160	2.7	223	23
Ukraine	9 194	29	4 840	95
Uzbekistan	2 845	18	1 180	26
Viet Nam	–	–	–	–
High MDR-TB burden countries	**61 124**	**1.5**	**29 739**	**5.5**
AFR	2 732	0.2	4 294	2.8
AMR	10 229	5.0	4 182	19
EMR	2 323	0.6	1 250	6.3
EUR	74 820	30	31 272	51
SEAR	1 073	0.1	925	0.3
WPR	4 392	0.4	1 350	1.6
Global	**95 569**	**1.8**	**43 273**	**6.4**

– Indicates data not available.

[a] The percentage may exceed 100% if notification of TB cases is incomplete, especially in systems where reporting of TB and DST are not linked. In addition, DST may be performed repeatedly in the same patients.

TABLE 3.5

Number of cases of MDR-TB estimated, notified and expected to be treated, 27 high MDR-TB burden countries and WHO regions

	ESTIMATED CASES OF MDR-TB AMONG NOTIFIED CASES OF PULMONARY TB IN 2010[a] (A)	CONFIDENCE INTERVAL	NOTIFIED CASES OF MDR-TB IN 2010 (B)	NOTIFIED CASES OF MDR-TB AS % OF ESTIMATED CASES OF MDR-TB AMONG ALL NOTIFIED CASES OF PULMONARY TB IN 2010 (B/A)[b]	CASES ENROLLED ON TREATMENT FOR MDR-TB IN 2010	EXPECTED NUMBER OF CASES OF MDR-TB TO BE TREATED	
						2011	2012
Armenia	260	230–290	177	68	154	160	160
Azerbaijan	1 700	1 500–1 800	63	3.7	286	500	500
Bangladesh	5 900	4 400–7 400	184	3.1	339	1 558	2 597
Belarus	1 700	1 600–1 800	1 576	93	200	–	–
Bulgaria	94	71–120	56	60	56	60	65
China	63 000	56 000–70 000	2 792	4.4	1 222	6 706	7 061
DR Congo	2 700	190–5 200	87	3.2	191	220	–
Estonia	76	61–92	63	83	63	80	64
Ethiopia	2 100	1 100–3 000	140	6.7	120	836	1 218
Georgia	680	620–740	359	53	618	550	550
India	64 000	44 000–84 000	2 967	4.6	2 967	7 800	15 000
Indonesia	6 100	3 900–8 400	182	3.0	142	600	900
Kazakhstan	6 400	5 900–6 900	7 387	115	5 705	–	–
Kyrgyzstan	1 000	880–1 200	566	57	566	–	–
Latvia	100	81–120	87	87	87	125	125
Lithuania	–	–	–	–	–	280	–
Myanmar	5 100	3 800–6 300	192	3.8	192	200	400
Nigeria	2 400	170–4 700	21	0.9	23	80	100
Pakistan	9 700	4 000–15 000	444	4.6	444	750	1 000
Philippines	8 800	6 700–11 000	522	5.9	548	3 500	2 372
Republic of Moldova	1 700	1 600–1 800	1 015	60	791	–	–
Russian Federation	31 000	24 000–38 000	13 692	44	13 692	11 400	17 000
South Africa	9 100	7 700–10 000	7 386	81	5 402	6 400	–
Tajikistan	1 400	1 100–1 700	333	24	245	700	300
Ukraine	6 600	5 900–7 300	5 333	81	3 870	–	–
Uzbekistan	3 100	2 200–4 000	1 023	33	628	972	1 080
Viet Nam	3 600	2 900–4 300	101	2.8	101	700	1 500
High MDR-TB burden countries	**250 000**	**160 000–340 000**	**46 748**	**19**	**38 652**	**44 177**	**51 992**
AFR	32 000	11 000–53 000	9 504	30	7 406	10 432	8 395
AMR	6 200	1 900–10 000	2 158	35	3 186	3 337	3 322
EMR	14 000	6 200–23 000	829	5.9	1 006	1 135	1 561
EUR	53 000	39 000–68 000	32 616	62	27 844	15 593	20 714
SEAR	88 000	68 000–110 000	3 779	4.3	3 901	12 240	18 980
WPR	77 000	61 000–93 000	4 222	5.5	2 210	11 285	11 352
Global	**290 000**	**210 000–380 000**	**53 108**	**18**	**45 553**	**54 022**	**64 324**

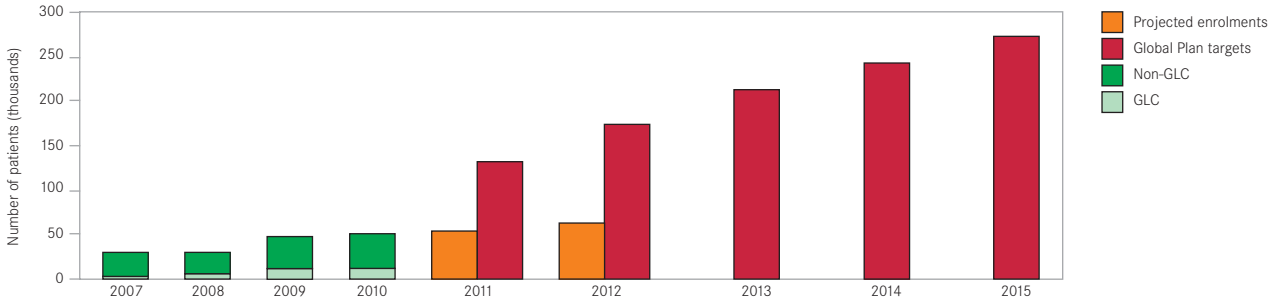
– Indicates data not available.

[a] Calculated by applying the best combined estimate of MDR to the notified cases of pulmonary TB in 2010.

[b] Percentage may exceed 100% as a result of notifications of cases from previous years, inadequate linkages between notification systems for TB and MDR-TB, and estimates of the number of cases of MDR-TB that are too conservative.

FIGURE 3.5

Notified cases of MDR-TB (2007–2010) and projected numbers of patients to be enrolled on treatment (2011–2012) in the 149 countries included in the Global Plan, compared with the targets included in the Global Plan to Stop TB 2011–2015.
The numbers represent smear and/or culture-positive cases of MDR-TB.



(**Figure 3.5**). Approaching these targets will require rapid expansion of diagnosis and treatment, notably in China and India.

3.5 Treatment outcomes

When the DOTS strategy was introduced in the mid-1990s, emphasis was given to the recording and reporting of treatment outcomes among patients with sputum smear-positive pulmonary TB: that is, the most infectious cases. Although efforts have been made to record and report the outcomes of treatment for other cases, the data for such cases are still incomplete. Among the countries reporting to WHO in 2010, 162 reported data on treatment outcomes among smear-negative and extrapulmonary cases.

As in previous reports in this series, the best available data on treatment outcomes are for sputum smear-positive cases of pulmonary TB (**Table 3.6**; for definitions of the categories used to report treatment outcomes see **Box 3.6**). Globally, the rate of treatment success for the 2.6 million new cases of sputum smear-positive pulmonary TB who were treated in the 2009 cohort was 87% (**Table 3.6**). This was the third successive year that the target of 85% (first set by the World Health Assembly in 1991) was exceeded globally. Among WHO's six regions, three met or exceeded the 85% target: the Eastern Mediterranean Region, the South-East Asia Region and the Western Pacific Region. The treatment success rate was 81% in the African Region (where there has been steady improvement since 1997), 76% in the Region of the Americas (where the rate has been relatively stable since 2002) and 66% in the European Region (where major efforts to increase treatment success rates are needed).

Of the 22 HBCs, 15 reached the 85% target. The seven countries that reported lower rates of treatment success were Brazil (72%), Ethiopia (84%), Nigeria (83%), the Russian Federation (55%), South Africa (77%), Uganda (67%) and Zimbabwe (78%). In Brazil and Uganda, low rates reflect a high proportion of patients for whom the outcome of treatment was not evaluated (11% and 16%, respectively) and high default rates (11% and 10%, respectively). In the Russian Federation, treatment failure rates are high, possibly linked to MDR-TB.

National data on treatment outcomes for cases of MDR-TB are limited. Data for cohorts of at least 200 patients are currently limited to 14 countries (**Figure 3.6**). Rates of treatment success are variable, ranging from below 50% (in the Republic of Moldova, South Africa and Romania) to 74% (in Kazakhstan). Most of these countries thus remain far from the Global Plan target of a treatment success rate of ≥75% as a result of high frequencies of treatment failure, death and default.

BOX 3.5

Infection control to prevent the transmission of TB

Outbreaks of MDR-TB and extensively drug-resistant TB (XDR-TB) in health-care facilities have highlighted the importance of proper infection control. Appropriate measures include personal protection (for example, masks), administrative controls (for example, in waiting areas for people attending outpatient services) and environmental measures such as ventilation systems. The best indicator to assess the quality of infection control in health-care settings is the ratio of the notification rate of TB among health-care workers to the notification rate among the general population (with appropriate adjustments for the age distribution of the two groups). This ratio should be approximately 1. The data required to calculate this indicator for 2010 were limited, and collection and reporting need to be improved. WHO is currently leading the development of guidance material on how to establish surveillance of TB among health-care workers.

Among the 149 low and middle-income countries from which data on infection control were requested, 34 had conducted a national assessment of infection control for TB, 49 had conducted an assessment of infection control in tertiary hospitals and 45 had a national plan for infection control (a plan was under development in a further 39 countries). Training related to infection control was implemented in 78 of these countries in 2010 and 79 had a focal point for infection control in at least one tertiary hospital.

TABLE 3.6

Treatment success for new smear-positive cases (%) and cohort size (thousands), 1995–2009

a. Treatment success (%)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Afghanistan	–	–	45	33	86	85	84	87	86	89	90	84	87	88	86
Bangladesh	71	63	73	77	79	81	83	84	85	90	91	92	92	91	92
Brazil	17	20	27	40	78	71	55	80	77	76	76	73	72	71	72
Cambodia	91	94	91	95	93	91	92	92	93	91	93	93	94	95	95
China	93	94	95	95	95	93	95	92	93	94	94	94	94	94	95
DR Congo	74	48	64	70	69	78	77	78	83	85	85	86	87	87	88
Ethiopia	61	71	72	74	74	80	76	76	70	79	78	84	84	84	84
India	25	21	18	27	21	34	54	60	76	82	86	86	87	87	88
Indonesia	91	81	54	58	50	87	86	86	87	90	91	91	91	91	91
Kenya	75	77	65	77	79	80	80	79	80	80	82	85	85	85	86
Mozambique	39	55	65	–	71	75	78	78	76	77	79	83	79	84	85
Myanmar	67	79	82	82	81	82	81	81	81	84	84	84	85	85	85
Nigeria	49	32	73	73	75	79	79	79	78	73	75	76	82	78	83
Pakistan	70	–	67	23	70	74	77	78	79	82	83	88	91	90	91
Philippines	60	35	78	71	87	88	88	88	88	87	89	88	89	88	89
Russian Federation	65	57	67	68	65	68	67	67	61	60	58	58	58	57	55
South Africa	58	61	68	72	57	63	61	68	67	69	71	74	74	76	77
Thailand	64	78	58	68	77	69	75	74	73	74	75	77	83	82	86
Uganda	44	33	40	62	61	63	56	60	68	70	73	70	75	70	67
UR Tanzania	73	76	77	76	78	78	81	80	81	81	82	85	88	88	88
Viet Nam	89	89	85	92	92	92	93	92	92	93	92	93	92	92	92
Zimbabwe	53	32	69	70	73	69	71	67	66	54	68	60	78	74	78
High-burden countries	**53**	**50**	**56**	**62**	**60**	**67**	**72**	**75**	**81**	**84**	**86**	**87**	**87**	**87**	**88**
AFR	60	56	64	70	68	71	70	73	73	74	76	75	80	80	81
AMR	50	51	58	67	79	76	69	81	80	79	79	76	79	77	76
EMR	79	66	73	57	79	81	82	84	82	83	83	86	88	88	88
EUR	67	58	72	63	75	75	74	74	75	70	72	70	71	70	67
SEAR	33	31	29	40	34	50	63	68	79	84	87	87	88	88	89
WPR	80	72	91	92	91	90	91	90	91	91	92	92	92	92	93
Global	**57**	**54**	**60**	**64**	**64**	**69**	**73**	**76**	**80**	**83**	**85**	**84**	**86**	**86**	**87**

b. Cohort size (thousands)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Afghanistan	–	–	2.0	2.9	2.0	3.1	6.3	7.8	6.8	10	10	12	13	13	12
Bangladesh	11	30	34	38	38	38	41	47	54	63	85	102	104	106	109
Brazil	46	45	43	30	27	34	41	29	38	43	42	48	38	41	41
Cambodia	4.4	9.1	12	13	16	15	14	17	19	19	21	19	19	20	18
China	131	175	189	210	208	214	190	194	267	385	473	470	466	464	449
DR Congo	16	25	26	33	35	36	41	45	54	62	65	63	66	66	72
Ethiopia	5.1	11	12	15	21	30	32	37	40	41	39	37	38	41	45
India	265	291	293	284	345	349	384	396	420	489	507	553	592	616	625
Indonesia	3.0	12	21	40	46	52	54	76	93	129	159	175	161	166	169
Kenya	6.5	13	19	22	27	28	31	31	34	41	40	39	38	37	37
Mozambique	11	13	11	–	12	13	14	15	16	17	18	18	18	19	20
Myanmar	7.9	9.7	9.2	10	12	17	21	24	27	31	37	40	43	41	42
Nigeria	9.5	24	11	13	15	16	17	21	28	34	35	40	44	46	45
Pakistan	0.8	–	2.8	29	3	4.1	6.3	15	20	32	48	66	89	100	102
Philippines	90	126	27	21	37	50	55	59	68	78	81	86	87	85	89
Russian Federation	0.05	43	0.7	0.7	1.5	3.6	4.1	5.2	6.3	26	26	31	32	32	32
South Africa	28	45	55	37	81	86	101	99	114	127	135	140	143	144	135
Thailand	20	0.1	3.7	8	14	23	20	27	28	28	30	29	30	33	28
Uganda	15	15	18	13	14	14	17	19	20	21	21	20	21	23	23
UR Tanzania	20	21	22	24	24	24	24	24	25	26	25	25	25	24	25
Viet Nam	38	48	54	55	53	53	54	57	56	58	55	56	54	53	51
Zimbabwe	9.7	12	12	13	13	14	17	16	14	15	13	16	11	10	10
High-burden countries	**739**	**967**	**879**	**912**	**1 044**	**1 119**	**1 186**	**1 260**	**1 450**	**1 776**	**1 965**	**2 087**	**2 132**	**2 181**	**2 179**
AFR	178	233	268	235	323	365	409	452	491	552	564	566	577	591	602
AMR	129	134	125	111	110	111	102	105	110	121	119	132	116	109	122
EMR	46	51	60	89	66	64	52	76	81	98	114	132	156	167	167
EUR	34	94	24	48	22	41	50	54	60	75	81	98	108	114	91
SEAR	318	360	376	399	473	512	550	604	661	780	856	938	974	1 011	1 022
WPR	296	372	294	313	353	360	346	357	439	575	663	663	661	657	632
Global	**1 001**	**1 245**	**1 147**	**1 195**	**1 347**	**1 453**	**1 510**	**1 649**	**1 842**	**2 200**	**2 396**	**2 529**	**2 591**	**2 649**	**2 637**

– Indicates no data reported.

BOX 3.6

Definitions of treatment outcomes for patients treated for drug-susceptible TB used for reporting at global level

Cured A patient who was initially smear-positive and who was smear-negative in the last month of treatment and on at least one previous occasion.

Completed treatment A patient who completed treatment but did not meet the criteria for cure or failure. This definition applies to pulmonary smear-positive and smear-negative patients and to patients with extrapulmonary disease.

Died A patient who died from any cause during treatment.

Failed A patient who was initially smear-positive and who remained smear-positive at month 5 or later during treatment.

Defaulted A patient whose treatment was interrupted for 2 consecutive months or more.

Not evaluated A patient whose treatment outcome is not known.

Successfully treated A patient who was cured or who completed treatment.

Cohort A group of patients in whom TB has been diagnosed, and who were registered for treatment during a specified time period (e.g. the cohort of new smear-positive cases registered in the calendar year 2005). This group forms the denominator for calculating treatment outcomes. The sum of the above treatment outcomes, plus any cases for whom no outcome is recorded (including those "still on treatment" in the European Region) should equal the number of cases registered. Some countries monitor outcomes among cohorts defined by smear and/or culture, and define cure and failure according to the best laboratory evidence available for each patient.

BOX 3.7

Definitions of treatment outcomes for patients treated for MDR-TB

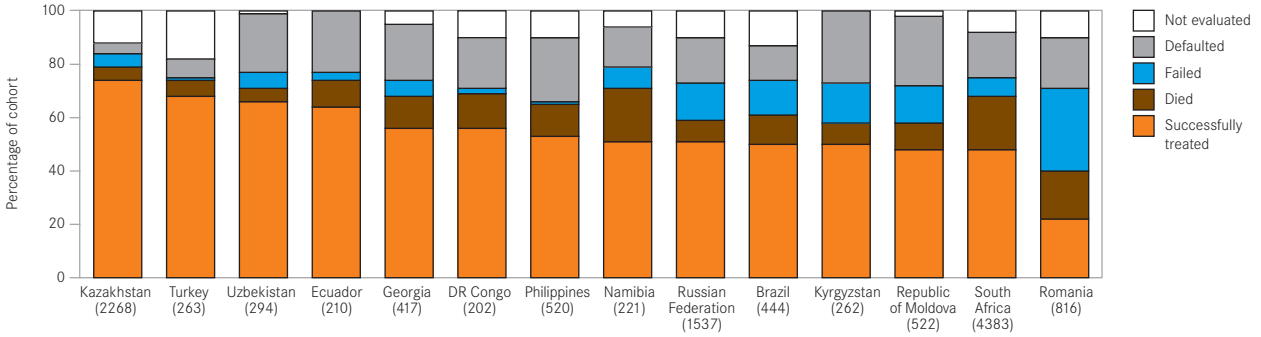
The categories used to assess treatment outcomes for patients with MDR-TB are the same as those for patients with drug-susceptible TB (see Box 3.6). The main differences are the definitions of cure and failure, which are recognized to be too complex for routine surveillance. In 2011, WHO initiated a consultation on updating the definitions of cases and treatment outcomes in the context of new diagnostic tests. It is anticipated that updated definitions will be agreed upon by the end of 2011. The definitions for cured and failed that are currently in use are summarized below.

Cured A patient who has completed a course of anti-TB treatment according to programme protocol and has at least five consecutive negative cultures from samples collected at least 30 days apart in the final 12 months of treatment. If only one positive culture is reported during that time, and there is no concomitant clinical evidence of deterioration, a patient may still be considered cured, provided that this positive culture is followed by a minimum of three consecutive negative cultures taken at least 30 days apart.

Failed Anti-TB treatment will be considered to have failed if two or more of the five cultures recorded in the final 12 months of therapy are positive, or if any one of the final three cultures is positive. Treatment will also be considered to have failed if a clinical decision has been made to terminate treatment early because of poor clinical or radiological response or adverse events. These latter failures can be indicated separately in order to do sub-analysis.

FIGURE 3.6

Treatment outcomes for patients diagnosed with MDR-TB in 14 countries, 2008 cohorts. The total number of patients starting treatment in each cohort is shown under each country.[a]



[a] Only countries reporting outcomes for >200 MDR-TB cases with <20% not evaluated are shown. Countries are ranked by the proportion successfully treated (cured+completed).

CHAPTER 4

Financing TB care and control

KEY MESSAGES

- In 2012, funding for TB control is expected to reach US$ 3.3 billion in the 22 high-burden countries (HBCs) that account for 80% of the world's TB cases, up from US$ 1.3 billion in 2002.
- Among 97 countries for which trends can be assessed since 2006, funding is expected to reach US$ 4.4 billion in 2012. This is an increase from US$ 3.5 billion in 2006, but funding has levelled off since 2009.
- Almost three quarters of the funding for TB control in the 22 HBCs is accounted for by domestic funding in BRICS (Brazil, the Russian Federation, India, China and South Africa). However, in the other 17 HBCs, donor funding increased more than six-fold during the period 2002–2010, accounting for about half of the total TB expenditures of US$ 0.6 billion in these countries in 2010.
- International donor funding for TB control has increased by 50% since 2006, from US$ 0.4 billion to an expected US$ 0.6 billion in 2012, but still falls far short of funding for malaria (US$ 1.8 billion in 2009) and HIV (US$ 6.9 billion in 2010).
- Across 97 countries that reported data, the Global Fund is expected to account for 82% of the US$ 0.6 billion of donor funding for TB in 2012. Overall, donor funding accounted for 14% of total funding.
- Funding for MDR-TB has increased since 2009, but large funding gaps constrain plans to scale up diagnosis and treatment.
- Funding gaps reported by national TB control programmes for 2012 amount to US$ 0.8 billion, of which US$ 0.5 billion is accounted for by the 22 HBCs.
- Funding gaps in the 17 HBCs outside BRICS could be halved, from US$ 0.4 billion to US$ 0.2 billion, if donor funding for BRICS was redirected to these countries. The US$ 0.2 billion per year of donor funding for BRICS is almost sufficient to scale up the diagnosis and treatment of MDR-TB in low-income countries according to the targets included in the Global Plan to Stop TB 2011–2015.
- Expenditure tracking and reporting need to be improved; 3 HBCs have been unable to report expenditure data for at least the past two years.

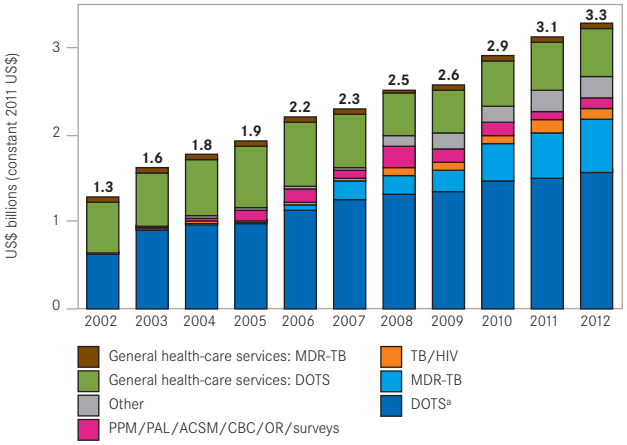
Progress in TB prevention, care and control requires adequate funding. WHO began monitoring of funding for TB in 2002, and the global TB database holds data from 2002 up to 2012. The data compiled to date allow assessment of trends in funding during the period 2002–2012 in the 22 high-burden countries (22 HBCs) that account for about 80% of the world's TB cases, and for a much larger set of countries since 2006. The first part of this chapter summarizes trends in funding for TB in the 22 HBCs, quantifies the funding gaps reported by these countries, compares levels of domestic and international funding, and summarizes estimates of the cost per patient treated. The second part of the chapter assesses a similar set of data for a group of 97 countries (22 HBCs and 75 other countries). Ambitious targets for scaling up diagnosis and treatment of multidrug-resistant TB (MDR-TB) between 2011 and 2015 have been set (**Chapter 1**), but the costs of treatment are several times higher than those for drug-susceptible TB. In this context, the third part of the chapter gives special attention to the funding needs, sources of funding and funding gaps for MDR-TB. The final part of the chapter compares available funding for TB with the resource requirements set out in the Global Plan to Stop TB 2011–2015.

4.1 Funding for TB care and control in the 22 high-burden countries

The funding available for TB control in the 22 HBCs has increased year-on-year since 2002, and is expected to reach US$ 3.3 billion in 2012 (**Figure 4.1**, **Figure 4.2**, **Figure 4.3**). Most of this funding has been used to support diagnosis and treatment with first-line drugs (labelled "DOTS" in **Figure 4.1**). However, it is noticeable that funding for the diagnosis and treatment of MDR-TB has increased since 2009, and is expected to reach US$ 0.6 billion in 2012 (**Figure 4.1**). This may be linked to increasing political commitment following a high-level ministerial conference on MDR-TB that was held in Beijing, China, in April 2009. The relatively small amounts of funding reported for collaborative TB/HIV activities (see **Chapter 6** for further details) reflect the fact that funding for most of these interventions (including the most expensive, antiretroviral treatment) is usually channelled to national HIV programmes and nongovernmental organizations rather than to national TB control programmes (NTPs).

FIGURE 4.1

Funding available for TB control by line item, 22 high-burden countries, 2002–2012



[a] DOTS includes the available funding for first-line drugs, NTP staff, programme management and supervision, and laboratories.

FIGURE 4.2

Funding available for TB control by source of funding, 22 high-burden countries, 2002–2012

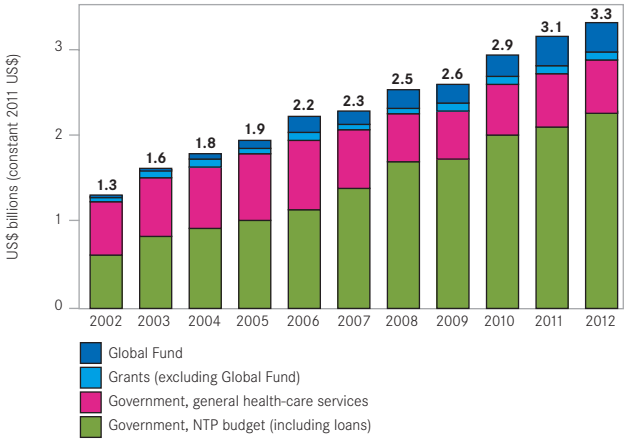


FIGURE 4.3

Funding available for TB control by country, 22 high-burden countries, 2002–2012

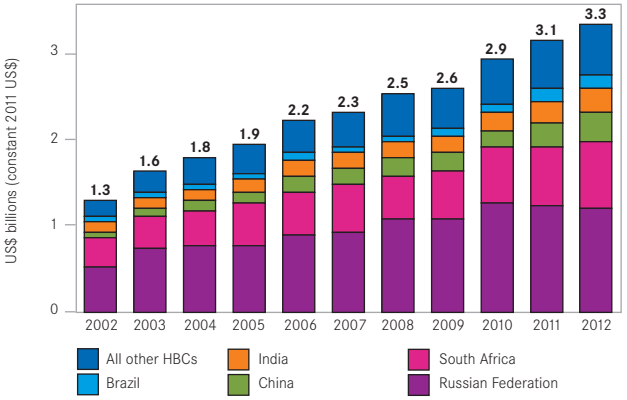
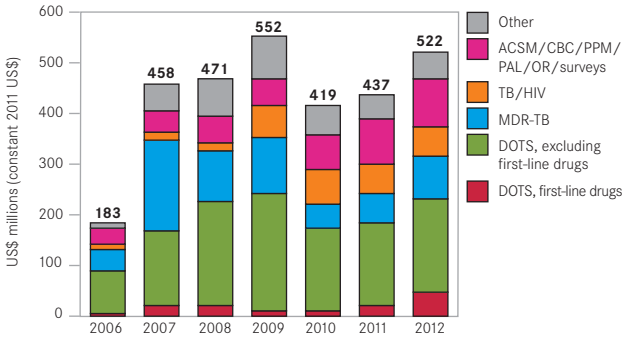


FIGURE 4.4

Funding gaps reported by NTPs, 22 high-burden countries, 2006–2012



Across all of the 22 HBCs, domestic funding from national governments is the single largest source of funding (**Figure 4.2**), accounting for 87% of total expected funding in 2012.[1] Nonetheless, the Global Fund has contributed a growing amount of funding since 2004, and is expected to reach US$ 362 million in 2012. The Global Fund is now easily the largest source of donor funding for TB; funding from other donor sources is expected to amount to only US$ 86 million in 2012.

In absolute terms, 60% of the funding expected for TB in the 22 HBCs in 2012 is accounted for by just two countries: the Russian Federation and South Africa (**Figure 4.3**). Brazil, the Russian Federation, India, China and South Africa (BRICS) account for 83% of expected funding, with 60% of all notified cases in the 22 HBCs (**Chapter 3**). Funding expected in the remaining 17 HBCs (which accounted for 40% of notified cases in HBCs in 2010) amounts to US$ 571 million in 2012, equivalent to 17% of the total funding expected in the 22 HBCs.

Despite increases in funding and 10 completed rounds of proposals[2] to the Global Fund, NTPs in the 22 HBCs continue to report funding gaps (**Figure 4.4**). Since 2007, these gaps have been in the range US$ 0.4–0.5 billion per year. In 2012, funding gaps are anticipated for several elements of TB care and control, including first-line drugs (for which the gap amounts to US$ 48 million in 2012).

[1] Domestic funding includes funding for outpatient visits and inpatient care in hospitals, the costs of which are not usually included in NTP budgets and expenditures. The amount of domestic funding for these inputs to TB treatment are estimated by combining data on the average number of outpatient visits and days in hospital per TB patient reported by countries with WHO estimates of the unit costs of outpatient visits and bed-days (see www.who.int/choice).

[2] The first round was completed in 2003. Round 10 was completed in 2010.

TABLE 4.1

NTP budgets, available funding, cost of utilization of general health-care services and total funding required according to country plans, 2012 (US$ millions)

	NTP BUDGET	AVAILABLE FUNDING				FUNDING GAP[a]	COST OF GENERAL HEALTH-CARE SERVICES (ESTIMATED)[b]	TOTAL FUNDING REQUIRED[c]
		GOVERNMENT (EXCLUDING LOANS)	LOANS	GRANTS (EXCLUDING GLOBAL FUND)	GLOBAL FUND			
Afghanistan	11	0.4	0	3.7	4.5	2.0	5.2	16
Bangladesh	48	1.2	0	2.2	10	35	5.1	53
Brazil	87	71	0	1.4	0.9	13	75	162
Cambodia	40	1.2	0	8.9	4.5	26	4.8	45
China	350	220	0	3.6	95	32	0	350
DR Congo	62	–	–	–	–	–	0.7	63
Ethiopia	52	8.8	0	15	15	13	13	64
India	210	43	87	0	80	0	84	293
Indonesia	102	16	0	0.2	47	39	19	121
Kenya	53	6.1	1.7	0.5	12	33	8.8	62
Mozambique	39	1.9	0.7	19	2.8	15	10	49
Myanmar	29	0.6	0	2.0	8.1	19	2.9	32
Nigeria	43	6.6	0	6.8	13	17	24	67
Pakistan	64	2.8	0	2.9	5.7	53	5.9	70
Philippines	79	24	0	0	24	31	58	137
Russian Federation	1 204	1 204	0	0	0	0	35	1 239
South Africa	–	–	–	–	–	–	–	–
Thailand	45	34	0	4.5	3.2	3.5	3.4	48
Uganda	20	0.1	0.2	2.4	3.5	14	0.3	20
UR Tanzania	42	7.3	0	6.8	5.2	23	2.4	45
Viet Nam	74	4.6	0	1.0	9.2	59	26	100
Zimbabwe	–	–	–	–	–	–	–	–
High-burden countries[d]	**2 653**	**1 654**	**90**	**80**	**343**	**425**	**383**	**3 036**
AFR[e]	1 035	590	4.0	65	143	233	355	1 390
AMR	175	111	0	12	17	35	151	327
EMR	168	63	0	8.9	30	67	64	233
EUR	1 632	1 339	0	2.1	51	240	347	1 979
SEAR	449	105	87	15	147	95	108	557
WPR	595	309	1.0	14	121	149	183	777
Global[e]	**4 054**	**2 517**	**92**	**117**	**509**	**819**	**1 209**	**5 263**

– indicates not available.
[a] Calculated as the NTP budget minus all the available funding.
[b] See text for an explanation of how these costs are estimated.
[c] Calculated as the NTP budget plus the cost of utilization of general health-care services.
[d] These totals do not include estimates for DR Congo, South Africa and Zimbabwe and are therefore lower than those in Figures 4.1–4.5.
[e] The regional and global totals include estimates for those countries that did not report data for 2012 and are in constant 2011 US$, consistent with totals presented elsewhere in this report.

Trends in funding, funding gaps and expenditures in the 22 HBCs as a whole conceal important variation among countries, and differences between BRICS and the other 17 HBCs are especially striking (**Table 4.1**, **Figure 4.5**, **Figure 4.6**).

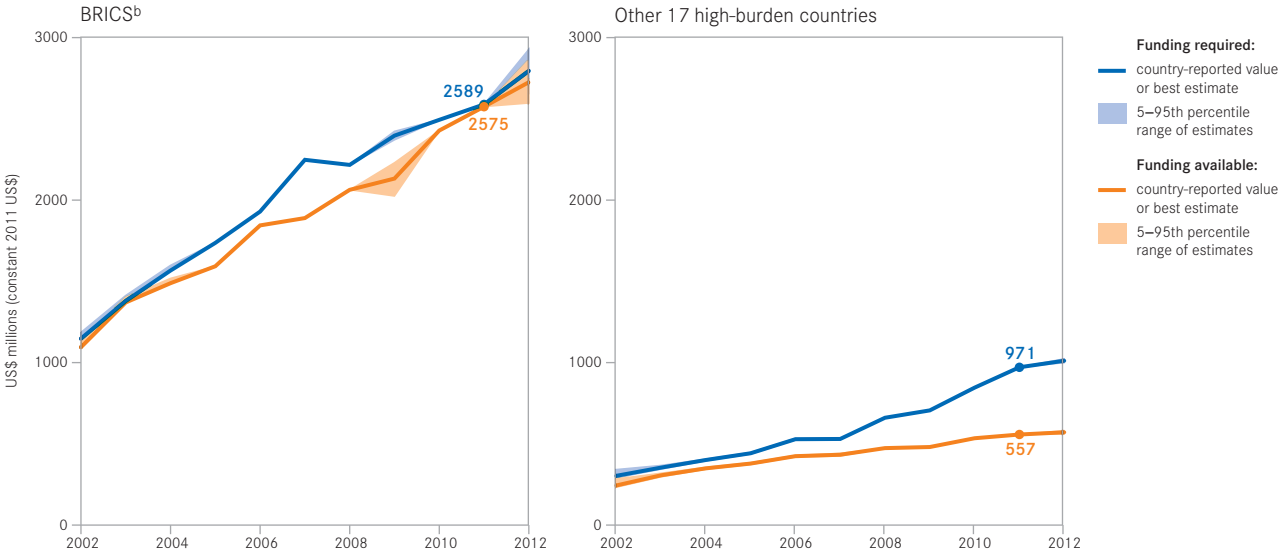
The funding estimated to be required in BRICS has steadily increased since 2002 (see **blue** line in **Figure 4.5**), and the available funding has kept pace (see **orange** line in **Figure 4.5**). In the other 17 HBCs, the amount of funding estimated to be required and the funding available have also increased, but large funding gaps have persisted and widened over the past decade. The 17 HBCs outside BRICS have reported a funding gap of US$ 0.4 billion in 2012, ranging from US$ 2 million in Afghanistan to US$ 59 million in Viet Nam (**Table 4.1**). Funding gaps in the 17 HBCs outside BRICS could be halved in 2012, from US$ 0.4 billion to US$ 0.2 billion, if all donor funding for BRICS was redirected to these countries.

In BRICS, most funding (95% in 2010) for NTPs comes from domestic sources (**Figure 4.6**), although India was an outlier at around 50%.[1] In the other 17 HBCs, only 33% of the funding for NTPs was from domestic sources in 2010. When the resources that are used to pro-

[1] Further details for individual countries can be found in **Annex 2**, and in finance country profiles for around 100 countries that are available online at **www.who.int/tb/data**.

FIGURE 4.5

Funding required[a] and funding available for TB control, 22 high-burden countries, 2002–2012

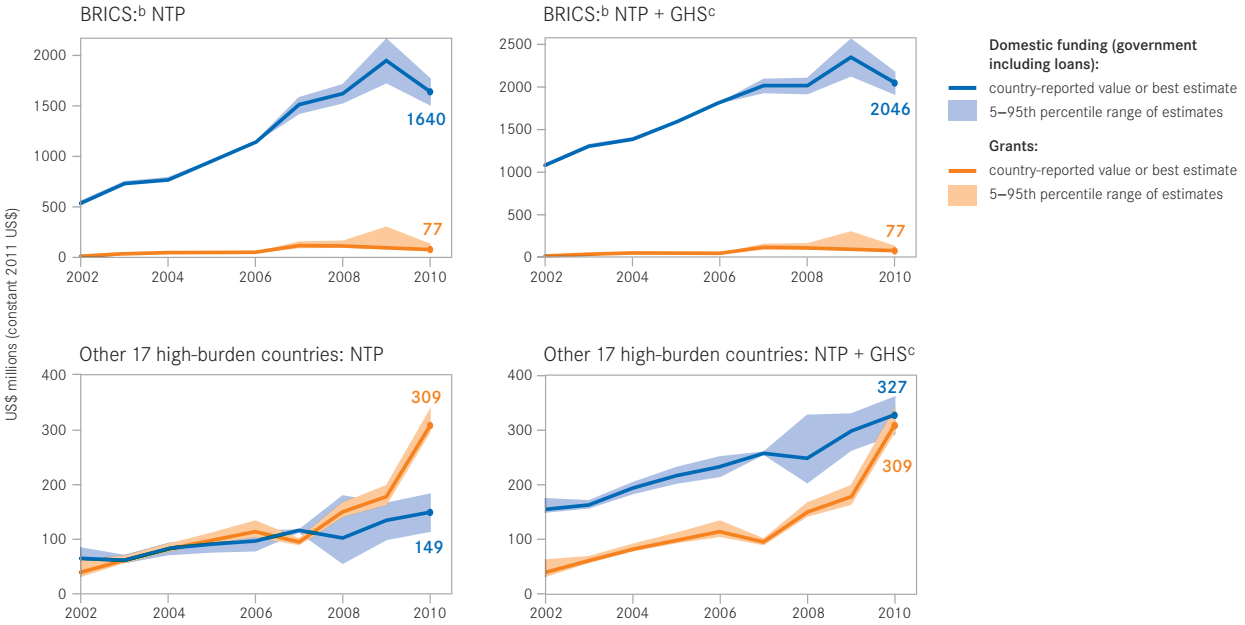


[a] Funding required is the sum of the funds needed to fully fund NTP budgets plus the funds needed for outpatient visits and hospital stays (general health-care services) if these are not already included in NTP budgets. The difference between the funding required and the funding available is the funding gap reported by NTPs.

[b] Brazil, the Russian Federation, India, China and South Africa.

FIGURE 4.6

TB expenditures by source of funding,[a] 22 high-burden countries, 2002–2010



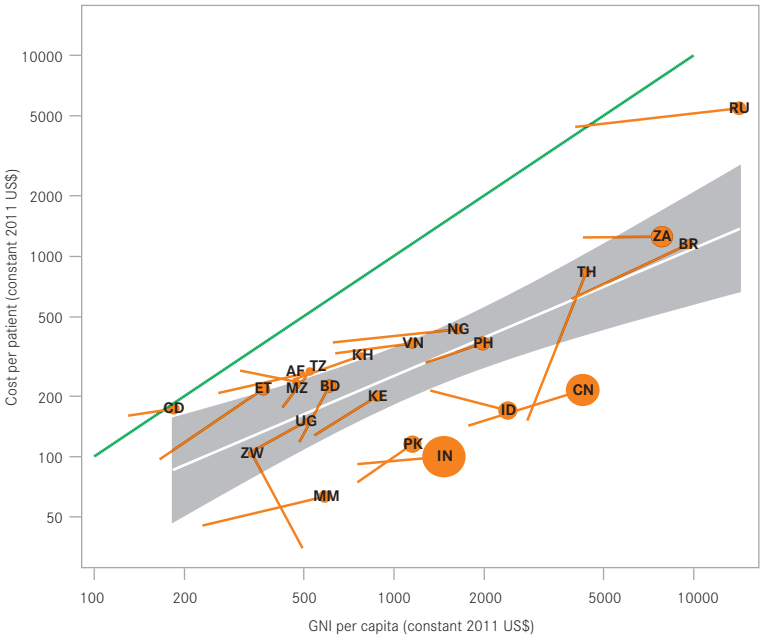
[a] Total expenditures may be less than funding available in **Figure 4.5**, as not all funding commitments translate into disbursements and not all disbursements translate into expenditures.

[b] Brazil, the Russian Federation, India, China and South Africa.

[c] GHS is the cost of resources used for TB treatment in the general health system that are not usually managed by the NTP. It includes the costs associated with hospital stays and outpatient visits.

FIGURE 4.7

Cost per TB patient treated with first-line drugs,[a] 22 high-burden countries,[b] 2004 and 2010[c]



- The size of the orange circle is proportional to the number of cases treated in 2010.
- The tail attached to each circle depicts the change in cost per patient and GNI per capita between 2004 and 2010.
- The grey area depicts the 95% confidence interval for the prediction (= white line) of the unweighted log–log regression of cost per patient on GNI per capita in 2010.
- The green line marks where cost per patient equals GNI per capita.

[a] Costs include all resources used for treatment (not only first-line drugs), i.e. all items included in Figure 4.1 with the exception of those for MDR-TB.

[b] **AF** Afghanistan; **BD** Bangladesh; **BR** Brazil; **CN** China; **CD** Democratic Republic of the Congo; **ET** Ethiopia; **ID** Indonesia; **IN** India; **KE** Kenya; **KH** Cambodia; **MM** Myanmar; **MZ** Mozambique; **NG** Nigeria; **PK** Pakistan; **PH** Philippines; **RU** Russian Federation; **TH** Thailand; **TZ** United Republic of Tanzania; **UG** Uganda; **VN** Viet Nam; **ZA** South Africa; **ZW** Zimbabwe.

[c] Costs per patient treated are based on 3-year averages, 2002–2004 and 2008–2010, to minimize distortions associated with non-annual expenses on items such as buildings, equipment and buffer stocks of drugs.

vide TB diagnosis and treatment within the general health system (that is, the staff and health facilities used for outpatient and inpatient care) are added to the resources included in NTP budgets, the share of funds contributed from domestic sources increases in both sets of countries (**Figure 4.6**). Nonetheless, the share still only reached 51% in the 17 countries outside BRICS in 2010.[1] Between 2009 and 2010 there was a marked reduction in expenditures in BRICS (driven by the Russian Federation although there were falls in spending in Brazil and China as well), and expenditures also declined in Mozambique and Viet Nam.

The estimated cost per patient treated for TB with first-line drugs is shown for each of the 22 HBCs in **Figure 4.7**. The cost generally lies in the range US$ 100–500 per patient treated. The exceptions are Myanmar (under US$ 100), Thailand (US$ 830) and Brazil, the Russian Federation and South Africa (above US$ 1000). Between 2004 and 2010, the cost per patient treated has increased in almost all of the HBCs, as has GNI [gross national income] per capita, with the exception of Indonesia and Mozambique. It is noticeable that in all of the HBCs, the cost per patient treated is less than GNI per capita (that is, all values lie below the solid **green** line in **Figure 4.7**). Besides GNI, a further explanation for variation in costs appears to be the scale at which treatment is provided. Some of the countries with relatively low costs for their income level (for example, China, India, Indonesia and Pakistan) are countries where the total number of patients treated each year is comparatively high (as shown by the size of the circles in **Figure 4.7**).

As in previous years, the cost of treating TB patients with first-line drugs in the Russian Federation is higher than might be expected for the country's income level. The relatively high cost is due in large part to an extensive network of hospitals and sanatoria that are used for lengthy inpatient care. Nevertheless, there is evidence that some costs are starting to fall, with decreasing expenditures on staff and gradual reductions in the use of inpatient care. In addition, the number of dedicated beds for TB patients fell from 103 000 in 2007 to less than 97 000 in 2010, and the average length of stay for a TB patient fell from 106 to 84 days. It should also be highlighted that the characteristics of the patient population in the Russian Federation (such as high rates of alcohol abuse and unemployment, and a comparatively high proportion of ex-prisoners) may also warrant additional investments in some aspects of TB care. Examples include patient enablers and incentives to support outpatient care, and psychosocial support.

4.2 Funding for TB care and control in the 22 high-burden countries and 75 other countries

Besides the 22 HBCs, 75 other countries have reported financial data to WHO since 2006 that allow assessment of trends in funding for TB control. These 97 countries accounted for 92% of the world's notified cases of TB in 2010.

Funding for TB control in these 97 countries has grown from US$ 3.5 billion in 2006 to a projected US$ 4.4 billion in 2012 (**Figure 4.8**, **Figure 4.9**); funding has levelled off

[1] Further details for individual countries can be found in **Annex 2**, and in finance country profiles for around 100 countries that are available online at **www.who.int/tb/data**.

FIGURE 4.8

Funding available for TB control by line item and funding gap, 22 high-burden countries and 75 other countries,[a] 2006–2012

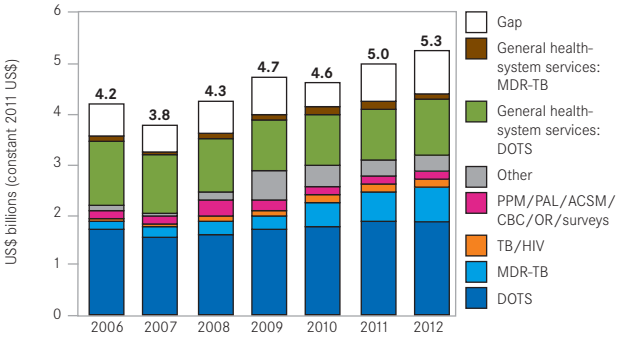
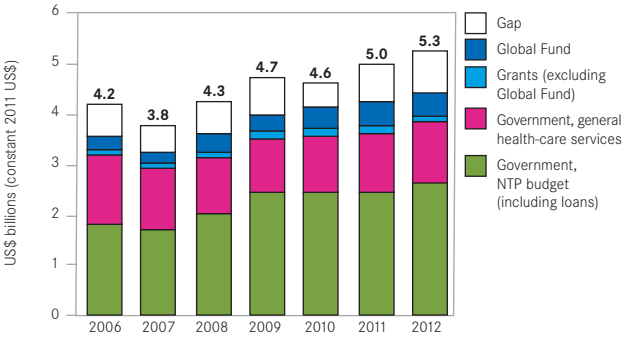


FIGURE 4.9

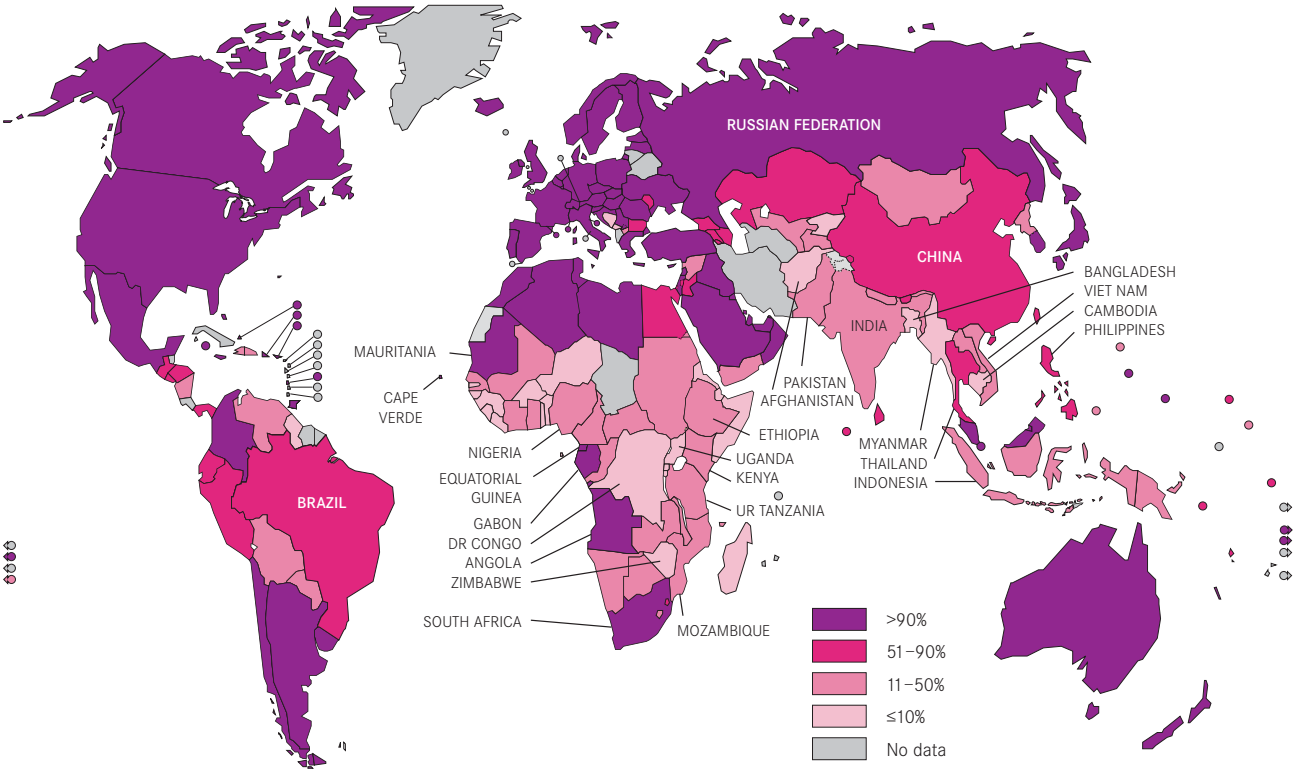
Funding available for TB control by source of funding and funding gap, 22 high-burden countries and 75 other countries,[a] 2006–2012



[a] These countries together account for 92% of the total number of drug-susceptible TB cases notified globally in 2010.

FIGURE 4.10

Domestic funding as a percentage of total funding available to the NTP, 2011



since 2009. As in the 22 HBCs, the largest share of funding is for TB diagnosis and treatment with first-line drugs (labelled "DOTS" in **Figure 4.8**); an increasing amount is for MDR-TB. National governments account for 86% of the funding expected in 2012, followed by the Global Fund (US$ 515 million, or 12% of total funding) and then by grants from donors besides the Global Fund (US$ 113 million, or 2%). International donor funding for TB control has increased by 50% since 2006, from US$ 0.4 billion to an expected US$ 0.6 billion in 2012, but still falls far short of funding for malaria (US$ 1.8 billion in 2009)[1] and HIV (US$ 6.9 billion in 2010).[2]

Funding gaps in the 97 countries amounted to US$ 0.7 billion in 2011 and are anticipated to reach US$ 0.8 billion in 2012 (**Figure 4.9**).

Global aggregates conceal wide variation in the share of funding from domestic sources at country level (**Figure 4.10**). For example, in most countries of sub-Saha-

[1] *World malaria report 2010*. Geneva, World Health Organization, 2010.

[2] *Financing the response to AIDS in low and middle-income countries. international assistance from donor governments in 2010*. UNAIDS and the Kaiser Family Foundation, 2010. Available at **www.unaids.org**

FIGURE 4.11

Cost per TB patient treated with first-line drugs (US$), 2010

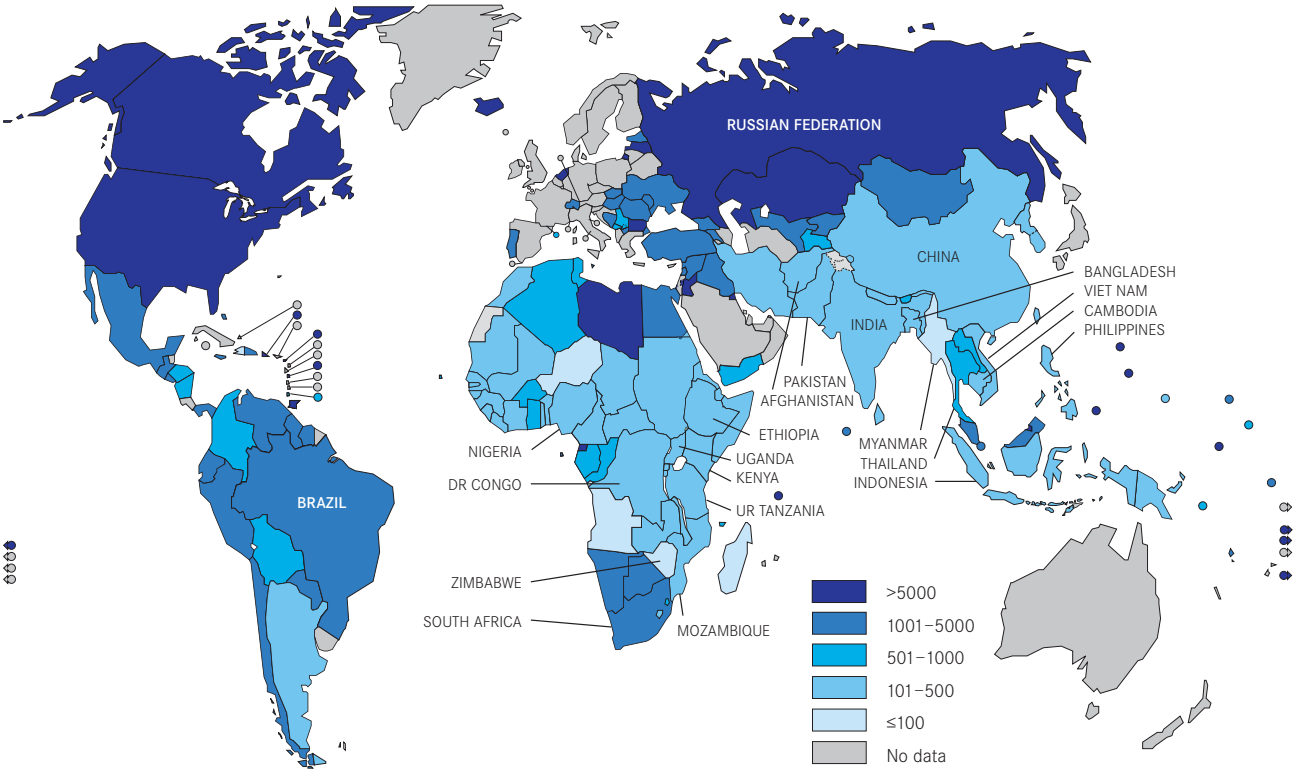
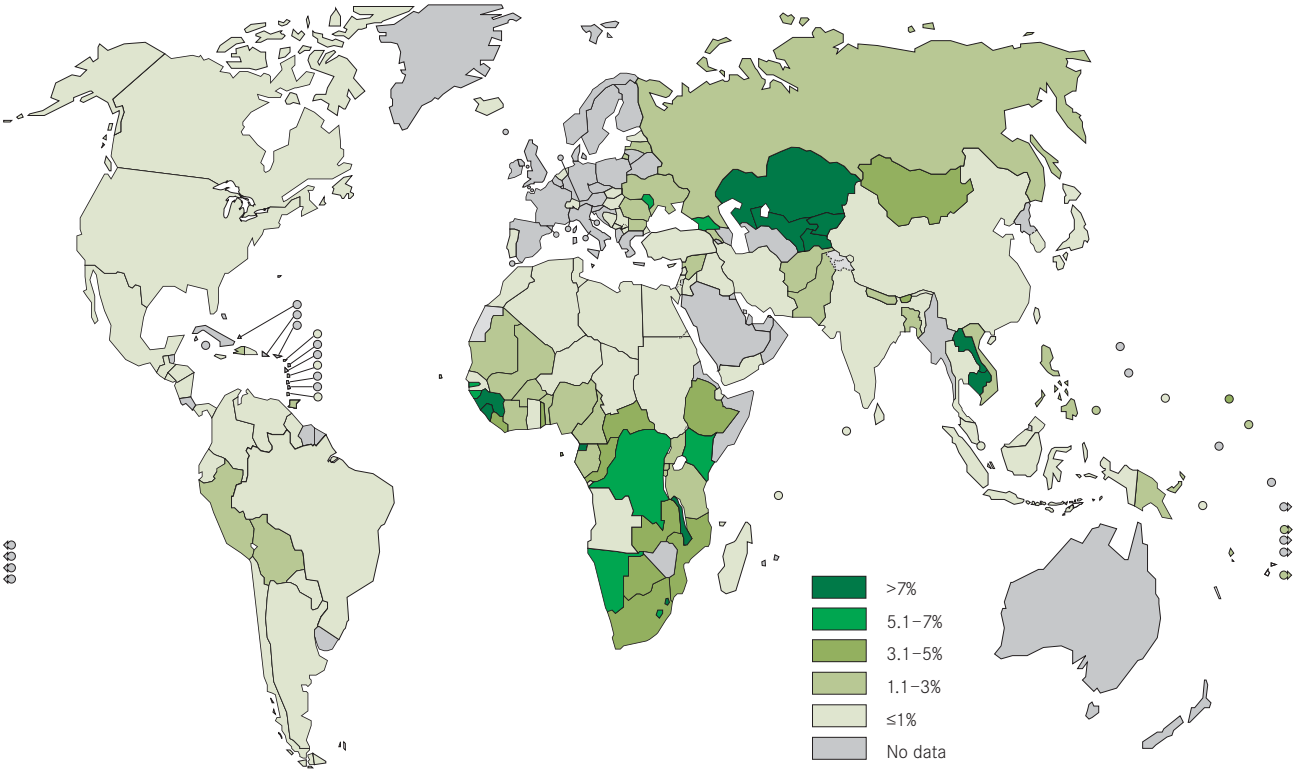


FIGURE 4.12

The cost of TB control as a percentage of total health expenditures by the public sector, 2009



ran Africa the share of funding from domestic sources is below 50% (the exceptions are Angola, Cape Verde, Equatorial Guinea, Gabon and South Africa – all high-income or middle-income countries).

The cost of treating a patient with first-line drugs at country level is summarized in **Figure 4.11**. In most countries in the African, South-East Asia and Western Pacific regions, the cost per patient treated is under US$ 1000 (exceptions include Botswana, Namibia and South Africa in the African Region, and Malaysia in the Western Pacific Region). Costs are higher in the Region of the Americas and the European Region.

In general, the cost of TB control as a proportion of public health expenditures[1] is relatively low (**Figure 4.12**).[2] In most countries, TB control accounts for <3% of public health expenditures. Cambodia, Kazakhstan, Kyrgyzstan, Lao PDR, Tajikistan and Uzbekistan stand out as countries that have high levels of spending on TB relative to total health expenditure. Part of the explanation is that these countries are among the list of 27 high MDR-TB burden countries,[3] and treatment for MDR-TB is comparatively expensive. Other reasons include continued use of models of care for all forms of TB that rely extensively on inpatient care. For example, in Kazakhstan, 84% of smear-negative cases and 96% of smear-positive cases[4] are hospitalized, with average lengths of stay of 60 and 105 days respectively; 35% of cases of MDR-TB are hospitalized for 180 days. In Kyrgyzstan, Tajikistan and Uzbekistan, more than 50% of new cases are hospitalized, for an average of more than 50 days.

Further details for all of the 97 countries that reported financial data are provided in regional and country finance profiles that are available online.[5]

Improvements to the methods used to analyse financial data, ongoing data challenges and ways in which the quantity and quality of financial data can be improved are described in **Box 4.1**.

4.3 Funding needs and gaps for MDR-TB care and control

Of the estimated 290 000 cases of MDR-TB among notified cases of pulmonary TB in 2010, only around 50 000 were reported to have been enrolled on treatment (**Chapter 3**). China and India account for 44% of the estimated cases (about 130 000), but reported only small numbers of cases as enrolled on treatment (just over 4000). In the Russian Federation, which ranks third in terms of the estimated number of cases of MDR-TB among notified cases of pulmonary TB (about 31 000 cases), almost 14 000 patients were enrolled on treatment. In European countries excluding the Russian Federation, there were an estimated 22 000 people with MDR-TB among notified cases of pulmonary TB (8% of the global total) in 2010, just under 19 000 of which were enrolled on treatment. Kazakhstan enrolled more cases on treatment (5705, or 13% of the total) than any other country apart from the Russian Federation. With 5402 patients enrolled on treatment in 2010, South Africa ranked third.

The funding available for MDR-TB treatment in 106 countries that reported data increased from US$ 0.2 billion in 2006 to US$ 0.7 billion in 2011 (**Figure 4.13**).[6] Second-line drugs accounted for 30–50% of the total, depending on the year. In 2011, three countries account for most of the funding: in descending order, they are South Africa, the Russian Federation and Kazakhstan, with a combined total of US$ 0.5 billion.[7] Much of the remaining funding is accounted for by China (US$ 35 million) and India (US$ 47 million). Although the amounts of funding for MDR-TB in China and India are small relative to the other three countries, they represent a large increase compared with amounts of US$ 0.2 million and US$ 1.9 million respectively in 2006.

Much of the reported funding for MDR-TB is from domestic sources, but the share varies from year to year. Since 2006, domestic financing has represented 60–94%

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1 Source: World Health Organization National Health Account database (**www.who.int/nha/en**) accessed via **http://data.worldbank.org/indicator/SH.XPD.PUBL.ZS** in July 2011.

2 In some countries in Africa, estimates appear to be too high because of a denominator that is underestimated. A good example is the Democratic Republic of the Congo; here, the explanation may be a lack of data on expenditures by regional governments.

3 For the list of 27 countries, see **Chapter 2** and **Chapter 3**.

4 For case definitions, see **Chapter 3**.

5 **www.who.int/tb/data**

6 These amounts include the estimated value of resources used for inpatient care and outpatient visits, which are not usually part of the budgets and expenditures reported by NTPs. They exclude laboratory supplies and equipment, since amounts for MDR-TB specifically are not distinguished in the WHO data collection form.

7 Financial data were not reported to WHO by South Africa in 2011. The funding available was estimated using data reported in previous years as well as a detailed budget developed using the WHO TB planning and budgeting tool in 2007 (see **Box 4.1**).

BOX 4.1

Improved methods for data analysis and ongoing data challenges

Improved methods for data analysis

Uncertainty about estimates of total NTP budgets, available funding and expenditures was more rigorously accounted for in the time-series presented in this chapter, compared with previous reports in this series. Missing values were estimated using a regression model in which the budget requested for period *t* in a specific country was assumed to depend on a combination of the final budget requested for period *t-1* and/or the number of TB cases in period *t*. One or both of these variables were included in a stepwise regression, with forward selection based on p-values. In the absence of any significant explanatory variables, a linear time-trend was fitted to the reported budget values and missing values were interpolated. For countries that have reported budget data but have never reported expenditures, expenditure data reported by other countries within the same income group were used to estimate the proportion of the required budget that was ultimately funded and spent. A full description of the methods will be made available in a paper for a peer-reviewed journal.

Weaknesses in financial data reported to WHO

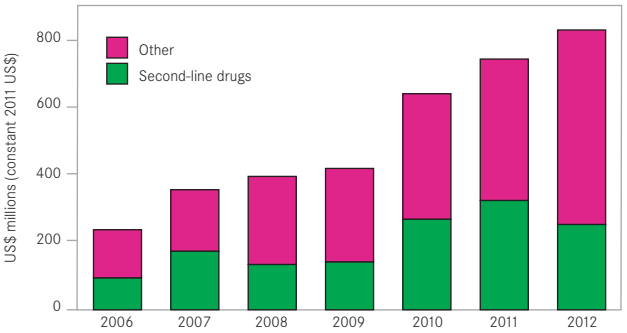
During WHO's annual process of data collection, review and follow-up, considerable efforts are made to maintain and improve the quality and completeness of financial reports. Despite these efforts, expenditure data are consistently less complete than budget data. Examples of HBCs where there have been persistent difficulties with reporting expenditures include South Africa (since 2006), Uganda (since 2005) and Thailand (since 2008). In Uganda, reasons include difficulties in compiling data from four administrative regions and 111 districts. In South Africa, it has proved difficult to compile expenditures from the nine provinces and 44 district municipalities. Wide uncertainty bands on the estimates of expenditures in these and other countries illustrate the need for investments in financial management systems, especially in countries where responsibility for budget allocation and monitoring of expenditures is decentralized to subnational levels (such as states and provinces), to ensure that TB expenditures can be tracked at all levels.

Efforts to improve the quantity and quality of financial data

WHO continues to promote and train countries to use the TB Planning and Budgeting tool to improve the quality of the data being reported (and to make it easier for countries to report to WHO). By mid-2011, the tool had been used to develop plans and budgets in 13 of the 22 HBCs and a further 28 countries. An assessment of the tool by users in 2011 will help to make further improvements; input can be provided via WHO's Stop TB Department web site (www.who.int/tb). For some countries, specific studies following the established methods of national health accounts may be required on a periodic basis to better track TB expenditures.

FIGURE 4.13

Funding available for MDR-TB by line item, 106 countries,[a] 2006–2012



[a] These countries accounted for 96% of the total number of MDR-TB cases enrolled on treatment in 2010.

of the NTP budget; on the assumption that hospital care and outpatient visits during treatment (typically not included in NTP budgets) are domestically financed, this figure for domestic financing increases to 79–96% of the total funding available for MDR-TB. The value of grants for MDR-TB from the Global Fund is growing, and reached US$ 0.13 billion in 2011 (equivalent to 91% of total grant financing for MDR-TB). According to country reports, the biggest grants are for India and China, at US$ 36 million and US$ 31 million respectively.

The funding that is available for MDR-TB is much lower than the funding requirements set out in the Global Plan 2011–2015.[1] The estimates in the plan are that US$ 7 billion is needed over five years, increasing from US$ 0.9 billion in 2011 to US$ 1.9 billion in 2015 (see also **section 2.4**), for the cumulative treatment of 1.1 million people with MDR-TB, including 270 000 in 2015. To reach the plan targets, substantial resource mobilization will be needed. A new analysis suggests that most of the funding required for scaling up MDR-TB diagnosis and treatment could come from domestic funding in BRICS and other middle-income countries (**Box 4.2**).

[1] *The Global Plan to Stop TB, 2011–2015*. Geneva, World Health Organization, 2010 (WHO/HTM/STB/2010.2).

BOX 4.2

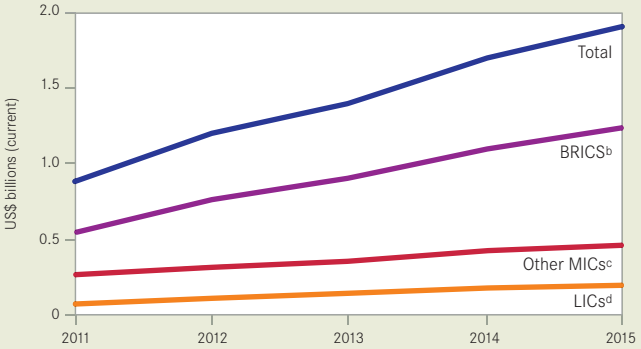
Financing the expansion of diagnosis and treatment of MDR-TB

In a new analysis conducted for this report, the funding needs for MDR-TB set out in the Global Plan to Stop TB 2011–2015 were estimated for three groups of countries: BRICS (Brazil, the Russian Federation, India, China and South Africa), other middle-income countries (MICs), and low-income countries (LICs). These groupings were defined with the rationale that BRICS as well as other MICs should have the capacity to fund the diagnosis and treatment of MDR-TB from domestic sources, while LICs will need financial support from grant sources. Estimates of funding requirements for each group were developed using projections of the number of patients that would need to be treated in each country to reach the Global Plan target, and estimates of the cost per patient treated for individual countries that underpinned the analyses conducted for the Global Plan.

Funding needs in the three groups of countries are illustrated in the figure (right). BRICS account for more than 60% of the required funding in each year and almost 70% of overall funding (US$ 4.6 billion for 2011–2015). Other MICs require US$ 0.2–0.4 billion per year, and US$ 1.8 billion in total. The LICs require US$ 0.1–0.2 billion per year, and US$ 0.7 billion in total.

Donor funding for MDR-TB amounted to US$ 0.14 billion in 2011. If prioritized for LICs, current levels of donor funding would be almost sufficient to finance the scale-up of MDR-TB diagnosis and treatment in line with the targets included in the Global Plan.

Funding required for MDR-TB, Global Plan to Stop TB, 2011–2015[a]



[a] Total funding required is the best estimate from the range of plausible values reported in the Global Plan to Stop TB, 2011–2015.
[b] Brazil, the Russian Federation, India, China and South Africa.
[c] Other middle-income countries (not including BRICS).
[d] Low-income countries.

It should also be highlighted that there is scope to lower the costs of treatment. The average (median) cost per patient implied by data reported by the 27 high MDR-TB burden countries 2009–2011 is US$ 8200 (interquartile range, US$ 6200–21 700). Besides the more expensive drug regimens that are needed for treatment, a major reason for relatively high costs (compared with those for first-line treatments shown in **Figure 4.7**) is that people are treated for lengthy periods of time in hospital. The latest WHO guidelines on the programmatic management of MDR-TB include a conditional recommendation for outpatient treatment, based on a systematic review of the cost and cost-effectiveness of models of care in Estonia, Peru, the Philippines and Tomsk (Russian Federation).[1,2] The outpatient models cost less than US$ 4000 per patient.

[1] Fitzpatrick C, Floyd K. A systematic review of the cost and cost-effectiveness of treatment for multidrug-resistant tuberculosis. *PharmacoEconomics*, 2011 [accepted for publication].

[2] *Guidelines for the programmatic management of drug-resistant tuberculosis, 2011 update*. Geneva, World Health Organization, 2011. **www.who.int/tb/challenges/mdr/programmatic_guidelines_for_mdrtb**

4.4 Comparisons of funding available for TB care and control with the resource requirements estimated in the Global Plan to Stop TB 2011–2015

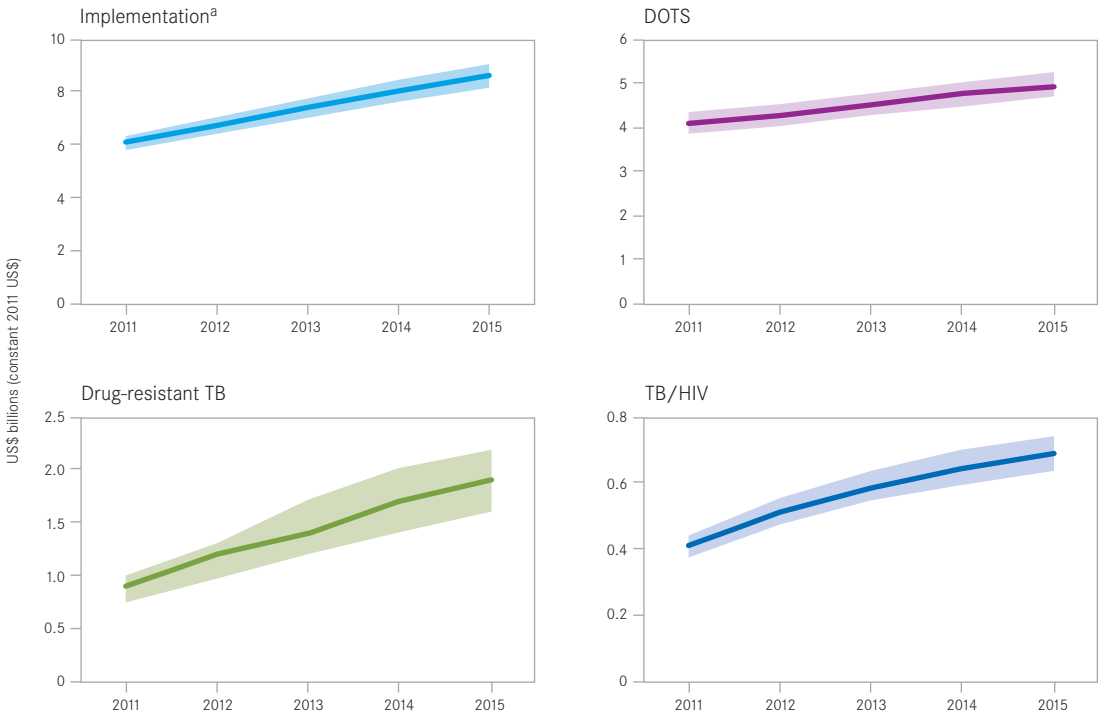
The Global Plan to Stop TB 2011–2015 was developed by the Stop TB Partnership in 2010.[1] It sets out what needs to be done to achieve the global targets for TB control set for 2015,[2] and the associated funding requirements (**Table 4.2**, **Figure 4.14**). The total requirement over five years amounts to US$ 47 billion. Excluding research and development for new TB drugs, diagnostics and vaccines (**Chapter 7**), which are not the responsibility of NTPs, the total is US$ 37 billion. This rises from around US$ 6 billion in 2011 to US$ 8 billion in 2015 (**Figure 4.14**). Diagnosis and treatment following the DOTS approach requires the largest single share of funding – US$ 4 billion in 2011 increasing to around US$ 5 billion in 2015. The second largest component is diagnosis and treatment of MDR-TB, for which the funding requirement is estimated at US$ 1 billion in 2011, rising to almost US$ 2 billion in 2015.

A comparison of the funding requirements set out in the Global Plan with the funding available in the 149 low-income and middle-income countries considered in the plan is provided in **Figure 4.15**.[3] Overall, funding falls about US$ 2 billion short of the requirements estimated in the Global Plan in 2012. This includes a gap of about

[1] *The Global Plan to Stop TB, 2011–2015*. Geneva, World Health Organization, 2010 (WHO/HTM/STB/2010.2).
[2] For a summary of the targets set in the plan, see **Chapter 1**.
[3] The total funding available in the 97 countries for which data were available was adjusted upwards according to the fraction of cases for which they accounted, to allow direct comparison with the group of 149 countries considered in the Global Plan. The Global Plan excludes high-income countries.

FIGURE 4.14

Funding required to implement the Global Plan to Stop TB, 2011–2015



[a] Implementation includes DOTS, Drug-resistant TB, TB/HIV, Laboratory strengthening and Technical assistance.

FIGURE 4.15

Funding required according to the Global Plan to Stop TB, 2011–2015, funding required according to country plans and funding available for TB control, 2010–2012, 149 countries

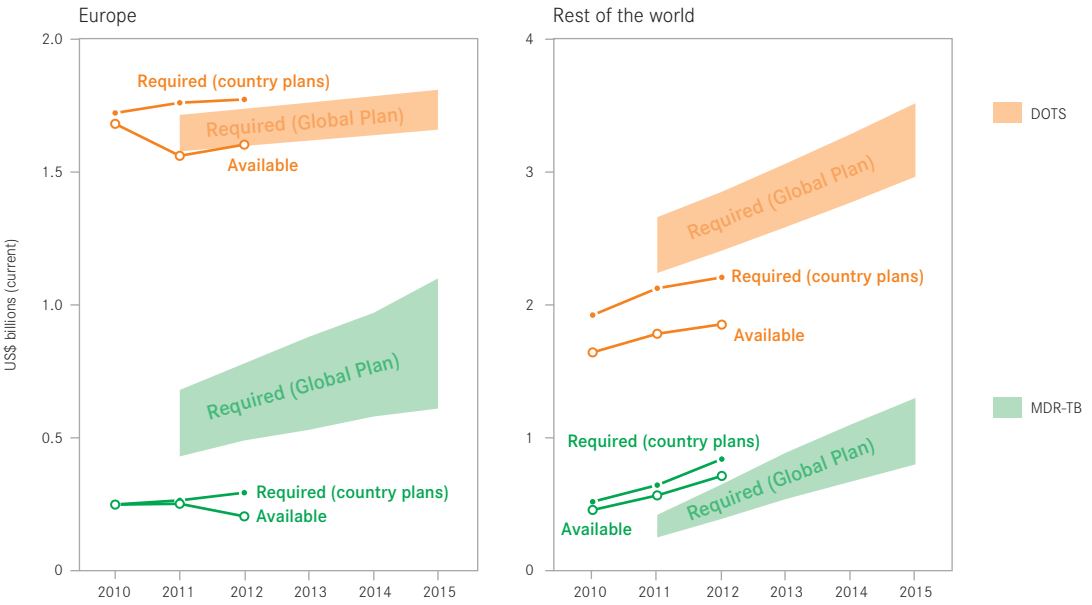


TABLE 4.2

Summary of funding requirements for TB control during the period 2011–2015, as set out in the Global Plan to Stop TB

PLAN COMPONENT	TOTAL FUNDING REQUIRED (US$ BILLIONS) [% OF TOTAL]	PLAUSIBLE RANGE
Implementation	**36.9 [79%]**	**36.1–37.7**
DOTS	22.6 [48%]	22.1–23.2
MDR-TB	7.1 [15%]	6.6–7.7
TB/HIV	2.8 [6%]	2.7–2.9
Laboratory strengthening	4.0 [8%]	3.7–4.2
Technical assistance	0.4 [1%]	not estimated
Research and development	**9.8 [21%]**	
Fundamental research	2.1 [5%]	
New diagnostics	1.7 [4%]	
New drugs	3.7 [8%]	
New vaccines	1.9 [4%]	
Operational research	0.4 [1%]	
All components	**46.7 [100%]**	**45.9–47.5**

US$ 1 billion for treatment with first-line drugs (labelled "DOTS" in **Figure 4.15**) in countries outside Europe, and US$ 0.5 billion for treatment of patients with MDR-TB in eastern Europe. These gaps reflect the funding gaps reported by countries (as reported in **section 4.1** and **section 4.2**), but also planning for the implementation of TB control that is less ambitious than the targets set out in the Global Plan (especially the targets set for MDR-TB, as discussed in **Chapter 3**). It should be emphasized that although funding for MDR-TB appears to exceed the funding required in the group of countries outside eastern Europe (labelled "rest of the world" in **Figure 4.15**), this funding is heavily concentrated in one country: South Africa.

CHAPTER 5

New diagnostics and laboratory strengthening for TB

KEY MESSAGES

- The landscape of TB diagnostics is rapidly evolving and WHO has established a dynamic and systematic process for timely formulation of policy. Between July 2010 and July 2011, this process resulted in the endorsement of a new test for rapid diagnosis of TB and drug-resistant TB – Xpert MTB/RIF as well as a negative policy on the use of commercial serodiagnostics for the diagnosis of active TB.
- The Xpert MTB/RIF assay provides the foundation for a revolution in the diagnosis of TB and drug-resistant TB.
- Global roll-out of the Xpert MTB/RIF assay and associated GeneXpert instruments has started. By 30 June 2011, 26 of the 145 countries that are eligible to purchase instruments and Xpert MTB/RIF cartridges at concessional prices had done so.
- Conventional laboratory capacity remains inadequate in many countries. In 2010, 8 of the 22 high-burden countries (HBCs) that account for 80% of the world's TB cases did not meet the target of 1 microscopy centre per 100 000 population. Among the 36 countries that are in the combined list of 22 HBCs and 27 high MDR-TB burden countries, 20 had less than the recommended capacity of 1 laboratory to perform culture and drug susceptibility testing per 5 million population.
- Implementation of diagnostics endorsed between 2007 and 2009 appears to be most advanced in the European Region, where 51% of countries reported using liquid culture and rapid speciation and 43% reported use of line probe assays.
- Laboratory strengthening must be accelerated to reach global targets for the diagnosis of drug-resistant TB and HIV-associated TB, as is currently happening in countries that are participating in the EXPAND-TB project.

There were an estimated 8.8 million new and recurrent cases of TB in 2010, of which 5.7 million were diagnosed and notified to national TB control programmes (NTPs); among notified cases, there were an estimated 290 000 cases of multidrug-resistant TB (MDR-TB), of which only 53 000 (18%) were reported to have been diagnosed and enrolled on appropriate treatment (**Chapter 2**, **Chapter 3**). Earlier and improved detection of TB cases and expanded capacity to diagnose cases of MDR-TB are thus global priorities for TB control, requiring new diagnostic tests, clear policies on which diagnostic tests to use (and which not to use) and strengthened laboratories in which tests can be safely and effectively carried out.

This chapter has two main parts. The first part highlights two landmarks in TB diagnostics in 2010/2011: the endorsement of a new rapid test for TB and drug-resistant TB called Xpert MTB/RIF at the end of 2010, and new policy guidance on the use of commercial serological tests for the diagnosis of active TB disease. The second part discusses the status of laboratory capacity in 2010, and recent progress in strengthening laboratories including the adoption of policy guidance from WHO. Particular attention is given to the countries that carry the highest burden of TB and MDR-TB as well as to a project in 27 countries called EXPAND-TB and the roll-out of Xpert MTB/RIF in the first six months of 2011.

5.1 New diagnostic tests and WHO policies

The landscape of TB diagnostics is rapidly evolving, and in this context WHO has established a dynamic and systematic process for timely formulation of policy. The process involves four main steps. First, the available evidence is synthesized through systematic reviews and meta-analyses of data. Second, findings are reviewed by an external Expert Group. Third, the evidence and public health impact of new tools and technologies are assessed using the recommended GRADE approach.[1] Fourth, detailed policy guidance is developed, followed by dissemination to Member States and other stakeholders.[2]

Between July 2010 and July 2011, this process resulted in the endorsement of a new test for rapid diagnosis of TB and drug-resistant TB – Xpert MTB/RIF as well as a

[1] www.gradeworkinggroup.org
[2] WHO policies on TB diagnostics are available at: www.who.int/tb/laboratory/policy_statements

BOX 5.1

Serodiagnostics: the evidence base for "negative" policy guidance

In 2010, a systematic review identified 67 studies on the use of commercially available serodiagnostic tests to diagnose active pulmonary TB disease. There were 32 studies from low-income and middle-income countries. The results demonstrated that the sensitivity and specificity values from individual studies were highly variable. Pooled results of the most widely used test showed sensitivities of 76% and 59% and specificities of 92% and 91% in patients with smear-positive and smear-negative pulmonary TB, respectively.

For extrapulmonary TB, 25 studies were identified in a systematic review, including 10 studies from low-income and middle-income countries. The results demonstrated that sensitivity and specificity values from individual studies were highly variable. Pooled sensitivity was 64% for TB of the lymph nodes and 46% for TB of the pleura. The pooled results for the sensitivity and specificity of the most widely used test were 81% and 85%, respectively. In one study involving HIV-infected patients, the sensitivity of the test was 33%.

negative policy on the use of commercial serodiagnostics for the diagnosis of active TB disease.

5.1.1 Xpert MTB/RIF

Xpert MTB/RIF is a TB-specific automated, cartridge-based nucleic amplification assay based on the GeneXpert multi-disease platform. It was developed by Cepheid, Inc. (Sunnyvale, USA) in partnership with the Foundation for Innovative New Diagnostics (FIND) and the University of Medicine and Dentistry of New Jersey (Newark, USA) with support from the US National Institutes of Health and the Bill & Melinda Gates Foundation. Xpert MTB/RIF detects *Mycobacterium tuberculosis* as well as mutations conferring resistance to rifampicin directly from sputum in an assay that provides results within 100 minutes. Results from field demonstration studies found that a single Xpert MTB/RIF test can detect TB in 99% of patients with smear-positive pulmonary TB and >80% of patients with smear-negative pulmonary TB (see **Chapter 3**, **Box 3.1** for definitions of different types of TB case). The demonstration studies also showed that while HIV coinfection substantially decreases the sensitivity of microscopy, it does not significantly affect the performance of Xpert MTB/RIF. Furthermore, Xpert MTB/RIF can detect rifampicin resistance with 95.1% sensitivity and exclude resistance with 98.4% specificity.

WHO endorsed the Xpert MTB/RIF assay in December 2010. The test has the capacity to revolutionize the diagnosis of TB and drug-resistant TB, since it can greatly increase case finding and overcomes several of the barriers to establishing diagnostic capacity at country level, including human resource and biosafety constraints.

It should be emphasized that countries will continue to require adequate laboratory services for microscopy and culture to monitor treatment progress and to detect resistance to drugs other than rifampicin. Moreover, several operational conditions need to be met for successful implementation of Xpert MTB/RIF, including revised diagnostic algorithms, definition of the risk groups and levels of the health system in which the test would be used first, and analysis of logistic considerations to optimize the use and benefits of the technology.

The use of technologies such as Xpert MTB/RIF must be accompanied by rapid expansion and access to treatment services. WHO therefore recommends that health authorities should roll out Xpert MTB/RIF in phases, within the context of national plans for appropriate treatment and care of TB, MDR-TB and HIV-associated TB. Global recommendations on the operational aspects of implementing Xpert MTB/RIF are available in key WHO documents on a dedicated web site.[1]

5.1.2 Commercial serological antibody tests to diagnose TB disease

Dozens of commercial serological antibody tests for the diagnosis of active TB disease are marketed in many parts of the world,[2] despite the previously reported poor performance of these tests. In 2010, WHO commissioned a systematic review to synthesize the latest evidence on the diagnostic accuracy of these tests, both for pulmonary and extrapulmonary TB. Overall it was found that commercial serological tests provide inconsistent and imprecise results with highly variable values for sensitivity and specificity, and high proportions of false-negative and false-positive results. There was no evidence that existing commercial serological assays improve outcomes that are important to patients. Following the findings of this review, WHO issued "negative" policy guidance that strongly recommends that commercial serological tests should not be used for the diagnosis of pulmonary and extrapulmonary TB. A summary of the main evidence used for policy formulation is provided in **Box 5.1**; the full policy document is available from WHO.[3]

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[1] **www.who.int/tb/laboratory/mtbrifrollout**

[2] These tests should be distinguished from interferon-gamma release assays (IGRAs) which are used to test for latent infection (as opposed to active disease).

[3] **www.who.int/tb/laboratory/policy_statements**

5.2 Laboratory capacity and progress in laboratory strengthening at country level

A total of 36 countries (see **Table 5.1** and **Table 5.2**) are in the combined list of 22 high-burden countries (HBCs) that account for about 80% of the world's estimated cases of TB and the 27 high MDR-TB burden countries that account for about 85% of the world's estimated cases of MDR-TB. In 2010, 20 of these 36 countries had less than the recommended capacity of 1 laboratory to perform culture and drug susceptibility testing (DST) per 5 million population (**Table 5.1**). Capacity to perform sputum smear microscopy also remains insufficient in many settings: 8 of the 22 HBCs do not meet the target of 1 microscopy centre per 100 000 population and at the regional level the Western Pacific and the Eastern Mediterranean regions had only 0.5 and 0.9 microscopy centres, respectively, per 100 000 population.

Globally, almost three quarters of countries indicated the existence of a designated national TB reference laboratory (NRL). The African Region reported the highest proportion of countries (87%) with an NRL, although their functionality and/or performance have not been fully verified.

The Global Plan to Stop TB 2011–2015[1] includes a target that all patients who have been previously treated for TB should be tested for MDR-TB using rapid tests by 2015. Given the slower, conventional methods for DST, globally only 6% of previously treated patients received DST by any method in 2010 (see **Chapter 3**).

The uptake at country level of WHO laboratory policy guidance, with particular attention to the rapid diagnosis of drug-resistant TB, is described in **Table 5.2**. Capacity to conduct conventional DST for the detection of drug resistance exists in about 50% of countries. The uptake of newer diagnostics is slower: only 38% of countries reported use of liquid culture and rapid speciation in 2010, and only 23% reported use of line probe assays (LPAs) to detect rifampicin resistance. At the regional level, implementation appears to be most advanced in the European Region, where 51% of countries reported using liquid culture and rapid speciation and 43% reported use of LPAs. Uptake in the Region of the Americas appears slowest; only 23% of countries reported using liquid culture and rapid speciation, and 2% reported use of LPAs.

The availability of conventional DST and the uptake of new, rapid technologies in the combined list of 36 high-burden countries is better than the global average. Conventional DST is being rolled out in almost all of these countries. However, the coverage of liquid culture is still not adequate: 15 of the 22 HBCs (68%) and 17 of the 27 high MDR-TB burden countries (63%) had implemented liquid culture by 2010; the figures were 10/22 (45%) and 16/27 (59%), respectively, for LPAs. The slightly higher rate of implementation among HBCs is due in part to the EXPAND-TB project, a multi-partner initiative to establish new and rapid TB diagnostic technologies in 27 countries.

Launched in 2008 and expected to continue until 2013, the EXPAND-TB project aims to improve capacity to diagnose MDR-TB in upgraded laboratory services in 27 countries, 15 of which are in the list of 22 HBCs or 27 high MDR-TB burden countries (**Figure 5.1**). The project is a collaboration among WHO, the Global Laboratory Initiative, FIND and the Global Drug Facility, and funded by UNITAID and other partners. As this report went to press, new laboratory infrastructure and successful transfer of liquid culture and LPA technologies had been established in 18 countries. Among these 18 countries, six were routinely diagnosing patients with MDR-TB and rapid increases in patient numbers were evident (**Figure 5.2**).

FIGURE 5.1

The EXPAND-TB project - progress by July 2011

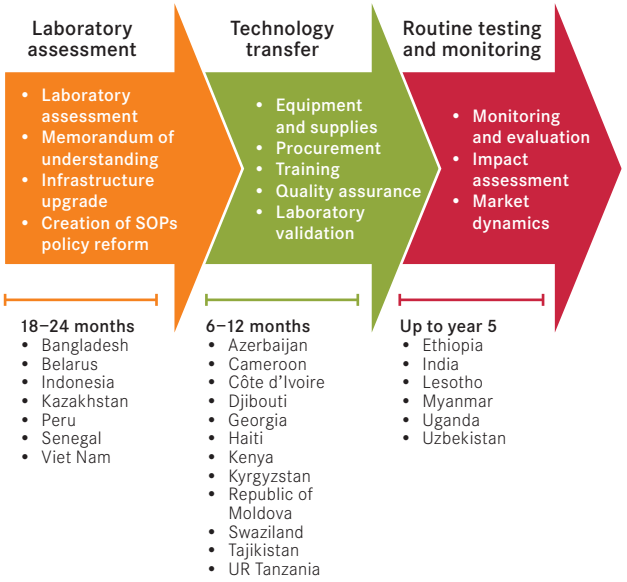
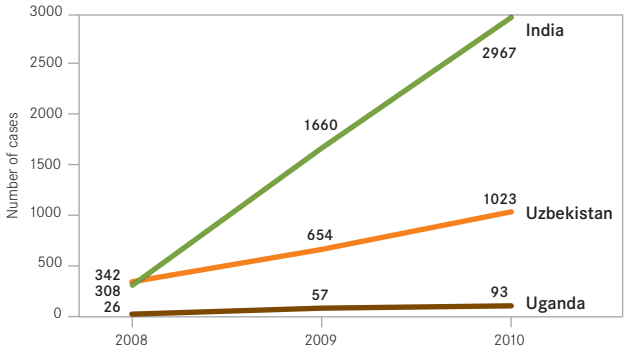


FIGURE 5.2

Cases of MDR-TB reported by selected countries participating in the EXPAND-TB project, 2008–2010



[1] *The Global Plan to Stop TB, 2011–2015*. Geneva, World Health Organization, 2010 (WHO/HTM/STB/2010.2).

TABLE 5.1

Laboratory capacity, 2010

■ Yes □ No	HIGH TB BURDEN	HIGH MDR-TB BURDEN	SMEAR LABORATORIES (PER 100 000 POPULATION)	CULTURE LABORATORIES (PER 5 MILLION POPULATION)[a]	DRUG SUSCEPTIBILITY TESTING LABORATORIES (PER 5 MILLION POPULATION)[a]	LINE-PROBE ASSAY RIFAMPICIN LABORATORIES (PER 5 MILLION POPULATION)	NATIONAL REFERENCE LABORATORY
Afghanistan	■	□	1.9	0.2	0	0	■
Armenia	□	■	1.4	1.6	1.6	1.6	■
Azerbaijan	□	■	0.8	1.1	1.1	–	–
Bangladesh	■	■	0.7	<0.1	<0.1	0	■
Belarus	□	■	–	–	–	–	–
Brazil	■	□	2.0	6.5	1.0	0	■
Bulgaria	□	■	0.5	20	14	0.7	■
Cambodia	■	□	1.5	1.1	0.4	0	■
China	■	■	0.2	3.3	0.7	<0.1	■
DR Congo	■	■	2.2	<0.1	<0.1	0	■
Estonia	□	■	0.4	7.5	7.5	7.5	■
Ethiopia	■	■	2.3	0.1	0.1	0.1	■
Georgia	□	■	0.7	2.3	1.1	1.1	■
India	■	■	1.1	<0.1	<0.1	<0.1	■
Indonesia	■	■	2.1	0.9	0.1	0	■
Kazakhstan	□	■	2.9	31	6.9	0	□
Kenya	■	□	3.3	0.7	0.5	0.4	■
Kyrgyzstan	□	■	2.3	7.5	2.8	0.9	■
Latvia	□	■	0.7	8.9	2.2	2.2	■
Lithuania	□	■	0.4	9.0	9.0	1.5	■
Mozambique	■	□	1.9	0.4	0.4	0	■
Myanmar	■	■	0.9	0.2	0.2	0.2	■
Nigeria	■	■	0.6	0.2	0.1	<0.1	■
Pakistan	■	■	0.7	0.4	0.3	0	■
Philippines	■	■	2.1	0.4	0.1	0	■
Republic of Moldova	□	■	1.7	5.6	5.6	1.4	■
Russian Federation	■	■	2.8	14	9.5	–	□
South Africa	■	■	0.5	1.5	1.5	1.4	■
Tajikistan	□	■	1.4	2.2	0.7	0	■
Thailand	■	□	1.6	4.7	1.1	0.1	■
Uganda	■	□	2.9	1.2	0.6	0.5	■
Ukraine	□	■	2.2	11	5.1	–	■
UR Tanzania	■	□	1.6	0.4	0.2	0.2	■
Uzbekistan	□	■	1.1	0.7	0.4	0.4	■
Viet Nam	■	■	0.9	1.3	0.1	0.1	■
Zimbabwe	■	□	0.9	0.8	0.8	0	■
High-burden countries			**1.0**	**2.0**	**0.7**	**<0.1**	**95%**
High MDR-TB burden countries			**0.9**	**2.1**	**0.8**	**<0.1**	**85%**
AFR			1.4	0.7	0.4	0.2	87%
AMR			2.5	17	0.9	<0.1	74%
EMR			0.9	2.0	0.4	0.1	77%
EUR			1.3	12	5.9	1.1	62%
SEAR			1.2	0.4	0.1	<0.1	82%
WPR			0.5	4.6	0.7	0.1	72%
Global			**1.1**	**4.4**	**1.0**	**0.1**	**74%**

– Indicates no data reported.

[a] The revised WHO target for both culture and DST capacity is 1 laboratory per 5 million population. While these processes previously had separate indicators, the revised combined indicator is the result of the introduction of new technologies for which culture and DST are invariably performed together.

TABLE 5.2

Implementation of WHO policy guidance for diagnosis of TB, 2010

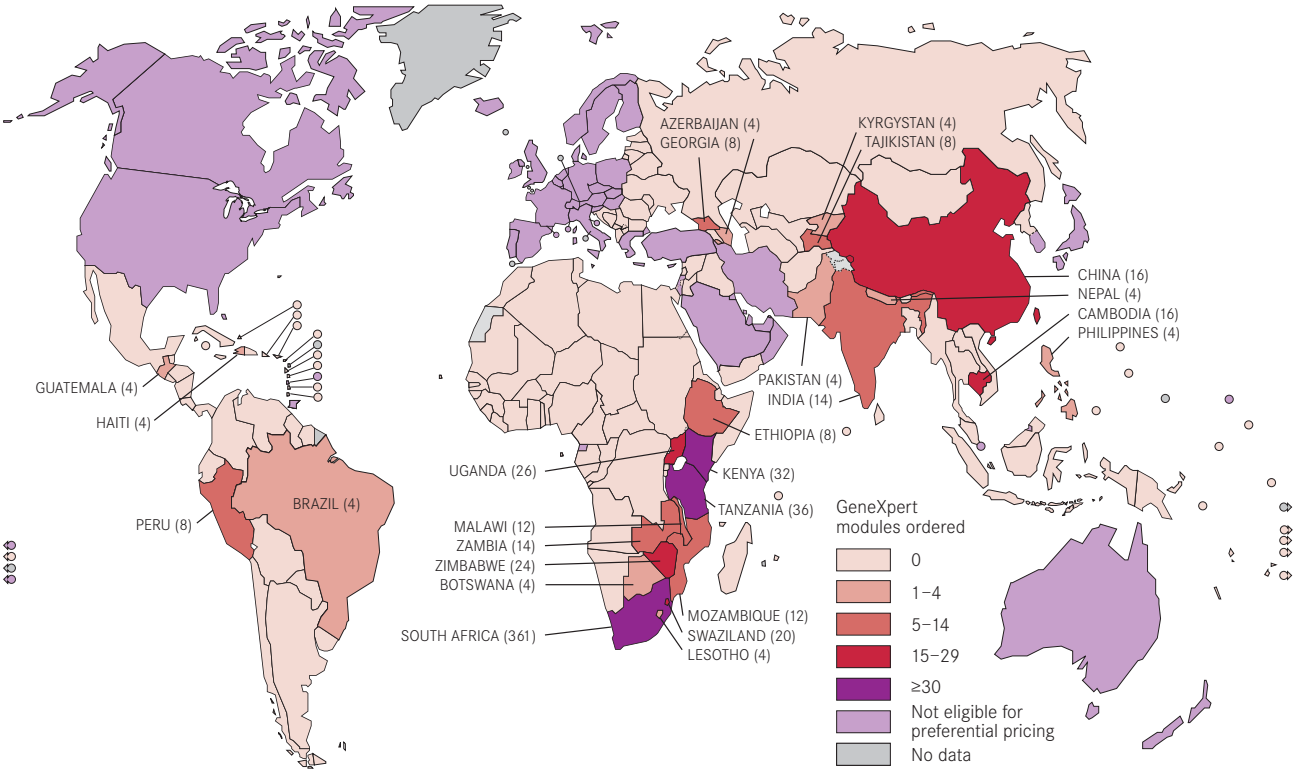
■ Yes
□ No

	HIGH TB BURDEN	HIGH MDR-TB BURDEN	CONVENTIONAL DRUG SUSCEPTIBILITY TESTING (DST)		LIQUID CULTURE AND RAPID SPECIATION TEST		LINE-PROBE ASSAY FOR DETECTING RESISTANCE TO RIFAMPICIN		ALGORITHM FOR THE DIAGNOSIS OF TB IN HIV-POSITIVE PEOPLE	
			INCORPORATED INTO POLICY	BEING ROLLED OUT	INCORPORATED INTO POLICY	BEING ROLLED OUT	INCORPORATED INTO POLICY	BEING ROLLED OUT	INCORPORATED INTO POLICY	BEING ROLLED OUT
Afghanistan	■	□	□	□	□	□	□	□	□	□
Armenia	□	■	■	■	■	■	■	■	□	□
Azerbaijan	□	■	–	–	–	–	–	–	–	–
Bangladesh	■	■	■	■	□	□	□	□	■	■
Belarus	□	■	–	–	–	–	–	–	–	–
Brazil	■	□	■	■	■	■	□	□	■	■
Bulgaria	□	■	■	■	■	■	□	■	■	■
Cambodia	■	□	□	□	□	□	□	□	■	■
China	■	■	■	■	■	■	□	□	■	■
DR Congo	■	■	■	■	□	□	□	□	■	■
Estonia	□	■	■	■	■	■	■	■	■	■
Ethiopia	■	■	■	■	■	■	■	■	□	□
Georgia	□	■	■	□	■	□	■	□	■	□
India	■	■	■	■	■	■	■	■	■	■
Indonesia	■	■	■	■	■	■	□	□	■	■
Kazakhstan	□	■	■	■	□	□	■	■	□	□
Kenya	■	□	■	■	■	■	■	■	■	■
Kyrgyzstan	□	■	■	■	■	■	□	■	■	–
Latvia	□	■	■	■	■	■	■	■	■	■
Lithuania	□	■	■	■	■	■	□	■	■	■
Mozambique	■	□	■	■	□	■	□	□	■	■
Myanmar	■	■	■	■	□	■	□	■	□	□
Nigeria	■	■	■	■	■	■	■	■	□	□
Pakistan	■	■	■	■	■	□	■	□	□	□
Philippines	■	■	■	■	□	□	□	□	■	□
Republic of Moldova	□	■	■	■	■	■	■	■	■	■
Russian Federation	■	■	■	■	■	■	■	■	■	■
South Africa	■	■	■	■	■	■	■	■	■	■
Tajikistan	□	■	■	□	□	□	□	□	■	■
Thailand	■	□	■	■	■	■	■	■	■	■
Uganda	■	□	■	■	■	■	■	■	■	■
Ukraine	□	■	■	■	□	□	□	□	□	■
UR Tanzania	■	□	■	■	□	□	□	□	□	■
Uzbekistan	□	■	■	■	■	■	■	■	■	■
Viet Nam	■	■	■	■	■	■	■	■	■	■
Zimbabwe	■	□	■	■	■	■	□	□	■	■
High-burden countries			**91%**	**91%**	**64%**	**68%**	**45%**	**45%**	**77%**	**73%**
High MDR-TB burden countries			**93%**	**85%**	**67%**	**63%**	**52%**	**59%**	**70%**	**59%**
AFR			52%	48%	48%	46%	33%	24%	57%	54%
AMR			40%	34%	32%	23%	4%	2%	34%	30%
EMR			68%	55%	45%	36%	32%	18%	59%	59%
EUR			60%	57%	51%	51%	42%	43%	38%	34%
SEAR			82%	64%	45%	36%	27%	27%	36%	36%
WPR			50%	50%	31%	31%	22%	22%	42%	50%
Global			**54%**	**49%**	**42%**	**38%**	**27%**	**23%**	**44%**	**43%**

– Indicates no data reported.

FIGURE 5.3

Progress in the roll-out of Xpert MTB/RIF, as of June 2011



As the newly endorsed Xpert MTB/RIF assay is rolled out worldwide, WHO is systematically compiling and sharing information on progress, including the plans of countries and partners, information on sales of instrument modules[1] and cartridges and reports of problems from the field. Of the 145 countries that are eligible to purchase GeneXpert instrument modules and Xpert MTB/RIF cartridges at concessional prices agreed between FIND and the manufacturer,[2] 26 countries had ordered a total of 681 instrument modules by 30 June 2011 (**Figure 5.3**); 361 were ordered by South Africa alone.

In addition to equipping laboratories with new diagnostic technologies, implementation of external quality assurance (EQA) systems is critical to ensure the high-quality functioning of laboratories. Of the 36 countries in the combined list of 22 HBCs and 27 high MDR-TB burden countries, 29 provided information on the number of microscopy centres that participated in an EQA scheme in 2010. Coverage was far from adequate, with ≥80% of microscopy centres participating in an EQA scheme in only 21 of the 29 countries. Similarly, of the 30 countries that provided information on the number of DST laboratories that participated in an EQA scheme, only 20 reported that all DST laboratories participated in 2010. More positively, all of the 36 countries that reported less than 100% participation in EQA schemes in 2010 had plans to increase the coverage of their EQA schemes for both microscopy and DST in 2011.

In addition to advancing policies and initiatives to accelerate the uptake of new, rapid diagnostics, two priority themes to strengthen laboratories in 2011 are promoting laboratory accreditation and laboratory biosafety (**Box 5.2**).[3]

[1] The most common configuration is a four-module instrument, which allows for 16–20 tests per day.

[2] The list of eligible countries is available at **www.finddiagnostics.org/about/what_we_do/successes/find-negotiated-prices/xpert_mtb_rif.html**

[3] For the most up-to-date WHO policies and resources on TB diagnostics and laboratory strengthening, visit **www.who.int/tb/laboratory/policy_statements**. Resources of the GLI, a Working Group of the Stop TB Partnership, are available at **www.stoptb.org/wg/gli**

BOX 5.2

Priority themes for strengthening laboratories in 2011: accreditation and biosafety

Accreditation. The Global Plan to Stop TB 2011–2015 includes a target that more than half of all national TB reference laboratories (NRLs) should have implemented an accredited quality management system by 2015. Accreditation programmes for laboratories provide both guidance and an incentive for improving laboratory quality. While such programmes are required components of TB laboratory services in most industrialized countries, they have been largely absent in resource-constrained settings.

International standards (so-called ISO standards) for clinical laboratory services have been developed by the International Organization for Standardization. However, because of the specific technical nature of TB diagnostic services and the corresponding biosafety needs, these general standards need to be translated into practical guidelines and TB-specific requirements. Partners of the Global Laboratory Initiative (GLI), including the Union, the United States Centers for Disease Control and Prevention, the Royal Tropical Institute in the Netherlands and WHO have developed a guide to assist countries to implement a quality management system at the level of the NRL. This guide facilitates a step-wise approach to achieving relevant ISO standards, and will be field tested in countries starting in 2011.

Biosafety. A combination of good laboratory practices together with administrative controls, containment principles, safety equipment and laboratory facilities are essential in TB laboratories to minimize the generation of infectious aerosols and thus prevent laboratory-acquired infections. Different types and combinations of test procedures require different containment precautions, equipment and facilities. WHO has therefore developed a risk assessment approach to determine the minimum biosafety measures required for TB laboratories based on the actual procedures performed in the laboratory. It is important to note that the risk-based approach to laboratory biosafety moves away from the traditional approach of assigning different "biosafety levels" to a much more focused approach taking into account the actual procedures performed in the laboratory.

The resulting three-tiered system is based on "low", "moderate" and "high" TB risk precautions, described below; respective minimum requirements are described in detail in biosafety guidance under development in 2011.

Low TB risk precautions. Procedures: direct AFB microscopy, Xpert MTB-RIF

Moderate TB risk precautions. Procedures: processing sputum specimens for primary culture inoculation on solid media, direct nitrate reductase assay (NRA), direct microscopic observation of drug susceptibility (MODS) assay or direct line-probe assay on sputum-positive specimens

High TB risk precautions – containment laboratory. Procedures: manipulating cultures for identification and drug susceptibility testing (DST) with indirect phenotypic methods such as liquid culture, or for line probe assays

CHAPTER 6

Addressing the co-epidemics of TB and HIV

KEY MESSAGES

- HIV testing of TB patients is now standard practice in many countries, especially in the African Region. In 68 countries and territories including 22 countries in the African Region, ≥75% of TB patients knew their HIV status in 2010. Further efforts are needed to achieve similar results at global level. In 2010, 34% of notified TB patients (2.1/6.2 million) knew their HIV status.
- The highest rates of HIV coinfection in TB patients are in the African Region, where 44% of TB patients with an HIV test result in 2010 were HIV-positive (range among high TB/HIV burden countries, 8%–82%), followed by the Region of the Americas (17%).
- The global coverage of antiretroviral therapy (ART) for TB patients living with HIV remains low (only 46%), despite the large increase in HIV testing among TB patients and the WHO recommendation that ART should be provided to all TB patients living with HIV regardless of their CD4 cell count. The provision of ART to TB patients living with HIV must be enhanced, including the use of TB services and infrastructure to allow decentralization of care delivery according to national guidelines and the local context.
- Implementation of WHO guidelines on TB screening and isoniazid preventive therapy among people living with HIV can result in a rapid expansion of TB prevention, diagnosis and treatment.
- The recording and reporting of the outcomes of TB treatment disaggregated by HIV status needs to be improved, using WHO-recommended TB registers (which should also be used by HIV service providers including in ART clinics).

People living with HIV who are also infected with TB are about 21–34 times more likely to develop TB disease compared with those who are HIV-negative.[1] Starting in the 1980s, the HIV epidemic led to a major upsurge in TB cases and TB mortality in many countries that persisted throughout the 1990s and up to around 2004, especially in southern and east Africa (**Chapter 2**, **Chapter 3**). Globally, just over one in ten of the almost 9 million people who develop TB each year is HIV-positive, equivalent to 1.1 million new TB cases among people living with HIV in 2010 (**Chapter 2**, **Table 2.1**). In the African Region, which accounted for 82% of the new TB cases that were living with HIV in 2010, an estimated 900 000 (39%) of the 2.3 million people who developed TB in 2010 were HIV-positive. Globally in 2010, there were an estimated 0.35 million deaths (range, 0.32 million–0.39 million) from TB among people who were HIV-positive. WHO, UNAIDS and the Stop TB Partnership have set a target that by 2015, TB mortality rates among people who are HIV-positive should be reduced by 50%, compared with 2004 (the year in which TB mortality among HIV-positive people is estimated to have peaked).[2]

WHO has provided clear recommendations about the interventions needed to prevent, diagnose and treat TB in people living with HIV since 2004.[3] The recommended interventions are collectively known as collaborative TB/HIV activities. They include HIV testing of TB patients, provision of antiretroviral therapy (ART) and co-trimoxazole preventive therapy (CPT) to TB patients living with HIV, HIV prevention services for TB patients, intensified TB case-finding among people living with HIV, isoniazid preventive therapy (IPT) for people living with HIV who do not have active TB, and infection control in health-

[1] The probability of developing TB among people living with HIV divided by the probability of developing TB among HIV-negative people is the incidence rate ratio (IRR). The median value of the IRR in countries with a generalized HIV epidemic was 21 (inter-quartile range 14–25) in 2010. A generalized epidemic is defined by UNAIDS as a prevalence of HIV infection >1% in those aged 15–49 years old. The IRR was 34 (inter-quartile range 20–34) in 115 other countries with low-level or concentrated HIV epidemics.

[2] *Getting to zero. 2011–2015 strategy*. Geneva, Joint United Nations Programme on HIV/AIDS.

[3] *Policy on collaborative TB/HIV activities*. Geneva, World Health Organization, 2004 (WHO/HTM/TB/2004.330; WHO/HTM/HIV/2004.1).

TABLE 6.1

HIV testing, treatment for HIV-positive TB patients and prevention of TB among people living with HIV, 41 high TB/HIV burden countries and WHO regions, 2010. Numbers in thousands except where indicated

	HIV-POSTIVE INCIDENT TB CASES			NUMBER OF TB PATIENTS WITH KNOWN HIV STATUS	% OF NOTIFIED TB PATIENTS TESTED FOR HIV	% OF TESTED TB PATIENTS HIV-POSITIVE	% OF IDENTIFIED HIV-POSITIVE TB PATIENTS STARTED ON CPT	% OF IDENTIFIED HIV-POSITIVE TB PATIENTS STARTED ON ART	NUMBER OF HIV-POSITIVE PEOPLE SCREENED FOR TB	NUMBER OF HIV-POSITIVE PEOPLE PROVIDED WITH IPT
	BEST	LOW	HIGH							
Angola	5.2	3.7	7.1	2.4	4.9	28	18	12	–	–
Botswana	6.5	5.8	7.3	6.1	80	65	79	45	0.2	0.7
Brazil	18	15	22	37	45	23	–	93	–	–
Burkina Faso	1.6	1.4	1.9	4.3	83	18	96	41	–	–
Burundi	2.5	2.2	2.8	5.5	71	23	95	40	–	–
Cambodia	4.0	3.4	4.7	32	77	6.6	65	45	–	0.5
Cameroon	14	11	17	19	78	40	–	–	–	–
Central African Republic	5.3	4.0	6.8	2.6	39	33	–	62	–	–
Chad	9.2	6.4	12	3.8	39	17	–	–	–	–
China	18	10	28	150	16	3.1	–	45	65	–
Congo	1.2	1.0	1.4	9.7	94	7.8	2.9	2.9	0.1	–
Côte d'Ivoire	6.7	5.7	7.6	17	73	24	80	26	31	–
Djibouti	0.6	0.5	0.8	2.2	52	11	–	11	–	–
DR Congo	18	13	24	29	24	18	24	9.3	3.9	–
Ethiopia	–	–	–	67	43	15	69	39	44	6.6
Ghana	4.9	4.3	5.6	10	69	23	86	20	57	–
Haiti	4.6	3.8	5.5	9.5	67	20	13	9.8	6.2	4.1
India	110	75	160	480	32	8.6	90	57	200	–
Indonesia	18	9.9	29	–	–	–	–	–	3.2	–
Kenya	50	45	55	97	91	41	100	48	–	–
Lesotho	11	9.2	12	11	84	77	96	27	–	–
Malawi	21	19	22	20	88	63	94	46	230	–
Mali	1.5	1.0	2.0	2.3	43	17	100	40	25	0
Mozambique	77	53	110	41	88	61	97	25	0.4	8.9
Myanmar	37	21	57	4.4	3.2	22	100	94	6.4	0.5
Namibia	7.6	7.1	8.1	9.5	76	55	92	42	25	14
Nigeria	51	25	87	72	79	25	59	33	57	1.8
Russian Federation	8.1	6.8	9.4	170	100	6.2	–	82	–	–
Rwanda	3.6	3.2	4.0	6.9	98	32	97	–	13	–
Sierra Leone	4.0	3.3	4.8	9.7	74	10	6.4	19	–	–
South Africa	300	240	350	210	53	60	74	54	760	120
Sudan	7.1	4.8	9.9	11	41	6.2	58	54	1.5	–
Swaziland	13	10	15	9.5	86	82	93	35	–	–
Thailand	15	13	18	53	77	16	71	53	25	–
Togo	5.4	4.3	6.5	2.3	78	20	–	–	–	–
Uganda	38	30	46	37	81	54	90	24	400	–
Ukraine	6.0	5.0	7.1	35	95	13	–	–	–	5.0
UR Tanzania	30	28	32	57	90	38	92	35	320	–
Viet Nam	7.6	4.6	11	42	43	8.3	62	43	–	1.3
Zambia	40	36	44	41	83	65	77	47	12	–
Zimbabwe	60	47	76	38	80	75	18	30	–	–
High TB/HIV burden countries	**1 000**	**960**	**1 100**	**1 900**	**39**	**25**	**77**	**46**	**2 300**	**170**
AFR	900	820	980	880	59	44	76	42	2 000	160
AMR	35	31	38	100	46	17	47	65	15	13
EMR	12	9.8	15	46	11	3.4	51	37	6.8	0.3
EUR	20	19	22	290	80	6.0	48	77	5.6	6.6
SEAR	190	140	230	540	23	9.5	87	57	230	0.6
WPR	35	26	45	250	19	4.8	55	41	69	2.0
Global	**1 100**	**1 000**	**1 200**	**2 100**	**34**	**23**	**77**	**46**	**2 300**	**180**

care and congregate settings (the latter three activities are referred to as the "*Three Is for HIV/TB*").

Testing TB patients for HIV and providing CPT to TB patients living with HIV are typically the responsibility of national TB control programmes (NTPs). National HIV programmes are usually responsible for initiating intensified case-finding for TB among people living with HIV as well as providing IPT to those without active TB. Provision of ART to TB patients living with HIV has often been the responsibility of national HIV programmes, but should also be done by NTPs. When NTPs do not provide ART directly, they are responsible for referring TB patients living with HIV to ART services. The latest policy guidance from WHO recommends that ART should be provided to all TB patients living with HIV, irrespective of their CD4 count (and to all people living with HIV with a CD4 cell count ≤350).[1]

WHO began monitoring the implementation and expansion of collaborative TB/HIV activities in 2004. This chapter presents the latest status of progress, using data for 2003 up to 2010.[2] The need for better data on treatment outcomes for TB patients living with HIV, and the recent and rapid expansion of TB screening among people living with HIV and associated uptake of IPT following new policy guidance in Cambodia and South Africa are also highlighted.

6.1 HIV testing, co-trimoxazole preventive therapy and antiretroviral therapy for patients with TB

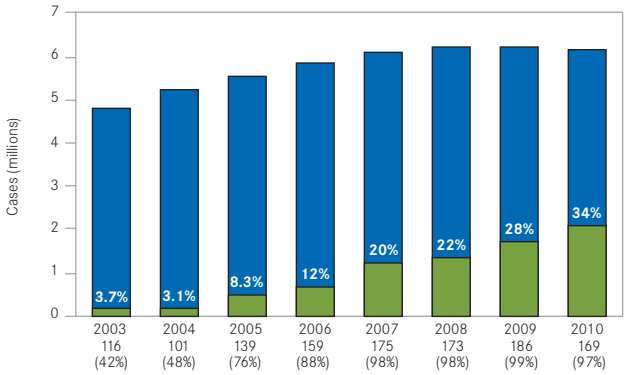
The number of TB patients who knew their HIV status reached 2.1 million in 2010, equivalent to 34% of notified cases of TB (**Table 6.1**). This was an improvement from 28% in 2009 and almost 10 times better than the 3.7% reported in 2003 (**Figure 6.1**). The coverage of HIV testing for TB patients was particularly high in the African and European regions, where 59% and 80% of TB patients respectively knew their HIV status. Impressively, ≥75% of TB patients living in almost half of the countries in the African Region (22 out of 46 countries) knew their HIV status in 2010. This was an increase from 16 in 2009 and double the 11 countries that achieved testing rates of ≥75% in 2008. More than three quarters of the African countries that reported data (31/41) achieved ≥50% (**Figure 6.2**). Five African countries did not report data for 2010: Algeria, Cape Verde, Comoros, Eritrea and Gabon. Globally, the percentage of TB patients who knew their HIV status was ≥75% in 68 countries and territories in 2010, up from 55 countries in 2009.

Among TB patients with an HIV test result in 2010, 23% were HIV-positive at the global level (**Table 6.1**). Among the 41 countries identified as priorities for TB/HIV at the global level in 2002 (listed in **Table 6.1**), 25% were HIV-positive. Much higher rates of HIV coinfection were reported for TB patients in the African Region,

FIGURE 6.1

HIV testing for TB patients, all countries, 2003–2010

The number of notified new and retreatment cases is shown in blue and the number of cases for which the HIV status was recorded in the TB register is shown in green. The percentage of notified TB cases with known HIV status is indicated above the green bars.[a]



[a] The numbers under each year show the number of countries reporting data on HIV testing followed by the percentage of total estimated HIV-positive TB cases accounted for by reporting countries.

where 44% of those tested were found to be HIV-positive. The percentage of TB patients found to be HIV-positive in the 31 African countries in the list of 41 priority countries ranged from 8% in Congo to 82% in Swaziland. Besides Swaziland, more than half of the TB patients who were tested were HIV-positive in Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Uganda, Zambia and Zimbabwe.

In the Region of the Americas, the percentage of TB patients found to be HIV-positive was 17%. In the Eastern Mediterranean, European, South-East Asia and Western Pacific regions, less than 10% of TB patients tested for HIV were HIV-positive. Among the 11 countries identified as priorities for TB/HIV at the global level in 2002 that are outside the African Region, the percentage of TB patients who were HIV-positive ranged from 3% in China to 23% in Brazil in 2010.

Globally, the number of TB patients living with HIV who were enrolled on CPT levelled off between 2009 and 2010, at just over 0.3 million (**Figure 6.3**). This was equivalent to 77% of TB patients known to be HIV-positive (**Table 6.1**, **Figure 6.4**). Further progress is needed to reach the target of 100% that is included in the Global Plan to Stop TB, 2011–2015[3] (see **Chapter 1**). The African

[1] www.who.int/hiv/pub/arv/advice

[2] This chapter does not discuss infection control or services aimed at HIV prevention among TB patients. Data for the former are limited for most countries, but available data can be accessed at www.who.int/tb/data. Data on HIV prevention services for TB patients are not part of routine recording and reporting in TB registers, and are not requested on the annual WHO TB data collection form.

[3] *The Global Plan to Stop TB, 2011–2015*. Geneva, World Health Organization, 2010 (WHO/HTM/STB/2010.2).

FIGURE 6.2

HIV testing for TB patients, by country, 2010

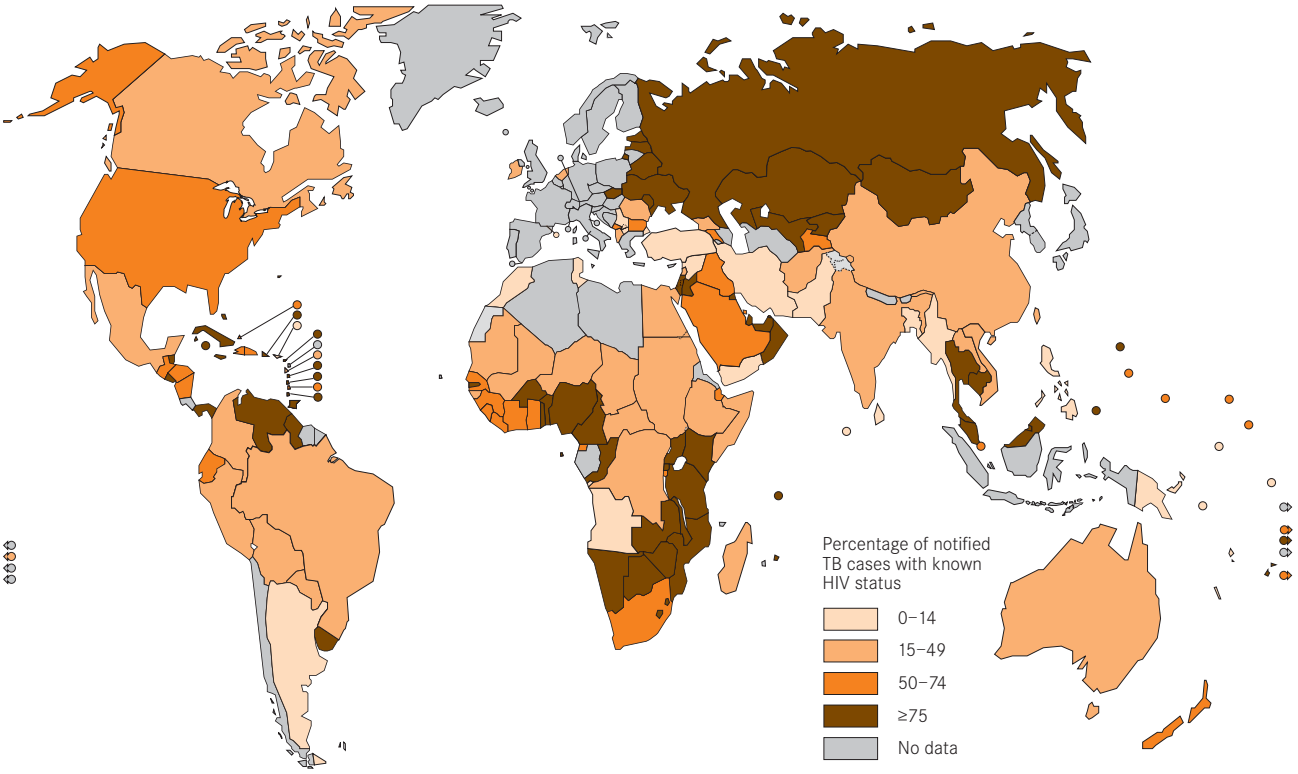
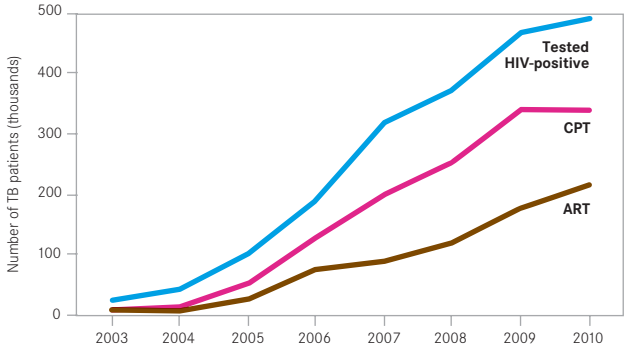


FIGURE 6.3

Co-trimoxazole preventive therapy (CPT) and antiretroviral therapy (ART) for HIV-positive TB patients, 2003–2010



and South-East Asia regions achieved particularly high levels of enrolment on CPT, with 76% and 87% of TB patients known to be living with HIV provided with CPT, respectively (**Table 6.1**). Countries that achieved the highest rates of enrolment on CPT in 2010 included Burkina Faso (96%), Burundi (95%), India (90%), Kenya (100%), Lesotho (96%), Mozambique (97%), Malawi (94%), Mali (100%), Myanmar (100%), Namibia (92%), Rwanda (97%), Swaziland (93%), the United Republic of Tanzania (92%) and Uganda (90%).

The number of HIV-positive TB patients on ART has grown steadily from a very low level in 2004 (**Figure 6.3**), reaching over 200 000 in 2010.[1] Among TB patients known to be living with HIV, 46% were on ART globally (**Table 6.1**, **Figure 6.4**). In the African Region, 42% of TB patients known to be living with HIV were on ART in 2010 and only a few countries (Botswana, Central African Republic, Kenya, Malawi, South Africa and Zambia, at 47–62%) exceeded this level, despite the WHO recommendation that all HIV-positive TB patients are eligible for ART irrespective of their CD4 cell count. Most of the ART being provided to TB patients living with HIV is accounted for by African countries, notably South Africa

[1] In the annual WHO TB data collection form, countries are asked to report the number of TB patients living with HIV who "started or continued on ART".

BOX 6.1

Better reporting of the outcomes of TB treatment by HIV status is urgently needed

The Stop TB Partnership, WHO and UNAIDS have set a target of halving the number of TB deaths among HIV-positive people by 2015 compared with 2004 (the year in which TB mortality among HIV-positive people is estimated to have peaked). Earlier and prompt diagnosis and treatment of TB as well as antiretroviral therapy (ART) and co-trimoxazole preventive therapy (CPT) can cut mortality rates among TB patients living with HIV. To assess whether the goal is achieved, data on mortality rates among HIV-positive TB patients during TB treatment are needed. In turn, this requires that treatment outcomes for TB patients are disaggregated by HIV status; that is, outcomes are available for HIV-positive and HIV-negative TB patients separately.

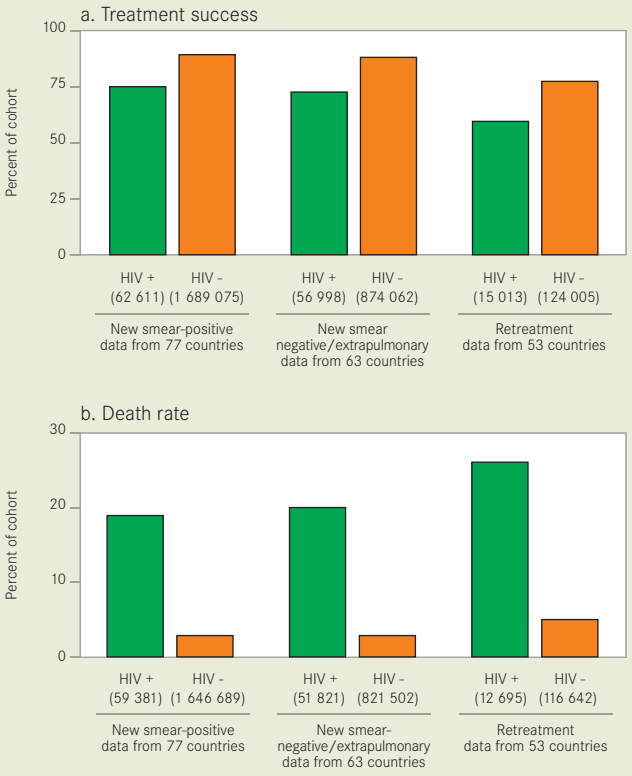
In 2010, a large number of countries (n=81) reported data on the outcomes of TB treatment disaggregated by HIV status (these data are for 2009, given the lag-time in reporting of treatment outcomes). However, these countries accounted for only 21% of the estimated global number of HIV-related TB cases. The treatment success and death rates reported for HIV-positive TB cases in 2009 were 72% and 20%, respectively, compared with 88% and 3% among HIV-negative TB cases (see figure right); the remaining patients had treatment outcomes of failed treatment, transferred out of the district during treatment or their treatment outcome was not evaluated.[1] Among the 63 high TB/HIV burden countries (see list below),[2] less than half (n=28) reported treatment outcomes disaggregated by HIV status.

The recording and reporting of the outcomes of TB treatment disaggregated by HIV status needs to be improved, using WHO-recommended TB registers (which should also be used by HIV service providers including in ART clinics).

[1] The death rate for HIV-positive TB cases cited here assumes that those who were recorded as having defaulted from treatment also died from TB.

[2] The 63 high TB/HIV burden countries are a combination of 41 countries that were identified as priorities for TB/HIV at global level in 2002 and that account for 97% of estimated HIV-positive TB cases globally, plus 22 additional countries that UNAIDS has defined as having a generalized HIV epidemic. The 41 countries are listed in **Table 6.1**. The other 22 countries are (in alphabetical order) the Bahamas, Barbados, Belize, Benin, the Dominican Republic, Equatorial Guinea, Eritrea, Estonia, Gabon, Guatemala, Guinea, Guinea-Bissau, Guyana, Honduras, Jamaica, Liberia, Madagascar, the Niger, Panama, Somalia, Suriname, and Trinidad and Tobago.

Treatment outcomes for HIV-positive and HIV-negative TB patients, 2009. Numbers under bars indicate the number of patients in each cohort, which are slightly larger for a. because patients "not evaluated" are included.



(**Figure 6.5**, **Figure 6.6**). The highest rates of enrolment on ART were reported by countries in the Region of the Americas, notably Brazil at 93% (**Figure 6.6**).

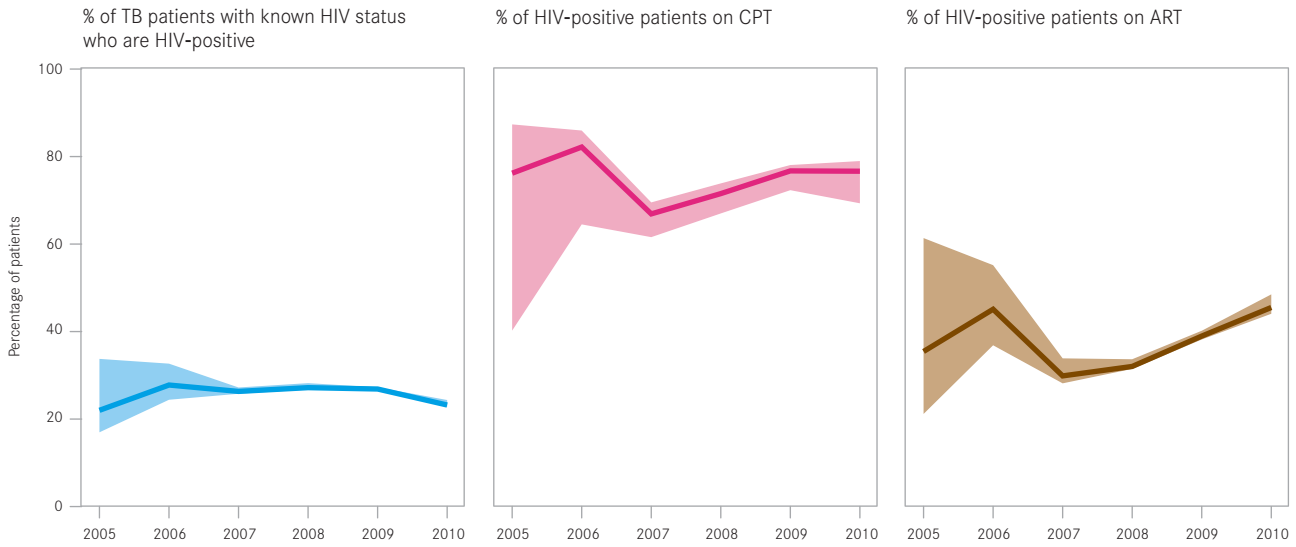
A substantial improvement in ART provision will be needed to reach the Global Plan target of providing ART to all TB patients known to be living with HIV by 2015. This could be facilitated by using TB services and infrastructure to allow decentralization of care delivery according to national guidelines and the local context.

6.2 Intensified case-finding and isoniazid preventive therapy among people living with HIV

Until 2010, data on intensified screening for TB among people living with HIV and provision of IPT to those without active TB were requested from NTPs as part of the global TB data collection form. In 2011, in an effort to streamline efforts to collect data and improve the quality of data, information about these two interventions was collected by the WHO's HIV department from national HIV programmes. It should be noted that monitoring of access to these two interventions at country level is considered weaker than for interventions such as ART, and thus the reported data need to be interpreted with some caution.

FIGURE 6.4

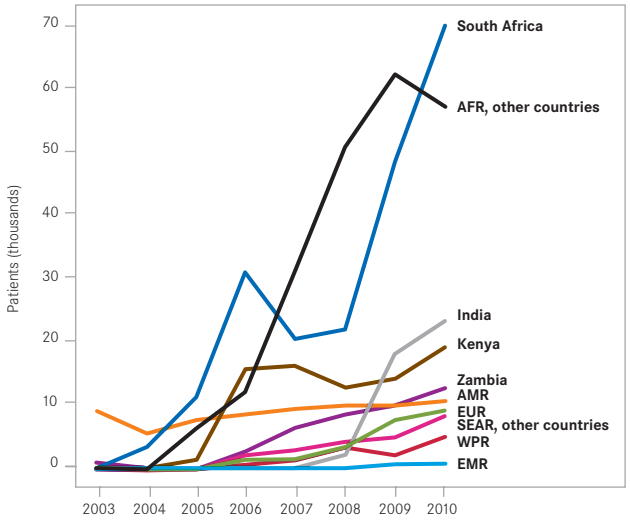
TB patients with known HIV status who are HIV-positive and HIV-positive TB patients on co-trimoxazole preventive therapy (CPT) and antiretroviral therapy (ART), 2005–2010[a]



[a] The solid lines show values for countries that reported data. The shaded areas show upper and lower limits when countries that did not report data are considered.

FIGURE 6.5

Antiretroviral therapy for HIV-positive TB patients by WHO region and selected countries, 2003–2010



The data reported indicate that TB screening among people living with HIV and provision of IPT have steadily increased, particularly since 2007 (**Figure 6.7**, **Figure 6.8**). In 2010, 2.3 million were screened for TB (up from 1.7 million in 2009) and 178 000 of those without active TB were enrolled on IPT (double the level achieved in 2009).

The number of people living with HIV who were screened for TB was equivalent to more than half (58%, 2 302 680/3 956 326) of the reported number of people who were enrolled in HIV care worldwide in 2010. The number started on IPT was 12% (178 144/1 464 579) of the reported number of people living with HIV newly enrolled in HIV care in 2010. Intensified efforts are needed to approach the Global Plan's targets of providing screening for TB for all those enrolled in HIV care and providing IPT to all those attending HIV care services who are eligible for it by 2015. The examples of Cambodia and South Africa illustrate the major progress that can be achieved in a short time when new WHO guidelines are adopted and implemented (**Box 6.2**).

FIGURE 6.6

ART provision and percentage of HIV-positive TB patients on ART, 2010. The area of each box represents the number of HIV-positive TB patients on ART

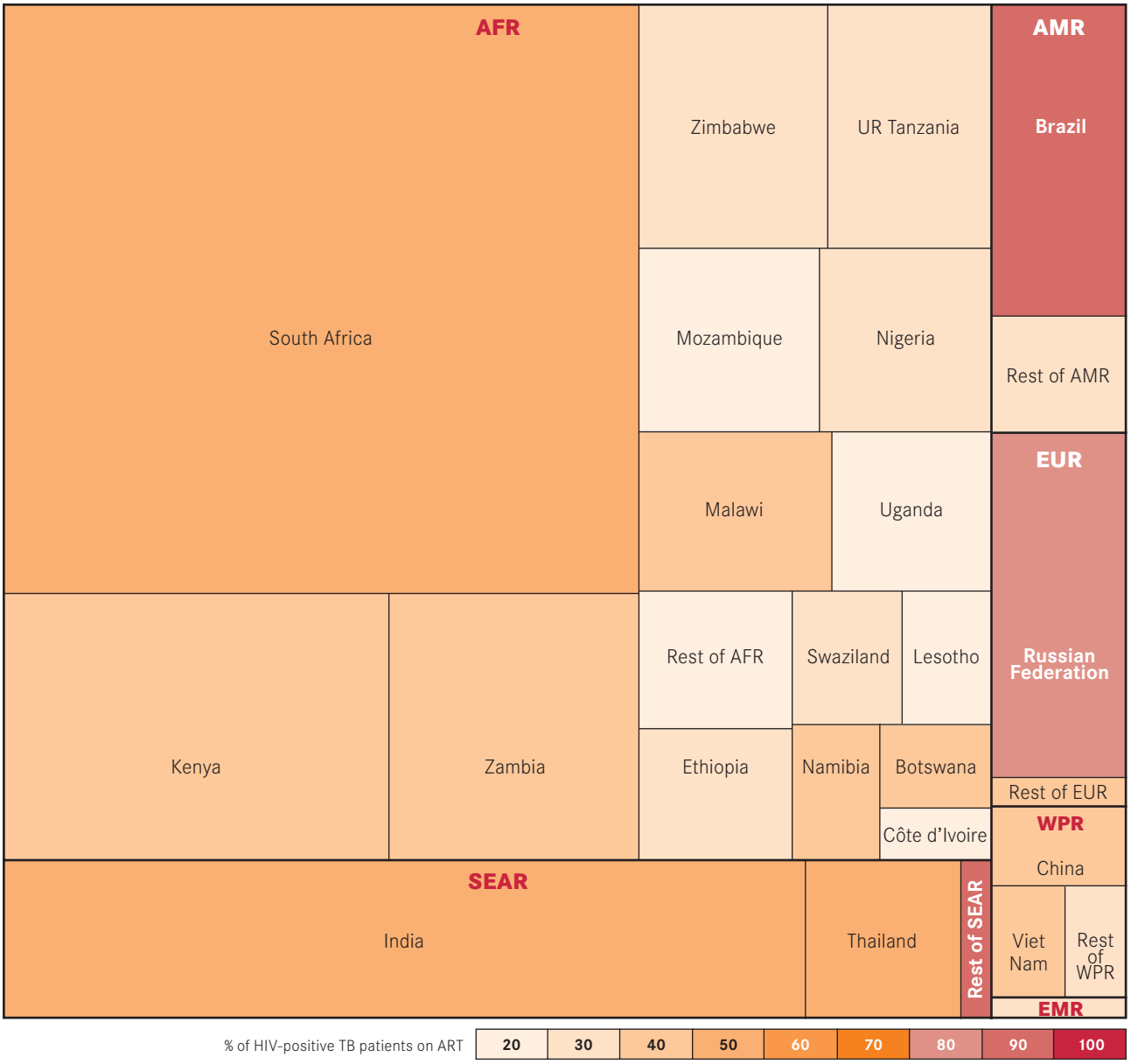


FIGURE 6.7

Intensified TB case-finding among HIV-positive people, 2005–2010

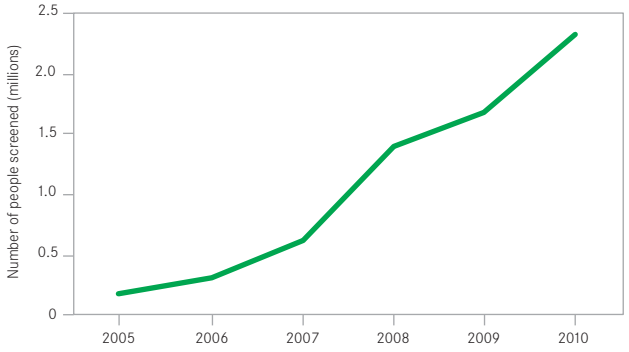
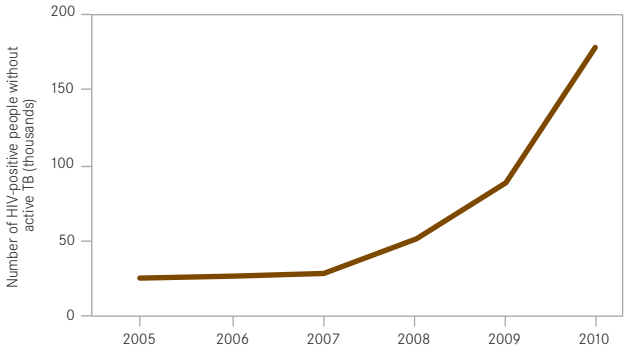


FIGURE 6.8

IPT provision among HIV-positive people, 2005–2010



BOX 6.2

Uptake of new WHO guidelines leads to rapid scale up of isoniazid preventive therapy

Recent WHO guidelines on TB screening and isoniazid preventive therapy (IPT) among people living with HIV were adopted and implemented by Cambodia and South Africa in 2010. The guidelines recommend screening using four symptoms (current cough, fever, weight loss and night sweats) and providing IPT if these symptoms are absent.[1] This symptom-based screening algorithm has been found to have a negative predictive value of 97.7% (95%confidence interval, 97.4–98.0) in settings where the prevalence of TB among people living with HIV is 5%.[2]

An HIV counselling and testing campaign in South Africa in 2010 aimed at all sexually-active individuals aged >12 years included TB screening based on the new guidelines. The guidelines were also reflected in planning and implementation of collaborative TB/HIV activities in Cambodia in 2010.

In South Africa, the number of people living with HIV who were provided with IPT increased by more than five-fold in one year, from 23 583 in 2009 to 124 049 in 2010. In Cambodia, the numbers provided with IPT increased seven-fold in one year, from 66 in 2009 to 491 in 2010.

To complement this large and rapid scale-up in the provision of IPT, emphasis on adherence to therapy as well as monitoring of resistance to isoniazid are needed.

[1] *Guidelines for intensified tuberculosis case finding and isoniazid preventive therapy for people living with HIV in resource constrained settings*. Geneva, World Health Organization, 2010.

[2] Getahun H et al. Development of a standardized screening rule for tuberculosis in people living with HIV in resource constrained settings: individual participant data meta-analysis of observational studies. *PLoS Medicine*, 2011, 8(1) e1000391 (doi:10.1371/journal.pmed).

CHAPTER 7

Research and development

KEY MESSAGES

- Progress in TB care and control is constrained by old technologies.
- During the past decade, efforts to develop new diagnostics, drugs and vaccines for TB have intensified and considerable progress has been made.
- Several new diagnostic tests or methods have been endorsed by WHO since 2007, including Xpert MTB/RIF that has the potential to transform the diagnosis of TB and rifampicin-resistant TB. Other new tests, including point-of-care tests, are in the pipeline.
- For the first time in 40 years, there is a coordinated portfolio of promising new drugs on the horizon. There are 10 new or repurposed TB drugs in trials, which have the potential to shorten the treatment of drug-susceptible TB and to improve the treatment of multidrug-resistant TB (MDR-TB). Results from three Phase III trials of 4-month regimens for the treatment of drug-susceptible TB are expected between 2012 and 2013. Results from two Phase II trials of new drugs for the treatment of MDR-TB are expected in 2012.
- There are 9 vaccine candidates for the prevention of TB in Phase I or Phase II trials. It is hoped that one or two of the candidates currently in a Phase II trial will enter a Phase III trial in the next 2–3 years, with the possibility of licensing at least one new vaccine by 2020.
- Funding for TB research and development has increased in recent years, reaching US$ 614 million in 2009, but still falls far short of the annual target of US$ 1.8 billion that is included in the Global Plan to Stop TB 2011–2015.

Major progress in TB care and control has been achieved since the introduction of the DOTS strategy in the mid-1990s and the launch of its successor, the Stop TB Strategy, in 2006 (**Chapters 2–6**). However, progress is constrained by old technologies. To achieve the Stop TB Partnership's target of eliminating TB by 2050 (**Chapter 1**), a transformation in TB prevention, diagnosis and treatment is required.[1]

During the past decade, efforts to develop new diagnostics, drugs and vaccines for TB have intensified. Three public–private partnerships have been created: the Foundation for Innovative New Diagnostics (in 2003), which works on the development of novel diagnostics for TB among a range of other diseases; the TB Alliance (in 2000) for new anti-TB drugs; and Aeras (in 2003) for new TB vaccines. The Stop TB Partnership has established working groups for new diagnostics, new drugs and new vaccines. Although the total funding available for TB research and development falls short of the US$ 1.8 billion per year that is called for in the *Global Plan to Stop TB 2011–2015*,[2] funding increased from US$ 363 million in 2005 to US$ 614 million in 2009.[3] Sources of funding include the United States National Institutes of Health, the Bill & Melinda Gates Foundation, the European Union, the European and Developing Countries Clinical Trials Partnership (EDCTP) and several other national, bilateral and multilateral agencies and philanthropic organizations.

This chapter presents the status of progress in the development of new diagnostics, new drugs and new vaccines for TB in mid-2011, using information provided by the respective Working Groups of the Stop TB Partner-

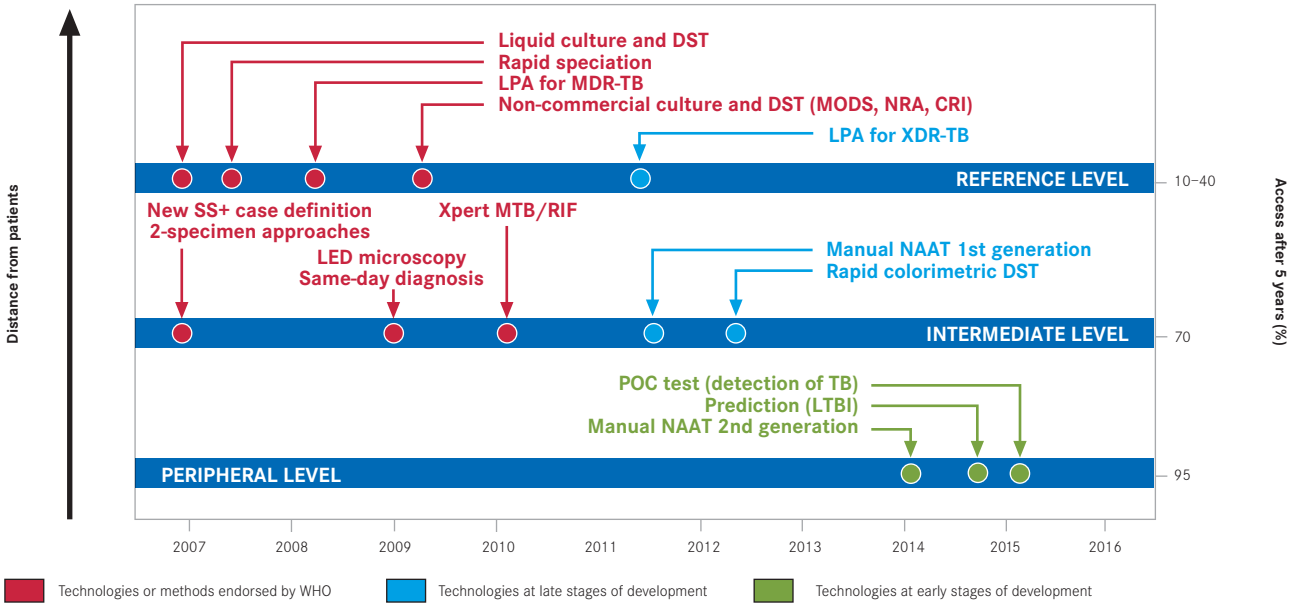
[1] Abu-Raddad LJ et al. Epidemiological benefits of more effective tuberculosis vaccines, drugs and diagnostics. *Proceedings of the National Academy of Sciences of the United States of America*, 2009, 106(33):13980–139805. The analysis in this paper indicated that TB incidence could be reduced by 71% by 2015 in the South-East Asia Region with the combined use of a neonatal pre-exposure vaccination, a 2-month drug regimen with high efficacy for drug-susceptible and drug-resistant TB, and a rapid test to diagnose TB. To achieve elimination (defined as less than one case per million population per year) would require new delivery strategies such as mass vaccination campaigns, and new products targeted at people with latent TB infection.

[2] *The Global Plan to Stop TB, 2011–2015*. Geneva, World Health Organization, 2010 (WHO/HTM/STB/2010.2).

[3] *2010 report on tuberculosis research funding trends, 2005–2009*. Treatment Action Group, 2010.

FIGURE 7.1

The development pipeline for new diagnostics, 2011



Abbreviations: **DST** Drug susceptibility test; **NAAT** Nucleic acid amplification test; **LTBI** Latent TB infection; **POC** Point of care; **MODS** Microscopic observation drug-susceptibility; **NRA** Nitrate reductase assay; **CRI** Colorimetric redox indicator assay; **LED** Light-emitting diode; **LPA** Line probe assay

ship. It also highlights two documents finalized in 2011 that address the continuum of research from fundamental science to operational research.

7.1 New diagnostics for TB

The most commonly used diagnostic test for TB, sputum smear microscopy, is over 100 years old. It is a relatively insensitive test and it cannot be used to identify paucibacillary or extrapulmonary TB. Diagnosis using culture methods – the current gold standard – requires laboratory infrastructure that is not widely available in countries with a high burden of TB (**Chapter 5**), and results take weeks. Conventional methods used to diagnose MDR-TB also rely on culturing of specimens followed by drug susceptibility testing (DST); results take weeks and not all laboratories with capacity to perform DST for first-line drugs have the capability to perform DST for second-line drugs. New diagnostic tests that are comparable to culture in terms of accuracy but which also allow rapid diagnosis and can be used at the lowest level of health systems are needed. The ideal is a simple, rapid, point-of-care test that can be used to diagnose both TB and MDR-TB outside the setting of a conventional laboratory.

The status of the pipeline for new diagnostics in July 2011 is illustrated in **Figure 7.1**.

Various new tests and methods have been endorsed by WHO in the past four years. Since 2007, endorsed tests and methods include liquid culture and rapid speciation for faster diagnosis of TB and MDR-TB, molecular line probe assays (LPAs) for rapid testing for MDR-TB, non-commercial culture methods for rapid DST, light-emitting diode (LED) fluorescence microscopes for better diagnosis using smear microscopy, and Xpert MTB/RIF for the rapid diagnosis of TB and rifampicin-resistant TB. These are beginning to be implemented in countries (**Chapter 5**), and Xpert MTB/RIF in particular (a fully automated, cartridge-based, nucleic acid amplification test) has the potential to transform the diagnosis of TB and drug-resistant TB. It is suitable for use at district and sub-district levels, and results are available within 2 hours. As Xpert MTB/RIF is rolled out worldwide (**Chapter 5**), data are also being collected to evaluate its performance in programmatic conditions.[1] It should be emphasized that countries implementing Xpert MTB/RIF still need to establish conventional laboratory capacity to monitor treatment progress and to perform DST for drugs other than rifampicin. The EXPAND-TB project is helping to accelerate access to such laboratory capacity in many countries (**Chapter 5**).

Tests that are in the late stages of development include a second-generation LPA for rapid testing for extensively drug-resistant TB in reference laboratories and a rapid test for detection of TB in microscopy centres. Technologies that are in the early stages of development include point-of care tests for TB and tests for prediction of latent TB infection.

[1] www.stoptb.org/wg/gli/xpert

7.2 New drugs for the treatment and prevention of TB

The anti-TB drugs used in first-line treatments are around 50 years old. The regimen that is currently recommended by WHO for new cases of drug-susceptible TB is highly efficacious, with cure rates of around 90% in HIV-negative patients. Nonetheless, it entails 6 months of treatment with first-line drugs (a combination of rifampicin, isoniazid, ethambutol and pyrazinamide for 2 months, followed by a 4-month continuation phase of rifampicin and isoniazid). Recommended regimens for MDR-TB require at least 20 months of treatment with second-line drugs, are associated with multiple (and sometimes serious) side-effects, and cure rates are lower (usually in the range 60–75%). There are also interactions between TB treatment and antiretroviral therapy (ART) for people living with HIV. New drugs are required to shorten and simplify treatment, to improve the efficacy and tolerability of treatment for MDR-TB and to improve the simultaneous treatment of TB and HIV among people living with HIV. New drugs could also help to treat latent TB infection in people without active TB disease; at present, preventive therapy usually consists of 6–9 months of isoniazid monotherapy.

The status of the pipeline for new anti-TB drugs in July 2011 is illustrated in **Figure 7.2**.

For the first time in 40 years, there is a coordinated portfolio of promising new compounds on the horizon, some of which have the potential to become the cornerstone drugs of TB treatment in the future. There are 10 new or repurposed TB drugs under clinical investigation, one of which is in a Phase I (safety) trial, seven are in Phase II (early bactericidal activity and sputum culture conversion) trials, and three are in Phase III (efficacy) trials (rifapentine is being evaluated in both a Phase II and a Phase III trial).

Two of the Phase III trials are evaluating 4-month regimens (in which a fluoroquinolone – either gatifloxacin or moxifloxacin – is used in place of ethambutol or isoniazid) for the treatment of drug-susceptible TB, and results are expected between 2012 and 2013. The third Phase III trial is evaluating the use of rifapentine (a rifamycin that has a longer half-life than rifampicin) as part of a 4-month regimen. The use of rifapentine in combination with isoniazid for a shorter (3 months) treatment of latent TB infection is also being evaluated.

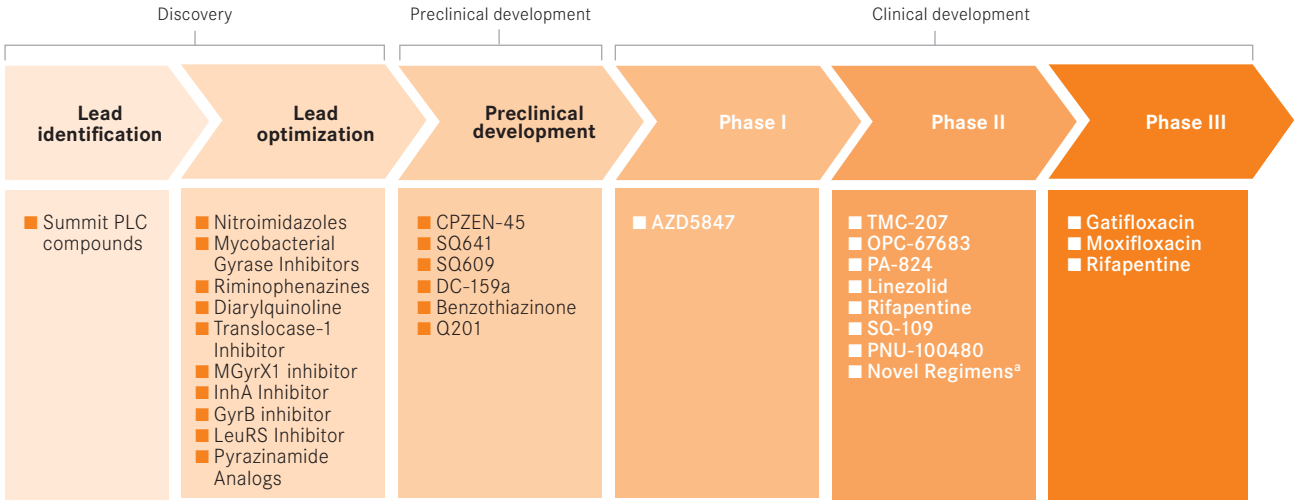
Of the compounds in Phase II trials, two are in the advanced stages of being tested for the treatment of MDR-TB. These are TMC-207 (bedaquiline) and OPC-67683 (delamanid). Both compounds have been evaluated in Phase IIb trials in newly-diagnosed MDR-TB patients, in which either the investigational drug or a placebo were added to an optimized background regimen. Final results are expected in 2012.

Other compounds in Phase II trials include linezolid, which is being tested for the treatment of extensively drug-resistant TB (XDR-TB) at a dose of 600 mg (in the Republic of Korea) and at a dose of 300 mg for the treatment of MDR-TB (in South Africa); PNU-100480 (a close analogue of linezolid); PA-824; and SQ-109 (a derivative of ethambutol). In November 2010, the first clinical trial of a novel TB drug regimen (NC001), investigating the bactericidal activity of a three-drug combination of PA-824, moxifloxacin and pyrazinamide, was initiated; results are very encouraging.

These major advances in TB drug development mean that multiple trials will be needed in various high-burden

FIGURE 7.2

The development pipeline for new drugs, 2011

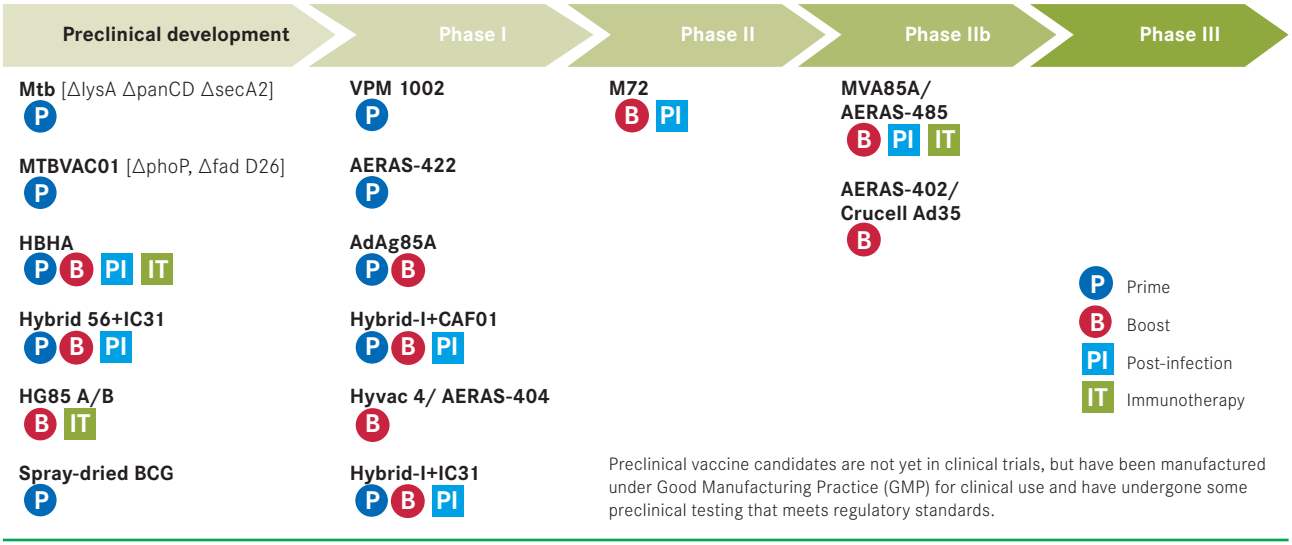


Note: This table only includes projects that have identified a promising molecule (known as a "lead" compound).

[a] The first clinical trial (NC001) of a novel TB drug regimen testing the three-drug combination of PA-824, moxifloxacin and pyrazinamide was initiated in November 2010.

FIGURE 7.3

The development pipeline for new vaccines, 2011



countries. This presents several challenges. Trials are lengthy and costly, since patients need to be followed for an extended period of time after completing treatment. New drugs have to be tested in specified drug combinations with current and/or newly re-purposed drugs; to facilitate this, novel biomarkers for treatment response and sterilizing activity, new approaches to the design of clinical trials and increased capacity (including staff and infrastructure) to implement trials in accordance with international standards are required. The recent establishment of the Critical Path to New TB Drug Regimens (CPTR) initiative, whose goal is to accelerate the development of novel regimens that will shorten TB treatment, is an important step in this direction. The CPTR is a broad coalition of stakeholders spearheaded by the Bill & Melinda Gates Foundation, the TB Alliance and the Critical Path Institute, and includes almost all pharmaceutical companies with compounds in clinical trials for TB treatment.

7.3 New vaccines for the prevention of TB

The Bacille-Calmette-Guérin (BCG) vaccine to prevent TB is almost 100 years old. It has been shown to provide protection against severe forms of TB in children (meningitis and miliary TB), but its efficacy in preventing pulmonary TB in adults varies among countries. BCG is not recommended for use in infants known to be infected with HIV, due to the risk of disseminated BCG disease. Historic opportunities for the development of new TB vaccines arose during the 1990s, following the development of techniques for genetic manipulation of mycobacteria and completion of the genome sequence of *Mycobacterium tuberculosis*.

There are two main approaches to improving TB vaccination. The first is a "prime-boost" strategy in which BCG is given to neonates (as now) and then a new vaccine is given as a booster dose. The new vaccine would be delivered to infants alongside other vaccines at 3–9 months of age and/or as a separate booster in young adults. The second approach is to develop vaccines that would replace BCG (i.e. new "prime" vaccines), such as an improved version of BCG or an attenuated live *Mycobacterium tuberculosis* vaccine. It is anticipated that a booster vaccine on top of BCG will lead the way to replacement of BCG.

The status of the pipeline for new vaccines in July 2011 is illustrated in **Figure 7.3**. There are 9 vaccine candidates in clinical trials, of which six are in Phase I trials, one is in a Phase II trial and two are in Phase IIb trials. Phase I trials are conducted with a small number of healthy volunteers (40–90 people) to ensure that the vaccine candidate is safe, to assess immunological reactions, and to begin to determine dosage levels. Phase II trials involve larger numbers of volunteers (from a few hundred to a few thousand) to continue testing safety as well as to determine optimal dosage levels and the timing of vaccination. In Phase IIb trials, preliminary data on protective efficacy are also collected. Phase III trials involve many thousands of participants and are used to determine the protective efficacy of a vaccine; the quality of data must meet the standards required for a vaccine to be licensed.

Of the vaccines that are currently being tested, MVA85A is at the most advanced stage of clinical development. It is being tested in Phase IIb trials in Africa, including among people living with HIV. It is hoped that one or two of the candidates currently in Phase IIb trials will enter a Phase III trial in the next 2–3 years, with the possibility of licensing at least one new vaccine by 2020, either alone or in combination.

It should be highlighted that capacity (staff and infra-

structure) for large-scale trials of vaccines needs to be increased in several endemic countries. At the same time, cohort studies in infants and adolescents that are under way in several countries need to be continued to provide important baseline data about TB incidence and to help determine the suitability of sites for large-scale vaccine efficacy trials.

7.4 Fundamental science and operational research

Besides the research and development discussed in **sections 7.1–7.3**, fundamental science and operational research are essential for improved TB care and control. The former is required to better characterize *Mycobacterium tuberculosis* and to improve understanding of the interaction between the bacillus and the human host, as a basis for maintaining the flow of new technologies into the product pipeline. The latter is required to identify the most effective ways of using available tools.

In the past year, the TB Research Movement of the Stop TB Partnership has developed a road map that sets out research priorities across the continuum from fundamental science to operational research.[1] A document on operational research specifically has also been developed in the last year by the Stop TB Partnership, WHO and the Global Fund.[2] This defines the critical questions to be addressed by operational research, and the appropriate study methods to use.

[1] The roadmap is available at **www.stoptb.org/global/research**

[2] *Priorities in operational research to improve tuberculosis care and control*. Available at **www.stoptb.org/assets/documents/resources/publications/technical**

ANNEX 1

Methods used to estimate the burden of disease caused by TB

This annex explains the methods that were used to produce estimates of the global burden of disease caused by TB (measured in terms of incidence, prevalence and mortality). It has nine major sections:

- **General approach.** This section provides some background information about the methods used to produce estimates of disease burden.
- **Definitions.** This section defines TB incidence, prevalence and mortality, the case fatality rate (CFR) and the case notification rate. It also explains the regions for which estimates of disease burden are produced and sources of information on population estimates.
- **Estimates of TB incidence, 1990–2010.** This section explains the main methods used to estimate TB incidence, and the countries for which they have been applied. Specific attention is given to estimates for China and India.
- **Estimates of HIV prevalence among incident TB cases, 1990–2010.** This section explains the methods used to estimate the prevalence of HIV among incident cases of TB.
- **Estimates of TB prevalence, 1990–2010.** This section explains the methods used to estimate TB prevalence. These are national surveys of the prevalence of TB disease and indirect estimates based on combining estimates of incidence with estimates of the duration of TB disease.
- **Estimates of the number of cases of multidrug-resistant TB (MDR-TB).** This section explains how estimates of the proportion of notified cases of TB that had MDR-TB in 2010 were produced and used to assess the number of prevalent cases of MDR-TB in 2010. Methods to analyse trends in the proportion of new cases of TB with MDR-TB among notified cases 1994–2010 are also explained.
- **Estimates of TB mortality, 1990–2010.** This section explains the two methods used to estimate TB mortality. These are direct measurements from vital registration (VR) or survey data and indirect estimates based on combining estimates of TB incidence with estimates of the CFR. The countries for which these methods have been used are explained. Methods for estimating TB mortality in HIV-infected individuals and TB mortality by age and sex are also described.
- **Projections of TB incidence, prevalence and mortality.** This section explains how projections up to 2015 were produced.
- **Uncertainty framework.** This section explains the general approach to including uncertainty in all estimates.

1. General approach

Estimates of the burden of disease caused by TB (measured in terms of incidence, prevalence and mortality) are produced annually by WHO using information gathered through surveillance systems (case notifications and death registrations), special studies (including surveys of the prevalence of disease and in-depth analyses of surveillance data), expert opinion and consultations with countries. Two recent publications provide up-to-date guidance about how TB incidence, prevalence and mortality should be measured,[1] based on the work of the WHO Global Task Force on TB Impact Measurement.[2] The methods used to estimate the burden of disease were updated in 2009 following 18 months of work by an expert group convened by the Task Force. Improvements to methods included systematic documentation of expert opinion and how this has been used to produce estimates of disease burden, simplification of models,[3] updates to parameter values based on the results of systematic reviews, much greater use of mortality data from VR systems and systematic documentation of uncertainty (hence the uncertainty intervals shown on all of the estimates of disease burden in this report).

2. Definitions

2.1 Incidence, prevalence, mortality, the case fatality rate and the case notification rate

Incidence is defined as the number of new and relapse cases of TB (all forms) occurring in a given year. Relapse cases are defined as a new episode of TB in people who have had TB in the past and for whom there was bacteriological confirmation of cure and/or documentation that treatment was completed (**Box 3.1**, **Chapter 3**). In the remainder of this Annex, relapse cases are referred to as *recurrent* cases, in line with expected changes in terminology that will be introduced by WHO in the near future and because the term is more useful when explaining the estimation of TB incidence. Recurrent cases may be true relapses or a new episode of TB caused by reinfection. In current case definitions, both relapse cases and patients who require a change in treatment are called "retreatment cases". However, people with a continuing episode

[1] *TB impact measurement: policy and recommendations for how to assess the epidemiological burden of TB and the impact of TB control*. Geneva, World Health Organization, 2009 (Stop TB policy paper no. 2; WHO/HTM/TB/2009.416). The policy paper is available on the Task Force's website **www.who.int/tb/advisory_bodies/impact_measurement_taskforce**

[2] For further details, see the Task Force web site at: **www.who.int/tb/advisory_bodies/impact_measurement_taskforce**. The review is also the basis for the TB component of the update to the Global Burden of Disease, due for publication in 2011 (**www.who.int/topics/global_burden_of_disease**).

[3] For example, some parameter values are now estimated only at global level or for regions, rather than for each country individually.

of TB that requires a treatment change are prevalent cases, not incident cases.

Prevalence is defined as the number of TB cases (all forms) at a given point in time.

Mortality. According to the latest revision of the international classification of diseases (ICD-10), TB mortality is the number of deaths caused by TB in HIV-negative people. TB deaths among HIV-positive people are classified as HIV deaths in ICD-10. For this reason, estimates of deaths caused by TB in HIV-positive people are presented separately from those in HIV-negative people.

The **case fatality rate** is the risk of death from TB among people with active TB disease.[1]

The **case notification rate** refers to new and recurrent episodes of TB notified to WHO for a given year, expressed per 100 000 population. The case notification rate for new and recurrent TB is important in the estimation of TB incidence. It is important to highlight, however, that in some countries information on treatment history may be missing for some cases. When data on treatment history are not available, recurrent cases cannot be distinguished from cases whose treatment was changed, since both are registered and reported in the category "retreatment". An assessment of data for patients reported in the "unknown history" category is conducted with national TB control programmes (NTPs) to determine the proportion of such patients that is included in the category of recurrent cases.

2.2 Regions

Regional analyses are generally undertaken for the six WHO regions (that is, the African Region, the Region of the Americas, the Eastern Mediterranean Region, the European Region, the South-East Asia Region and the Western Pacific Region). For analyses related to MDR-TB, nine epidemiological regions were defined. These were African countries with high HIV prevalence, African countries with low HIV prevalence, Central Europe, Eastern Europe, high-income countries,[2] Latin America, the Eastern Mediterranean Region (excluding high-income countries), the South-East Asia Region (excluding high-income countries) and the Western Pacific Region (excluding high-income countries). The list of countries in the first six of these nine regions is provided in **Appendix 1**; the other countries are listed under the WHO regions of which they are a part in **Annex 3**.

2.3 Population estimates

Where population sizes are needed to calculate TB indicators, the 2010 revision of estimates provided by the United Nations Population Division (UNPD) was used.[3] The UNPD estimates sometimes differ from those made by countries.

3. Estimates of TB incidence, 1990–2010

No country has ever undertaken a nationwide survey of TB incidence because of the large sample sizes required and associated major logistic and financial challenges. As a result, there are no direct measurements of the incidence of TB. Theoretically, data from TB surveillance systems that are linked to health systems of high coverage and performance may capture all (or almost all) incident cases of TB. However, as yet no standard and widely-endorsed criteria and benchmarks for classifying TB surveillance systems are available. The WHO Global Task Force on TB Impact Measurement is working on the development of such standards (**Chapter 2**).

In the absence of direct measurements, estimates of TB incidence for almost all countries rely on methods described in **sections 3.1–3.4**. The methods used to estimate TB incidence in China and India are explained separately, in **section 3.5** and **section 3.6** respectively, following national workshops held in China (in June 2011) and India (in July 2011).

It should be emphasized that incidence estimates are no longer derived from surveys of the prevalence of tuberculous infection as measured in tuberculin surveys. The WHO Global Task Force on TB Impact Measurement has agreed that methods for deriving incidence from the prevalence of infection are unreliable. The Task Force has also stated that it is doubtful whether repeat tuberculin surveys provide a reliable estimate of the trend in TB incidence.[4]

3.1 Estimating TB incidence from estimates of the proportion of cases detected

Notification data for new and recurrent cases have been analysed in combination with evidence about the coverage of the TB surveillance system and expert opinion in six regional workshops and country missions held during the period 2009–2011, according to a framework developed by the WHO Global Task Force on TB Impact Measurement (**Figure 2.2**, **Chapter 2**). By mid-2011, these workshops and country missions had covered 96 countries (**Figure 2.1**, **Chapter 2**).

For the 96 countries covered by these regional workshops and country missions, incidence was estimated according to the following equation:

[1] Straetemans M et al. Assessing tuberculosis case fatality ratio: a meta-analysis. *PLoS One*. 2011, 6(6):e20755.

[2] High-income countries are defined by the World Bank as countries with a per capita gross national income (GNI) of US$ 12 276 or more in 2010.

[3] **http://esa.un.org/unpd/wpp/unpp/panel_population.htm**; accessed August 2011.

[4] *TB impact measurement: policy and recommendations for how to assess the epidemiological burden of TB and the impact of TB control*. Geneva, World Health Organization, 2009 (Stop TB policy paper; no. 2 (WHO/HTM/TB/2009.416).

$$\text{incidence} = \frac{\text{case notifications}}{1 - \text{underreporting}}$$

Expert opinion about the proportion of TB cases[1] that were not reported was elicited for three reference years (1997, 2003 and, depending on when the workshop was held, either 2008 or 2009). This was done following in-depth analysis of notification data (including data from sub-national administrative levels), programmatic data reflecting efforts in TB control (for example, data on infrastructure, staffing, the performance of services and funding) and (where available) data from inventory studies.[2] In addition, data on access to health care from Demographic and Health Surveys and the overall performance of health systems (using indicators such as the infant mortality rate) were used to substantiate opinion on the proportion of cases with no or very limited access to health care (**Table A1.1**).

A full description of the methods used in these workshops is available in a report of the workshop held for countries in the African Region (in Harare, Zimbabwe, December 2010).[3]

TABLE A1.1

Sources of information and data on TB incidence used in regional workshops and country missions

POSSIBLE CATEGORIES OF INCIDENT CASES	SOURCES OF DATA	
Do not have physical or financial access to health care	Demographic and health surveys, KABP[a] surveys	Capture–recapture modelling
Seek care, but TB not diagnosed	Survey	
TB diagnosed, but not reported	"Inventory" survey	
Reported cases	TB surveillance	

[a] KABP = knowledge, attitudes, behaviour and practices.

Distributions of the proportion of cases that were not reported in the three reference years were assumed to follow a Beta distribution. Reasons for using Beta distributions include the following:

- They are continuous and defined on the interval (0, 1). Since the variance of the proportions of cases that were not reported tend to be large as a result of high uncertainty, random draws of numbers from a normal distribution would yield numbers outside the interval (0, 1). The use of truncated normal distributions may result in excess density towards one of the bounds.
- They are not necessarily symmetrical.
- They are defined with two parameters that can be estimated from available data using the method of moments.[4]

The shape and scale parameters necessary to define the Beta distribution were computed using the method of moments, as follows:

First, the variance for the distribution was taken as:

$$V = \left(\frac{u - l}{4} \right)^2$$

where l and u are the lower and upper bounds of the plausible range for the proportion of incident cases that were reported (also referred to as the case detection rate in **Chapter 3**).

Shape 1 (noted α) and 2 (noted β) follow from:

$$s = \frac{E(1 - E)}{V} - 1$$

$$\alpha = sE$$

$$\beta = s(1 - E)$$

where E is the expected value of the istribution (**Table A1.2**).

Time series for the period 1990–2010 were built according to the characteristics of the levels of underreporting that were estimated for the three reference years. A cubic spline extrapolation of V and E, with knots set at the reference years, was used for countries with low-level or concentrated HIV epidemics. In countries with a generalized HIV epidemic, the trajectory of incidence from 1990 to the first reference year (usually 1997) was based on the annual rate of change in HIV prevalence. Incidence trajectories were derived from the series of notified TB cases using Monte Carlo simulations from which expected values, 2.5th and 97.5th centiles were extracted. All computations were conducted in the R statistical environment.[5]

If there were insufficient data to determine the factors leading to time-changes in case notifications, incidence was assumed to follow a horizontal trend going through the most recent estimate of incidence.

[1] Defined as cases of all forms of TB, including sputum smear-positive pulmonary cases, sputum smear-negative pulmonary cases, and extrapulmonary cases.

[2] Measurements from "inventory" studies can be used to quantify the number of cases that are diagnosed but not reported to national surveillance systems. In some circumstances, data from these studies can be used to estimate the number of cases that were not diagnosed as well (using capture-recapture methods. A useful reference on capture-recapture methods is: Chao A et al. The applications of capture-recapture models to epidemiological data. *Statistics in Medicine*, 2001, 20(20):3123–3157.

[3] See **www.who.int/tb/advisory_bodies/impact_measurement_taskforce**. The tools (called TISAT and the Workbook) used in regional workshops and country missions are also available on the Task Force's web site.

[4] Rényi A. *Probability theory*. New York, Dover Publications Inc., 2007.

[5] R Development Core Team. *R: a language and environment for statistical computing*. Vienna, R Foundation for Statistical Computing, 2009 (**www.R-project.org**).

TABLE A1.2

Parameter estimates used to produce estimates of TB incidence, prevalence and mortality

MODEL PARAMETER	DISTRIBUTION	DISTRIBUTION PARAMETERS[b]
Incidence, high-income countries	Beta[a]	$\alpha = \bar{I} \cdot \left[\frac{\bar{I}(1-\bar{I})}{V} - 1\right]$ $\beta = (1-\bar{I}) \cdot \left[\frac{\bar{I}(1-\bar{I})}{V} - 1\right]$ *where $\bar{I}$ was set at 1.3 times the notification rate, noted N, and V is defined by:* $V = \left[\frac{0.3}{4} N\right]^2$
HIV prevalence among incident TB	Beta[a]	$\alpha = \bar{x} \cdot \left[\frac{\bar{x}(1-\bar{x})}{V} - 1\right]$ $\beta = (1-\bar{x}) \cdot \left[\frac{\bar{x}(1-\bar{x})}{V} - 1\right]$ *Where $\bar{x}$ is the expected value and V is given by:* $V = \left[\frac{u-l}{4}\right]^2$
Duration of disease, non-notified HIV-negative cases of TB	Uniform	l = 1, u = 4 (years)
Duration of disease, non-notified HIV-positive cases of TB	Uniform	l = 0.01, u = 0.2 (years)
Duration of disease, notified HIV-negative cases of TB	Uniform	l = 0.2, u = 2 (years)
Duration of disease, notified HIV-positive cases of TB	Uniform	l = 0.01, u = 1 (years)

[a] The probability density function of the Beta distribution is: $f(x; \alpha, \beta) = \frac{x^{\alpha-1}(1-x)^{\beta-1}}{\int_0^1 t^{\alpha-1}(1-t)^{\beta-1}\,dt}$

[b] u and l denote upper and lower bounds.

3.2 Estimating TB incidence from data on case notifications and expert opinion for high-income countries

For high-income countries, the level of TB incidence was assumed to be distributed between the notification rate for new and recurrent cases combined (lower uncertainty bound, noted *l*) and 1.3 times the notification rate (upper uncertainty bound, noted *u*), as informed by expert opinion. The distribution of incidence was assumed to follow a Beta distribution with shape and scale parameters computed using the method of moments, as described above.

In the absence of country-specific data on the quality and coverage of TB surveillance systems, it was assumed that TB surveillance systems from countries in the high-income group performed similarly well, although the model does allow for stochastic fluctuations. The exception was the United Kingdom of Great Britain and Northern Ireland, where the underreporting of TB cases has been recently measured using inventory studies and capture-recapture modelling.[1] The results were used to measure TB incidence directly.

3.3 Estimating TB incidence from empirical measurements of disease prevalence

Incidence can be estimated using measurements from national surveys of the prevalence of TB disease combined with estimates of the duration of disease. Incidence is estimated as the prevalence of TB divided by the average duration of disease.

In practice, the duration of disease cannot be directly measured. For example, measurements of the duration of symptoms in prevalent TB cases that are detected during a prevalence survey are systematically biased towards lower values, since active case-finding truncates the natural history of undiagnosed disease. Measurements of the duration of disease in notified cases ignore the duration of disease among non-notified and untreated cases.

Literature reviews commissioned by the WHO Global Task Force on TB Impact Measurement have provided estimates of the duration of disease in untreated TB cases

[1] *Tuberculosis in the UK: annual report on tuberculosis surveillance in the UK 2010*. London, Health Protection Agency Centre for Infections, 2010 (**www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1287143581697**; accessed 15 July 2011.

from the pre-chemotherapy era (before the 1950s). The best estimate of the mean duration of disease (for smear-positive cases and smear-negative cases combined) in HIV-negative individuals is about three years. However, the proportion of incident cases that remain untreated is unknown. There are few data on the duration of disease in HIV-positive individuals.

When measurements from two prevalence surveys were available, trends in TB prevalence were derived by fitting a log-linear model to available measurements. When three or more prevalence measurements were available, the prevalence trajectory was built using cubic spline interpolation. If only one prevalence survey measurement was available, time-trends were assessed using in-depth analysis of surveillance data, as described above.

In this report, the prevalence to incidence method was used for only one country (Viet Nam), following a meeting in early 2009 in which consensus was reached among national experts and experts from WHO and the KNCV Tuberculosis Foundation.

3.4 Estimating TB incidence from previously published time-series of incidence

In all remaining countries (n=57), previously published time-series of TB incidence were extended by fitting a log-linear model to the estimates for 2006–2009, to predict a value for 2010.

3.5 TB incidence in China

As noted at the beginning of this section, if TB surveillance performs to high standards then the best source of information on TB incidence comes from routine notification data. In China, there is a web-based and case-based mandatory TB reporting system that has been fully operational since 2005. It covers very close to 100% of all detected TB cases.

During a national workshop held in Beijing in June 2011, incidence was estimated in two stages. First, the plausible interval for TB incidence in 2009 was set at 1–1.3 times the level of notifications, which is comparable to most high-income countries. This plausible interval was justified based on the observations that (i) the ratio of TB mortality to TB notifications in China was close to that observed in high-income countries; and (ii) the performance of the TB surveillance system is high. Second, trends in incidence were computed backwards in time from 2009 to 1990 and forwards in time to 2010 based on measured trends in rates of TB mortality and TB prevalence in adults, adjusted for the rapidly aging population. The workshop estimated that incidence in adults declined by 3–5% per year on average, with an age-adjusted decline of 3.4% per year (standard deviation, 0.58%). This estimate can be considered conservative given that the decline in TB prevalence is under-estimated (see **Box 2.6** in **Chapter 2** for further explanation).

3.6 TB incidence in India

Incidence for 2010 was estimated according to the methods described in **section 3.1**, including use of results from two subnational inventory studies. The level of underreporting for 2010 was estimated at 41% (range, 35–47%). National inventory studies will be needed to fully understand the extent to which TB cases are diagnosed in the private sector but not reflected in the national surveillance system.

In the absence of any clear trend in case notifications and no survey measurements taken before 2001, the trend in incidence was estimated to be flat between 1990 and 2001. This was also justified on the basis that implementation of the Revised TB Control Programme in India only began in parts of the country in 1999, with no evidence of improvements in TB control in the previous decade.

For the trend between 2001 and 2010, data from tuberculin surveys and notification data were used. Two national tuberculin surveys were conducted around 2000 and 2010. Despite difficulties in interpreting the second survey as a result of unfavourable distributions of reaction sizes as well as systematic differences between the two surveys (such as use of different tuberculins), the estimated decline in the annual risk of infection was estimated at 3.7% per year (95% confidence interval, 2.4–5.1% per year). This rate of decline was the basis for setting a prior beta distribution for the decline in incidence.

In districts with early implementation (1999–2003) of the Revised TB Control Programme, the average annual rate of decline in case notification rates varied between 0.6% and 3.6% per year. Combining the previous estimate from the tuberculin survey data with the observed notification data led to a posterior distribution of the annual rate of decline in TB incidence that had an expected value of 1.5% per year (standard deviation, 0.071).

3.7 Disaggregations of TB incidence

In this report, TB incidence is only disaggregated by HIV-infection status (see following section). The estimation of smear-positive TB incidence was discontinued in 2010, for reasons explained in detail in the global report published in 2010.

4. Estimates of HIV prevalence among incident TB cases, 1990–2010

The prevalence of HIV among incident cases of TB was directly estimated from country-specific and empirical data wherever possible. For the estimates published in this report, suitable data (as defined in **Table A1.3**) were available for a total of 544 country-year data points, up from 440 country-year data points in the previous year.

For the 3905 country-year data points for which surveillance data were either not available or for which the

TABLE A1.3

Source of data on HIV prevalence among incident TB cases

DIRECT MEASUREMENT OF THE PREVALENCE OF HIV IN TB PATIENTS	NUMBER OF COUNTRY-YEARS
National surveys	31
HIV sentinel surveillance	30
Provider-initiated testing and counselling with at least 50% coverage of testing	483
Total	**544**

percentage of TB patients tested for HIV was below 50%, the prevalence of HIV was estimated indirectly according to the following equation:

$$t = \frac{h\rho}{1 + h(\rho - 1)}$$

In this equation, t is HIV prevalence among incident TB cases, h is HIV prevalence among the general population (from the latest time-series provided by UNAIDS) and ρ is the incidence rate ratio (IRR) (defined as the incidence rate of TB in HIV-positive people divided by the incidence rate of TB in HIV-negative people).[1] We then let logit(t) be log(t/(1-t)) and logit(h) be log(h/(1-h)). Using data from countries where HIV prevalence has been estimated by UNAIDS as an independent variable, a linear model of logit-transformed t was fitted using logit-transformed h according to the following equation, written in matrix notation:

$$\hat{T} = X\beta$$

where $\hat{T}$ is a vector of predicted logit(t), X is an n x 2 matrix in which the first column holds 1s, and the second column holds logit(h). The vector β holds estimated model parameters.

Models were run using Monte Carlo simulations in which h was drawn randomly from a Beta distribution with shape parameters computed as described in **section 3.1**, (low and high uncertainty bounds are provided by UNAIDS – also see **Table A1.2**). The model was run 50 000 times using country-specific distributions for H and T (noted in capital letters to denote vectors or matrices) based on their uncertainty intervals. The uncertainty bounds for β were chosen as the 2.5th and 97.5th centiles.

The source of data used for each country is available upon request from tbdata@who.int.

5. Estimates of TB prevalence, 1990–2010

The best way to measure the prevalence of TB is through national population-based surveys of TB disease.[2,3] Data from such surveys are available for an increasing number of countries (**Chapter 2**). It should be noted, however, that measurements of prevalence are typically confined to the adult population. Furthermore, prevalence surveys exclude extrapulmonary cases and do not allow the diagnosis of cases of culture-negative pulmonary TB.

When there is no direct measurement from a national survey of the prevalence of TB disease, prevalence is the most uncertain of the three TB indicators used to measure disease burden. This is because prevalence is the product of two uncertain quantities: (i) incidence and (ii) disease duration. The duration of disease is very difficult to quantify because it cannot be measured during surveys of the prevalence of TB disease (surveys truncate the natural history of disease). Duration can be assessed in self-presenting patients, but there is no practical way to measure the duration of disease in patients who are not notified to NTPs.

Indirect estimates of prevalence were calculated according to the following equation:

$$P = \sum I_{i,j} d_{i,j},\ i \in \{1,2\},\ j \in \{1,2\}$$

where the index variable i denotes HIV+ and HIV–, the index variable j denotes notified and non-notified cases, d denotes the duration of disease in notified cases and I is total incidence. In the absence of measurements, we did not allow duration in notified cases to vary among countries. Given their underlying uncertainty, prevalence estimates should be used with great caution in the absence of direct measurements from a prevalence survey. Unless measurements were available from national programmes (for example, Turkey), assumptions of the duration of disease were used as shown in the last four rows of **Table A1.2**.

6. Estimates of the number of cases of MDR-TB

6.1 Proportion of notified cases of TB that have MDR-TB, 2010

Global and regional estimates of the proportion of new and retreatment cases of TB that had MDR-TB in 2010 were calculated using country-level information. If countries had reported data on the proportion of new and retreatment cases of TB that have MDR-TB from routine surveillance or a survey of drug resistance the latest available information was used. For countries that have not reported such data, estimates of the proportion of new and retreatment cases of TB that have MDR-TB were produced using modelling (including multiple imputation) that was based on data from countries for which data do exist. Estimates for countries without data were based on countries that were considered to be

[1] **www.unaids.org/en/dataanalysis/epidemiology/**, accessed 15 July 2011.

[2] Glaziou P et al. Tuberculosis prevalence surveys: rationale and cost. *International Journal of Tuberculosis and Lung Disease*, 2008, 12(9):1003–1008.

[3] *TB prevalence surveys: a handbook*. Geneva, World Health Organization, 2011 (WHO/HTM/TB/2010.17).

similar in terms of TB epidemiology. The observed and imputed estimates of the proportion of new and retreatment cases of TB that have MDR-TB were then pooled to give a global estimate, with countries weighted according to their share of global notifications of new and retreatment cases.

6.2 Trends in the proportion of new TB cases with MDR-TB, 1994–2010

Analysis of trends in the proportion of TB cases that have MDR-TB was restricted to new cases. Data were too patchy to allow analysis of trends in retreatment cases.

Countries or territories for which there were at least two measurements of the proportion of new TB cases that had MDR-TB between 1994 and 2010 were identified. A linear regression model of the log-transformed proportion of cases that have MDR-TB was fitted for every country, with only year as an independent variable. The restricting assumption of a linear association between changes in the proportion of cases that have MDR-TB and time was made because of the small number of measurements per country. The slope of this regression model represents the annual change in the proportion of new cases with MDR-TB. Modelling including multiple imputation was then used to produce estimates of the annual change in the proportion of cases that have MDR-TB for countries that have not reported data. Estimates for countries without data were based on countries to which they were considered to be similar in terms of TB epidemiology (see **Appendix 1** and **section 2.2**). Finally, the observed and imputed estimates were pooled to give global and regional estimates, with countries weighted according to their share of global notifications of new cases.

6.3 Numbers of prevalent cases of MDR-TB, 2010

The global estimate of the number of prevalent cases of MDR-TB in 2010 was derived in two steps. First, the weighted average of the proportion of new and retreatment notified cases that had MDR-TB was computed, to give an estimate of the proportion of all notified cases that had MDR-TB. This combined proportion was then multiplied by the estimated global prevalence of TB in the general population, under the assumption that the proportion of all cases that have MDR-TB was the same as the proportion of notified cases that have MDR-TB.

Country-specific estimates of the number of prevalent cases of MDR-TB in 2010 were not computed because only a few countries have directly measured the prevalence of TB in a population-based survey, and even among these countries data on the proportion of culture-positive pulmonary cases that had MDR-TB are not always available. To date, direct measurements of the number of prevalent cases of MDR-TB are available only for China, although several upcoming surveys will include assessments of drug resistance. In the absence of direct measurements at country level, country-specific estimates of the prevalence of MDR-TB suffer from much greater uncertainty compared with the uncertainty that surrounds global averages.

7. Estimates of TB mortality, 1990–2010

The best sources of data about deaths from TB (excluding those among HIV-positive people) are VR systems in which causes of death are coded according to ICD-10 (although the older ICD-9 and ICD-8 classification are still in use in several countries). Deaths from TB in HIV-positive people are coded under HIV-associated codes.

Estimates of TB mortality were produced directly from VR data or mortality surveys, or indirectly from estimates of TB incidence and case-fatality rates (CFRs). The source of data used in each country is available from tbdata@who.int upon request.

7.1 Estimating TB mortality from vital registration data and mortality surveys

Data from VR systems are reported to WHO by Member States and territories every year. In countries with functioning VR systems in which causes of death are coded according to the two latest revisions of the international classification of diseases (underlying cause of death: ICD-10 A15-A19, equivalent to ICD-9: 010-018), VR data are the best source of information about deaths from TB among people not infected with HIV. When people with AIDS die from TB, HIV is registered as the underlying cause of death and TB is recorded as a contributory cause. Since one third of countries with VR systems report to WHO only the underlying causes of death and not contributory causes, VR data usually cannot be used to estimate the number of TB deaths in HIV-positive people.

In 2010, 92 countries had well-functioning VR systems according to the following definition: (i) coverage of at least 70% of the population, and (ii) ill-defined causes of death (ICD-9 code B46, ICD-10 codes R00-R99) of <20% of all registered deaths.[1] In addition, mortality survey data from two countries were used (China and India), of which one (India) did not have VR data. Countries with mortality measurements included 6 of the 22 HBCs (Brazil, China, India, the Philippines, the Russian Federation and South Africa). However, we could not use the VR data on TB deaths from South Africa because large numbers of HIV deaths were miscoded as TB deaths.

Among the remaining 91 countries, there was a median of 9 years (interquartile range, 6–11) of VR data on TB mortality between 1991 and 2010 that met the above criteria, equivalent to 720 country-years. We assumed that

[1] Mathers CD et al. Counting the dead and what they died from: an assessment of the global status of cause of death data. *Bulletin of the World Health Organization*, 2005, 83:171–177.

the proportion of TB deaths among deaths not recorded by the VR system was the same as the proportion of TB deaths in VR-recorded deaths. For VR-recorded deaths with ill-defined causes, we assumed that the proportion of deaths attributable to TB was the same as the observed proportion in recorded deaths. We assumed errors in measurement (due to misclassifications) and assumptions (redistributions) to be binomially distributed.

7.2 Estimating TB mortality from indirect estimates of case-fatality rates and TB incidence

For the years in which VR or mortality survey data of sufficient quality and coverage were not available for the 91 countries defined above plus the 125 countries (as of 2010) without any direct measurement, mortality was estimated as the product of TB incidence and the CFR. CFRs were estimated separately for TB cases notified to NTPs and non-notified cases and, within these two groups, separate estimates were made for HIV-positive TB cases and HIV-negative TB cases (**Table A1.3**).

For consistency with VR – or survey-based mortality estimates, CFRs were estimated such that they gave the best fit to the directly measured TB death rates (within their uncertainty ranges) across the 720 country-years of data from the 91 countries with functioning VR systems or survey data), in conjunction with WHO estimates of distributions of TB incidence in those countries. This statistical fitting used Bayesian linear models and was done separately for two groups of countries (high-income and all other countries), to account for differences in the ratio of reported TB mortality to TB notification rates among these two groups (data not shown).

The models used normal errors and Gibbs sampling:

$$y = (I - N)\beta_1 + N\beta_2 + \varepsilon,\ \varepsilon \sim N(0,\sigma^2)$$

where y is TB mortality from VR, I denotes TB incidence excluding people living with HIV, N denotes TB notifications excluding people living with HIV, and parameters β_1 and β_2 denote the CFR in non-notified and notified cases respectively. Semi-conjugate priors were set with an uninformative inverse Gamma prior on the conditional error variance:

$$b \sim N(b_i, B_i^{-2}),\ \sigma^2 \sim IG(5.10^{-4}, 5.10^{-4})$$

Priors b and their precision B were defined based on literature reviews,[1,2] and the country-year CFR parameters used by WHO for the years 1999–2008 (**Table A1.4**). Convergence of Markov Chains was assessed graphically and using two convergence diagnostic tests. Within each case category 1990–2010, mortality estimates were computed by taking the product of posterior distributions of the CFR, assumed to be time-independent (**Table A1.4**), and country-year specific distributions of estimated incidence.

TABLE A1.4

Estimates of TB case-fatality rates by case type and country

CASE TYPE AND COUNTRY GROUP	HIV-NEGATIVE	
	NORMAL PRIOR DISTRIBUTIONS[a] MEAN (STANDARD ERROR)	POSTERIOR DISTRIBUTIONS MEAN (STANDARD ERROR)
Non-notified: high-income countries	0.1 (0.01)	0.1 (0.0097)
Non-notified: other countries	0.4 (0.01)	0.32 (0.098)
Notified: high income countries	0.04 (0.01)	0.074 (0.0026)
Notified: other countries	0.05 (0.01)	0.058 (0.006)

[a] Priors and assumed distributions in HIV-negaitive cases were derived from (i) pooled estimates from random-effects modelling of literature review results and (ii) pooled estimates from the WHO global TB database of assumed country-specific CFRs (2008).

7.3 Estimates of TB mortality among HIV-positive people

A prior belief about the proportion of HIV deaths with TB as the contributory cause of death was set on the assumption of a beta distribution with parameters a and b. The prior proportion was set at 30% (standard deviation, 3%).[3] The likelihood for the estimated number of TB deaths among estimated HIV-positive incident TB cases was based on an assumed 50% CFR (standard deviation, 5%) in low and middle-income countries and a 20% CFR (standard deviation, 2%) in high-income countries, using the methods described above and from literature reviews.[4] Cases on antiretroviral therapy (ART) were assumed to benefit from the protective effect of ART, estimated at 48% (standard deviation, 0.45%) based on a recent literature review. The likelihood was defined as a beta density with parameters s+1 and f+1. By combining the beta prior with the likelihood function, the posterior is also of the beta form with parameters a+s and b+f. Posteriors were determined for each country-year data point.

7.4 Estimating TB mortality from disaggregated estimates of TB deaths by age and sex

For countries with VR data, it was possible to disaggregate estimated TB deaths by age (with age groups defined

[1] Straetemans M et al. Assessing tuberculosis case fatality ratio: a meta-analysis. *PLoS One*. 2011, 6(6):e20755.

[2] Tiemersma EW et al. Natural history of tuberculosis: duration and fatality of untreated pulmonary tuberculosis in HIV negative patients: a systematic review. *PLoS One*. 2011, 6(4):e17601.

[3] **www.unaids.org/en/dataanalysis/epidemiology/** accessed 15 July 2011.

[4] Straetemans M et al. The effect of tuberculosis on mortality in HIV positive people: a meta-analysis. *PLoS One*, 2010, 5(12):e15241.

as 0–4 years, 5–14 years, 15–24 years, 25–34 years, 35–44 years, 45–54 years, 55–64 years, ≥65 years) and sex, in line with the way in which deaths are reported. In countries with no functional VR system, the total number of estimated TB deaths was redistributed into the different age and sex strata according to the disaggregation of the combined population of countries with VR data (with standardization against the individual country's age and sex distribution). TB deaths in HIV-positive people were not disaggregated by age and sex due to limited data from countries with functional VR systems.

8. Projections of incidence, prevalence and mortality up to 2015

Projections of TB incidence, prevalence and mortality rates up to 2015 enable assessment of whether global targets set for 2015 are likely to be achieved at global, regional and country levels. Projections for the years 2011–2015 were made using log-linear regression models fitted to data from 2007–2010, with the assumption that recent trends would continue.

9. Estimation of uncertainty

There are many potential sources of uncertainty associated with estimates of TB incidence, prevalence and mortality, as well as estimates of the burden of HIV-associated TB and MDR-TB. These include uncertainties in input data, in parameter values, in extrapolations used to impute missing data, and in the models used.

We used fixed population values from the UNPD. We did not account for any uncertainty in these values.

Notification data are of uneven quality. Cases may be underreported (missing quarterly reports from remote administrative areas are not uncommon), misclassified (in particular, misclassification of recurrent cases in the category of new cases is common), or over-reported as a result of duplicated entries in TB information systems. The latter two issues can only be addressed efficiently in countries with case-based nationwide TB databases that include patient identifiers. Sudden changes in notifications over time are often the result of errors or inconsistencies in reporting, but may sometimes reflect abrupt changes in TB epidemiology (for example, resulting from a rapid influx of migrants from countries with a high burden of TB, or from rapid improvement in case-finding efforts).

Missing national aggregates of new and recurrent cases were imputed by cubic spline interpolation. Notification trajectories were smoothed using a penalized cubic splines function with parameters based on the data. Attempts to obtain corrections for historical data are made every year, but only rarely do countries provide appropriate data corrections.

Mortality estimates incorporated the following sources of uncertainty: sampling uncertainty in the underlying measurements of TB mortality rates from data sources, uncertainty in estimates of incidence rates and rates of HIV prevalence among both incident and notified TB cases, and parameter uncertainty in the Bayesian model. Time-series of TB mortality were generated for each country through Monte Carlo simulations.

Unless otherwise specified, uncertainty bounds and ranges were defined as the 2.5th and 97.5th centiles of outcome distributions. Throughout this report, ranges with upper and lower bounds defined by these centiles are provided for all estimates established with the use of simulations. When uncertainty was established with the use of observed or other empirical data, 95% confidence intervals are reported.

The model used the following sequence: (1) incidence estimation, (2) estimation of HIV-positive TB incidence, (3) estimation of mortality, (4) estimation of prevalence. By design, some steps were independent from each other (for example, step 4 may be done before or after step 3).

The general approach to uncertainty analyses was to draw values from specified distributions for every parameter (except for notifications and population values) in Monte Carlo simulations, with the number of simulation runs set so that they were sufficient to ensure stability in the outcome distributions. For each country, the same random generator seed was used for every year, and errors were assumed to be time-dependent within countries (thus generating autocorrelation in time-series). Regional parameters were used in some instances (for example, for CFRs). Summaries of quantities of interest were obtained by extracting the 2.5th, 50th and 97.5th centiles of posterior distributions.

Appendix 1. Epidemiological regions used for analyses related to MDR-TB

Africa – countries with high HIV prevalence: Botswana, Burundi, Cameroon, the Central African Republic, the Congo, Côte d'Ivoire, the Democratic Republic of the Congo, Ethiopia, Gabon, Kenya, Lesotho, Malawi, Mozambique, Namibia, Nigeria, Rwanda, South Africa, Swaziland, Uganda, the United Republic of Tanzania, Zambia, Zimbabwe.

Africa – countries with low HIV prevalence: Algeria, Angola, Benin, Burkina Faso, Cape Verde, Chad, the Comoros, Eritrea, the Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Madagascar, Mali, Mauritania, Mauritius, the Niger, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Togo.

Central Europe: Albania, Bosnia and Herzegovina, Montenegro, Poland, Serbia, the former Yugoslav Republic of Macedonia, Turkey.

Eastern Europe: Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania,

the Republic of Moldova, Romania, the Russian Federation, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

High-income countries: Andorra, Australia, Austria, the Bahamas, Bahrain, Barbados, Belgium, Bermuda, Brunei Darussalam, Canada, the Cayman Islands, Croatia, Cyprus, the Czech Republic, Denmark, Equatorial Guinea, Estonia, Finland, France, French Polynesia, Germany, Greece, Guam, Hungary, Iceland, Ireland, Israel, Italy, Japan, Kuwait, Luxembourg, Malta, Monaco, the Netherlands, New Caledonia, New Zealand, Northern Mariana Islands, Norway, Oman, Portugal, Puerto Rico, Qatar, the Republic of Korea, San Marino, Saudi Arabia, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, Trinidad and Tobago, the Turks and Caicos Islands, the United Arab Emirates, the United Kingdom, the United States, US Virgin Islands.

Latin America: Anguilla, Antigua and Barbuda, Argentina, Aruba, Belize, Bolivia (Plurinational State of), Brazil, British Virgin Islands, Chile, Colombia, Costa Rica, Cuba, Curaçao, Dominica, the Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Montserrat, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Sint Maarten (Dutch part), Suriname, Uruguay, Venezuela. (Bolivarian Republic of).

ANNEX 2

Country profiles

Countries

This annex presents TB profiles for the 22 high burden countries that account for approximately 80% of all new TB cases arising each year.

TB profiles for all countries and NTP financing profiles for over 100 countries are available at **www.who.int/tb/data**.

Data source

Data shown in this annex are taken from the WHO global TB database on 2 September 2011. Data shown in the main part of the report were taken from the database on 21 June 2011.

Notification data were updated by Bangladesh, the Russian Federation and South Africa between 21 June and 2 September 2011. As a result, their notification data in this annex differ slightly from those presented in the main part of the report.

AFGHANISTAN

POPULATION 2010 (MILLIONS)	31

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	12 (8.6–16)	38 (27–50)
Prevalence (incl HIV)	110 (51–180)	352 (162–578)
Incidence (incl HIV)	59 (49–71)	189 (155–226)
Incidence (HIV-positive)		
Case detection, all forms (%)	47 (39–57)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	12 947	(48)	Relapse	1 116	(84)
Smear-negative	4 479	(17)	Treatment after failure	147	(11)
Smear unknown	2 606	(10)	Treatment after default	62	(5)
Extrapulmonary	6 248	(23)	Other		
Other	633	(2)			
Total new	26 913		Total retreatment	1 325	
Total < 15 years	642				

Total new and relapse	28 029	(99% of total)
Total cases notified	28 238	

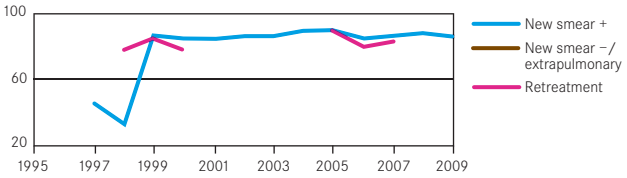
DRUG REGIMENS

Rifampicin used throughout treatment	No
% of patients treated with fixed-dose combinations (FDCs)	100
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	86
New smear-negative/extrapulmonary	
Retreatment	

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	6.1 (3.5–10)
% of retreatment TB cases with MDR-TB	8.3 (1.7–21)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	1 300 (720–2 100)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	110 (23–280)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB	238	34	272
% of notified tested for MDR-TB	<1	3	<1
Confirmed cases of MDR-TB	13	6	19
MDR-TB patients started treatment			0

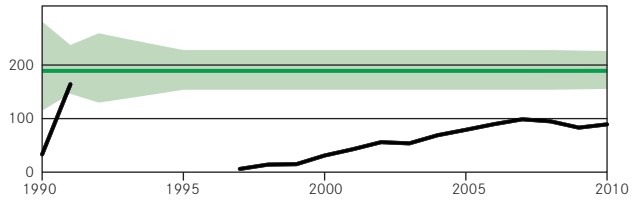
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	1.9	1.9	1.9
Culture (per 5 million population)	0	0.2	0.6
DST (per 5 million population)	0	0	0

Second-line DST available	Outside country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

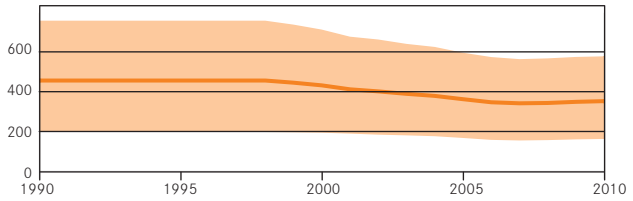
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



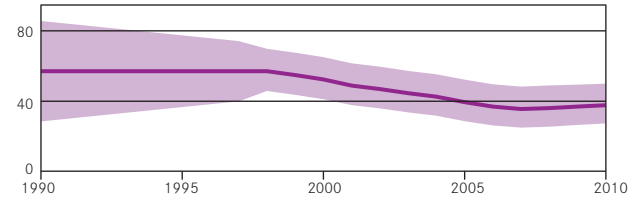
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

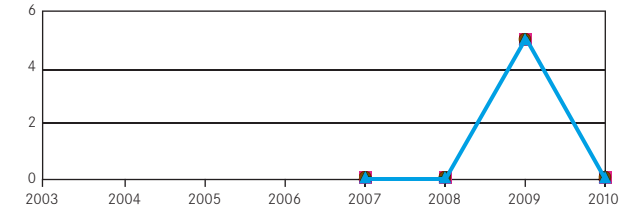
(rate per 100 000 population)



TB/HIV 2010

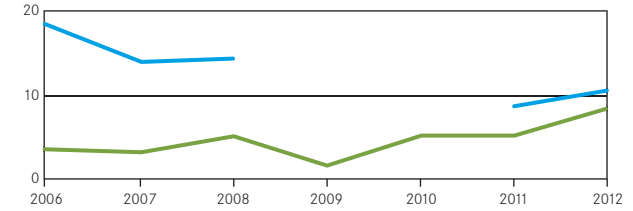
TB patients with known HIV status	5 170
% of TB patients with known HIV status	18
TB patients that are HIV-positive	0
% of tested TB patients that are HIV-positive	0
% HIV-positive TB patients started on CPT	
% HIV-positive TB patients started on ART	
HIV-positive people screened for TB	
HIV-positive people provided with IPT	

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	9	11
Available funding (US$ millions)	5	9
% of budget funded	58	81
% available funding from domestic sources	7	4
% available funding from Global Fund	69	53

NTP Budget (blue) and available funding (green) (US$ millions)



BANGLADESH

POPULATION 2010 (MILLIONS)	149

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	64 (47–85)	43 (32–57)
Prevalence (incl HIV)	610 (280–1 000)	411 (188–671)
Incidence (incl HIV)	330 (270–400)	225 (184–269)
Incidence (HIV-positive)	0.66 (0.33–1.1)	0.45 (0.23–0.74)
Case detection, all forms (%)	46 (38–56)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	105 772	(70)	Relapse	2 989	(38)
Smear-negative	21 625	(14)	Treatment after failure	961	(12)
Smear unknown	0	(0)	Treatment after default	594	(8)
Extrapulmonary	23 506	(16)	Other	3 251	(42)
Other	0	(0)			
Total new	150 903		Total retreatment	7 795	
Total < 15 years	4 235				

Total new and relapse	153 892	(97% of total)
Total cases notified	158 698	

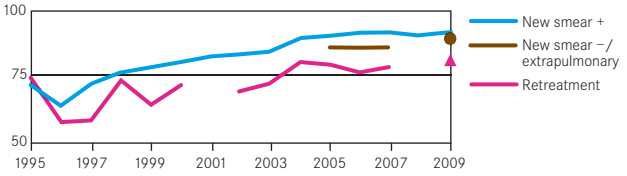
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	100
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	92
New smear-negative/extrapulmonary	89
Retreatment	81

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	2.1 (1.7–2.5)
% of retreatment TB cases with MDR-TB	28 (25–32)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	2 700 (2 200–3 200)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	2 200 (1 900–2 500)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB		339	339
% of notified tested for MDR-TB		4	<1
Confirmed cases of MDR-TB		339	339
MDR-TB patients started treatment			339

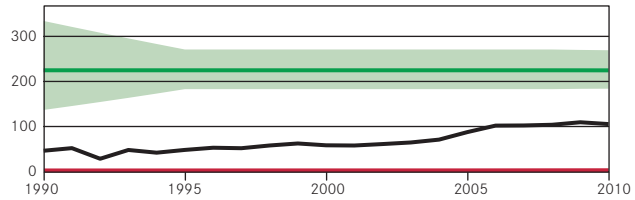
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	0.7	0.7	0.7
Culture (per 5 million population)	<0.1	0.1	0.1
DST (per 5 million population)	<0.1	<0.1	<0.1

Second-line DST available	Outside country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

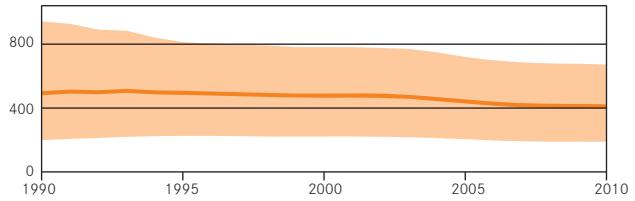
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



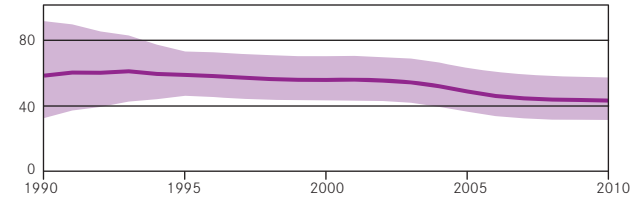
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

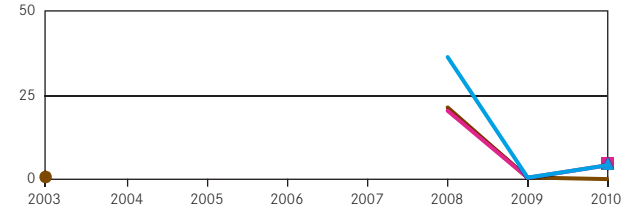
(rate per 100 000 population)



TB/HIV 2010

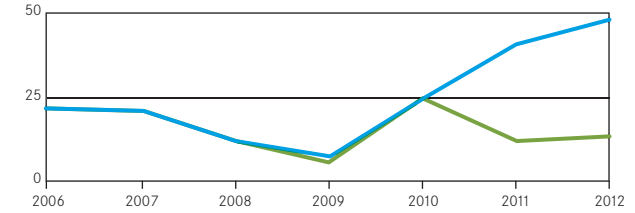
TB patients with known HIV status	1 778
% of TB patients with known HIV status	1
TB patients that are HIV-positive	4
% of tested TB patients that are HIV-positive	<1
% HIV-positive TB patients started on CPT	100
% HIV-positive TB patients started on ART	0
HIV-positive people screened for TB	347
HIV-positive people provided with IPT	64

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	41	48
Available funding (US$ millions)	12	14
% of budget funded	29	28
% available funding from domestic sources	10	9
% available funding from Global Fund	57	75

NTP Budget (blue) and available funding (green) (US$ millions)



Data can be downloaded from www.who.int/tb/data

BRAZIL

POPULATION 2010 (MILLIONS)	195

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	5 (3.1–8.3)	2.6 (1.6–4.3)
Prevalence (incl HIV)	92 (34–160)	47 (17–80)
Incidence (incl HIV)	85 (70–100)	43 (36–51)
Incidence (HIV-positive)	18 (15-22)	9.3 (7.7–11)
Case detection, all forms (%)	88 (74–110)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	37 932	(53)	Relapse	3 398	(31)
Smear-negative	13 694	(19)	Treatment after failure	122	(1)
Smear unknown	9 336	(13)	Treatment after default	3 208	(29)
Extrapulmonary	10 017	(14)	Other	4 221	(39)
Other	18	(<1)			
Total new	70 997		Total retreatment	10 949	
Total < 15 years	2 450				

Total new and relapse	74 395	(91% of total)
Total cases notified	81 946	

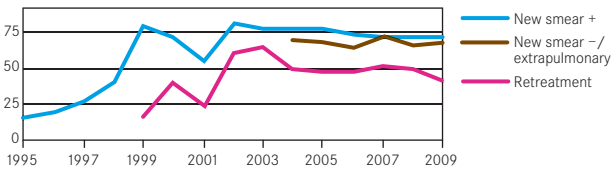
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	100
Paediatric formulations procured	No

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	72
New smear-negative/extrapulmonary	68
Retreatment	42

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	0.90 (0.60–1.4)
% of retreatment TB cases with MDR-TB	5.4 (3.9–7.3)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	550 (370–850)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	590 (450–800)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB	22	643	665
% of notified tested for MDR-TB	<1	6	<1
Confirmed cases of MDR-TB	21	552	573
MDR-TB patients started treatment			573

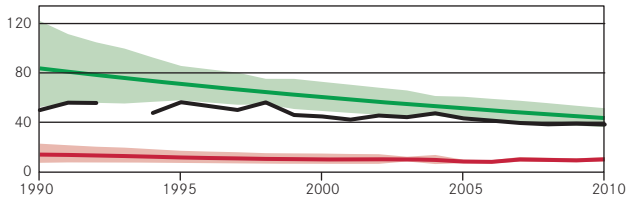
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	2.1	2.0	2.0
Culture (per 5 million population)	5.8	6.5	6.9
DST (per 5 million population)	1.1	1.0	1.1

Second-line DST available	In and outside country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

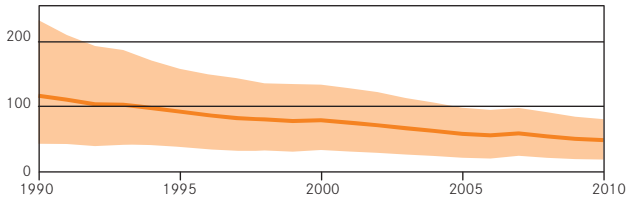
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



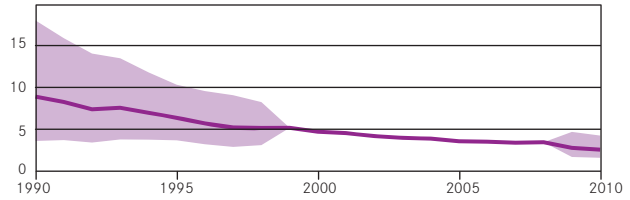
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

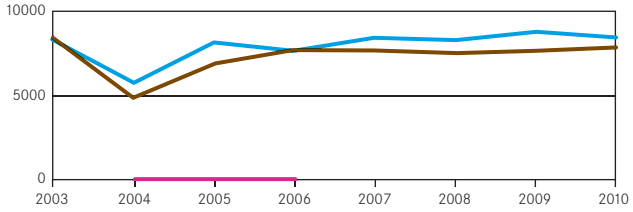
(rate per 100 000 population)



TB/HIV 2010

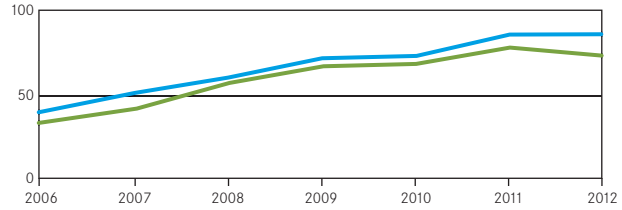
TB patients with known HIV status	37 210
% of TB patients with known HIV status	45
TB patients that are HIV-positive	8 558
% of tested TB patients that are HIV-positive	23
% HIV-positive TB patients started on CPT	
% HIV-positive TB patients started on ART	93
HIV-positive people screened for TB	
HIV-positive people provided with IPT	

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	87	87
Available funding (US$ millions)	80	74
% of budget funded	92	85
% available funding from domestic sources	90	97
% available funding from Global Fund	5	1

NTP Budget (blue) and available funding (green) (US$ millions)



CAMBODIA

POPULATION 2010 (MILLIONS)	14

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	8.6 (6.2–12)	61 (44–82)
Prevalence (incl HIV)	93 (42–150)	660 (296–1070)
Incidence (incl HIV)	62 (53–72)	437 (373–506)
Incidence (HIV-positive)	4 (3.4–4.7)	29 (24–33)
Case detection, all forms (%)	65 (57–77)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	17 454	(44)	Relapse	466	(29)
Smear-negative	8 301	(21)	Treatment after failure	59	(4)
Smear unknown	0	(0)	Treatment after default	19	(1)
Extrapulmonary	14 239	(36)	Other	1 090	(67)
Other	0	(0)			
Total new	39 994		Total retreatment	1 634	
Total < 15 years	99				

Total new and relapse	40 460	(97% of total)
Total cases notified	41 628	

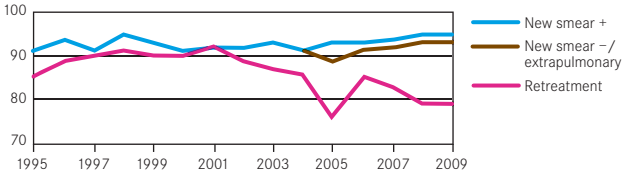
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	100
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	95
New smear-negative/extrapulmonary	93
Retreatment	79

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	1.4 (0.70–2.5)
% of retreatment TB cases with MDR-TB	11 (4.0–22)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	360 (180–640)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	170 (65–360)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB	5	93	98
% of notified tested for MDR-TB	<1	6	<1
Confirmed cases of MDR-TB	1	30	31
MDR-TB patients started treatment			38

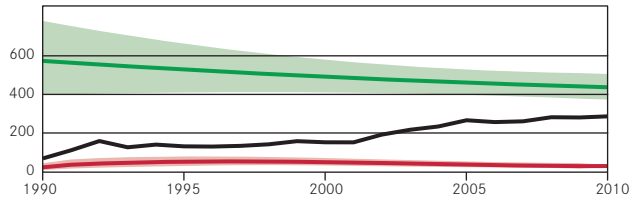
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	1.5	1.5	1.5
Culture (per 5 million population)	1.1	1.1	1.0
DST (per 5 million population)	0.4	0.4	0.3

Second-line DST available	Outside country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

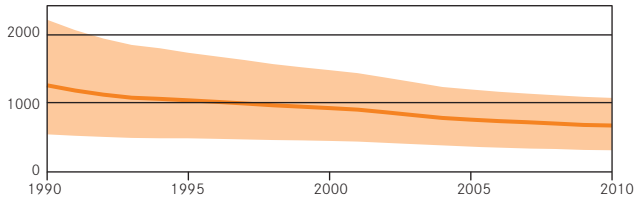
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



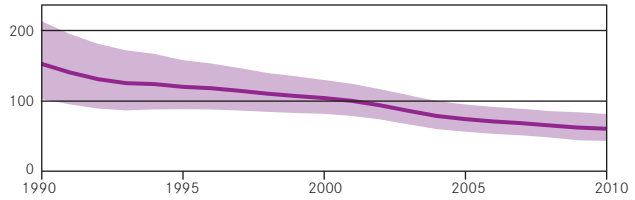
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

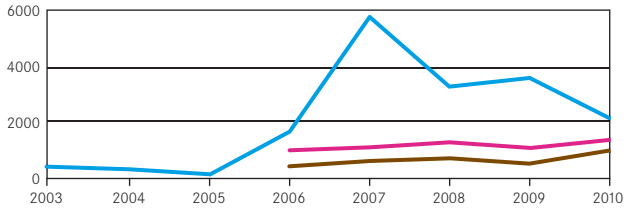
(rate per 100 000 population)



TB/HIV 2010

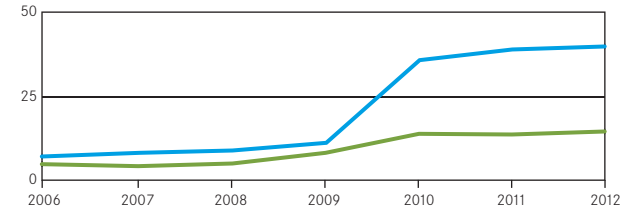
TB patients with known HIV status	32 236
% of TB patients with known HIV status	77
TB patients that are HIV-positive	2 112
% of tested TB patients that are HIV-positive	7
% HIV-positive TB patients started on CPT	65
% HIV-positive TB patients started on ART	45
HIV-positive people screened for TB	
HIV-positive people provided with IPT	491

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	39	40
Available funding (US$ millions)	14	15
% of budget funded	35	36
% available funding from domestic sources	8	8
% available funding from Global Fund	36	31

NTP Budget (blue) and available funding (green) (US$ millions)



Data can be downloaded from www.who.int/tb/data

CHINA

POPULATION 2010 (MILLIONS)	1 341

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	54 (52–56)	4.1 (3.9–4.2)
Prevalence (incl HIV)	1 500 (1 300–1 700)	108 (93–123)
Incidence (incl HIV)	1 000 (910–1 200)	78 (68–88)
Incidence (HIV-positive)	18 (10–28)	1.4 (0.77–2.1)
Case detection, all forms (%)	87 (77–100)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	429 899	(49)	Relapse	39 307	(73)
Smear-negative	430 580	(50)	Treatment after failure	2 662	(5)
Smear unknown	2 288	(<1)	Treatment after default	1 103	(2)
Extrapulmonary	6 325	(<1)	Other	11 144	(21)
Other	0	(0)			
Total new	869 092		Total retreatment	54 216	
Total < 15 years	6 710				

Total new and relapse	908 399	(98% of total)
Total cases notified	923 308	

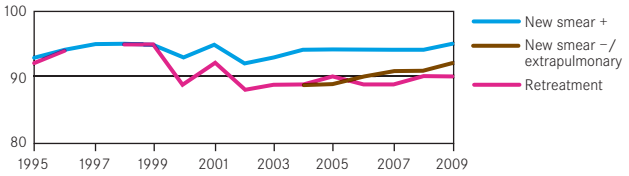
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	15
Paediatric formulations procured	No

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	95
New smear-negative/extrapulmonary	92
Retreatment	90

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	5.7 (4.6–7.1)
% of retreatment TB cases with MDR-TB	26 (22–30)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	49 000 (40 000–61 000)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	14 000 (12 000–16 000)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB			
% of notified tested for MDR-TB			
Confirmed cases of MDR-TB	229	1 669	2 792
MDR-TB patients started treatment			1 222

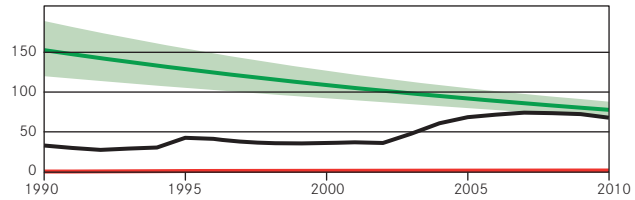
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	0.2	0.2	0.2
Culture (per 5 million population)	3.1	3.3	2.7
DST (per 5 million population)	0.5	0.7	0.8

Second-line DST available	In country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

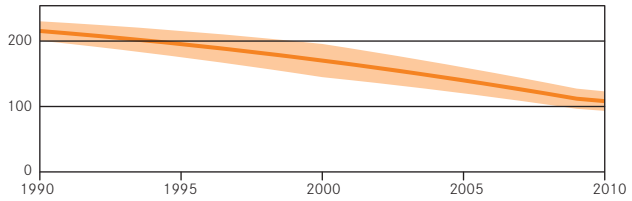
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



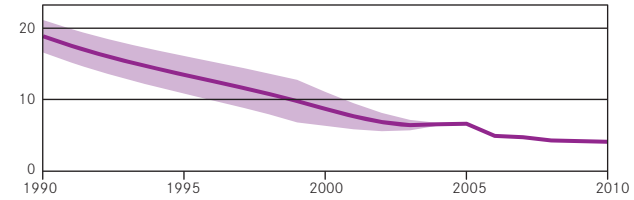
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

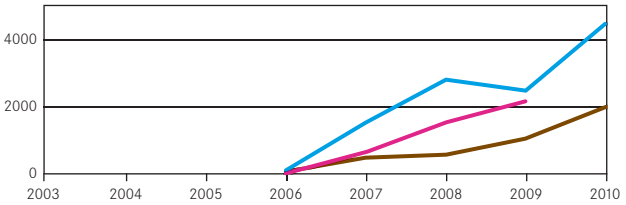
(rate per 100 000 population)



TB/HIV 2010

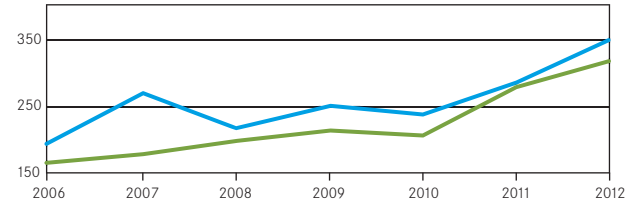
TB patients with known HIV status	145 919
% of TB patients with known HIV status	16
TB patients that are HIV-positive	4 542
% of tested TB patients that are HIV-positive	3
% HIV-positive TB patients started on CPT	
% HIV-positive TB patients started on ART	45
HIV-positive people screened for TB	65 412
HIV-positive people provided with IPT	

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	285	350
Available funding (US$ millions)	278	319
% of budget funded	98	91
% available funding from domestic sources	70	69
% available funding from Global Fund	30	30

NTP Budget (blue) and available funding (green) (US$ millions)



Data can be downloaded from www.who.int/tb/data

DEMOCRATIC REPUBLIC OF THE CONGO

POPULATION 2010 (MILLIONS)	66

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	36 (27–45)	54 (41–69)
Prevalence (incl HIV)	350 (160–560)	535 (250–850)
Incidence (incl HIV)	220 (190–250)	327 (281–376)
Incidence (HIV-positive)	18 (13–24)	27 (19–36)
Case detection, all forms (%)	53 (46–61)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	73 653	(67)	Relapse	4 138	(48)
Smear-negative	14 039	(13)	Treatment after failure	713	(8)
Smear unknown	0	(0)	Treatment after default	796	(9)
Extrapulmonary	22 340	(20)	Other	2 957	(34)
Other	0	(0)			
Total new	110 032		Total retreatment	8 604	
Total < 15 years	3 694				

Total new and relapse	114 170	(96% of total)
Total cases notified	118 636	

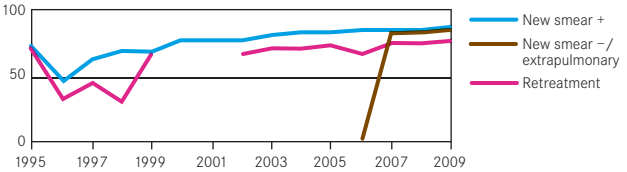
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	100
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	88
New smear-negative/extrapulmonary	86
Retreatment	77

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	2.2 (0.10–5.3)
% of retreatment TB cases with MDR-TB	9.4 (1.9–17)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	1 900 (88–4 600)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	810 (160–1 500)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB		100	100
% of notified tested for MDR-TB		1	<1
Confirmed cases of MDR-TB		87	87
MDR-TB patients started treatment			191

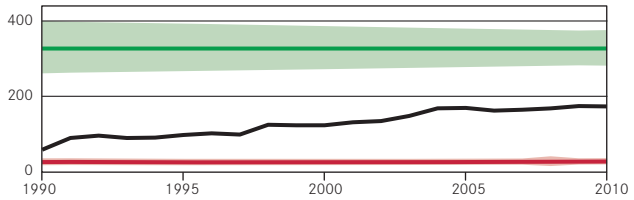
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	2.2	2.2	2.2
Culture (per 5 million population)	<0.1	<0.1	0.1
DST (per 5 million population)	<0.1	<0.1	0.1

Second-line DST available	No
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

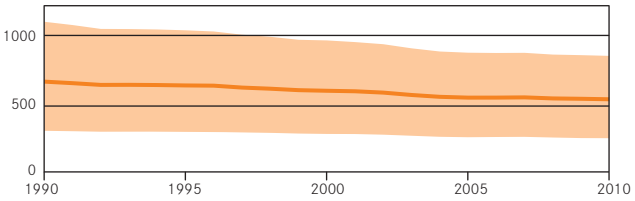
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



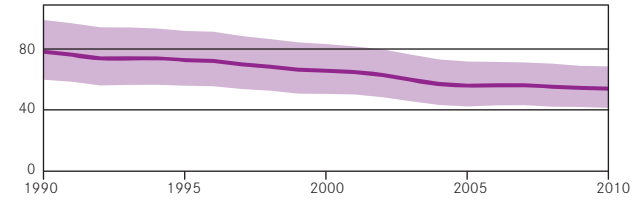
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

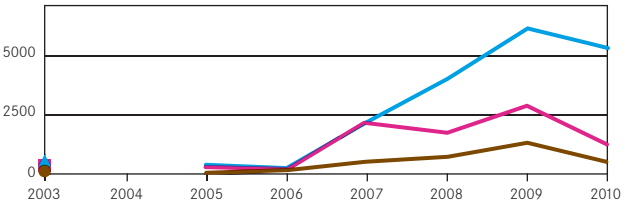
(rate per 100 000 population)



TB/HIV 2010

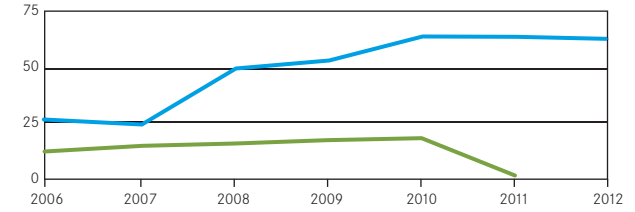
TB patients with known HIV status	28 997
% of TB patients with known HIV status	24
TB patients that are HIV-positive	5 273
% of tested TB patients that are HIV-positive	18
% HIV-positive TB patients started on CPT	24
% HIV-positive TB patients started on ART	9
HIV-positive people screened for TB	3 892
HIV-positive people provided with IPT	

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	64	62
Available funding (US$ millions)	<1	
% of budget funded	1	
% available funding from domestic sources	0	
% available funding from Global Fund	0	

NTP Budget (blue) and available funding (green) (US$ millions)



Data can be downloaded from www.who.int/tb/data

ETHIOPIA

POPULATION 2010 (MILLIONS)	83

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	29 (23–35)	35 (28–42)
Prevalence (incl HIV)	330 (140–520)	394 (173–623)
Incidence (incl HIV)	220 (200–230)	261 (240–282)
Incidence (HIV-positive)		
Case detection, all forms (%)	72 (66–78)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	46 634	(31)	Relapse	2 664	(54)
Smear-negative	52 457	(35)	Treatment after failure	493	(10)
Smear unknown	2 522	(2)	Treatment after default	777	(16)
Extrapulmonary	50 417	(33)	Other	964	(20)
Other	0	(0)			
Total new	152 030		Total retreatment	4 898	
Total < 15 years	3 190				

Total new and relapse	154 694	(99% of total)
Total cases notified	156 928	

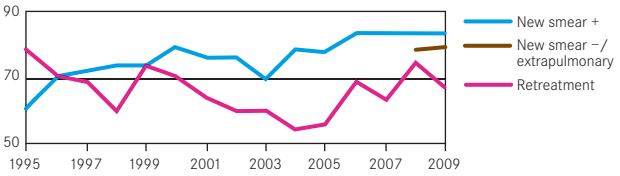
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	100
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	84
New smear-negative/extrapulmonary	80
Retreatment	67

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	1.6 (0.90–2.8)
% of retreatment TB cases with MDR-TB	12 (5.6–21)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	1 600 (910–2 800)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	580 (270–1 000)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB	42	510	558
% of notified tested for MDR-TB	<1	10	<1
Confirmed cases of MDR-TB	19	121	140
MDR-TB patients started treatment			120

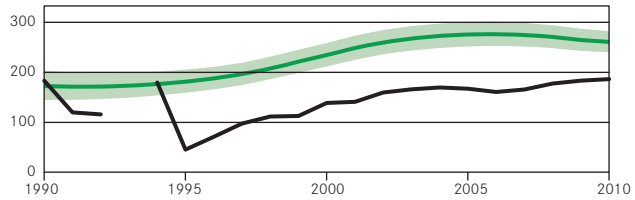
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	1.5	2.3	2.8
Culture (per 5 million population)	0.1	0.1	0.4
DST (per 5 million population)	0.1	0.1	0.1

Second-line DST available	In country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

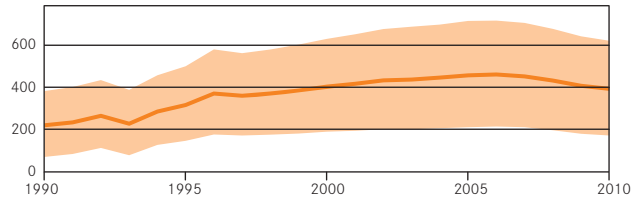
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



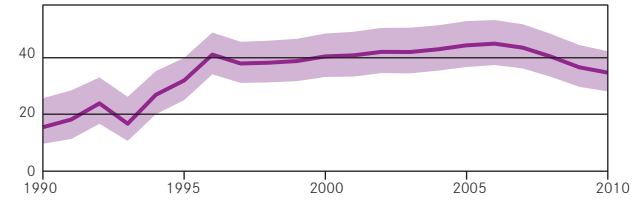
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

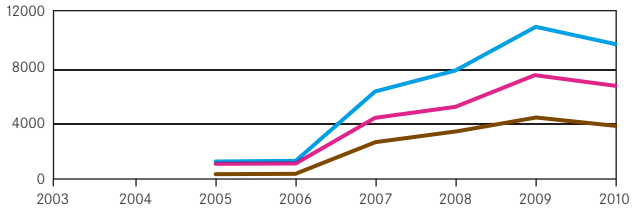
(rate per 100 000 population)



TB/HIV 2010

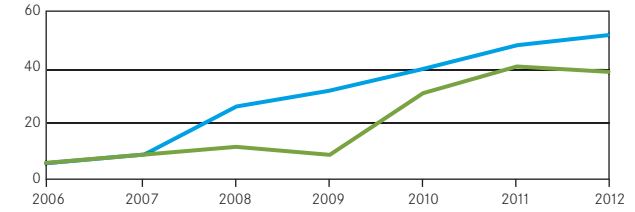
TB patients with known HIV status	66 955
% of TB patients with known HIV status	43
TB patients that are HIV-positive	9 809
% of tested TB patients that are HIV-positive	15
% HIV-positive TB patients started on CPT	69
% HIV-positive TB patients started on ART	39
HIV-positive people screened for TB	43 837
HIV-positive people provided with IPT	6 636

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	49	52
Available funding (US$ millions)	40	38
% of budget funded	83	74
% available funding from domestic sources	20	23
% available funding from Global Fund	40	39

NTP Budget (blue) and available funding (green) (US$ millions)



Data can be downloaded from www.who.int/tb/data

INDIA

POPULATION 2010 (MILLIONS)	1 225

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	320 (210–470)	26 (17–39)
Prevalence (incl HIV)	3 100 (2 000–4 600)	256 (161–373)
Incidence (incl HIV)	2 300 (2 000–2 500)	185 (167–205)
Incidence (HIV-positive)	110 (75–160)	9.2 (6.1–13)
Case detection, all forms (%)	59 (53–65)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	630 165	(51)	Relapse	110 691	(38)
Smear-negative	366 381	(30)	Treatment after failure	18 463	(6)
Smear unknown			Treatment after default	72 110	(25)
Extrapulmonary	231 121	(19)	Other	91 708	(31)
Other	1 508	(<1)			
Total new	1 229 175		Total retreatment	292 972	
Total < 15 years	13 415				

Total new and relapse	1 339 866	(88% of total)
Total cases notified	1 522 147	

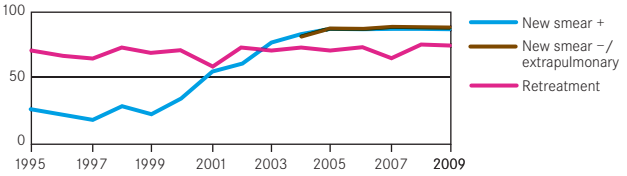
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	0
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	88
New smear-negative/extrapulmonary	90
Retreatment	75

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	2.1 (1.5–2.7)
% of retreatment TB cases with MDR-TB	15 (13–17)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	21 000 (15 000–27 000)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	43 000 (39 000–48 000)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB			
% of notified tested for MDR-TB			
Confirmed cases of MDR-TB			2 967
MDR-TB patients started treatment			2 967

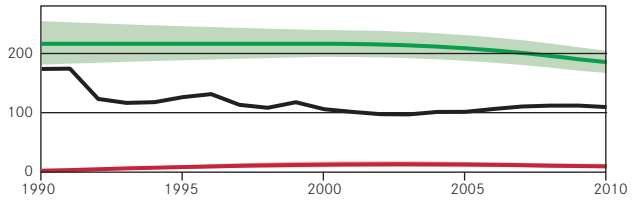
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	1.1	1.1	1.0
Culture (per 5 million population)	<0.1	<0.1	0.1
DST (per 5 million population)	<0.1	<0.1	0.1

Second-line DST available	In country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals. Estimates for India have not yet been officially approved by the Ministry of Health & Family Welfare, Government of India and should therefore be considered provisional.

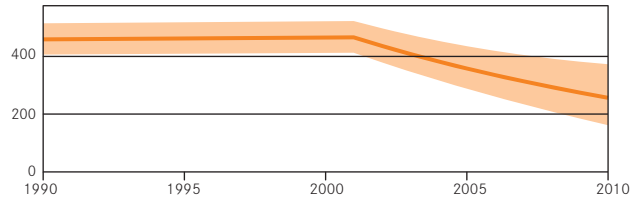
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



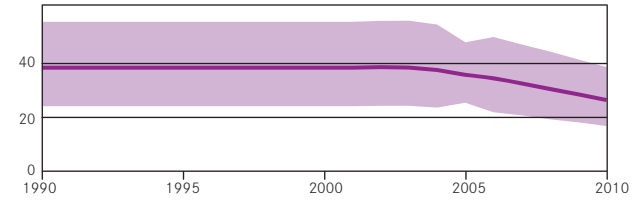
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

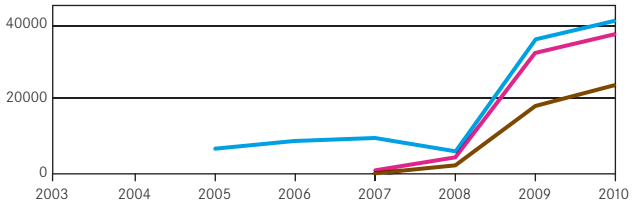
(rate per 100 000 population)



TB/HIV 2010

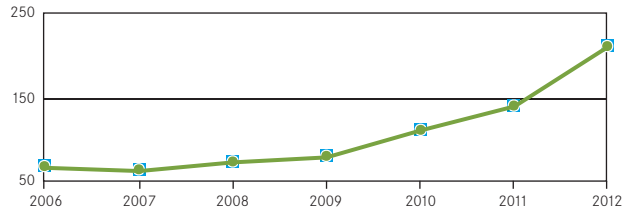
TB patients with known HIV status	480 752
% of TB patients with known HIV status	32
TB patients that are HIV-positive	41 476
% of tested TB patients that are HIV-positive	9
% HIV-positive TB patients started on CPT	90
% HIV-positive TB patients started on ART	57
HIV-positive people screened for TB	199 732
HIV-positive people provided with IPT	

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	139	210
Available funding (US$ millions)	139	210
% of budget funded	100	100
% available funding from domestic sources	44	62
% available funding from Global Fund	49	38

NTP Budget (blue) and available funding (green) (US$ millions)



Data can be downloaded from www.who.int/tb/data

INDONESIA

POPULATION 2010 (MILLIONS)	240

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	64 (42–91)	27 (18–38)
Prevalence (incl HIV)	690 (300–1 200)	289 (123–484)
Incidence (incl HIV)	450 (370–540)	189 (155–226)
Incidence (HIV-positive)	18 (9.9–29)	7.6 (4.1–12)
Case detection, all forms (%)	66 (55–81)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	183 366	(62)	Relapse	4 387	(67)
Smear-negative	101 247	(34)	Treatment after failure	327	(5)
Smear unknown	0	(0)	Treatment after default	862	(13)
Extrapulmonary	11 659	(4)	Other	1 013	(15)
Other	0	(0)			
Total new	296 272		Total retreatment	6 589	
Total < 15 years	28 312				

Total new and relapse	300 659	(99% of total)
Total cases notified	302 861	

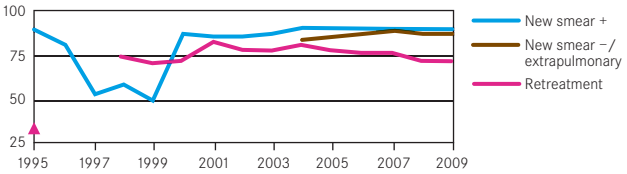
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	100
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	91
New smear-negative/extrapulmonary	87
Retreatment	72

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	1.8 (1.1–2.7)
% of retreatment TB cases with MDR-TB	17 (8.1–26)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	5 100 (3 100–7 700)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	1 100 (530–1 700)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB	0	324	324
% of notified tested for MDR-TB	0	5	<1
Confirmed cases of MDR-TB	0	182	182
MDR-TB patients started treatment			142

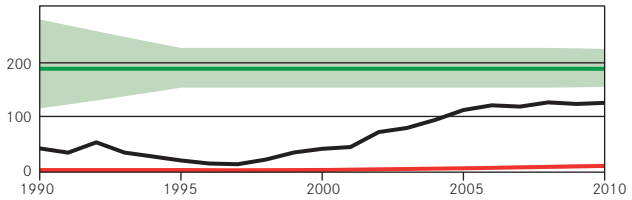
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	2.2	2.1	2.9
Culture (per 5 million population)	0.9	0.9	0.9
DST (per 5 million population)	0.1	0.1	0.2

Second-line DST available	In country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

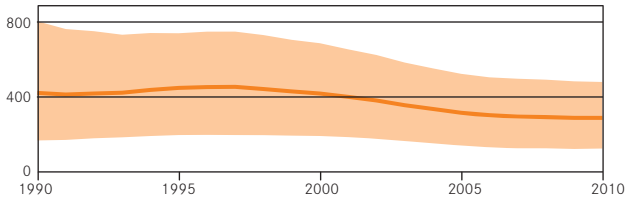
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



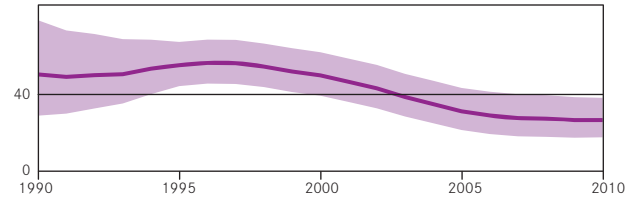
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

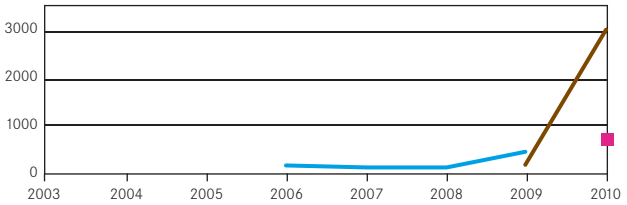
(rate per 100 000 population)



TB/HIV 2010

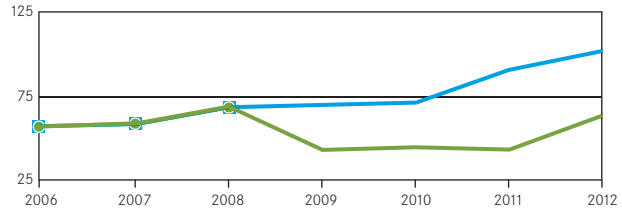
TB patients with known HIV status	
% of TB patients with known HIV status	
TB patients that are HIV-positive	
% of tested TB patients that are HIV-positive	
% HIV-positive TB patients started on CPT	
% HIV-positive TB patients started on ART	
HIV-positive people screened for TB	3 217
HIV-positive people provided with IPT	

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	91	102
Available funding (US$ millions)	43	63
% of budget funded	48	62
% available funding from domestic sources	31	26
% available funding from Global Fund	68	74

NTP Budget (blue) and available funding (green) (US$ millions)



KENYA

POPULATION 2010 (MILLIONS)	41

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	6.9 (4.9–9.4)	17 (12–23)
Prevalence (incl HIV)	110 (49–180)	283 (122–448)
Incidence (incl HIV)	120 (120–130)	298 (286–311)
Incidence (HIV-positive)	50 (45–55)	122 (110–135)
Case detection, all forms (%)	82 (79–86)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	36 260	(38)	Relapse	3 668	(35)
Smear-negative	31 842	(33)	Treatment after failure	245	(2)
Smear unknown	10 120	(11)	Treatment after default	1 502	(14)
Extrapulmonary	17 382	(18)	Other	5 064	(48)
Other	0	(0)			
Total new	95 604		Total retreatment	10 479	
Total < 15 years	5 721				

Total new and relapse	99 272	(94% of total)
Total cases notified	106 083	

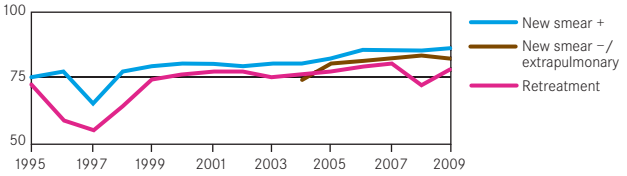
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	100
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	86
New smear-negative/extrapulmonary	82
Retreatment	78

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	0.0 (0.0–0.70)
% of retreatment TB cases with MDR-TB	0.0 (0.0–6.3)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	0 (0–550)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	0 (0–660)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB		706	817
% of notified tested for MDR-TB		7	<1
Confirmed cases of MDR-TB		103	112
MDR-TB patients started treatment			118

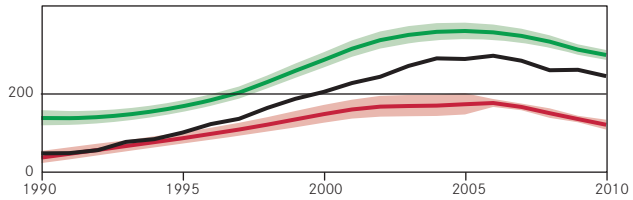
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	3.0	3.3	3.2
Culture (per 5 million population)	0.8	0.7	0.7
DST (per 5 million population)	0.5	0.5	0.6

Second-line DST available	Outside country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

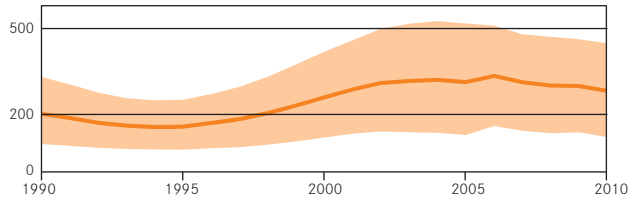
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



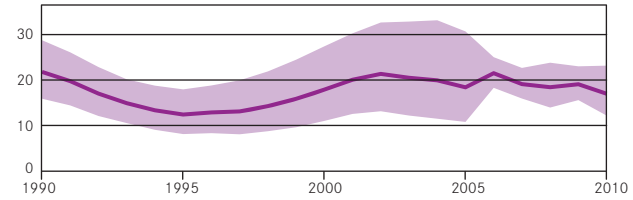
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

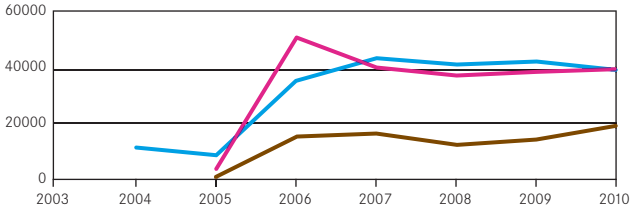
(rate per 100 000 population)



TB/HIV 2010

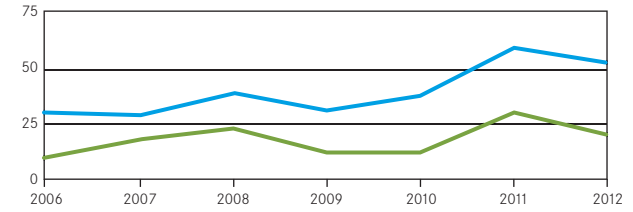
TB patients with known HIV status	96 930
% of TB patients with known HIV status	91
TB patients that are HIV-positive	40 069
% of tested TB patients that are HIV-positive	41
% HIV-positive TB patients started on CPT	100
% HIV-positive TB patients started on ART	48
HIV-positive people screened for TB	
HIV-positive people provided with IPT	

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	59	53
Available funding (US$ millions)	30	20
% of budget funded	51	38
% available funding from domestic sources	37	39
% available funding from Global Fund	49	59

NTP Budget (blue) and available funding (green) (US$ millions)



Data can be downloaded from www.who.int/tb/data

MOZAMBIQUE

POPULATION 2010 (MILLIONS)	23

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	11 (7–17)	49 (30–74)
Prevalence (incl HIV)	110 (54–200)	491 (233–844)
Incidence (incl HIV)	130 (87–170)	544 (374–746)
Incidence (HIV-positive)	77 (53–110)	330 (228–449)
Case detection, all forms (%)	34 (25–50)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	20 097	(48)	Relapse	1 432	(35)
Smear-negative	16 408	(39)	Treatment after failure	234	(6)
Smear unknown	0	(0)	Treatment after default	235	(6)
Extrapulmonary	5 621	(13)	Other	2 147	(53)
Other	0	(0)			
Total new	42 126		Total retreatment	4 048	
Total < 15 years					

Total new and relapse	43 558	(94% of total)
Total cases notified	46 174	

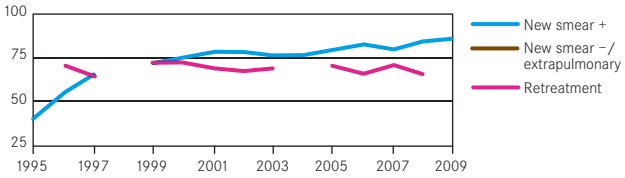
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	95
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	85
New smear-negative/extrapulmonary	
Retreatment	

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	3.5 (2.2–4.8)
% of retreatment TB cases with MDR-TB	11 (0.0–25)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	1 300 (800–1 800)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	450 (0–1 000)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB	80	251	365
% of notified tested for MDR-TB	<1	6	<1
Confirmed cases of MDR-TB	18	130	165
MDR-TB patients started treatment			87

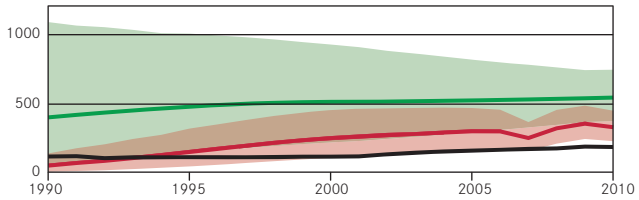
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	1.9	1.9	1.8
Culture (per 5 million population)	0.2	0.4	0.6
DST (per 5 million population)	0.2	0.4	0.6

Second-line DST available	Outside country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

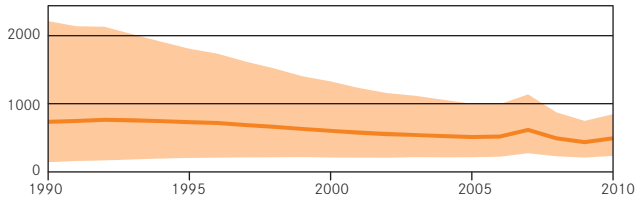
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



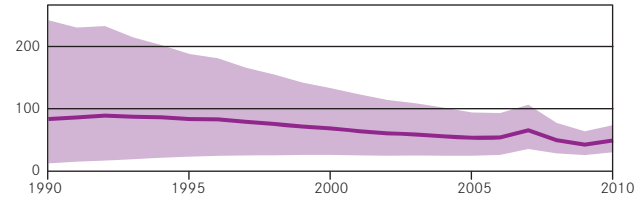
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

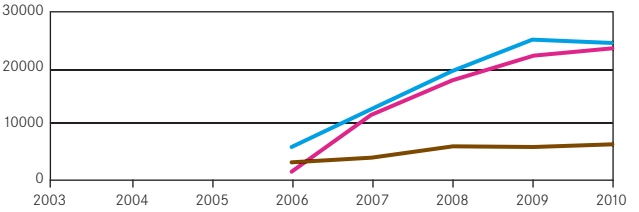
(rate per 100 000 population)



TB/HIV 2010

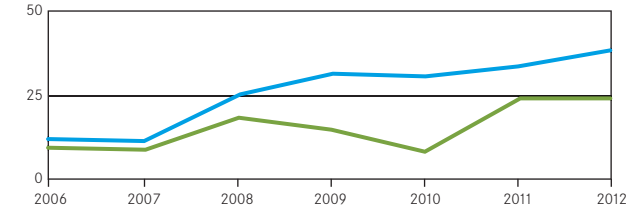
TB patients with known HIV status	40 554
% of TB patients with known HIV status	88
TB patients that are HIV-positive	24 574
% of tested TB patients that are HIV-positive	61
% HIV-positive TB patients started on CPT	97
% HIV-positive TB patients started on ART	25
HIV-positive people screened for TB	433
HIV-positive people provided with IPT	8 904

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	34	39
Available funding (US$ millions)	24	24
% of budget funded	71	62
% available funding from domestic sources	11	11
% available funding from Global Fund	0	12

NTP Budget (blue) and available funding (green) (US$ millions)



MYANMAR

POPULATION 2010 (MILLIONS)	48

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	20 (12–31)	41 (25–64)
Prevalence (incl HIV)	250 (180–310)	525 (381–643)
Incidence (incl HIV)	180 (160–210)	384 (329–443)
Incidence (HIV-positive)	37 (21–57)	77 (43–120)
Case detection, all forms (%)	71 (62–84)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	42 318	(33)	Relapse	4 456	(43)
Smear-negative	56 840	(45)	Treatment after failure	1 495	(15)
Smear unknown			Treatment after default	514	(5)
Extrapulmonary	27 976	(22)	Other	3 804	(37)
Other					
Total new	127 134		Total retreatment	10 269	
Total < 15 years	302				

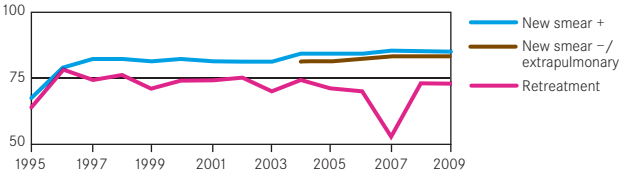
Total new and relapse	131 590	(96% of total)
Total cases notified	137 403	

DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	100
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)	
New smear-positive	85
New smear-negative/extrapulmonary	83
Retreatment	73

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	4.2 (3.1–5.6)
% of retreatment TB cases with MDR-TB	10 (6.9–14)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	4 200 (3 100–5 600)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	1 000 (710–1 400)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB			
% of notified tested for MDR-TB			
Confirmed cases of MDR-TB			192
MDR-TB patients started treatment			192

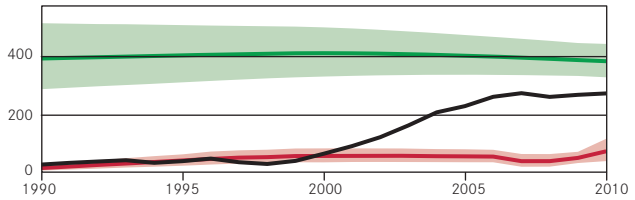
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	0.9	0.9	0.9
Culture (per 5 million population)	0.2	0.2	0.3
DST (per 5 million population)	0.2	0.2	0.2

Second-line DST available	Outside country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

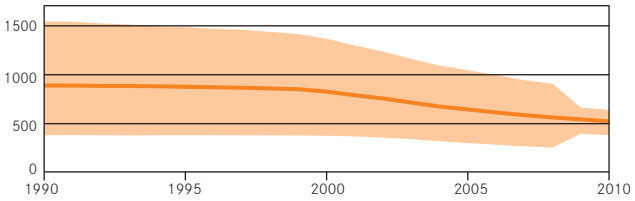
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



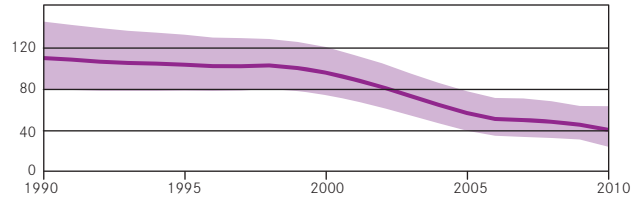
PREVALENCE

(rate per 100 000 population)



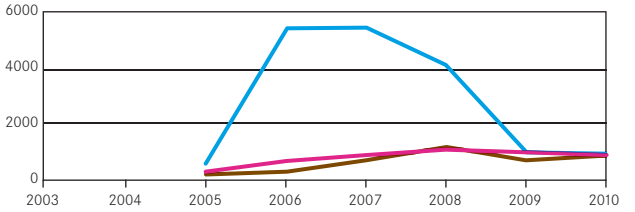
MORTALITY EXCLUDING HIV

(rate per 100 000 population)



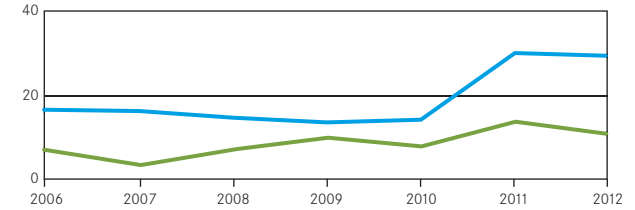
TB/HIV 2010	
TB patients with known HIV status	4 362
% of TB patients with known HIV status	3
TB patients that are HIV-positive	961
% of tested TB patients that are HIV-positive	22
% HIV-positive TB patients started on CPT	100
% HIV-positive TB patients started on ART	94
HIV-positive people screened for TB	6 417
HIV-positive people provided with IPT	514

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	31	29
Available funding (US$ millions)	14	11
% of budget funded	45	37
% available funding from domestic sources	4	6
% available funding from Global Fund	46	75

NTP Budget (blue) and available funding (green) (US$ millions)



Data can be downloaded from www.who.int/tb/data

NIGERIA

POPULATION 2010 (MILLIONS)	158

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	33 (11–68)	21 (7.2–43)
Prevalence (incl HIV)	320 (110–690)	199 (70–438)
Incidence (incl HIV)	210 (99–360)	133 (63–228)
Incidence (HIV-positive)	51 (25–87)	32 (16–55)
Case detection, all forms (%)	40 (23–85)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	45 416	(56)	Relapse	2 667	(30)
Smear-negative	32 616	(40)	Treatment after failure	748	(8)
Smear unknown	0	(0)	Treatment after default	1 650	(18)
Extrapulmonary	3 422	(4)	Other	3 928	(44)
Other	0	(0)			
Total new	81 454		Total retreatment	8 993	
Total < 15 years	1 116				

Total new and relapse	84 121	(93% of total)
Total cases notified	90 447	

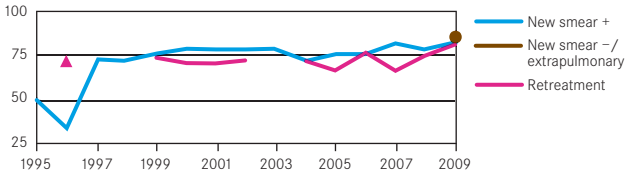
DRUG REGIMENS

Rifampicin used throughout treatment	No
% of patients treated with fixed-dose combinations (FDCs)	100
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	83
New smear-negative/extrapulmonary	85
Retreatment	81

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	2.2 (0.10–5.3)
% of retreatment TB cases with MDR-TB	9.4 (1.9–17)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	1 700 (78–4 100)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	850 (170–1 500)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB	27	19	55
% of notified tested for MDR-TB	<1	<1	<1
Confirmed cases of MDR-TB	8	11	21
MDR-TB patients started treatment			23

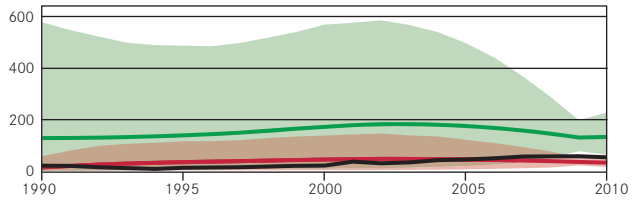
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	0.7	0.6	0.9
Culture (per 5 million population)	0.1	0.2	0.2
DST (per 5 million population)	<0.1	0.1	0.2

Second-line DST available	Outside country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

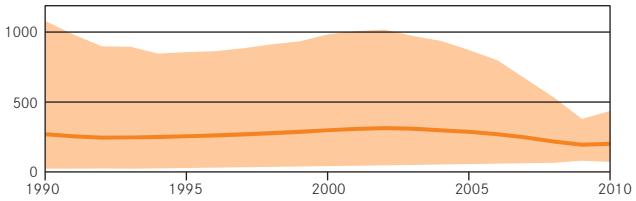
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



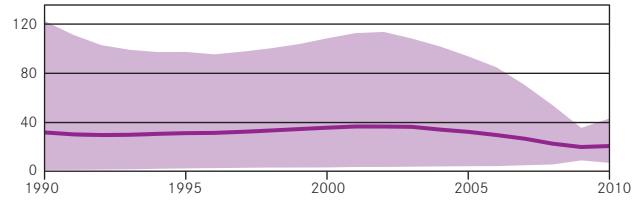
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

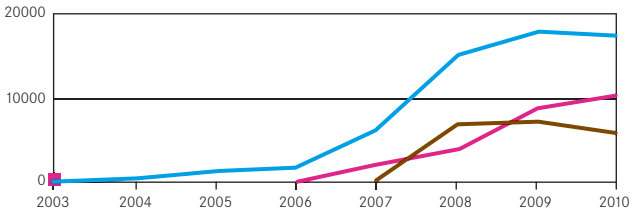
(rate per 100 000 population)



TB/HIV 2010

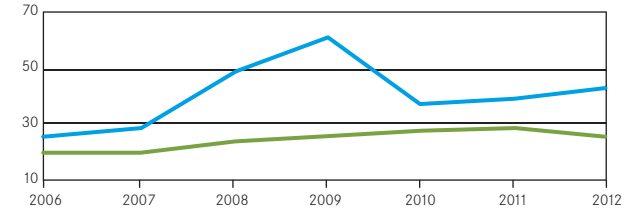
TB patients with known HIV status	71 844
% of TB patients with known HIV status	79
TB patients that are HIV-positive	17 736
% of tested TB patients that are HIV-positive	25
% HIV-positive TB patients started on CPT	59
% HIV-positive TB patients started on ART	33
HIV-positive people screened for TB	57 082
HIV-positive people provided with IPT	1 750

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	39	43
Available funding (US$ millions)	28	26
% of budget funded	73	61
% available funding from domestic sources	21	25
% available funding from Global Fund	54	48

NTP Budget (blue) and available funding (green) (US$ millions)



PAKISTAN

POPULATION 2010 (MILLIONS)	174

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	58 (39–84)	34 (22–49)
Prevalence (incl HIV)	630 (270–1 100)	364 (154–611)
Incidence (incl HIV)	400 (330–480)	231 (189–277)
Incidence (HIV-positive)	1.2 (0.66–1.9)	0.69 (0.38–1.1)
Case detection, all forms (%)	65 (54–79)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	104 263	(41)	Relapse	5 870	(54)
Smear-negative	105 623	(41)	Treatment after failure	1 003	(9)
Smear unknown	0	(0)	Treatment after default	1 527	(14)
Extrapulmonary	45 443	(18)	Other	2 525	(23)
Other	0	(0)			
Total new	255 329		Total retreatment	10 925	
Total < 15 years	24 474				

Total new and relapse	261 199	(97% of total)
Total cases notified	269 290	

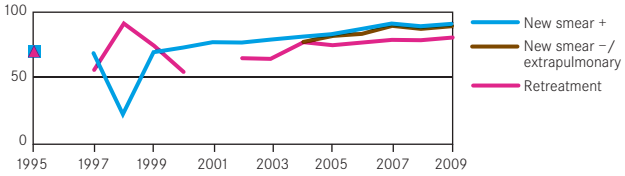
DRUG REGIMENS

Rifampicin used throughout treatment	No
% of patients treated with fixed-dose combinations (FDCs)	100
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	91
New smear-negative/extrapulmonary	90
Retreatment	82

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	3.4 (0.80–6.0)
% of retreatment TB cases with MDR-TB	21 (7.3–34)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	7 100 (1 700–13 000)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	2 300 (800–3 700)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB	9	306	444
% of notified tested for MDR-TB	<1	3	<1
Confirmed cases of MDR-TB	9	306	444
MDR-TB patients started treatment			424

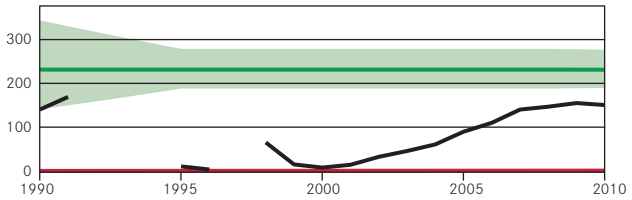
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	0.7	0.7	0.7
Culture (per 5 million population)	0.4	0.4	0.4
DST (per 5 million population)	0.3	0.3	0.3

Second-line DST available	In country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

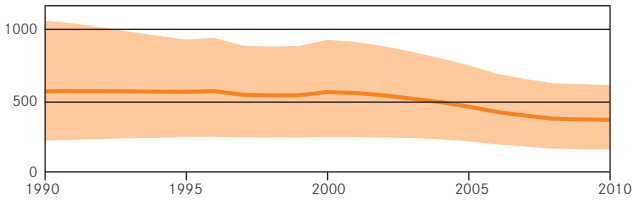
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



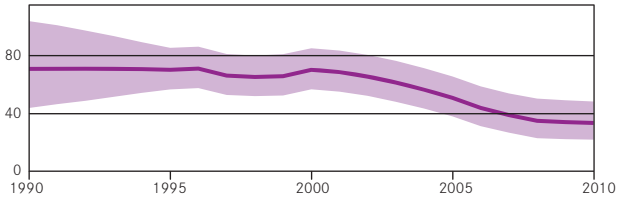
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

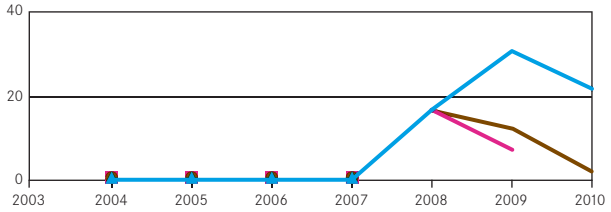
(rate per 100 000 population)



TB/HIV 2010

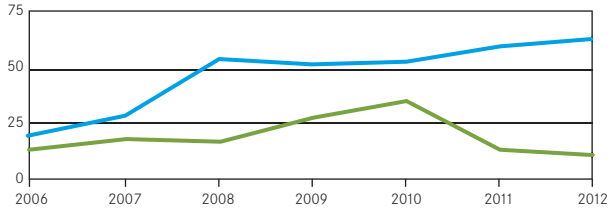
TB patients with known HIV status	6 289
% of TB patients with known HIV status	2
TB patients that are HIV-positive	22
% of tested TB patients that are HIV-positive	<1
% HIV-positive TB patients started on CPT	
% HIV-positive TB patients started on ART	9
HIV-positive people screened for TB	
HIV-positive people provided with IPT	

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	60	64
Available funding (US$ millions)	13	11
% of budget funded	22	18
% available funding from domestic sources	34	25
% available funding from Global Fund	41	50

NTP Budget (blue) and available funding (green) (US$ millions)



Data can be downloaded from www.who.int/tb/data

PHILIPPINES

POPULATION 2010 (MILLIONS)	93

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	31 (21–43)	33 (22–46)
Prevalence (incl HIV)	470 (410–530)	502 (438–566)
Incidence (incl HIV)	260 (210–310)	275 (226–329)
Incidence (HIV-positive)	1 (0.51–1.8)	1.1 (0.55–1.9)
Case detection, all forms (%)	65 (54–79)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	89 198	(55)	Relapse	3 075	(28)
Smear-negative	72 440	(44)	Treatment after failure	566	(5)
Smear unknown	0	(0)	Treatment after default	914	(8)
Extrapulmonary	1 610	(<1)	Other	6 586	(59)
Other	0	(0)			
Total new	163 248		Total retreatment	11 141	
Total < 15 years	965				

Total new and relapse	166 323	(95% of total)
Total cases notified	174 389	

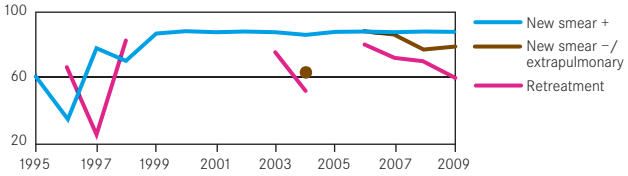
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	100
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	89
New smear-negative/extrapulmonary	79
Retreatment	61

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	4.0 (2.9–5.5)
% of retreatment TB cases with MDR-TB	21 (14–29)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	6 500 (4 700–8 900)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	2 300 (1 600–3 200)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB	3	297	300
% of notified tested for MDR-TB	<1	3	<1
Confirmed cases of MDR-TB	2	232	522
MDR-TB patients started treatment			548

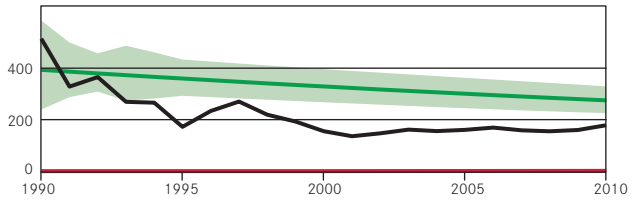
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	2.2	2.1	2.1
Culture (per 5 million population)	0.5	0.4	1.4
DST (per 5 million population)	0.2	0.1	0.2

Second-line DST available	In country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

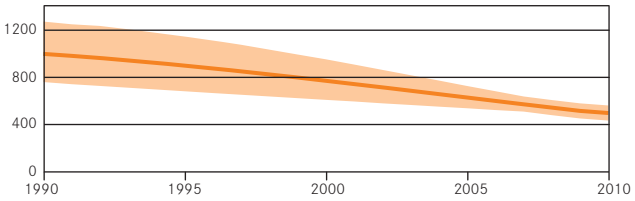
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



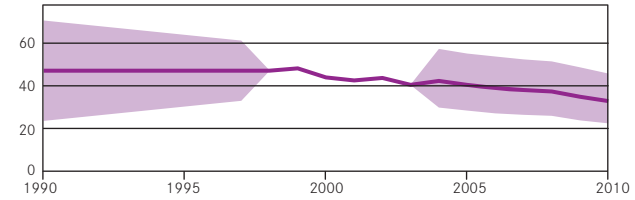
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

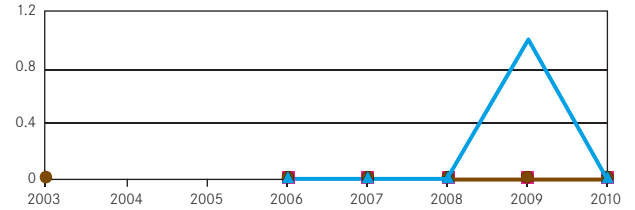
(rate per 100 000 population)



TB/HIV 2010

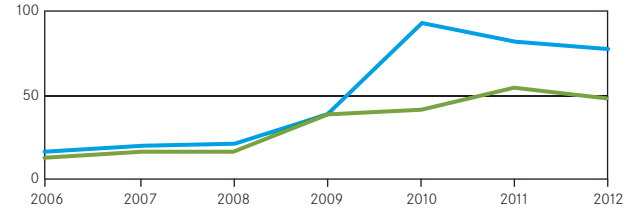
TB patients with known HIV status	1 356
% of TB patients with known HIV status	<1
TB patients that are HIV-positive	0
% of tested TB patients that are HIV-positive	0
% HIV-positive TB patients started on CPT	
% HIV-positive TB patients started on ART	
HIV-positive people screened for TB	119
HIV-positive people provided with IPT	16

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	81	79
Available funding (US$ millions)	55	48
% of budget funded	67	60
% available funding from domestic sources	55	51
% available funding from Global Fund	42	49

NTP Budget (blue) and available funding (green) (US$ millions)



RUSSIAN FEDERATION

POPULATION 2010 (MILLIONS)	143

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	26 (16–42)	18 (11–29)
Prevalence (incl HIV)	190 (70–330)	136 (49–233)
Incidence (incl HIV)	150 (130–180)	106 (90–124)
Incidence (HIV-positive)	8.1 (6.8–9.4)	5.7 (4.8–6.6)
Case detection, all forms (%)	78 (67–93)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	31 416	(29)	Relapse	8 737	(19)
Smear-negative	66 595	(61)	Treatment after failure	8 197	(18)
Smear unknown	1 299	(1)	Treatment after default	2 897	(6)
Extrapulmonary	3 513	(3)	Other	26 149	(57)
Other	7 081	(6)			
Total new	109 904		Total retreatment	45 980	
Total < 15 years	831				

Total new and relapse	118 641	(73% of total)
Total cases notified	162 553	

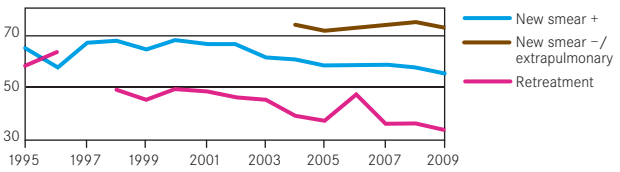
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	
Paediatric formulations procured	No

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	55
New smear-negative/extrapulmonary	73
Retreatment	34

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	18 (16–19)
% of retreatment TB cases with MDR-TB	46 (41–52)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	19 000 (17 000–20 000)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	21 000 (19 000–24 000)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB	35 862	13 405	49 267
% of notified tested for MDR-TB	33	29	30
Confirmed cases of MDR-TB	6 218	6 169	13 692
MDR-TB patients started treatment			13 692

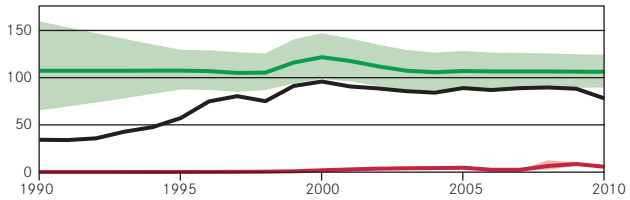
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	2.8	2.8	
Culture (per 5 million population)	13.9	13.9	
DST (per 5 million population)	9.5	9.5	

Second-line DST available	In country
National Reference Laboratory	No

[a] Ranges represent uncertainty intervals.

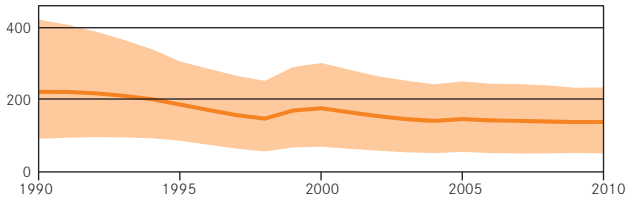
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



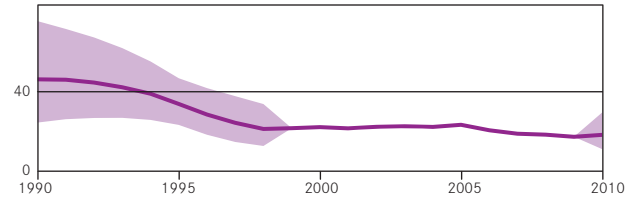
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

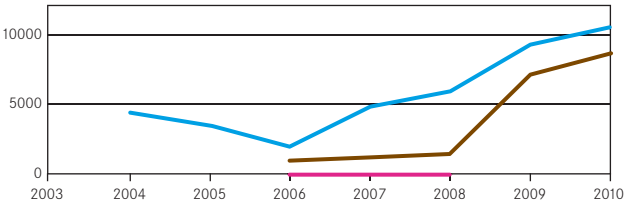
(rate per 100 000 population)



TB/HIV 2010

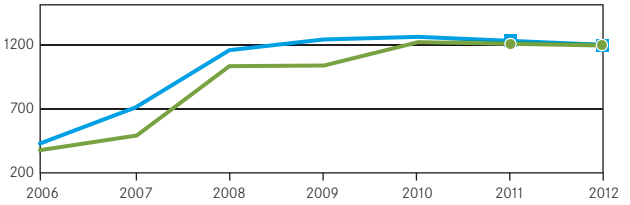
TB patients with known HIV status	199 445
% of TB patients with known HIV status	123
TB patients that are HIV-positive	10 617
% of tested TB patients that are HIV-positive	5
% HIV-positive TB patients started on CPT	
% HIV-positive TB patients started on ART	82
HIV-positive people screened for TB	
HIV-positive people provided with IPT	

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	1 216	1 204
Available funding (US$ millions)	1 216	1 204
% of budget funded	100	100
% available funding from domestic sources	100	100
% available funding from Global Fund	0	0

NTP Budget (blue) and available funding (green) (US$ millions)



Data can be downloaded from www.who.int/tb/data

SOUTH AFRICA

POPULATION 2010 (MILLIONS)	50

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	25 (16–38)	50 (31–75)
Prevalence (incl HIV)	400 (180–630)	795 (364–1 264)
Incidence (incl HIV)	490 (400–590)	981 (806–1 173)
Incidence (HIV-positive)	300 (240–350)	591 (488–704)
Case detection, all forms (%)	72 (60–88)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	132 107	(39)	Relapse	18 812	(31)
Smear-negative	64 692	(19)	Treatment after failure	2 671	(4)
Smear unknown	87 080	(26)	Treatment after default	4 921	(8)
Extrapulmonary	52 095	(16)	Other	34 176	(56)
Other	0	(0)			
Total new	335 974		Total retreatment	60 580	
Total < 15 years	50 474				

Total new and relapse	354 786	(89% of total)
Total cases notified	396 554	

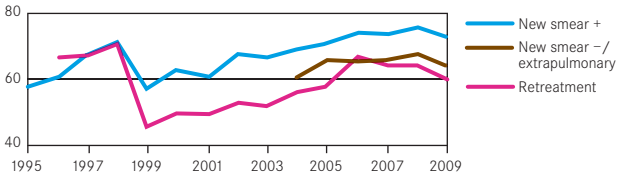
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	100
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	73
New smear-negative/extrapulmonary	64
Retreatment	60

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	1.8 (1.4–2.3)
% of retreatment TB cases with MDR-TB	6.7 (5.4–8.2)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	5 100 (4 000–6 500)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	4 100 (3 300–5 000)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB			92 300
% of notified tested for MDR-TB			23
Confirmed cases of MDR-TB			7 386
MDR-TB patients started treatment			5 402

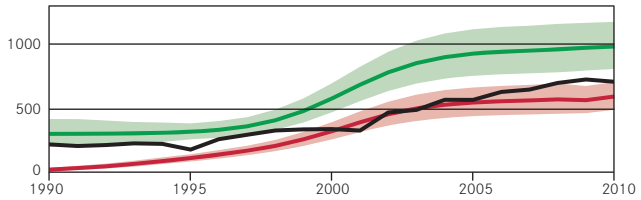
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	0.5	0.5	0.5
Culture (per 5 million population)	1.6	1.5	1.5
DST (per 5 million population)	1.6	1.5	1.5

Second-line DST available	In country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

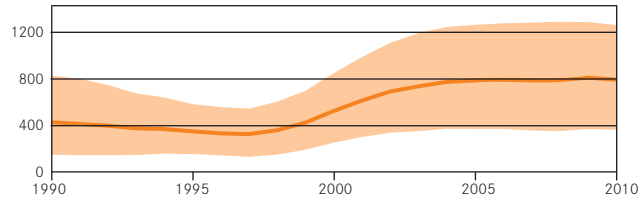
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



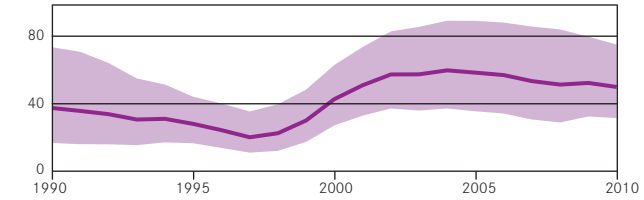
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

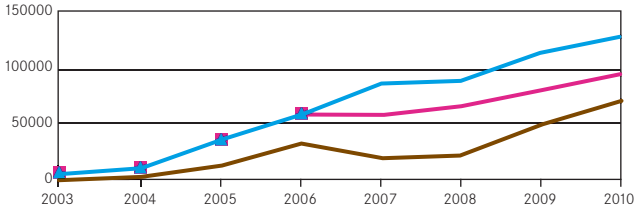
(rate per 100 000 population)



TB/HIV 2010

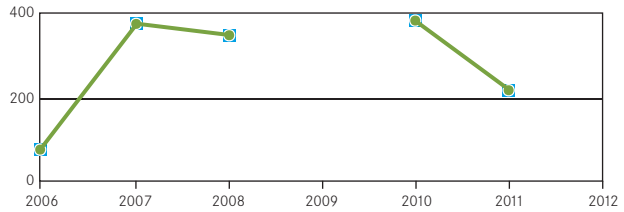
TB patients with known HIV status	213 006
% of TB patients with known HIV status	54
TB patients that are HIV-positive	128 457
% of tested TB patients that are HIV-positive	60
% HIV-positive TB patients started on CPT	74
% HIV-positive TB patients started on ART	54
HIV-positive people screened for TB	758 837
HIV-positive people provided with IPT	124 049

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	218	
Available funding (US$ millions)	218	
% of budget funded	100	
% available funding from domestic sources	100	
% available funding from Global Fund	0	

NTP Budget (blue) and available funding (green) (US$ millions)



Data can be downloaded from www.who.int/tb/data

THAILAND

POPULATION 2010 (MILLIONS)	69

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	11 (7–16)	16 (10–23)
Prevalence (incl HIV)	130 (55–210)	182 (80–300)
Incidence (incl HIV)	94 (78–110)	137 (112–163)
Incidence (HIV-positive)	15 (13–18)	22 (18–27)
Case detection, all forms (%)	70 (59–85)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	33 450	(52)	Relapse	1 885	(63)
Smear-negative	20 927	(32)	Treatment after failure	459	(15)
Smear unknown			Treatment after default	652	(22)
Extrapulmonary	10 135	(16)	Other	0	(0)
Other	0	(0)			
Total new	64 512		Total retreatment	2 996	
Total < 15 years	137				

Total new and relapse	66 397	(97% of total)
Total cases notified	68 239	

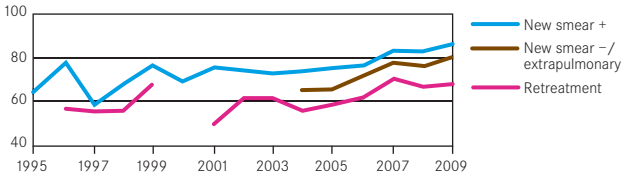
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	25
Paediatric formulations procured	No

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	86
New smear-negative/extrapulmonary	80
Retreatment	68

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	1.7 (1.0–2.6)
% of retreatment TB cases with MDR-TB	35 (28–42)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	920 (540–1 400)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	1 000 (840–1 200)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB			
% of notified tested for MDR-TB			
Confirmed cases of MDR-TB			
MDR-TB patients started treatment			9

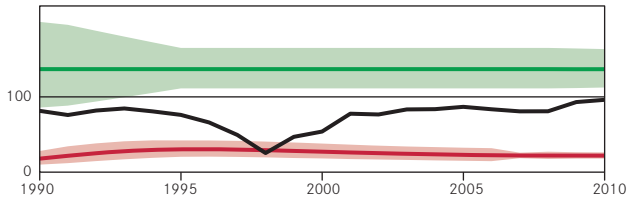
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	1.6	1.6	1.6
Culture (per 5 million population)	4.7	4.7	4.7
DST (per 5 million population)	1.1	1.1	1.2

Second-line DST available	In country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

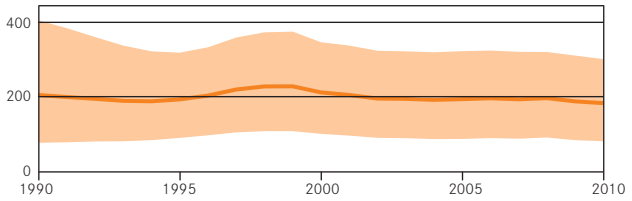
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



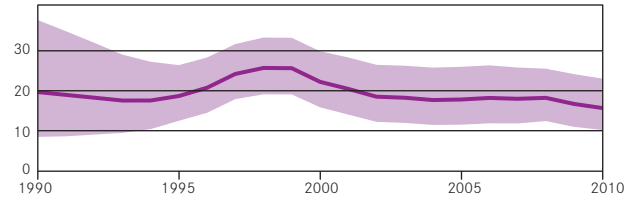
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

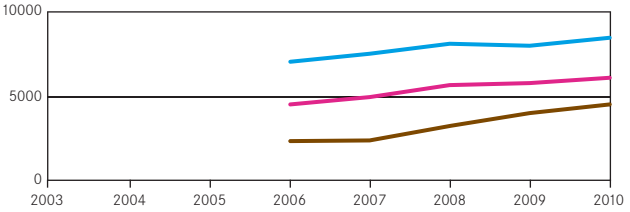
(rate per 100 000 population)



TB/HIV 2010

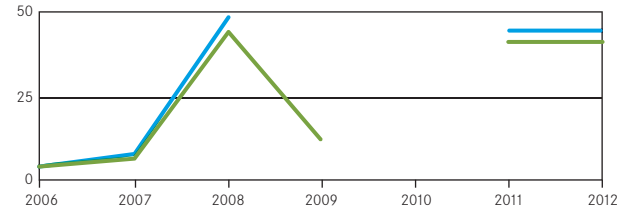
TB patients with known HIV status	52 753
% of TB patients with known HIV status	77
TB patients that are HIV-positive	8 544
% of tested TB patients that are HIV-positive	16
% HIV-positive TB patients started on CPT	71
% HIV-positive TB patients started on ART	53
HIV-positive people screened for TB	25 278
HIV-positive people provided with IPT	

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	45	45
Available funding (US$ millions)	42	42
% of budget funded	92	92
% available funding from domestic sources	81	81
% available funding from Global Fund	8	8

NTP Budget (blue) and available funding (green) (US$ millions)



Data can be downloaded from www.who.int/tb/data

UGANDA

POPULATION 2010 (MILLIONS)	33

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	5.1 (3.3–7.3)	15 (9.9–22)
Prevalence (incl HIV)	64 (32–100)	193 (95–306)
Incidence (incl HIV)	70 (56–85)	209 (168–254)
Incidence (HIV-positive)	38 (30–46)	112 (91–136)
Case detection, all forms (%)	61 (51–76)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	23 456	(56)	Relapse	1 291	(33)
Smear-negative	11 609	(28)	Treatment after failure	264	(7)
Smear unknown	1 958	(5)	Treatment after default	1 209	(31)
Extrapulmonary	4 571	(11)	Other	1 188	(30)
Other	0	(0)			
Total new	41 594		Total retreatment	3 952	
Total < 15 years	669				

Total new and relapse	42 885	(94% of total)
Total cases notified	45 546	

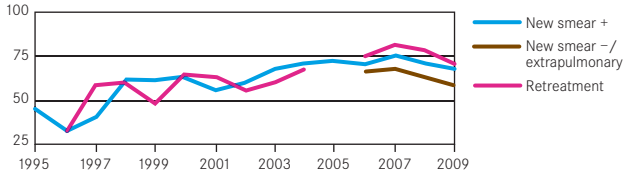
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	100
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	67
New smear-negative/extrapulmonary	59
Retreatment	70

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	1.1 (0.30–2.5)
% of retreatment TB cases with MDR-TB	12 (4.8–23)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	410 (110–930)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	46 (190–890)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB	358	356	1 623
% of notified tested for MDR-TB	<1	9	4
Confirmed cases of MDR-TB	15	37	93
MDR-TB patients started treatment			10

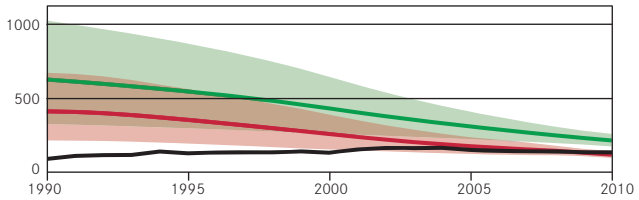
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	2.6	2.9	2.8
Culture (per 5 million population)	0.9	1.2	1.2
DST (per 5 million population)	0.6	0.6	0.6

Second-line DST available	In country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

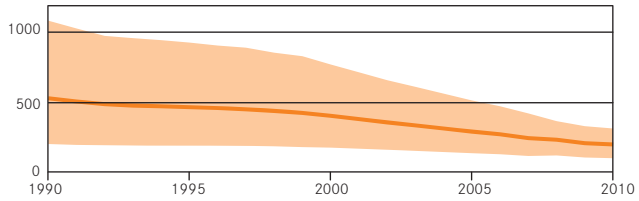
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



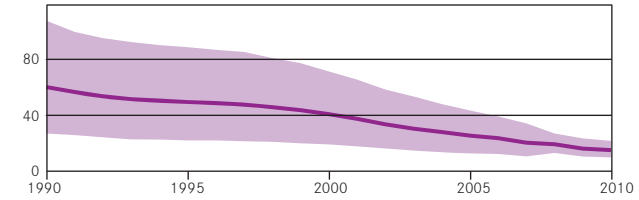
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

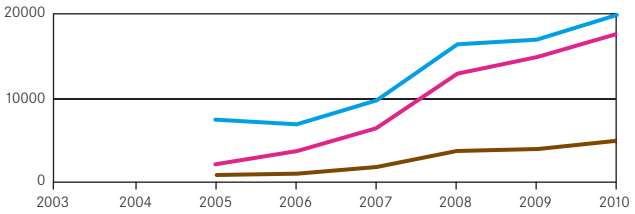
(rate per 100 000 population)



TB/HIV 2010

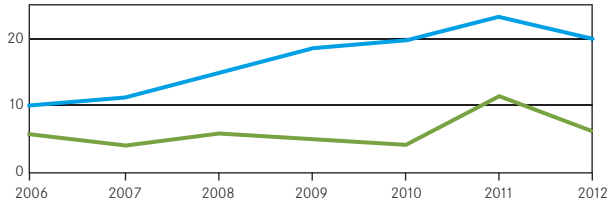
TB patients with known HIV status	36 724
% of TB patients with known HIV status	81
TB patients that are HIV-positive	19 836
% of tested TB patients that are HIV-positive	54
% HIV-positive TB patients started on CPT	90
% HIV-positive TB patients started on ART	24
HIV-positive people screened for TB	401 973
HIV-positive people provided with IPT	

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	23	20
Available funding (US$ millions)	11	6
% of budget funded	48	31
% available funding from domestic sources	3	5
% available funding from Global Fund	76	56

NTP Budget (blue) and available funding (green) (US$ millions)



Data can be downloaded from www.who.int/tb/data

UNITED REPUBLIC OF TANZANIA

POPULATION 2010 (MILLIONS)	45

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	5.8 (4.7–6.9)	13 (11–15)
Prevalence (incl HIV)	82 (39–130)	183 (87–281)
Incidence (incl HIV)	79 (75–85)	177 (166–189)
Incidence (HIV-positive)	30 (28–32)	67 (62–71)
Case detection, all forms (%)	77 (72–82)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	24 769	(42)	Relapse	1 430	(38)
Smear-negative	21 184	(36)	Treatment after failure	96	(3)
Smear unknown	0	(0)	Treatment after default	255	(7)
Extrapulmonary	13 715	(23)	Other	2 004	(53)
Other					
Total new	59 668		Total retreatment	3 785	
Total < 15 years	5 216				

Total new and relapse	61 098	(96% of total)
Total cases notified	63 453	

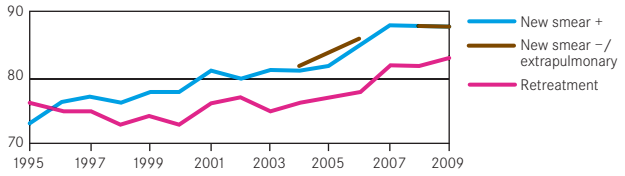
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	100
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	88
New smear-negative/extrapulmonary	88
Retreatment	83

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	1.1 (0.30–2.8)
% of retreatment TB cases with MDR-TB	0.0 (0.0–5.9)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	510 (140–1 300)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	0 (0–220)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB	201	246	474
% of notified tested for MDR-TB	<1	6	<1
Confirmed cases of MDR-TB	9	22	34
MDR-TB patients started treatment			17

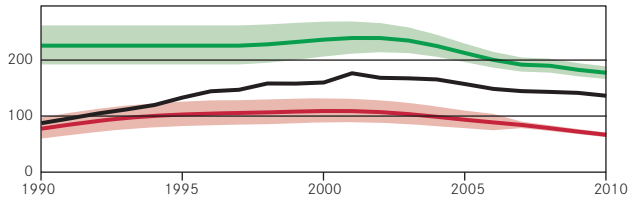
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	1.6	1.6	1.6
Culture (per 5 million population)	0.1	0.4	0.8
DST (per 5 million population)	0.1	0.2	0.3

Second-line DST available	In and outside country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

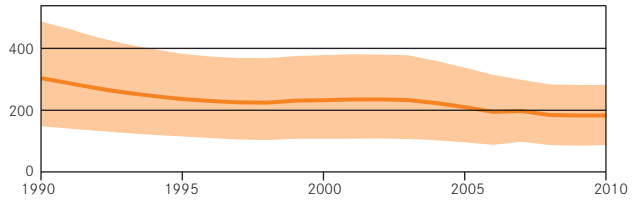
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



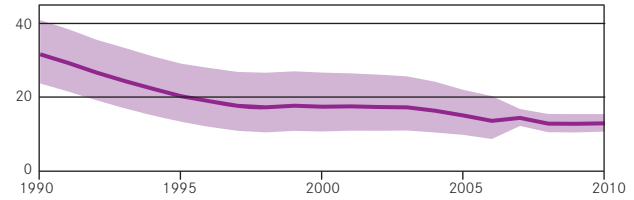
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

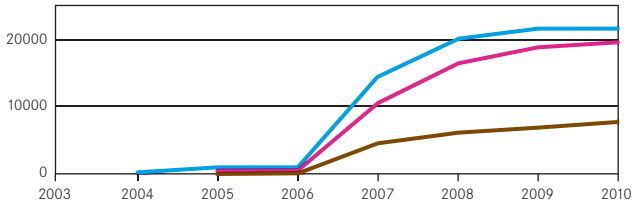
(rate per 100 000 population)



TB/HIV 2010

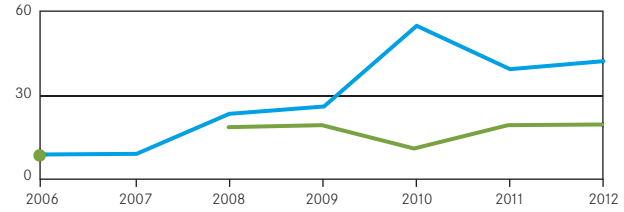
TB patients with known HIV status	56 849
% of TB patients with known HIV status	90
TB patients that are HIV-positive	21 662
% of tested TB patients that are HIV-positive	38
% HIV-positive TB patients started on CPT	92
% HIV-positive TB patients started on ART	35
HIV-positive people screened for TB	321 436
HIV-positive people provided with IPT	

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	39	42
Available funding (US$ millions)	19	19
% of budget funded	48	46
% available funding from domestic sources	36	38
% available funding from Global Fund	30	27

NTP Budget (blue) and available funding (green) (US$ millions)



Data can be downloaded from www.who.int/tb/data

VIET NAM

POPULATION 2010 (MILLIONS)	88

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	29 (19–43)	34 (21–49)
Prevalence (incl HIV)	290 (130–510)	334 (147–576)
Incidence (incl HIV)	180 (130–220)	199 (152–253)
Incidence (HIV-positive)	7.6 (4.6–11)	8.6 (5.2–13)
Case detection, all forms (%)	54 (43–71)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	52 145	(59)	Relapse	6 834	(81)
Smear-negative	18 237	(21)	Treatment after failure	595	(7)
Smear unknown	0	(0)	Treatment after default	385	(5)
Extrapulmonary	17 651	(20)	Other	594	(7)
Other	0	(0)			
Total new	88 033		Total retreatment	8 408	
Total < 15 years	112				

Total new and relapse	94 867	(96% of total)
Total cases notified	99 022	

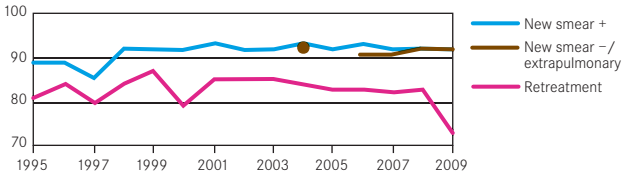
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	100
Paediatric formulations procured	No

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	92
New smear-negative/extrapulmonary	92
Retreatment	73

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	2.7 (2.0–3.7)
% of retreatment TB cases with MDR-TB	19 (14–25)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	1 900 (1 400–2 600)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	1 600 (1 200–2 100)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB			
% of notified tested for MDR-TB			
Confirmed cases of MDR-TB			101
MDR-TB patients started treatment			101

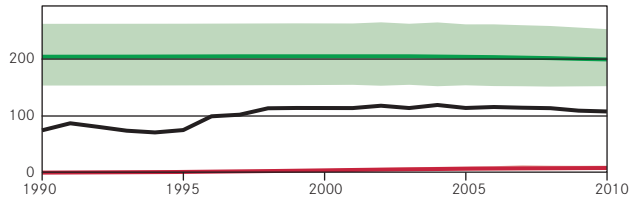
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	0.9	0.9	0.9
Culture (per 5 million population)	1.3	1.3	1.4
DST (per 5 million population)	0.1	0.1	0.1

Second-line DST available	In country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

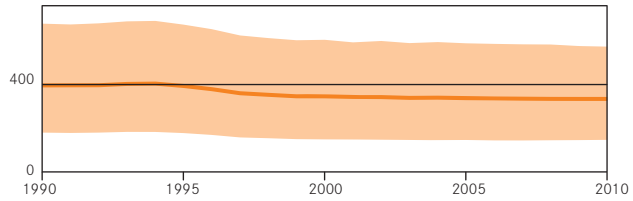
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



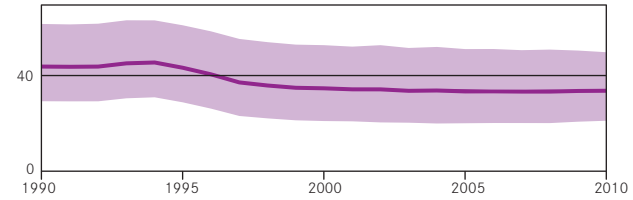
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

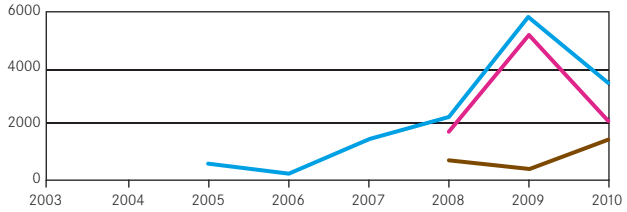
(rate per 100 000 population)



TB/HIV 2010

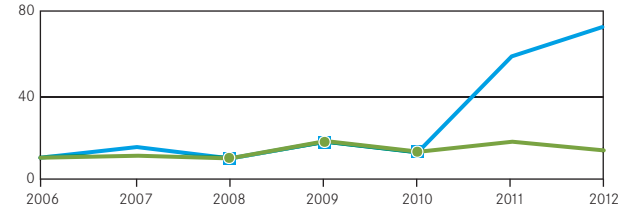
TB patients with known HIV status	42 356
% of TB patients with known HIV status	43
TB patients that are HIV-positive	3 515
% of tested TB patients that are HIV-positive	8
% HIV-positive TB patients started on CPT	62
% HIV-positive TB patients started on ART	43
HIV-positive people screened for TB	
HIV-positive people provided with IPT	1 317

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	59	74
Available funding (US$ millions)	18	15
% of budget funded	31	20
% available funding from domestic sources	26	31
% available funding from Global Fund	66	62

NTP Budget (blue) and available funding (green) (US$ millions)



ZIMBABWE

POPULATION 2010 (MILLIONS)	13

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	3.4 (2.1–5.1)	27 (17–40)
Prevalence (incl HIV)	51 (23–80)	402 (185–639)
Incidence (incl HIV)	80 (61–100)	633 (486–799)
Incidence (HIV-positive)	60 (47–76)	480 (371–603)
Case detection, all forms (%)	56 (44–72)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	11 654	(27)	Relapse	1 337	(29)
Smear-negative	18 341	(43)	Treatment after failure	135	(3)
Smear unknown	6 816	(16)	Treatment after default	157	(3)
Extrapulmonary	6 061	(14)	Other	3 056	(65)
Other	0	(0)			
Total new	42 872		Total retreatment	4 685	
Total < 15 years	4 371				

Total new and relapse	44 209	(93% of total)
Total cases notified	47 557	

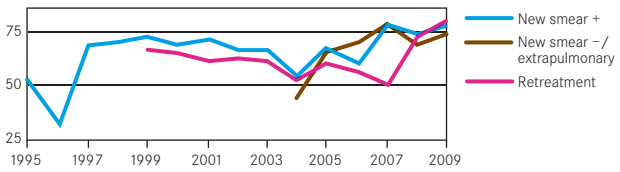
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	100
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	78
New smear-negative/extrapulmonary	74
Retreatment	80

TREATMENT SUCCESS RATE (%)



MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

% of new TB cases with MDR-TB	1.9 (1.0–3.3)
% of retreatment TB cases with MDR-TB	8.3 (1.8–23)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	700 (370–1 200)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	390 (84–1 000)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB			26
% of notified tested for MDR-TB			<1
Confirmed cases of MDR-TB			17
MDR-TB patients started treatment			27

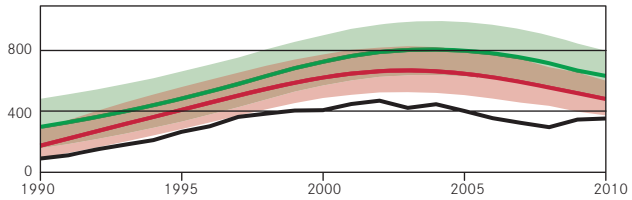
LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	1.0	0.9	1.4
Culture (per 5 million population)	0.4	0.8	0.8
DST (per 5 million population)	0.4	0.8	0.8

Second-line DST available	No
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

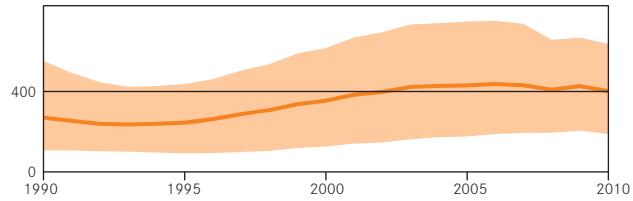
INCIDENCE (HIV+TB red), notifications (black)

(rates per 100 000 population)



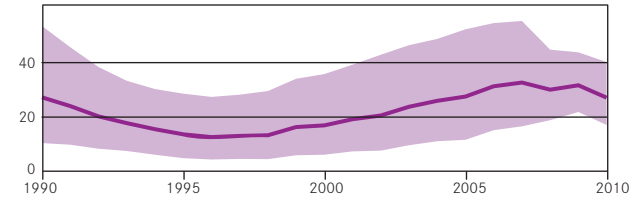
PREVALENCE

(rate per 100 000 population)



MORTALITY EXCLUDING HIV

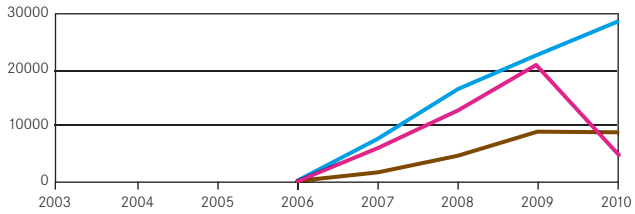
(rate per 100 000 population)



TB/HIV 2010

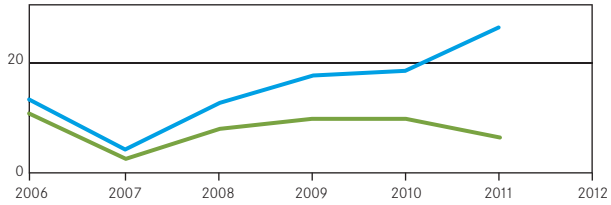
TB patients with known HIV status	38 012
% of TB patients with known HIV status	80
TB patients that are HIV-positive	28 662
% of tested TB patients that are HIV-positive	75
% HIV-positive TB patients started on CPT	18
% HIV-positive TB patients started on ART	30
HIV-positive people screened for TB	
HIV-positive people provided with IPT	

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	26	
Available funding (US$ millions)	6	
% of budget funded	24	
% available funding from domestic sources	5	
% available funding from Global Fund	79	

NTP Budget (blue) and available funding (green) (US$ millions)



Data can be downloaded from www.who.int/tb/data

ANNEX 3

Global, regional and country-specific data for key indicators

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Summary by WHO region

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Estimates of mortality, prevalence and incidence

Estimated values are shown as best estimates followed by lower and upper bounds. The lower and upper bounds are defined as the 2.5th and 97.5th centiles of outcome distributions produced in simulations. See **ANNEX 1** for further details.

Estimated numbers are shown rounded to two significant figures. Estimated rates are shown rounded to three significant figures unless the value is under 100, in which case rates are shown rounded to two significant figures.

Estimates for all years are recalculated as new information becomes available and techniques are refined, so they may differ from those published in previous reports in this series. Estimates published in previous global TB control reports should no longer be used.

Data source

Data shown in this annex are taken from the WHO global TB database on 2 September 2011. Data shown in the main part of the report were taken from the database on 21 June 2011. As a result, data in this annex may differ slightly from those in the main part of the report.

Data can be downloaded from **www.who.int/tb/data**.

TABLE A3.1 **Estimates of the burden of disease caused by TB, 1990–2010**

	YEAR	POPULATION (MILLIONS)	MORTALITY (EXCLUDING HIV)		PREVALENCE (INCLUDING HIV)		INCIDENCE (INCLUDING HIV)	
			NUMBER (THOUSANDS)	RATE[a]	NUMBER (THOUSANDS)	RATE	NUMBER (THOUSANDS)	RATE
Global	1990	5 283	1 300 (1 200–1 500)	25 (22–29)	14 000 (13 000–15 000)	263 (241–287)	7 600 (7 000–8 300)	144 (132–157)
	1995	5 702	1 400 (1 200–1 500)	24 (21–27)	15 000 (13 000–16 000)	256 (236–277)	8 000 (7 500–8 500)	141 (132–150)
	2000	6 097	1 300 (1 200–1 500)	22 (19–25)	15 000 (14 000–17 000)	250 (229–272)	8 600 (8 100–9 100)	141 (133–149)
	2005	6 481	1 200 (1 100–1 400)	19 (17–22)	14 000 (13 000–15 000)	214 (194–235)	9 000 (8 500–9 500)	139 (131–146)
	2008	6 714	1 100 (960–1 300)	17 (14–19)	13 000 (11 000–14 000)	190 (169–212)	8 900 (8 500–9 300)	133 (127–138)
	2009	6 792	1 100 (930–1 200)	16 (14–18)	12 000 (11 000–14 000)	183 (162–205)	8 800 (8 500–9 200)	130 (125–135)
	2010	6 870	1 100 (920–1 200)	15 (13–18)	12 000 (11 000–14 000)	178 (156–201)	8 800 (8 500–9 200)	128 (123–133)
Africa	1990	507	180 (120–250)	35 (24–49)	1 700 (1 200–2 300)	331 (228–453)	1 100 (810–1 400)	215 (160–277)
	1995	580	200 (150–260)	34 (25–44)	1 900 (1 400–2 400)	325 (240–421)	1 400 (1 100–1 700)	235 (189–286)
	2000	656	240 (170–310)	36 (27–47)	2 300 (1 700–3 100)	358 (264–465)	1 800 (1 500–2 200)	279 (227–336)
	2005	742	250 (190–320)	34 (26–44)	2 700 (2 100–3 400)	367 (281–463)	2 200 (1 900–2 600)	302 (257–351)
	2008	798	250 (210–290)	31 (26–36)	2 700 (2 200–3 300)	342 (280–409)	2 300 (2 100–2 500)	286 (260–313)
	2009	817	240 (220–270)	30 (27–33)	2 700 (2 300–3 200)	332 (280–389)	2 300 (2 100–2 400)	279 (261–297)
	2010	837	250 (220–280)	30 (26–34)	2 800 (2 300–3 300)	332 (277–392)	2 300 (2 100–2 500)	276 (256–296)
The Americas	1990	723	55 (41–71)	7.5 (5.6–9.8)	660 (480–870)	92 (67–121)	420 (360–490)	58 (50–68)
	1995	777	41 (34–47)	5.2 (4.4–6.1)	540 (430–670)	70 (55–87)	380 (350–410)	49 (45–52)
	2000	834	32 (29–35)	3.8 (3.5–4.2)	470 (370–590)	56 (44–70)	340 (320–360)	41 (38–44)
	2005	885	27 (24–29)	3.0 (2.8–3.3)	400 (310–490)	45 (36–56)	310 (290–330)	35 (32–37)
	2008	914	24 (22–26)	2.7 (2.5–2.9)	360 (280–450)	40 (31–49)	280 (260–300)	31 (29–33)
	2009	924	21 (18–25)	2.3 (1.9–2.7)	350 (270–430)	37 (29–46)	270 (260–290)	30 (28–32)
	2010	933	20 (17–23)	2.2 (1.8–2.5)	330 (260–410)	36 (28–44)	270 (250–280)	29 (27–30)
Eastern Mediterranean	1990	381	120 (86–150)	31 (23–41)	1 000 (590–1 500)	266 (156–405)	460 (350–580)	120 (92–152)
	1995	433	130 (110–150)	30 (26–34)	1 100 (720–1 600)	258 (167–368)	520 (470–580)	121 (108–135)
	2000	484	140 (120–160)	29 (25–33)	1 200 (760–1 700)	248 (157–360)	570 (500–630)	117 (104–131)
	2005	538	120 (96–140)	22 (18–26)	1 100 (730–1 600)	206 (135–292)	610 (540–680)	113 (100–126)
	2008	573	95 (74–120)	17 (13–21)	1 000 (660–1 400)	177 (116–251)	630 (560–710)	110 (98–124)
	2009	585	95 (73–120)	16 (13–20)	1 000 (670–1 400)	175 (114–248)	640 (570–720)	110 (97–123)
	2010	597	95 (74–120)	16 (12–20)	1 000 (670–1 500)	173 (112–246)	650 (580–730)	109 (97–122)
Europe	1990	846	110 (78–150)	13 (9.2–18)	780 (540–1 100)	92 (64–124)	460 (390–530)	54 (46–63)
	1995	862	94 (77–110)	11 (8.9–13)	710 (550–900)	83 (64–105)	460 (430–500)	54 (50–58)
	2000	868	75 (73–77)	8.6 (8.4–8.9)	670 (500–870)	77 (58–100)	490 (450–530)	56 (52–61)
	2005	880	72 (70–73)	8.2 (8.0–8.3)	610 (460–780)	69 (52–88)	450 (420–490)	52 (48–55)
	2008	890	62 (59–64)	6.9 (6.7–7.2)	580 (440–740)	65 (49–83)	430 (400–460)	49 (45–52)
	2009	893	58 (55–60)	6.5 (6.2–6.7)	570 (430–720)	64 (49–81)	430 (400–450)	48 (45–51)
	2010	896	61 (48–75)	6.8 (5.4–8.3)	560 (430–720)	63 (47–80)	420 (390–450)	47 (44–50)
South-East Asia	1990	1 317	570 (440–730)	44 (33–55)	6 000 (5 200–6 900)	457 (393–526)	2 800 (2 500–3 200)	214 (187–243)
	1995	1 446	630 (490–790)	44 (34–55)	6 700 (5 800–7 600)	462 (404–522)	3 100 (2 800–3 400)	215 (195–235)
	2000	1 572	670 (510–840)	42 (33–54)	7 200 (6 300–8 100)	456 (401–514)	3 400 (3 100–3 600)	215 (199–232)
	2005	1 694	610 (490–750)	36 (29–44)	6 100 (5 100–7 100)	359 (302–421)	3 600 (3 300–3 800)	210 (194–226)
	2008	1 762	550 (410–710)	31 (23–40)	5 400 (4 300–6 700)	307 (241–380)	3 500 (3 300–3 800)	201 (186–216)
	2009	1 785	520 (390–670)	29 (22–38)	5 200 (4 000–6 600)	291 (223–368)	3 500 (3 300–3 800)	197 (182–211)
	2010	1 808	500 (370–640)	27 (21–35)	5 000 (3 700–6 500)	278 (206–360)	3 500 (3 200–3 700)	193 (179–207)
Western Pacific	1990	1 510	310 (280–340)	20 (18–23)	3 800 (3 500–4 100)	249 (229–269)	2 400 (2 000–2 800)	157 (132–185)
	1995	1 605	260 (220–300)	16 (14–18)	3 700 (3 300–4 000)	228 (207–251)	2 200 (1 900–2 500)	136 (118–155)
	2000	1 683	200 (170–230)	12 (10–14)	3 400 (3 000–3 800)	201 (178–225)	2 000 (1 800–2 200)	119 (106–133)
	2005	1 743	170 (150–190)	9.8 (8.9–11)	3 000 (2 600–3 300)	170 (151–189)	1 800 (1 700–2 000)	105 (95–115)
	2008	1 777	140 (120–160)	7.9 (6.9–8.9)	2 700 (2 400–3 000)	150 (134–167)	1 700 (1 600–1 900)	98 (89–107)
	2009	1 788	140 (120–160)	7.7 (6.7–8.7)	2 600 (2 300–2 900)	143 (127–160)	1 700 (1 600–1 900)	95 (87–104)
	2010	1 798	130 (120–150)	7.5 (6.6–8.4)	2 500 (2 200–2 800)	139 (124–156)	1 700 (1 500–1 800)	93 (85–102)

[a] Rates are per 100 000 population.

TABLE A3.2 **Incidence, notification and case detection rates, all forms, 1990–2010**

			INCIDENCE (INCLUDING HIV)		INCIDENCE HIV-POSITIVE		NOTIFIED NEW AND RELAPSE[a]		CASE DETECTION RATE[a]
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[b]	NUMBER (THOUSANDS)	RATE[b]	NUMBER	RATE[b]	PERCENT
Global	1990	5 283	7 600 (7 000–8 300)	144 (132–157)	320 (260–370)	6.0 (5.0–7.1)	3 740 193	71	49 (45–53)
	1995	5 702	8 000 (7 500–8 500)	141 (132–150)	630 (550–720)	11 (9.6–13)	3 400 391	60	42 (40–45)
	2000	6 097	8 600 (8 100–9 100)	141 (133–149)	940 (830–1 100)	15 (14–17)	3 746 813	61	44 (41–46)
	2005	6 481	9 000 (8 500–9 500)	139 (131–146)	1 100 (1 000–1 200)	17 (15–19)	5 130 297	79	57 (54–60)
	2008	6 714	8 900 (8 500–9 300)	133 (127–138)	1 100 (1 000–1 200)	16 (15–18)	5 721 861	85	64 (62–67)
	2009	6 792	8 800 (8 500–9 200)	130 (125–135)	1 100 (1 000–1 200)	16 (15–17)	5 803 185	85	66 (63–68)
	2010	6 870	8 800 (8 500–9 200)	128 (123–133)	1 100 (1 000–1 200)	16 (15–17)	*5 770 498*	*84*	*65 (63–68)*
Africa	1990	507	1 100 (810–1 400)	215 (160–277)	280 (220–340)	55 (43–68)	418 520	83	39 (30–52)
	1995	580	1 400 (1 100–1 700)	235 (189–286)	530 (440–630)	91 (76–108)	504 377	87	37 (30–46)
	2000	656	1 800 (1 500–2 200)	279 (227–336)	760 (660–880)	116 (100–133)	792 911	121	43 (36–53)
	2005	742	2 200 (1 900–2 600)	302 (257–351)	930 (820–1000)	125 (110–141)	1 186 801	160	53 (46–62)
	2008	798	2 300 (2 100–2 500)	286 (260–313)	920 (830–1000)	116 (104–127)	1 330 146	167	58 (53–64)
	2009	817	2 300 (2 100–2 400)	279 (261–297)	910 (840–980)	111 (103–120)	1 380 577	169	61 (57–65)
	2010	837	2 300 (2 100–2 500)	276 (256–296)	900 (820–980)	107 (98–117)	*1 380 417*	*165*	*60 (56–64)*
The Americas	1990	723	420 (360–490)	58 (50–68)	35 (25–48)	4.9 (3.4–6.7)	231 186	32	55 (47–64)
	1995	777	380 (350–410)	49 (45–52)	40 (32–49)	5.1 (4.1–6.3)	258 188	33	68 (63–73)
	2000	834	340 (320–360)	41 (38–44)	39 (32–47)	4.6 (3.8–5.6)	238 580	29	70 (65–75)
	2005	885	310 (290–330)	35 (32–37)	37 (33–40)	4.2 (3.8–4.6)	228 018	26	75 (70–80)
	2008	914	280 (260–300)	31 (29–33)	37 (33–41)	4.1 (3.7–4.5)	218 249	24	77 (72–83)
	2009	924	270 (260–290)	30 (28–32)	36 (33–40)	3.9 (3.6–4.3)	201 606	22	73 (69–78)
	2010	933	270 (250–280)	29 (27–30)	35 (31–38)	3.7 (3.4–4.1)	*214 030*	*23*	*80 (75–86)*
Eastern Mediterranean	1990	381	460 (350–580)	120 (92–152)	1.0 (0.37–1.8)	0.25 (0.10–0.48)	234 620	62	51 (41–67)
	1995	433	520 (470–580)	121 (108–135)	2.1 (1.2–3.2)	0.48 (0.28–0.74)	121 745	28	23 (21–26)
	2000	484	570 (500–630)	117 (104–131)	4.1 (3–5.3)	0.85 (0.62–1.1)	141 748	29	25 (22–28)
	2005	538	610 (540–680)	113 (100–126)	7.3 (5.8–9)	1.4 (1.1–1.7)	287 158	53	47 (42–54)
	2008	573	630 (560–710)	110 (98–124)	9.9 (7.8–12)	1.7 (1.4–2.1)	392 633	69	62 (55–70)
	2009	585	640 (570–720)	110 (97–123)	11 (8.6–14)	1.9 (1.5–2.3)	411 172	70	64 (57–72)
	2010	597	650 (580–730)	109 (97–122)	12 (9.8–15)	2.1 (1.6–2.5)	*411 961*	*69*	*63 (56–71)*
Europe	1990	846	460 (390–530)	54 (46–63)	3.1 (2.6–3.7)	0.37 (0.30–0.44)	242 429	29	53 (46–63)
	1995	862	460 (430–500)	54 (50–58)	5.2 (4.4–6.1)	0.61 (0.52–0.70)	290 031	34	63 (58–67)
	2000	868	490 (450–530)	56 (52–61)	11 (9.1–13)	1.2 (1.0–1.4)	373 061	43	76 (71–83)
	2005	880	450 (420–490)	52 (48–55)	17 (14–20)	1.9 (1.6–2.2)	365 088	42	80 (75–87)
	2008	890	430 (400–460)	49 (45–52)	19 (13–27)	2.2 (1.4–3.1)	339 119	38	78 (73–84)
	2009	893	430 (400–450)	48 (45–51)	23 (21–26)	2.6 (2.3–2.9)	328 798	37	77 (72–83)
	2010	896	420 (390–450)	47 (44–50)	20 (19–22)	2.3 (2.1–2.5)	*309 818*	*35*	*74 (69–79)*
South-East Asia	1990	1 317	2 800 (2 500–3 200)	214 (187–243)	35 (25–47)	2.7 (1.9–3.6)	1 719 365	131	61 (54–70)
	1995	1 446	3 100 (2 800–3 400)	215 (195–235)	110 (84–150)	7.9 (5.8–10)	1 401 096	97	45 (41–50)
	2000	1 572	3 400 (3 100–3 600)	215 (199–232)	180 (130–230)	11 (8.5–15)	1 414 228	90	42 (39–45)
	2005	1 694	3 600 (3 300–3 800)	210 (194–226)	190 (140–240)	11 (8.4–14)	1 789 186	106	50 (47–54)
	2008	1 762	3 500 (3 300–3 800)	201 (186–216)	170 (130–220)	9.9 (7.4–13)	2 078 238	118	59 (55–63)
	2009	1 785	3 500 (3 300–3 800)	197 (182–211)	180 (130–220)	9.9 (7.6–13)	2 124 371	119	61 (56–65)
	2010	1 808	3 500 (3 200–3 700)	193 (179–207)	190 (140–230)	10 (7.9–13)	*2 127 973*	*118*	*61 (57–66)*
Western Pacific	1990	1 510	2 400 (2 000–2 800)	157 (132–185)	4.1 (2.4–6.1)	0.27 (0.16–0.41)	894 073	59	38 (32–45)
	1995	1 605	2 200 (1 900–2 500)	136 (118–155)	19 (12–27)	1.2 (0.78–1.7)	824 954	51	38 (33–44)
	2000	1 683	2 000 (1 800–2 200)	119 (106–133)	24 (18–32)	1.4 (1.1–1.9)	786 285	47	39 (35–44)
	2005	1 743	1 800 (1 700–2 000)	105 (95–115)	32 (24–41)	1.8 (1.4–2.3)	1 274 046	73	70 (64–77)
	2008	1 777	1 700 (1 600–1 900)	98 (89–107)	35 (26–45)	2.0 (1.5–2.5)	1 363 476	77	79 (72–86)
	2009	1 788	1 700 (1 600–1 900)	95 (87–104)	34 (26–44)	1.9 (1.4–2.5)	1 356 661	76	80 (73–87)
	2010	1 798	1 700 (1 500–1 800)	93 (85–102)	35 (26–45)	1.9 (1.4–2.5)	*1 326 300*	*74*	*79 (73–86)*

[a] Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (in *italics*).
[b] Rates are per 100 000 population.

Data can be downloaded from www.who.int/tb/data

TABLE A3.3 **Case notifications, 1990–2010**

	NEW AND RELAPSE NOTIFICATION RATE[a] 1990–2010	YEAR	NEW AND RELAPSE[a]	NEW CASES: SMEAR-POSITIVE	NEW CASES: SMEAR-NEGATIVE/ UNKNOWN	NEW CASES: EXTRA-PULMONARY	NEW CASES: OTHER	RELAPSE	RE-TREAT EXCL. RELAPSE	TOTAL RETREAT	HISTORY UNKNOWN	% SMEAR-POS AMONG NEW PULM
Global		1990	3 740 193	30 046	22 393	4 237	0	734	49	783	29	57
		1995	3 400 391	1 175 290	1 811 850	262 728	5	59 240	0	59 240	44	39
		2000	3 746 813	1 540 720	1 614 819	399 615	37	115 314	236 113	351 427	56	49
		2005	5 130 297	2 413 732	1 722 343	686 566	8 111	259 937	406 424	666 361	18 039	58
		2008	5 721 861	2 656 275	1 979 978	786 191	18 429	280 988	495 112	776 100	16 851	57
		2009	5 803 185	2 662 565	2 010 610	831 388	9 998	288 624	385 181	673 805	36 693	57
	• 71 84 •	2010	*5 770 498*	2 652 481	1 998 265	804 338	12 865	285 795	416 917	702 712	25 934	57
Africa		1990	418 520	24 064	6 137	2 067	0	554	49	603	0	80
		1995	504 377	212 910	191 477	72 689	0	15 133	0	15 133	0	53
		2000	792 911	367 831	221 715	141 156	0	19 153	68 085	87 238	0	62
		2005	1 186 801	550 004	364 785	208 979	2 941	60 092	66 449	126 541	2 075	60
		2008	1 330 146	595 394	446 400	233 576	1 484	53 292	82 971	136 263	4 607	57
		2009	1 380 577	607 257	473 217	244 806	346	54 951	89 377	144 328	305	56
	• 83 165 •	2010	*1 380 417*	601 149	477 516	247 020	642	53 967	94 506	148 473	317	56
The Americas		1990	231 186	1 542	516	723	0	180	0	180	29	75
		1995	258 188	138 932	72 312	32 991	5	1 723	0	1 723	44	66
		2000	238 580	131 294	60 392	32 037	37	10 834	14 344	25 178	56	68
		2005	228 018	124 840	56 056	33 285	3 685	10 152	12 481	22 633	2 106	69
		2008	218 249	119 862	51 818	33 218	3 343	10 008	13 193	23 201	232	70
		2009	201 606	110 613	45 033	31 422	4 363	10 175	11 317	21 492	3 829	71
	• 32 23 •	2010	*214 030*	116 864	52 223	32 226	2 131	10 407	12 123	22 530	885	69
Eastern Mediterranean		1990	234 620	1 587	12 394	754	0	0	0	0	0	11
		1995	121 745	46 851	51 823	33 382	0	2 407	0	2 407	0	47
		2000	141 748	60 959	34 289	40 754	0	5 568	0	5 568	0	64
		2005	287 158	113 765	102 274	64 612	12	6 495	5 334	11 829	20	53
		2008	392 633	166 558	137 780	77 247	0	11 048	5 393	16 441	18	55
		2009	411 172	168 013	143 633	87 726	76	11 724	6 240	17 964	737	54
	• 62 69 •	2010	*411 961*	168 627	137 301	92 070	633	11 203	8 606	19 809	3 186	55
Europe		1990	242 429	0	0	0	0	0	0	0	0	–
		1995	290 031	104 444	146 592	29 866	0	7 927	0	7 927	0	42
		2000	373 061	94 474	208 218	35 118	0	21 607	19 166	40 773	0	31
		2005	365 088	96 145	157 299	49 788	0	22 248	64 900	87 148	3 530	38
		2008	339 119	105 160	159 328	42 899	8 858	22 874	112 511	135 385	8 021	40
		2009	328 798	100 468	152 438	47 199	3 393	25 300	41 833	67 133	24 989	40
	• 29 35 •	2010	*309 818*	88 378	140 984	38 930	7 924	24 139	59 699	83 838	15 508	39
South-East Asia		1990	1 719 365	2 769	3 241	656	0	0	0	0	0	46
		1995	1 401 096	357 882	939 945	76 865	0	5 546	0	5 546	0	28
		2000	1 414 228	510 053	741 471	120 708	0	27 095	80 444	107 539	0	41
		2005	1 789 186	857 371	594 185	242 332	1 439	93 859	158 215	252 074	202	59
		2008	2 078 238	1 007 382	635 427	310 700	1 866	122 863	209 433	332 296	132	61
		2009	2 124 371	1 028 656	636 755	329 338	1 796	127 826	203 598	331 424	261	62
	• 131 118 •	2010	*2 127 973*	1 047 013	615 463	328 421	1 508	130 714	208 542	339 256	1 118	63
Western Pacific		1990	894 073	84	105	37	0	0	0	0	0	44
		1995	824 954	314 271	409 701	16 935	0	26 504	0	26 504	0	43
		2000	786 285	376 109	348 734	29 842	0	31 057	54 074	85 131	0	52
		2005	1 274 046	671 607	447 744	87 570	34	67 091	99 045	166 136	10 106	60
		2008	1 363 476	661 919	549 225	88 551	2 878	60 903	71 611	132 514	3 841	55
		2009	1 356 661	647 558	559 534	90 897	24	58 648	32 816	91 464	6 572	54
	• 59 74 •	2010	*1 326 300*	630 450	574 778	65 671	27	55 365	33 441	88 806	4 920	52

[a] Rates are per 100 000 population. Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (*in italics*).

TABLE A3.4 **Treatment outcomes, new smear-positive cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Global		1995	1 175 290	1 000 581	85	40	17	3	1	5	34
		2000	1 540 720	1 452 991	94	60	9	4	1	7	19
		2005	2 413 732	2 396 387	99	77	7	4	2	5	4
		2007	2 586 522	2 590 608	100	79	7	4	2	5	4
		2008	2 656 275	2 648 749	100	79	7	4	2	5	4
	• 57 87 •	2009	2 662 565	2 658 344	100	80	7	4	2	4	4
Africa		1995	212 910	177 567	83	46	14	6	2	12	20
		2000	367 831	364 804	99	59	12	7	1	11	10
		2005	550 004	563 750	102	62	13	7	1	9	7
		2007	566 988	576 752	102	68	11	6	1	7	6
		2008	595 394	590 866	99	70	11	6	2	7	6
	• 60 80 •	2009	607 257	605 932	100	70	10	5	1	6	7
The Americas		1995	138 932	128 531	93	37	14	3	1	6	39
		2000	131 294	110 642	84	60	17	5	1	8	11
		2005	124 840	118 840	95	55	24	5	1	7	9
		2007	119 838	115 636	96	57	22	5	1	7	8
		2008	119 862	109 007	91	56	21	5	1	7	10
	• 50 76 •	2009	110 613	122 391	111	53	23	5	1	8	11
Eastern Mediterranean		1995	46 851	46 318	99	60	19	2	3	13	4
		2000	60 959	63 749	105	69	12	4	2	8	6
		2005	113 765	113 742	100	72	11	3	1	8	5
		2007	155 572	155 658	100	75	12	3	1	5	4
		2008	166 558	166 719	100	74	13	2	1	5	4
	• 79 88 •	2009	168 013	167 317	100	74	14	3	1	5	3
Europe		1995	104 444	33 823	32	58	10	6	6	4	16
		2000	94 474	41 480	44	47	28	5	6	6	7
		2005	96 145	81 410	85	59	13	8	7	7	5
		2007	105 271	108 175	103	59	12	8	9	7	5
		2008	105 160	114 234	109	54	15	8	10	6	6
	• 67 68 •	2009	100 468	99 224	99	58	10	8	12	7	5
South-East Asia		1995	357 882	318 410	89	9	23	1	0	2	64
		2000	510 053	512 286	100	44	6	2	1	7	40
		2005	857 371	855 962	100	83	4	4	2	6	1
		2007	972 441	973 507	100	84	4	4	2	5	1
		2008	1 007 382	1 011 353	100	84	4	4	2	5	1
	• 33 89 •	2009	1 028 656	1 022 380	99	85	3	4	2	5	1
Western Pacific		1995	314 271	295 932	94	67	13	2	1	4	13
		2000	376 109	360 030	96	85	5	2	1	2	4
		2005	671 607	662 683	99	89	3	2	1	1	3
		2007	666 412	660 880	99	89	3	2	1	1	4
		2008	661 919	656 570	99	89	3	2	1	1	4
	• 80 93 •	2009	647 558	641 100	99	90	3	2	1	1	3

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

TABLE A3.5 **Treatment outcomes, retreatment cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Global		1995	59 240	71 395	121	82	4	3	3	3	4
		2000	351 427	188 509	54	60	10	6	4	11	10
		2005	666 361	546 182	82	51	19	7	4	12	6
		2007	767 155	533 643	70	58	10	7	6	11	8
		2008	776 100	594 939	77	50	22	7	5	11	5
	• 86 72 •	2009	673 805	592 460	88	49	23	7	6	10	5
Africa		1995	15 133	5 756	38	57	12	9	3	12	6
		2000	87 238	44 147	51	47	11	9	3	16	14
		2005	126 541	114 838	91	35	27	11	3	13	12
		2007	134 133	113 504	85	52	16	7	4	10	11
		2008	136 263	98 414	72	48	21	9	3	10	9
	• 69 70 •	2009	144 328	94 342	65	50	20	9	3	9	10
The Americas		1995	1 723	1 104	64	61	11	6	4	11	8
		2000	25 178	15 302	61	47	8	5	3	12	25
		2005	22 633	18 603	82	38	16	6	2	15	21
		2007	21 038	18 975	90	35	23	7	3	18	15
		2008	23 201	15 483	67	29	23	8	2	20	17
	• 72 50 •	2009	21 492	19 146	89	29	22	8	3	19	21
Eastern Mediterranean		1995	2 407	1 860	77	61	14	3	4	12	5
		2000	5 568	4 217	76	51	11	6	7	15	11
		2005	11 829	12 860	109	60	15	5	4	10	6
		2007	13 898	14 372	103	60	17	4	3	10	5
		2008	16 441	14 990	91	57	19	4	3	11	6
	• 75 77 •	2009	17 964	16 332	91	56	21	4	3	10	6
Europe		1995	7 927	480	6	20	20	11	8	32	8
		2000	40 773	10 739	26	39	19	9	14	11	8
		2005	87 148	39 497	45	32	18	11	13	14	10
		2007	148 613	69 300	47	28	24	11	19	12	7
		2008	135 385	60 077	44	30	18	11	20	12	9
	• 40 48 •	2009	67 133	57 419	86	27	21	11	23	11	7
South-East Asia		1995	5 546	3 271	59	62	6	4	5	15	8
		2000	107 539	59 337	55	57	14	6	5	15	3
		2005	252 074	254 378	101	49	22	7	5	15	2
		2007	310 029	227 767	73	63	3	7	5	13	8
		2008	332 296	323 436	97	47	28	7	4	12	2
	• 68 75 •	2009	331 424	332 286	100	48	27	7	4	12	2
Western Pacific		1995	26 504	58 924	222	88	2	3	3	1	3
		2000	85 131	54 767	64	83	3	2	2	1	9
		2005	166 136	106 006	64	81	6	3	3	2	6
		2007	139 444	89 725	64	79	7	3	3	2	6
		2008	132 514	82 539	62	80	6	3	2	2	7
	• 90 86 •	2009	91 464	72 935	80	79	7	3	2	2	7

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

Data can be downloaded from www.who.int/tb/data

TABLE A3.6 **HIV testing and provision of CPT, ART and IPT, 2005–2010**

	% OF TB PATIENTS WITH KNOWN HIV STATUS 2005–2010	YEAR	% OF TB PATIENTS WITH KNOWN HIV STATUS	NUMBER OF TB PATIENTS WITH KNOWN HIV STATUS	PATIENTS NOTIFIED (NEW AND RETREAT)	NUMBER OF HIV-POSITIVE TB PATIENTS	% OF TESTED TB PATIENTS HIV-POSITIVE	% OF HIV-POSITIVE TB PATIENTS ON CPT	% OF HIV-POSITIVE TB PATIENTS ON ART	NUMBER OF HIV-POSITIVE PEOPLE PROVIDED IPT
Global		2005	8.5	470 128	5 554 760	103 683	22	77	36	25 938
		2008	22	1 380 408	6 233 824	372 092	27	72	32	50 883
		2009	29	1 784 325	6 225 059	465 978	26	77	39	89 083
	• 8 35 •	2010	35	2 150 116	6 196 595	488 446	23	77	46	178 242
Africa		2005	11	140 713	1 255 325	73 332	52	78	29	22 211
		2008	47	664 034	1 417 724	312 218	47	74	30	25 553
		2009	56	816 338	1 470 259	370 245	45	77	36	63 290
	• 11 59 •	2010	59	876 918	1 475 117	388 137	44	76	42	156 066
The Americas		2005	35	84 032	242 605	14 232	17	22	85	3 727
		2008	44	101 487	231 674	16 953	17	33	67	11 728
		2009	50	108 010	216 752	18 148	17	36	61	5 390
	• 35 46 •	2010	46	103 557	226 859	18 157	18	47	65	12 804
Eastern Mediterranean		2005	<1	2 582	292 512	330	15	18	16	0
		2008	6	24 280	398 044	1 158	5	42	43	702
		2009	11	45 408	418 149	1 625	4	41	41	464
	• 1 11 •	2010	11	45 969	421 626	1 565	3	51	37	253
Europe		2005	41	178 349	433 518	6 543	3	26	16	0
		2008	77	353 550	459 651	12 611	3	63	32	12 003
		2009	83	328 648	395 620	15 643	5	51	62	17 826
	• 41 85 •	2010	85	317 466	375 562	17 182	5	48	70	6 575
South-East Asia		2005	2	31 847	1 947 603	7 025	22	50	31	0
		2008	4	84 113	2 287 803	18 601	22	59	37	208
		2009	14	318 237	2 328 230	46 089	14	86	50	467
	• 2 23 •	2010	23	540 660	2 332 779	50 985	9	87	57	581
Western Pacific		2005	2	32 605	1 383 197	2 221	7	32	51	0
		2008	11	152 944	1 438 928	10 551	7	55	28	689
		2009	12	167 684	1 396 049	14 228	8	64	16	1 646
	• 2 19 •	2010	19	265 546	1 364 652	12 420	5	55	41	1 963

TABLE A3.7 **Testing for MDR-TB and number of confirmed cases of MDR-TB, 2005–2010**

	YEAR	TOTAL CONFIRMED CASES OF MDR-TB[a]	NEW CASES				PREVIOUSLY TREATED CASES			
			NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB	NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB
Global	2005	11 988	4 830 752	62 806	1	1 909	666 361	23 497	4	7 047
	2008	31 077	5 440 873	100 500	2	8 856	776 100	41 559	5	11 742
	2009	46 897	5 514 561	111 101	2	12 879	673 805	42 294	6	16 284
	2010	55 112	5 467 949	112 920	2	12 686	702 712	46 737	7	22 875
Africa	2005	2 445	1 126 709	1 826	0	277	126 541	3 922	3	2 073
	2008	9 543	1 276 854	2 566	0	177	136 263	9 614	7	957
	2009	10 741	1 325 626	3 878	0	372	144 328	4 340	3	1 191
	2010	9 750	1 326 327	2 732	0	248	148 473	4 294	3	1 359
The Americas	2005	4 427	217 866	4 504	2	212	22 633	10 498	46	3 052
	2008	2 227	208 241	12 460	6	352	23 201	4 286	18	1 517
	2009	2 884	191 431	11 513	6	992	21 492	3 056	14	1 135
	2010	2 646	203 444	10 229	5	226	22 530	4 182	19	1 216
Eastern Mediterranean	2005	350	280 663	1 442	1	30	11 829	94	1	46
	2008	555	381 585	2 089	1	92	16 441	1 555	9	334
	2009	496	399 448	1 760	0	80	17 964	1 274	7	395
	2010	886	398 631	2 397	1	104	19 809	1 257	6	575
Europe	2005	4 347	303 232	34 527	11	1 334	87 148	7 024	8	1 711
	2008	15 845	316 245	78 323	25	8 177	135 385	21 098	16	7 173
	2009	28 157	303 498	87 815	29	10 328	67 133	27 618	41	10 463
	2010	33 598	276 216	84 413	31	11 646	83 838	33 696	40	16 522
South-East Asia	2005	68	1 695 327	661	0	9	252 074	420	0	25
	2008	1 717	1 955 375	902	0	22	332 296	2 823	1	875
	2009	2 560	1 996 545	950	0	10	331 424	5 069	2	2 538
	2010	3 937	1 992 405	1 073	0	19	339 256	1 264	0	705
Western Pacific	2005	351	1 206 955	19 846	2	47	166 136	1 539	1	140
	2008	1 190	1 302 573	4 160	0	36	132 514	2 183	2	886
	2009	2 059	1 298 013	5 185	0	1 097	91 464	937	1	562
	2010	4 295	1 270 926	12 076	1	443	88 806	2 044	2	2 498

[a] TOTAL CONFIRMED CASES OF MDR-TB includes cases with unknown previous treatment history (i.e. not included under NEW CASES or PREVIOUSLY TREATED CASES).

TABLE A3.8 **New smear-positive case notification by age and sex, 1995–2010**

		MALE								FEMALE								
	YEAR	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	MALE/FEMALE RATIO
Global	1995	7 491	48 816	76 799	65 678	49 514	41 756	34 776	0	7 730	41 378	50 102	32 741	22 688	17 816	16 686	0	1.7
	2000	12 387	115 250	172 897	156 274	121 277	82 843	75 158	0	14 749	94 642	110 307	74 706	49 823	33 696	33 830	0	1.8
	2005	18 414	242 358	329 719	312 528	261 234	184 836	166 858	42	26 178	199 700	220 530	153 503	106 029	72 023	65 717	15	1.8
	2010	20 221	268 684	345 525	336 494	298 313	227 237	186 553	7 502	28 792	210 567	225 765	163 084	118 438	86 190	75 169	2 595	1.9
Africa	1995	2 910	16 754	28 172	20 240	12 017	7 008	4 104	0	3 167	15 873	19 005	11 339	6 643	3 655	1 734	0	1.5
	2000	3 625	29 522	47 654	34 435	17 923	8 970	5 751	0	4 315	29 530	35 386	20 037	9 402	4 581	2 578	0	1.4
	2005	7 635	54 066	94 388	71 072	40 974	18 931	12 143	0	10 023	57 115	75 056	43 213	22 855	11 047	7 163	0	1.3
	2010	8 393	57 146	98 636	78 660	48 543	24 094	14 478	17	10 287	55 537	76 051	47 070	26 299	13 522	8 685	9	1.4
The Americas	1995	437	2 888	3 443	3 157	2 448	1 866	2 251	0	431	2 293	2 434	1 654	1 109	912	1 311	0	1.6
	2000	3 464	18 564	21 869	19 787	15 138	9 899	9 717	0	3 535	15 305	14 961	10 323	7 294	5 038	5 894	0	1.6
	2005	1 520	16 410	16 671	14 369	12 340	7 801	7 951	0	1 718	12 405	11 563	7 891	5 933	3 788	4 751	0	1.6
	2010	1 050	11 456	14 246	11 297	10 608	7 428	7 074	59	1 136	8 401	8 490	5 808	4 874	3 465	4 060	22	1.7
Eastern Mediterranean	1995	2 010	6 796	8 673	5 475	3 731	3 732	2 604	0	1 881	5 035	5 797	3 679	3 047	2 742	1 902	0	1.4
	2000	1 339	8 135	9 002	6 525	4 409	2 990	3 036	0	1 711	6 710	5 780	3 922	2 851	2 039	1 893	0	1.4
	2005	1 546	13 558	14 609	10 798	8 729	6 581	5 595	0	2 766	13 529	12 098	8 386	6 245	4 383	3 399	0	1.2
	2010	2 316	19 526	19 993	14 908	13 086	10 596	9 521	0	4 377	21 108	17 151	12 183	9 776	7 532	7 032	0	1.1
Europe	1995	553	3 588	7 046	10 157	7 625	5 716	4 842	0	548	2 906	3 636	2 594	1 549	1 560	3 289	0	2.5
	2000	201	4 636	8 323	9 862	8 065	4 312	3 323	0	290	3 507	4 406	2 946	1 798	1 243	2 491	0	2.3
	2005	298	6 172	9 150	9 152	8 705	4 443	4 089	42	422	4 667	5 101	3 161	2 242	1 337	3 176	15	2.1
	2010	138	7 124	12 868	11 995	11 887	6 628	3 873	7 423	269	4 800	6 344	4 052	2 930	1 961	3 207	2 561	2.4
South-East Asia	1995	165	3 179	6 467	6 508	5 241	4 682	3 523	0	250	2 187	2 834	2 404	2 003	1 866	1 480	0	2.3
	2000	2 453	30 093	45 720	47 107	38 058	25 080	16 208	0	3 222	21 518	25 653	19 241	13 019	8 142	5 468	0	2.1
	2005	5 064	94 638	120 560	122 256	107 228	74 084	45 533	0	8 591	71 923	76 779	54 000	37 709	24 289	12 975	0	2.0
	2010	6 737	114 806	136 683	142 080	132 411	101 728	67 131	0	10 923	84 006	84 704	63 272	48 470	34 052	20 004	0	2.0
Western Pacific	1995	1 416	15 611	22 998	20 141	18 452	18 752	17 452	0	1 453	13 084	16 396	11 071	8 337	7 081	6 970	0	1.8
	2000	1 305	24 300	40 329	38 558	37 684	31 592	37 123	0	1 676	18 072	24 121	18 237	15 459	12 653	15 506	0	2.0
	2005	2 351	57 514	74 341	84 881	83 258	72 996	91 547	0	2 658	40 061	39 933	36 852	31 045	27 179	34 253	0	2.2
	2010	1 587	58 626	63 099	77 554	81 778	76 763	84 476	3	1 800	36 715	33 025	30 699	26 089	25 658	32 181	3	2.4

Data can be downloaded from www.who.int/tb/data

African Region

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Estimates of mortality, prevalence and incidence

Estimated values are shown as best estimates followed by lower and upper bounds. The lower and upper bounds are defined as the 2.5th and 97.5th centiles of outcome distributions produced in simulations. See **ANNEX 1** for further details.

Estimated numbers are shown rounded to two significant figures. Estimated rates are shown rounded to three significant figures unless the value is under 100, in which case rates are shown rounded to two significant figures.

Estimates for all years are recalculated as new information becomes available and techniques are refined, so they may differ from those published in previous reports in this series. Estimates published in previous global TB control reports should no longer be used.

Data source

Data shown in this annex are taken from the WHO global TB database on 2 September 2011. Data shown in the main part of the report were taken from the database on 21 June 2011. As a result, data in this annex may differ slightly from those in the main part of the report.

Data can be downloaded from **www.who.int/tb/data**.

TABLE A3.1 **Estimates of the burden of disease caused by TB, 1990–2010**

	YEAR	POPULATION (MILLIONS)	MORTALITY (EXCLUDING HIV) NUMBER (THOUSANDS)	MORTALITY (EXCLUDING HIV) RATE[a]	PREVALENCE (INCLUDING HIV) NUMBER (THOUSANDS)	PREVALENCE (INCLUDING HIV) RATE	INCIDENCE (INCLUDING HIV) NUMBER (THOUSANDS)	INCIDENCE (INCLUDING HIV) RATE
Algeria	1990	25	2.3 (1.2–4.2)	9.2 (4.6–16)	26 (9.4–48)	101 (37–188)	17 (12–22)	66 (48–86)
	1995	28	2.5 (1.2–4.7)	8.7 (4.2–16)	29 (9.8–54)	101 (35–192)	19 (14–25)	68 (50–90)
	2000	31	3.8 (1.9–6.6)	12 (6.3–22)	41 (16–76)	135 (51–249)	27 (19–35)	87 (63–114)
	2005	33	4.2 (2.1–7.5)	13 (6.5–23)	47 (17–87)	142 (53–264)	30 (22–40)	93 (67–122)
	2008	34	3.8 (1.8–6.9)	11 (5.3–20)	43 (15–81)	126 (45–235)	29 (21–39)	85 (62–112)
	2009	35	4.2 (2.1–7.5)	12 (6–21)	47 (17–86)	134 (49–247)	31 (23–41)	89 (65–117)
	2010	35	4.3 (2.1–7.7)	12 (6–22)	48 (18–89)	136 (50–250)	32 (23–42)	90 (65–118)
Angola	1990	10	3.9 (1.8–7.2)	38 (17–69)	37 (14–75)	361 (135–724)	21 (13–32)	205 (125–305)
	1995	12	5.9 (4.4–7.5)	49 (37–62)	52 (24–85)	431 (201–704)	27 (22–33)	226 (184–273)
	2000	14	6.0 (4.2–8.1)	43 (30–58)	58 (27–95)	417 (194–684)	35 (28–42)	250 (203–301)
	2005	16	3.5 (2.2–6)	21 (13–36)	53 (17–93)	324 (102–563)	45 (37–54)	276 (226–330)
	2008	18	5.2 (3.2–8.3)	29 (18–46)	68 (26–120)	375 (142–642)	53 (44–62)	292 (244–345)
	2009	19	5.7 (3.5–8.9)	31 (19–48)	72 (28–120)	389 (150–661)	55 (46–65)	298 (249–351)
	2010	19	6.5 (4.1–9.6)	34 (22–51)	78 (32–130)	411 (168–688)	58 (49–68)	304 (255–356)
Benin	1990	5	0.61 (0.24–1.2)	13 (5.1–25)	6.1 (2.1–13)	128 (44–264)	3.7 (2.2–5.4)	77 (47–113)
	1995	6	0.74 (0.5–1)	13 (8.9–18)	7.3 (3.3–12)	129 (59–215)	4.5 (3.7–5.5)	80 (65–97)
	2000	7	0.88 (0.62–1.2)	14 (9.5–18)	8.6 (4–14)	132 (62–217)	5.5 (4.5–6.6)	85 (69–102)
	2005	8	1.1 (0.76–1.5)	14 (10–19)	11 (5–17)	139 (65–229)	6.8 (5.5–8.2)	89 (72–107)
	2008	8	1.2 (0.86–1.6)	14 (10–19)	12 (5.6–19)	142 (67–231)	7.7 (6.2–9.2)	92 (75–111)
	2009	9	1.3 (0.93–1.7)	15 (11–20)	13 (5.9–20)	145 (69–236)	8 (6.5–9.6)	93 (76–111)
	2010	9	1.4 (1–1.8)	16 (11–20)	13 (6.2–21)	149 (71–241)	8.3 (6.8–9.9)	94 (77–112)
Botswana	1990	1	1.2 (0.34–2.8)	87 (24–204)	11 (3.4–27)	820 (249–1970)	7.4 (2.8–14)	533 (204–1015)
	1995	2	1.3 (0.64–2.1)	80 (41–134)	13 (5.9–24)	830 (374–1516)	14 (8.7–20)	855 (547–1230)
	2000	2	0.93 (0.57–1.4)	53 (32–80)	12 (5.9–20)	705 (336–1136)	16 (13–20)	918 (732–1123)
	2005	2	0.57 (0.36–0.85)	30 (19–45)	9.8 (4.4–15)	521 (233–823)	14 (12–15)	733 (665–803)
	2008	2	0.5 (0.39–0.64)	26 (20–33)	8.6 (4–13)	440 (206–680)	12 (11–13)	596 (538–658)
	2009	2	0.43 (0.31–0.59)	22 (16–30)	7.9 (3.5–12)	400 (178–625)	11 (9.6–12)	545 (485–610)
	2010	2	0.43 (0.31–0.57)	21 (15–28)	7.6 (3.4–12)	380 (172–592)	10 (9–11)	503 (448–561)
Burkina Faso	1990	9	0.9 (0.57–1.3)	9.7 (6.1–14)	8 (3.6–14)	86 (38–151)	6.1 (4.5–8)	66 (49–85)
	1995	11	0.9 (0.59–1.3)	8.5 (5.5–12)	8.2 (3.8–14)	77 (35–132)	6.3 (4.8–7.9)	59 (45–74)
	2000	12	1.4 (0.98–1.9)	12 (8–16)	13 (5.8–21)	102 (47–175)	8.5 (6.6–11)	69 (53–87)
	2005	14	1.8 (1.3–2.4)	13 (8.8–17)	16 (7.6–27)	114 (53–191)	10 (8.3–13)	74 (58–91)
	2008	16	1.6 (1.2–2.1)	10 (7.6–13)	15 (7.2–24)	97 (47–156)	9.9 (8.1–12)	64 (52–77)
	2009	16	1.5 (1.1–1.9)	9.1 (6.9–12)	14 (6.9–23)	89 (43–142)	9.4 (7.9–11)	59 (49–69)
	2010	16	1.3 (0.99–1.7)	8.1 (6–11)	13 (6.4–22)	82 (39–131)	9 (7.6–11)	55 (46–64)
Burundi	1990	6	1.1 (0.63–1.9)	20 (11–33)	12 (5.1–21)	212 (92–379)	8.3 (6–11)	148 (107–197)
	1995	6	1.6 (1.2–2.2)	27 (19–36)	15 (7.2–25)	249 (118–411)	10 (7.9–12)	165 (130–203)
	2000	6	1.4 (0.99–2)	23 (16–31)	15 (7.2–25)	239 (113–387)	11 (9.4–14)	178 (148–212)
	2005	7	1.6 (1.2–2.1)	23 (17–30)	17 (8.1–27)	232 (112–369)	12 (10–14)	168 (144–195)
	2008	8	1.5 (1.1–1.9)	19 (14–24)	16 (7.5–25)	198 (94–314)	12 (10–13)	147 (128–167)
	2009	8	1.3 (0.95–1.7)	16 (12–21)	15 (6.9–23)	179 (84–283)	11 (9.9–13)	137 (121–154)
	2010	8	1.1 (0.84–1.5)	14 (10–18)	14 (6.3–21)	162 (75–256)	11 (9.5–12)	129 (113–146)
Cameroon	1990	12	1.4 (0.57–2.8)	11 (4.7–23)	15 (5.2–31)	123 (43–253)	9.8 (6.2–14)	81 (50–117)
	1995	14	2.7 (2–3.5)	19 (14–25)	24 (11–40)	173 (81–284)	16 (13–20)	116 (95–140)
	2000	16	3.9 (2.8–5.1)	25 (18–32)	35 (17–58)	224 (107–368)	26 (21–32)	168 (137–202)
	2005	18	3.5 (2.2–5.3)	20 (13–30)	40 (19–67)	228 (108–379)	35 (29–43)	202 (164–243)
	2008	19	2.8 (1.8–4.2)	15 (9.6–23)	37 (17–59)	196 (91–317)	35 (28–42)	187 (152–225)
	2009	19	2.8 (1.8–4.2)	15 (9.3–22)	37 (17–59)	190 (88–308)	35 (28–42)	182 (149–218)
	2010	20	2.8 (1.8–4.1)	14 (9–21)	36 (17–59)	185 (86–299)	35 (28–42)	177 (145–212)
Cape Verde	1990	<1	0.14 (0.066–0.23)	39 (19–67)	1.2 (0.47–2.4)	347 (136–686)	0.61 (0.37–0.91)	175 (107–261)
	1995	<1	0.14 (0.11–0.19)	36 (27–48)	1.3 (0.6–2.1)	328 (151–539)	0.66 (0.54–0.8)	168 (136–202)
	2000	<1	0.16 (0.11–0.2)	35 (26–46)	1.4 (0.64–2.3)	318 (146–521)	0.7 (0.57–0.84)	160 (130–193)
	2005	<1	0.15 (0.11–0.19)	32 (23–41)	1.4 (0.63–2.2)	286 (134–470)	0.72 (0.59–0.87)	153 (125–185)
	2008	<1	0.15 (0.11–0.2)	31 (22–41)	1.4 (0.63–2.3)	283 (130–466)	0.73 (0.59–0.88)	149 (121–180)
	2009	<1	0.14 (0.1–0.19)	29 (21–39)	1.3 (0.61–2.2)	273 (125–449)	0.73 (0.59–0.87)	148 (121–177)
	2010	<1	0.14 (0.1–0.19)	28 (21–38)	1.3 (0.61–2.2)	269 (123–443)	0.73 (0.6–0.87)	147 (120–175)
Central African Republic	1990	3	0.62 (0.26–1.2)	21 (9–40)	6.2 (2.4–12)	210 (81–419)	4.3 (2.6–6.3)	145 (88–216)
	1995	3	0.67 (0.41–1)	20 (12–31)	7.2 (3.4–12)	216 (103–366)	7 (5.7–8.4)	209 (170–252)
	2000	4	1.3 (0.88–1.7)	34 (24–47)	12 (5.8–20)	326 (158–538)	11 (9.1–13)	302 (246–364)
	2005	4	1.9 (1.4–2.5)	47 (34–63)	18 (8.4–29)	436 (209–718)	15 (12–18)	363 (296–438)
	2008	4	1.6 (1–2.3)	37 (24–53)	17 (8–28)	393 (189–650)	14 (12–17)	336 (273–405)
	2009	4	1.6 (1–2.2)	37 (24–52)	17 (8.1–27)	388 (188–633)	14 (12–17)	327 (268–393)
	2010	4	1.5 (0.99–2.2)	34 (22–50)	17 (7.9–27)	376 (179–618)	14 (12–17)	319 (262–381)
Chad	1990	6	1.5 (0.77–2.5)	25 (13–42)	14 (5.5–26)	226 (92–436)	7.5 (4.6–11)	125 (76–187)
	1995	7	2.6 (2–3.4)	38 (28–49)	23 (10–37)	323 (148–535)	13 (10–15)	181 (147–218)
	2000	8	4.1 (3.1–5.3)	50 (38–64)	35 (16–58)	429 (200–710)	22 (17–26)	262 (213–315)
	2005	10	5.9 (4.5–7.4)	60 (46–76)	50 (23–82)	508 (234–836)	31 (25–37)	315 (256–379)
	2008	11	5.6 (4.2–7.3)	53 (40–68)	49 (23–80)	458 (214–754)	31 (25–37)	291 (237–351)
	2009	11	5.4 (4–7)	49 (37–64)	48 (22–78)	435 (204–717)	31 (25–37)	283 (232–340)
	2010	11	5.3 (3.9–6.8)	47 (35–61)	47 (22–77)	417 (197–684)	31 (26–37)	276 (227–329)
Comoros	1990	<1	0.085 (0.045–0.14)	19 (10–32)	0.75 (0.3–1.5)	172 (69–334)	0.37 (0.23–0.56)	85 (52–127)
	1995	<1	0.076 (0.057–0.098)	15 (12–20)	0.68 (0.32–1.1)	137 (64–225)	0.34 (0.28–0.41)	69 (56–84)
	2000	<1	0.065 (0.047–0.085)	11 (8.4–15)	0.6 (0.28–0.98)	107 (49–175)	0.32 (0.26–0.38)	56 (46–68)
	2005	<1	0.065 (0.049–0.084)	10 (7.6–13)	0.58 (0.27–0.95)	90 (42–147)	0.29 (0.24–0.35)	46 (37–55)
	2008	<1	0.056 (0.041–0.074)	8.1 (5.9–11)	0.52 (0.24–0.85)	75 (35–122)	0.28 (0.23–0.34)	40 (33–49)
	2009	<1	0.055 (0.04–0.072)	7.6 (5.6–10)	0.51 (0.24–0.83)	71 (33–116)	0.28 (0.23–0.33)	39 (32–46)
	2010	<1	0.053 (0.039–0.07)	7.3 (5.4–9.5)	0.5 (0.23–0.81)	68 (32–111)	0.27 (0.22–0.32)	37 (30–44)
Congo	1990	2	1 (0.6–1.6)	43 (25–65)	8.4 (3.4–16)	352 (141–667)	4 (2.5–6)	169 (103–252)
	1995	3	1.1 (0.74–1.5)	39 (27–53)	11 (4.9–18)	391 (178–642)	6.7 (5.4–8.1)	245 (199–295)
	2000	3	1.3 (0.88–1.9)	42 (28–61)	15 (6.5–26)	493 (208–816)	11 (9.3–13)	353 (297–414)
	2005	4	2.1 (1.4–3.1)	61 (40–87)	23 (10–38)	645 (284–1067)	15 (12–18)	425 (345–512)
	2008	4	2.2 (1.5–3.1)	57 (38–81)	23 (10–38)	603 (268–999)	15 (12–18)	393 (319–473)
	2009	4	2.1 (1.4–3)	54 (36–76)	23 (9.9–38)	575 (252–955)	15 (12–18)	382 (312–459)
	2010	4	2 (1.3–2.9)	49 (32–71)	22 (9.5–37)	545 (235–908)	15 (12–18)	372 (305–445)
Côte d'Ivoire	1990	13	3.3 (1.6–5.8)	26 (13–46)	31 (12–60)	244 (98–476)	19 (12–27)	150 (95–217)
	1995	15	3.3 (1.9–5)	22 (13–34)	33 (15–58)	227 (105–393)	27 (20–34)	181 (136–233)
	2000	17	4 (2.6–5.7)	24 (16–35)	41 (19–68)	245 (117–408)	33 (26–41)	198 (156–245)
	2005	18	3.5 (2.2–5.2)	19 (12–29)	40 (18–66)	220 (102–364)	33 (27–40)	182 (148–220)
	2008	19	2.5 (1.6–3.7)	13 (8.6–19)	34 (15–55)	177 (77–288)	30 (26–35)	158 (134–184)
	2009	19	2.2 (1.5–3.1)	11 (7.5–16)	31 (13–50)	160 (68–258)	29 (25–33)	148 (128–168)
	2010	20	2.1 (1.4–3.2)	11 (7–16)	31 (12–50)	156 (63–255)	27 (24–32)	139 (120–160)
Democratic Republic of the Congo	1990	36	28 (22–36)	78 (60–99)	240 (110–400)	661 (303–1089)	120 (95–150)	327 (261–400)
	1995	44	32 (25–41)	73 (56–92)	280 (130–460)	634 (297–1037)	140 (120–170)	327 (267–393)
	2000	50	33 (25–41)	66 (50–84)	300 (140–480)	596 (282–962)	160 (140–190)	327 (272–387)
	2005	57	32 (24–41)	56 (42–72)	310 (150–500)	546 (257–873)	190 (160–220)	327 (278–380)
	2008	62	34 (26–44)	55 (42–71)	340 (160–540)	540 (253–861)	200 (180–240)	327 (281–376)
	2009	64	35 (27–44)	54 (42–69)	340 (160–550)	537 (250–852)	210 (180–240)	327 (282–375)
	2010	66	36 (27–45)	54 (41–69)	350 (160–560)	535 (250–850)	220 (190–250)	327 (281–376)
Equatorial Guinea	1990	<1	0.022 (0.02–0.025)	5.9 (5.3–6.8)	0.34 (0.085–0.59)	90 (23–157)	0.3 (0.26–0.34)	80 (70–91)
	1995	<1	0.025 (0.023–0.03)	5.8 (5.1–6.8)	0.41 (0.12–0.71)	92 (27–159)	0.35 (0.31–0.4)	80 (70–90)
	2000	<1	0.035 (0.03–0.043)	6.8 (5.8–8.3)	0.61 (0.21–1)	117 (40–200)	0.52 (0.46–0.59)	100 (88–113)
	2005	<1	0.044 (0.037–0.055)	7.3 (6–9)	0.83 (0.34–1.4)	137 (56–225)	0.67 (0.58–0.75)	110 (96–124)
	2008	<1	0.061 (0.052–0.073)	9.2 (7.9–11)	1 (0.38–1.8)	158 (58–265)	0.83 (0.72–0.93)	125 (109–141)
	2009	<1	0.046 (0.039–0.056)	6.7 (5.7–8.2)	0.83 (0.29–1.4)	122 (42–205)	0.81 (0.71–0.92)	119 (105–135)
	2010	<1	0.039 (0.031–0.049)	5.5 (4.5–7)	0.85 (0.36–1.4)	121 (52–197)	0.94 (0.83–1.1)	135 (118–152)

[a] Rates are per 100 000 population.

TABLE A3.1 **Estimates of the burden of disease caused by TB, 1990–2010**

			MORTALITY (EXCLUDING HIV)		PREVALENCE (INCLUDING HIV)		INCIDENCE (INCLUDING HIV)	
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[a]	NUMBER (THOUSANDS)	RATE	NUMBER (THOUSANDS)	RATE
Eritrea	1990	3	0.19 (0.14–0.24)	6 (4.4–7.5)	3.8 (0.97–6.9)	121 (31–219)	2.3 (1.4–3.4)	72 (44–107)
	1995	3	0.53 (0.37–0.71)	17 (12–22)	10 (2.2–20)	318 (69–612)	2.5 (2–3)	78 (64–94)
	2000	4	0.17 (0.12–0.23)	4.7 (3.3–6.4)	4.4 (1.3–7.8)	120 (36–213)	3.1 (2.5–3.8)	85 (69–102)
	2005	4	0.23 (0.12–0.48)	5.2 (2.7–11)	4 (1.4–7.1)	89 (32–159)	4.1 (3.5–4.9)	92 (78–108)
	2008	5	0.47 (0.21–0.89)	9.5 (4.3–18)	5.6 (2.2–10)	113 (45–211)	4.8 (3.9–5.8)	97 (79–117)
	2009	5	0.56 (0.32–0.89)	11 (6.4–18)	6.2 (2.8–11)	122 (55–210)	5 (4.1–6)	99 (81–118)
	2010	5	0.63 (0.37–0.96)	12 (7.1–18)	6.7 (3.1–12)	128 (59–219)	5.3 (4.3–6.3)	100 (82–120)
Ethiopia	1990	48	7.5 (4.6–12)	15 (9.6–26)	110 (33–190)	219 (68–383)	83 (70–98)	173 (145–203)
	1995	57	18 (14–23)	32 (25–40)	180 (84–290)	315 (146–501)	100 (91–120)	182 (159–205)
	2000	66	27 (22–32)	40 (33–49)	260 (120–410)	403 (189–632)	150 (140–170)	235 (212–259)
	2005	74	33 (27–39)	44 (37–53)	340 (160–530)	458 (211–716)	200 (190–220)	276 (252–301)
	2008	79	32 (26–39)	40 (33–48)	340 (150–540)	432 (194–677)	220 (200–230)	271 (248–294)
	2009	81	30 (24–36)	37 (30–44)	330 (140–520)	406 (178–643)	210 (200–230)	265 (243–287)
	2010	83	29 (23–35)	35 (28–42)	330 (140–520)	394 (173–623)	220 (200–230)	261 (240–282)
Gabon	1990	<1	0.2 (0.084–0.38)	21 (9–41)	2.1 (0.77–4.2)	227 (83–449)	1.4 (0.91–2)	153 (98–219)
	1995	1	0.2 (0.12–0.29)	18 (11–27)	2.2 (0.99–3.6)	199 (91–332)	1.7 (1.4–2)	155 (127–186)
	2000	1	0.27 (0.15–0.44)	22 (12–36)	3.3 (1.5–5.7)	270 (121–459)	3.1 (2.5–3.7)	248 (201–300)
	2005	1	0.42 (0.25–0.64)	30 (18–47)	4.9 (2.3–8.1)	355 (165–594)	4.5 (3.6–5.4)	326 (265–393)
	2008	1	0.64 (0.38–0.98)	44 (26–68)	7.2 (3.4–12)	498 (232–838)	6.6 (5.3–7.9)	452 (368–545)
	2009	1	0.82 (0.54–1.2)	56 (36–80)	8.6 (4.1–14)	580 (280–960)	7.4 (6.1–8.9)	502 (410–602)
	2010	2	1.1 (0.74–1.4)	70 (49–96)	10 (4.9–17)	676 (326–1113)	8.3 (6.8–10)	553 (454–662)
Gambia	1990	<1	0.34 (0.16–0.61)	35 (16–64)	3.2 (1.2–6.4)	335 (128–664)	1.8 (1.1–2.7)	185 (113–275)
	1995	1	0.44 (0.32–0.59)	39 (28–52)	4.2 (1.9–6.9)	369 (169–608)	2.3 (1.9–2.8)	204 (166–246)
	2000	1	0.47 (0.32–0.65)	36 (25–50)	4.8 (2.1–7.9)	367 (165–607)	2.9 (2.4–3.5)	225 (183–272)
	2005	2	0.61 (0.42–0.84)	41 (28–56)	6.1 (2.8–10)	405 (185–669)	3.7 (3–4.5)	248 (202–299)
	2008	2	0.74 (0.53–0.99)	45 (32–61)	7.1 (3.3–12)	435 (203–712)	4.3 (3.5–5.2)	263 (214–318)
	2009	2	0.75 (0.54–0.99)	44 (32–59)	7.2 (3.4–12)	427 (201–693)	4.5 (3.7–5.4)	269 (220–322)
	2010	2	0.84 (0.62–1.1)	49 (36–63)	8 (3.8–13)	460 (217–744)	4.7 (3.9–5.6)	273 (225–327)
Ghana	1990	15	5.3 (1.9–11)	36 (13–72)	46 (15–100)	311 (101–703)	23 (9.9–41)	155 (67–280)
	1995	17	4.8 (2–9.1)	28 (12–54)	45 (17–93)	263 (98–550)	28 (16–45)	167 (91–266)
	2000	19	4.8 (2.5–7.9)	25 (13–41)	44 (19–84)	231 (98–436)	29 (18–43)	152 (95–222)
	2005	22	3.8 (2.3–5.8)	18 (11–27)	37 (17–65)	172 (79–300)	26 (19–33)	119 (88–155)
	2008	23	2.8 (2–3.8)	12 (8.7–16)	31 (14–50)	133 (62–213)	23 (19–27)	99 (83–116)
	2009	24	2.5 (1.9–3.2)	10 (7.8–13)	28 (13–45)	119 (56–187)	22 (19–25)	92 (81–103)
	2010	24	2.1 (1.6–2.8)	8.7 (6.4–12)	26 (12–41)	106 (48–168)	21 (18–24)	86 (75–97)
Guinea	1990	6	1.4 (0.56–2.6)	24 (9.8–46)	12 (4.3–26)	212 (74–454)	6.9 (4.2–10)	119 (73–177)
	1995	8	2 (1.2–3)	27 (16–40)	18 (7.9–32)	238 (105–429)	12 (9.5–14)	154 (126–186)
	2000	8	2.8 (1.9–3.9)	33 (23–46)	25 (12–43)	304 (140–517)	17 (14–20)	200 (163–241)
	2005	9	4 (2.9–5.3)	44 (32–58)	36 (17–59)	399 (189–657)	23 (19–28)	259 (211–312)
	2008	10	5 (3.7–6.6)	53 (39–69)	45 (21–75)	474 (224–780)	29 (24–35)	302 (246–364)
	2009	10	5.6 (4.3–7)	57 (44–72)	50 (24–81)	509 (243–827)	31 (25–37)	318 (259–382)
	2010	10	5.9 (4.5–7.4)	59 (46–75)	52 (25–85)	525 (250–850)	33 (27–40)	334 (274–400)
Guinea-Bissau	1990	1	0.19 (0.088–0.38)	19 (8.7–37)	2.3 (0.76–4.4)	224 (75–433)	1.6 (1.1–2.2)	158 (106–219)
	1995	1	0.17 (0.1–0.3)	15 (8.9–26)	2.4 (0.83–4.2)	213 (74–371)	2 (1.6–2.4)	174 (141–209)
	2000	1	0.35 (0.24–0.49)	28 (20–39)	3.5 (1.7–5.8)	284 (133–469)	2.4 (1.9–2.9)	192 (156–231)
	2005	1	0.32 (0.2–0.49)	23 (14–35)	3.7 (1.6–6.2)	271 (120–453)	2.9 (2.4–3.5)	211 (172–255)
	2008	1	0.36 (0.23–0.55)	25 (15–38)	4.2 (1.8–7)	286 (127–478)	3.3 (2.7–3.9)	224 (182–270)
	2009	1	0.39 (0.25–0.58)	26 (17–39)	4.4 (2–7.3)	295 (135–490)	3.4 (2.8–4.1)	229 (187–275)
	2010	2	0.41 (0.26–0.6)	27 (17–40)	4.6 (2.1–7.6)	303 (138–502)	3.5 (2.9–4.2)	233 (191–279)
Kenya	1990	23	5.1 (3.7–6.7)	22 (16–29)	47 (23–77)	202 (97–329)	33 (28–37)	139 (121–159)
	1995	27	3.4 (2.2–4.9)	12 (8.1–18)	43 (21–69)	157 (76–250)	46 (42–50)	169 (155–184)
	2000	31	5.6 (3.4–8.5)	18 (11–27)	81 (37–130)	260 (119–419)	89 (83–95)	286 (267–305)
	2005	36	6.5 (3.8–11)	18 (11–31)	110 (45–180)	313 (128–519)	130 (120–140)	359 (338–380)
	2008	38	7.1 (5.3–9.2)	18 (14–24)	120 (51–180)	301 (134–471)	130 (120–130)	332 (316–348)
	2009	39	7.5 (6.1–9.1)	19 (16–23)	120 (54–180)	300 (137–463)	120 (120–130)	312 (299–325)
	2010	41	6.9 (4.9–9.4)	17 (12–23)	110 (49–180)	283 (122–448)	120 (120–130)	298 (286–311)
Lesotho	1990	2	0.23 (0.13–0.46)	14 (8.1–28)	3.5 (1–6.4)	215 (61–393)	3 (2.2–4)	184 (134–241)
	1995	2	0.22 (0.12–0.42)	12 (6.8–23)	4.6 (1.7–7.7)	255 (95–426)	5.8 (5.1–6.6)	323 (282–368)
	2000	2	0.32 (0.16–0.6)	16 (8.2–31)	7.1 (2.7–12)	362 (137–602)	11 (9.5–12)	553 (483–628)
	2005	2	0.3 (0.15–0.63)	15 (7.5–30)	8.5 (2.9–14)	413 (141–700)	13 (11–16)	639 (533–754)
	2008	2	0.25 (0.17–0.4)	12 (7.9–19)	8.7 (2.8–15)	409 (132–687)	14 (12–15)	635 (552–725)
	2009	2	0.29 (0.18–0.45)	13 (8.6–21)	8.7 (3–14)	405 (141–671)	14 (12–16)	634 (551–723)
	2010	2	0.29 (0.19–0.45)	13 (8.5–21)	8.7 (3–14)	402 (138–665)	14 (12–16)	633 (551–721)
Liberia	1990	2	0.81 (0.38–1.5)	38 (18–68)	7.7 (2.9–15)	362 (137–718)	4.2 (2.6–6.3)	199 (121–295)
	1995	2	1 (0.79–1.3)	49 (38–63)	9 (4.2–15)	428 (199–699)	4.6 (3.7–5.5)	219 (178–264)
	2000	3	1.6 (1.3–2)	58 (45–72)	14 (6.4–23)	487 (226–798)	6.9 (5.6–8.3)	242 (197–291)
	2005	3	1.5 (1.1–2)	48 (35–64)	15 (6.8–24)	459 (215–750)	8.5 (6.9–10)	266 (217–321)
	2008	4	1.9 (1.3–2.5)	51 (36–69)	18 (8.2–30)	489 (224–807)	10 (8.4–12)	283 (230–341)
	2009	4	1.9 (1.4–2.6)	50 (35–67)	19 (8.7–31)	490 (226–803)	11 (9–13)	288 (236–345)
	2010	4	1.9 (1.4–2.6)	48 (34–65)	19 (8.7–31)	476 (218–776)	12 (9.6–14)	293 (241–350)
Madagascar	1990	11	4.7 (2.5–7.6)	41 (22–67)	41 (16–78)	360 (144–693)	20 (12–30)	177 (108–264)
	1995	13	4.2 (3–5.6)	32 (23–43)	43 (19–69)	324 (146–528)	26 (21–31)	196 (163–233)
	2000	15	6.3 (4.5–8.4)	41 (29–54)	60 (27–98)	388 (178–640)	33 (27–40)	217 (177–262)
	2005	18	8.1 (5.9–11)	46 (33–61)	77 (36–130)	431 (199–707)	43 (35–52)	241 (196–290)
	2008	20	9.8 (7.1–13)	50 (37–66)	91 (42–150)	467 (217–765)	50 (41–60)	256 (208–308)
	2009	20	10 (7.6–14)	51 (38–68)	96 (45–160)	479 (223–783)	53 (43–63)	261 (213–314)
	2010	21	11 (8.1–14)	53 (39–69)	100 (47–160)	489 (228–794)	55 (45–66)	266 (219–319)
Malawi	1990	9	3.3 (1.5–5.9)	35 (16–63)	34 (15–64)	361 (155–687)	31 (21–41)	326 (228–441)
	1995	10	3 (1.8–4.5)	30 (18–46)	34 (17–57)	348 (169–578)	46 (38–54)	462 (382–550)
	2000	11	3.1 (1.7–4.9)	27 (16–43)	38 (18–63)	335 (158–560)	52 (43–62)	467 (385–556)
	2005	13	2.5 (1.3–4.2)	20 (10–33)	34 (16–57)	265 (122–445)	45 (37–54)	354 (291–423)
	2008	14	2.2 (1.7–2.7)	16 (12–19)	30 (15–46)	217 (108–330)	38 (34–43)	273 (242–306)
	2009	14	1.9 (1.6–2.2)	13 (11–15)	27 (14–41)	189 (94–285)	35 (33–38)	243 (227–260)
	2010	15	1.7 (1.4–2.1)	11 (9.5–14)	26 (13–39)	174 (85–263)	33 (30–35)	219 (203–237)
Mali	1990	9	3.6 (2.3–5.2)	41 (26–60)	30 (13–54)	344 (145–623)	14 (9.7–19)	163 (112–223)
	1995	10	3.8 (2.7–5.2)	39 (27–53)	32 (14–56)	326 (144–568)	18 (14–23)	185 (142–234)
	2000	11	2.6 (2–3.4)	23 (17–30)	23 (11–38)	206 (97–336)	14 (12–17)	124 (103–148)
	2005	13	1.1 (0.9–1.3)	8.2 (6.9–9.8)	11 (5.5–18)	87 (42–134)	8 (7.6–8.4)	61 (58–64)
	2008	14	1 (0.91–1.2)	7.1 (6.3–8)	12 (5.5–18)	81 (38–125)	8.6 (8.3–9)	60 (57–62)
	2009	15	1.3 (1.2–1.5)	8.7 (7.7–9.8)	14 (6.6–21)	93 (44–142)	9.7 (9.2–10)	65 (62–68)
	2010	15	1.5 (1.3–1.7)	9.7 (8.2–11)	15 (7.4–24)	101 (48–155)	10 (9.9–11)	68 (64–71)
Mauritania	1990	2	0.36 (0.2–0.93)	18 (10–47)	5.5 (1.3–11)	277 (67–560)	4.5 (2.8–6.8)	228 (139–339)
	1995	2	0.78 (0.5–1.2)	34 (22–50)	8.6 (3.6–14)	375 (159–630)	5.8 (4.7–6.9)	251 (204–303)
	2000	3	1.4 (0.99–1.8)	52 (38–68)	13 (6–21)	485 (226–794)	7.3 (6–8.8)	277 (225–334)
	2005	3	2 (1.6–2.6)	67 (51–85)	18 (8.4–29)	587 (275–957)	9.3 (7.6–11)	305 (249–368)
	2008	3	2.4 (1.9–3)	73 (57–93)	21 (9.6–34)	630 (293–1034)	11 (8.7–13)	324 (264–390)
	2009	3	2.6 (2–3.2)	77 (60–96)	22 (10–36)	655 (303–1070)	11 (9.1–13)	330 (270–397)
	2010	3	2.7 (2.2–3.4)	79 (62–99)	23 (11–38)	670 (309–1093)	12 (9.6–14)	337 (276–404)
Mauritius	1990	1	0.014 (<0.01–0.024)	1.3 (<1–2.3)	0.55 (0.22–1.1)	52 (21–102)	0.29 (0.18–0.44)	28 (17–41)
	1995	1	0.014 (0.01–0.018)	1.2 (<1–1.6)	0.55 (0.26–0.9)	49 (22–79)	0.3 (0.24–0.36)	26 (21–31)
	2000	1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.52 (0.24–0.85)	43 (20–71)	0.29 (0.24–0.35)	24 (20–29)
	2005	1	0.015 (0.015–0.015)	1.2 (1.2–1.2)	0.53 (0.24–0.87)	42 (19–69)	0.29 (0.23–0.35)	23 (19–28)
	2008	1	0.016 (0.016–0.016)	1.3 (1.2–1.3)	0.52 (0.24–0.85)	40 (19–66)	0.28 (0.23–0.34)	22 (18–27)
	2009	1	0.017 (0.017–0.017)	1.3 (1.3–1.3)	0.5 (0.23–0.83)	39 (18–64)	0.28 (0.23–0.34)	22 (18–26)
	2010	1	0.013 (<0.01–0.016)	<1 (<1–1.3)	0.5 (0.23–0.82)	39 (18–63)	0.28 (0.23–0.34)	22 (18–26)

[a] Rates are per 100 000 population.

Data can be downloaded from www.who.int/tb/data

TABLE A3.1 **Estimates of the burden of disease caused by TB, 1990–2010**

	YEAR	POPULATION (MILLIONS)	MORTALITY (EXCLUDING HIV)		PREVALENCE (INCLUDING HIV)		INCIDENCE (INCLUDING HIV)	
			NUMBER (THOUSANDS)	RATE[a]	NUMBER (THOUSANDS)	RATE	NUMBER (THOUSANDS)	RATE
Mozambique	1990	14	11 (1.7–33)	84 (12–242)	100 (19–310)	742 (140–2255)	54 (7.2–150)	401 (53–1091)
	1995	16	13 (3.6–30)	84 (22–189)	120 (32–290)	722 (201–1809)	76 (23–160)	478 (144–1008)
	2000	18	12 (4.6–24)	68 (25–133)	110 (38–240)	600 (208–1326)	93 (40–170)	513 (220–929)
	2005	21	11 (5.1–20)	53 (25–94)	110 (44–210)	509 (212–994)	110 (61–170)	524 (293–819)
	2008	22	11 (6.3–17)	49 (28–77)	110 (50–190)	488 (225–862)	120 (77–170)	535 (347–763)
	2009	23	9.7 (5.8–15)	42 (25–64)	99 (47–170)	433 (207–748)	120 (84–170)	539 (368–743)
	2010	23	11 (7–17)	49 (30–74)	110 (54–200)	491 (233–844)	130 (87–170)	544 (374–746)
Namibia	1990	1	2.1 (1.5–2.9)	150 (105–203)	18 (8.3–31)	1287 (586–2193)	9.8 (7.4–13)	696 (525–890)
	1995	2	1.9 (1.3–2.5)	113 (82–149)	18 (8.7–29)	1080 (525–1760)	14 (12–17)	862 (723–1012)
	2000	2	1.5 (0.99–2.2)	80 (52–115)	18 (9–29)	969 (477–1546)	20 (18–23)	1077 (938–1225)
	2005	2	1.2 (0.69–1.9)	57 (33–90)	18 (8–29)	849 (385–1377)	21 (19–24)	1028 (916–1145)
	2008	2	0.89 (0.71–1.1)	40 (32–50)	14 (6.9–22)	651 (311–997)	17 (16–19)	793 (729–860)
	2009	2	0.69 (0.34–1.3)	31 (15–59)	12 (4.9–21)	550 (219–939)	15 (14–16)	682 (637–727)
	2010	2	0.58 (0.45–0.75)	25 (20–33)	11 (4.8–18)	492 (210–779)	14 (13–15)	603 (563–643)
Niger	1990	8	2.1 (1–3.5)	26 (13–45)	19 (7.4–36)	240 (95–467)	9.7 (5.9–14)	125 (76–186)
	1995	9	3 (2.3–3.8)	33 (26–41)	26 (12–42)	278 (128–456)	13 (10–15)	138 (112–166)
	2000	11	3.6 (2.7–4.5)	33 (25–42)	31 (15–51)	284 (133–464)	17 (14–20)	152 (124–183)
	2005	13	4.3 (3.3–5.6)	33 (25–43)	39 (18–64)	300 (141–491)	22 (18–26)	168 (136–202)
	2008	14	5.1 (3.8–6.6)	35 (26–45)	46 (22–75)	317 (150–516)	26 (21–31)	178 (145–214)
	2009	15	5.4 (4.1–6.9)	36 (27–46)	49 (23–79)	326 (153–529)	27 (22–33)	181 (148–217)
	2010	16	5.7 (4.4–7.3)	37 (28–47)	52 (24–84)	333 (156–540)	29 (24–34)	185 (152–221)
Nigeria	1990	98	31 (1.5–120)	32 (1.5–121)	260 (21–1000)	265 (22–1058)	130 (0.48–560)	128 (<1–579)
	1995	110	34 (2.9–110)	31 (2.7–97)	280 (27–940)	250 (24–857)	150 (5.3–540)	139 (4.8–489)
	2000	124	44 (4.1–140)	36 (3.3–110)	370 (46–1200)	298 (38–1003)	210 (11–710)	172 (8.6–571)
	2005	140	45 (6.3–130)	32 (4.5–94)	400 (74–1200)	286 (53–876)	240 (27–700)	175 (19–498)
	2008	151	34 (9–81)	23 (6–54)	320 (95–800)	215 (63–529)	220 (76–430)	145 (51–288)
	2009	154	31 (14–55)	20 (9.2–36)	300 (120–580)	192 (78–378)	200 (120–310)	130 (77–198)
	2010	158	33 (11–68)	21 (7.2–43)	320 (110–690)	199 (70–438)	210 (99–360)	133 (63–228)
Rwanda	1990	7	4.3 (1.6–8.4)	61 (23–118)	37 (12–82)	521 (170–1154)	29 (12–53)	405 (169–740)
	1995	6	3.2 (1.4–5.7)	58 (26–103)	27 (9.7–57)	487 (173–1021)	22 (11–37)	394 (193–665)
	2000	8	3.2 (1.8–5.2)	40 (22–64)	29 (12–55)	361 (153–679)	23 (15–34)	286 (181–415)
	2005	9	1.7 (1.5–2)	19 (16–21)	18 (9.2–27)	192 (100–289)	15 (14–16)	162 (149–176)
	2008	10	1.2 (1.1–1.5)	12 (11–15)	14 (7.1–22)	143 (71–217)	12 (11–13)	123 (114–132)
	2009	10	1.3 (1–1.6)	12 (9.7–15)	14 (7–22)	138 (68–212)	12 (11–13)	115 (102–128)
	2010	11	1.2 (0.93–1.5)	11 (8.7–14)	14 (6.6–21)	128 (62–197)	11 (10–13)	106 (94–118)
Sao Tome and Principe	1990	<1	0.032 (0.015–0.058)	28 (13–50)	0.3 (0.11–0.6)	258 (99–513)	0.16 (0.096–0.23)	135 (82–201)
	1995	<1	0.037 (0.028–0.048)	29 (22–37)	0.32 (0.15–0.53)	253 (117–416)	0.16 (0.13–0.19)	124 (101–150)
	2000	<1	0.026 (0.017–0.037)	18 (12–26)	0.27 (0.12–0.45)	189 (82–316)	0.16 (0.13–0.19)	114 (93–137)
	2005	<1	0.015 (<0.01–0.024)	9.7 (5.8–16)	0.2 (0.068–0.35)	134 (45–231)	0.16 (0.13–0.19)	105 (88–123)
	2008	<1	0.027 (0.019–0.038)	17 (12–24)	0.26 (0.12–0.44)	166 (76–275)	0.16 (0.13–0.19)	99 (81–120)
	2009	<1	0.024 (0.016–0.034)	15 (9.8–21)	0.24 (0.11–0.41)	151 (68–252)	0.16 (0.13–0.19)	98 (80–117)
	2010	<1	0.022 (0.014–0.032)	13 (8.4–19)	0.23 (0.1–0.39)	141 (62–235)	0.16 (0.13–0.19)	96 (79–115)
Senegal	1990	7	2.9 (1.4–5)	40 (20–69)	27 (11–52)	368 (146–717)	14 (8.6–21)	195 (118–289)
	1995	8	3.6 (2.6–4.7)	43 (31–56)	33 (15–54)	395 (183–646)	18 (15–22)	215 (175–259)
	2000	10	4.7 (3.5–6.1)	50 (37–64)	42 (20–69)	446 (209–728)	23 (18–27)	237 (193–285)
	2005	11	6 (4.5–7.7)	55 (42–71)	54 (25–87)	492 (231–800)	28 (23–34)	261 (212–315)
	2008	12	6.9 (5.3–8.8)	59 (45–75)	61 (29–100)	521 (244–848)	33 (27–39)	277 (225–334)
	2009	12	7.2 (5.5–9.2)	60 (45–76)	64 (30–100)	527 (246–860)	34 (28–41)	282 (231–339)
	2010	12	7.7 (6–9.6)	62 (48–77)	67 (31–110)	542 (253–879)	36 (29–43)	288 (237–345)
Seychelles	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–1.1)	0.034 (<0.01–0.06)	48 (11–84)	0.031 (0.019–0.046)	43 (26–64)
	1995	<1	<0.01 (<0.01–<0.01)	3.4 (2.5–4.3)	0.061 (0.028–0.1)	81 (37–133)	0.03 (0.024–0.036)	40 (32–48)
	2000	<1	<0.01 (<0.01–<0.01)	1.8 (1.1–2.7)	0.044 (0.018–0.075)	56 (23–95)	0.029 (0.023–0.035)	37 (30–44)
	2005	<1	<0.01 (<0.01–<0.01)	2.5 (2.5–2.6)	0.05 (0.022–0.083)	60 (27–99)	0.028 (0.023–0.034)	33 (27–40)
	2008	<1	<0.01 (<0.01–<0.01)	2.4 (2.4–2.5)	0.055 (0.025–0.09)	64 (29–105)	0.027 (0.022–0.033)	32 (26–38)
	2009	<1	<0.01 (<0.01–<0.01)	2.4 (2.4–2.5)	0.041 (0.017–0.075)	47 (20–87)	0.027 (0.022–0.032)	31 (26–38)
	2010	<1	<0.01 (<0.01–<0.01)	1.7 (<1–2.7)	0.042 (0.017–0.074)	48 (20–85)	0.027 (0.022–0.032)	31 (25–37)
Sierra Leone	1990	4	2.3 (1.4–3.5)	59 (35–89)	19 (7.6–36)	480 (190–909)	8.2 (5–12)	207 (126–308)
	1995	4	2.7 (2.1–3.4)	70 (55–88)	23 (11–38)	595 (274–975)	11 (8.9–13)	279 (227–337)
	2000	4	3.6 (2.8–4.6)	87 (67–110)	31 (14–51)	748 (346–1223)	16 (13–19)	377 (307–454)
	2005	5	5.9 (4.5–7.4)	114 (88–144)	51 (24–83)	982 (457–1605)	26 (21–32)	509 (414–613)
	2008	6	7.2 (5.5–9.1)	127 (98–162)	63 (30–100)	1122 (529–1824)	34 (28–41)	608 (495–733)
	2009	6	7.7 (5.9–9.7)	134 (103–170)	68 (32–110)	1185 (559–1918)	37 (30–44)	644 (526–774)
	2010	6	8.6 (6.7–11)	146 (113–183)	75 (35–120)	1282 (603–2075)	40 (33–48)	682 (560–816)
South Africa	1990	37	14 (6.1–27)	37 (17–74)	160 (55–300)	429 (150–829)	110 (75–150)	301 (204–416)
	1995	41	12 (6.9–18)	28 (17–44)	150 (65–240)	352 (158–587)	130 (110–160)	317 (258–382)
	2000	45	19 (12–28)	43 (27–62)	230 (110–380)	524 (255–846)	260 (210–310)	576 (468–694)
	2005	48	28 (17–42)	58 (35–89)	380 (180–610)	788 (374–1270)	440 (360–530)	925 (753–1115)
	2008	49	25 (14–41)	51 (29–84)	390 (180–640)	792 (358–1288)	470 (390–570)	960 (781–1157)
	2009	50	26 (16–40)	52 (32–80)	400 (190–640)	809 (372–1287)	480 (400–580)	971 (794–1165)
	2010	50	25 (16–38)	50 (31–75)	400 (180–630)	795 (364–1264)	490 (400–590)	981 (806–1173)
Swaziland	1990	<1	0.27 (0.11–0.55)	31 (12–64)	3 (1.1–6.1)	350 (126–702)	2.3 (1.4–3.4)	267 (163–397)
	1995	<1	0.21 (0.11–0.36)	22 (12–37)	2.9 (1.3–4.9)	301 (136–507)	3.2 (2.6–3.9)	337 (274–406)
	2000	1	0.32 (0.15–0.57)	30 (14–54)	5.4 (2.3–9.1)	508 (212–859)	8.5 (7–10)	803 (654–968)
	2005	1	0.36 (0.16–0.68)	32 (14–61)	7.1 (2.7–12)	645 (247–1085)	13 (10–15)	1147 (934–1381)
	2008	1	0.4 (0.28–0.56)	35 (24–48)	8 (3.4–13)	697 (293–1109)	14 (11–17)	1227 (998–1479)
	2009	1	0.39 (0.26–0.56)	33 (22–48)	8.1 (3.3–13)	697 (286–1118)	15 (12–18)	1257 (1028–1508)
	2010	1	0.38 (0.24–0.56)	32 (20–47)	8.4 (3.3–13)	704 (281–1134)	15 (13–18)	1287 (1058–1538)
Togo	1990	4	3.1 (1.9–4.7)	85 (51–128)	25 (10–48)	690 (273–1305)	11 (6.9–17)	308 (187–457)
	1995	4	3.4 (2.7–4.2)	84 (67–103)	28 (12–46)	685 (305–1132)	14 (11–17)	339 (276–409)
	2000	5	4.3 (3.4–5.2)	89 (71–109)	35 (15–57)	720 (315–1192)	18 (15–22)	374 (304–451)
	2005	5	5.1 (4.1–6.3)	95 (75–116)	42 (19–69)	775 (347–1273)	22 (18–27)	413 (336–497)
	2008	6	5.8 (4.6–7.2)	101 (80–125)	48 (21–79)	825 (367–1365)	25 (21–30)	438 (356–527)
	2009	6	6.1 (4.9–7.4)	103 (83–126)	50 (22–82)	843 (377–1390)	26 (21–32)	446 (364–536)
	2010	6	6.4 (5.2–7.8)	106 (86–129)	52 (23–85)	865 (386–1418)	27 (22–33)	455 (373–545)
Uganda	1990	18	11 (4.8–19)	60 (27–108)	93 (35–190)	526 (195–1086)	110 (57–180)	624 (321–1025)
	1995	21	10 (4.7–18)	50 (22–89)	96 (38–190)	461 (183–925)	110 (61–180)	542 (291–869)
	2000	24	9.9 (4.7–17)	41 (19–72)	97 (41–190)	399 (171–772)	100 (62–160)	427 (256–642)
	2005	28	7.3 (3.7–12)	26 (13–43)	81 (37–140)	285 (131–509)	87 (62–120)	304 (218–405)
	2008	31	6.1 (4.2–8.4)	19 (13–27)	71 (36–110)	227 (113–360)	76 (60–95)	244 (191–303)
	2009	32	5.3 (3.4–7.6)	16 (11–24)	65 (32–100)	202 (99–323)	73 (59–89)	226 (181–275)
	2010	33	5.1 (3.3–7.3)	15 (9.9–22)	64 (32–100)	193 (95–306)	70 (56–85)	209 (168–254)
United Republic of Tanzania	1990	25	8 (6–10)	32 (24–41)	77 (38–120)	303 (148–485)	58 (49–67)	226 (192–262)
	1995	30	6 (3.9–8.7)	20 (13–29)	71 (34–110)	236 (115–379)	68 (58–78)	226 (192–262)
	2000	34	5.9 (3.6–9)	17 (11–26)	79 (37–130)	233 (108–378)	80 (70–91)	236 (206–269)
	2005	39	5.8 (3.7–8.6)	15 (9.6–22)	81 (38–130)	209 (97–336)	83 (76–89)	213 (196–229)
	2008	42	5.4 (4.4–6.5)	13 (10–15)	78 (37–120)	184 (87–283)	80 (75–86)	190 (178–203)
	2009	44	5.5 (4.5–6.7)	13 (10–15)	80 (37–120)	183 (86–282)	79 (74–85)	183 (171–195)
	2010	45	5.8 (4.7–6.9)	13 (11–15)	82 (39–130)	183 (87–281)	79 (75–85)	177 (166–189)
Zambia	1990	8	5 (1.8–10)	64 (23–128)	51 (19–110)	646 (245–1351)	56 (49–63)	710 (623–803)
	1995	9	4.1 (2.5–6)	45 (29–67)	52 (25–84)	586 (283–942)	70 (64–77)	788 (718–862)
	2000	10	3.4 (1.9–5.6)	34 (19–55)	53 (24–87)	520 (232–851)	73 (67–78)	713 (660–768)
	2005	11	2.4 (1.2–4.5)	21 (11–39)	47 (18–78)	408 (160–681)	65 (59–71)	566 (518–616)
	2008	12	2.5 (2–3.2)	20 (16–26)	45 (21–69)	360 (166–557)	62 (56–68)	500 (452–551)
	2009	13	2.6 (2–3.4)	21 (16–26)	45 (21–70)	355 (165–548)	61 (55–68)	482 (433–533)
	2010	13	2.6 (2–3.3)	20 (15–25)	45 (21–70)	345 (159–534)	61 (55–67)	462 (417–510)
Zimbabwe	1990	10	2.9 (1.1–5.6)	27 (11–54)	28 (11–59)	272 (107–559)	31 (16–50)	296 (156–482)
	1995	12	1.6 (0.58–3.4)	14 (4.9–29)	28 (11–51)	244 (90–436)	56 (39–77)	483 (332–662)
	2000	13	2.1 (0.77–4.5)	17 (6.1–36)	44 (15–77)	353 (123–619)	91 (71–110)	726 (570–901)
	2005	13	3.4 (1.5–6.5)	27 (12–52)	54 (22–94)	429 (174–749)	100 (79–120)	799 (630–988)
	2008	12	3.7 (2.3–5.5)	30 (19–44)	51 (24–82)	409 (194–657)	89 (69–110)	716 (554–899)
	2009	12	4 (2.7–5.5)	32 (22–44)	53 (25–84)	427 (203–673)	83 (64–110)	668 (510–846)
	2010	13	3.4 (2.1–5.1)	27 (17–40)	51 (23–80)	402 (185–639)	80 (61–100)	633 (486–799)

[a] Rates are per 100 000 population.

TABLE A3.2 **Incidence, notification and case detection rates, all forms, 1990–2010**

			INCIDENCE (INCLUDING HIV)		INCIDENCE HIV-POSITIVE		NOTIFIED NEW AND RELAPSE[a]		CASE DETECTION RATE[a]
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[b]	NUMBER (THOUSANDS)	RATE[b]	NUMBER	RATE[b]	PERCENT
Algeria	1990	25	17 (12–22)	66 (48–86)			11 607	46	70 (53–96)
	1995	28	19 (14–25)	68 (50–90)			13 507	48	70 (53–96)
	2000	31	27 (19–35)	87 (63–114)	0.16 (0.081–0.29)	<1 (<1–<1)	18 572	61	70 (53–96)
	2005	33	30 (22–40)	93 (67–122)	0.35 (0.18–0.59)	1.1 (<1–1.8)	21 336	65	70 (53–96)
	2008	34	29 (21–39)	85 (62–112)	0.42 (0.22–0.71)	1.2 (<1–2.1)	20 588	60	70 (53–96)
	2009	35	31 (23–41)	89 (65–117)	0.49 (0.25–0.81)	1.4 (<1–2.3)	21 701	62	70 (53–96)
	2010	35	32 (23–42)	90 (65–118)	0.54 (0.28–0.89)	1.5 (<1–2.5)	22 336	63	70 (53–96)
Angola	1990	10	21 (13–32)	205 (125–305)	0.62 (0.16–1.4)	6.0 (1.5–14)	10 271	99	48 (33–80)
	1995	12	27 (22–33)	226 (184–273)	2.0 (1.2–2.9)	16 (9.7–24)	5 143	42	19 (16–23)
	2000	14	35 (28–42)	250 (203–301)	3.0 (2–4.2)	21 (14–30)	16 062	115	46 (38–57)
	2005	16	45 (37–54)	276 (226–330)	3.9 (2.7–5.5)	24 (16–33)	37 175	225	82 (68–100)
	2008	18	53 (44–62)	292 (244–345)	4.7 (3.2–6.4)	26 (18–35)	44 576	247	85 (72–101)
	2009	19	55 (46–65)	298 (249–351)	5.0 (2.8–7.8)	27 (15–42)	41 221	222	75 (63–89)
	2010	19	58 (49–68)	304 (255–356)	5.2 (3.7–7.1)	27 (19–37)	44 655	234	77 (66–92)
Benin	1990	5	3.7 (2.2–5.4)	77 (47–113)	0.072 (<0.01–0.61)	1.5 (<1–13)	2 074	43	57 (38–92)
	1995	6	4.5 (3.7–5.5)	80 (65–97)	0.57 (0.25–1)	10 (4.5–18)	2 400	42	53 (44–65)
	2000	7	5.5 (4.5–6.6)	85 (69–102)	0.92 (0.61–1.3)	14 (9.4–20)	2 697	41	49 (41–60)
	2005	8	6.8 (5.5–8.2)	89 (72–107)	1.1 (0.74–1.5)	14 (9.7–19)	3 270	43	48 (40–59)
	2008	8	7.7 (6.2–9.2)	92 (75–111)	1.3 (1.1–1.6)	16 (13–19)	3 872	46	50 (42–62)
	2009	9	8.0 (6.5–9.6)	93 (76–111)	1.3 (1.1–1.6)	15 (12–18)	3 878	45	49 (41–59)
	2010	9	8.3 (6.8–9.9)	94 (77–112)	1.3 (1–1.5)	15 (12–17)	3 756	42	45 (38–55)
Botswana	1990	1	7.4 (2.8–14)	533 (204–1015)	1.7 (0.64–3.3)	125 (46–241)	2 938	213	40 (21–104)
	1995	2	14 (8.7–20)	855 (547–1230)	7.6 (4.8–11)	478 (305–690)	5 665	357	42 (29–65)
	2000	2	16 (13–20)	918 (732–1123)	11 (8.4–13)	604 (479–744)	9 292	529	58 (47–72)
	2005	2	14 (12–15)	733 (665–803)	9.3 (8.4–10)	498 (446–553)	10 058	536	73 (67–81)
	2008	2	12 (11–13)	596 (538–658)	7.8 (7.1–8.7)	402 (362–443)	8 891	455	76 (69–85)
	2009	2	11 (9.6–12)	545 (485–610)	7.2 (6.4–8)	362 (323–404)	8 362	422	77 (69–87)
	2010	2	10 (9–11)	503 (448–561)	6.5 (5.8–7.3)	326 (290–364)	7 013	349	70 (62–78)
Burkina Faso	1990	9	6.1 (4.5–8)	66 (49–85)	2.5 (1.7–3.6)	27 (18–39)	1 497	16	24 (19–33)
	1995	11	6.3 (4.8–7.9)	59 (45–74)	2.5 (1.7–3.5)	24 (16–33)	2 572	24	41 (33–53)
	2000	12	8.5 (6.6–11)	69 (53–87)	2.8 (1.8–3.9)	22 (15–31)	2 331	19	27 (22–35)
	2005	14	10 (8.3–13)	74 (58–91)	2.7 (1.9–3.7)	19 (13–26)	3 478	24	33 (27–42)
	2008	16	9.9 (8.1–12)	64 (52–77)	2.2 (1.8–2.6)	14 (12–17)	4 238	27	43 (36–52)
	2009	16	9.4 (7.9–11)	59 (49–69)	1.9 (1.6–2.2)	12 (10–14)	4 716	30	50 (43–60)
	2010	16	9.0 (7.6–11)	55 (46–64)	1.6 (1.4–1.9)	9.8 (8.3–12)	4 800	29	53 (45–63)
Burundi	1990	6	8.3 (6–11)	148 (107–197)	1.6 (1.1–2.3)	29 (20–41)	4 575	82	55 (41–77)
	1995	6	10 (7.9–12)	165 (130–203)	2.6 (2–3.4)	43 (32–56)	3 326	55	33 (27–42)
	2000	6	11 (9.4–14)	178 (148–212)	3 (2.3–3.8)	47 (36–59)	6 421	101	56 (48–68)
	2005	7	12 (10–14)	168 (144–195)	3.1 (2.4–3.8)	42 (33–53)	6 585	91	54 (47–63)
	2008	8	12 (10–13)	147 (128–167)	2.8 (2.2–3.4)	35 (27–43)	6 808	86	58 (51–67)
	2009	8	11 (9.9–13)	137 (121–154)	2.6 (2.1–3.3)	32 (25–40)	7 277	89	65 (58–74)
	2010	8	11 (9.5–12)	129 (113–146)	2.5 (2.2–2.8)	29 (26–33)	7 611	91	70 (62–80)
Cameroon	1990	12	9.8 (6.2–14)	81 (50–117)	0.6 (0.059–1.8)	4.9 (<1–14)	5 892	48	60 (41–96)
	1995	14	16 (13–20)	116 (95–140)	5.1 (3.7–6.6)	36 (27–48)	3 292	24	20 (17–25)
	2000	16	26 (21–32)	168 (137–202)	10 (7.7–13)	65 (49–82)	5 251	33	20 (17–25)
	2005	18	35 (29–43)	202 (164–243)	14 (11–18)	80 (61–102)	21 499	122	61 (50–75)
	2008	19	35 (28–42)	187 (152–225)	14 (12–17)	75 (62–90)	24 622	131	70 (58–86)
	2009	19	35 (28–42)	182 (149–218)	14 (12–17)	74 (60–88)	24 662	129	71 (59–87)
	2010	20	35 (28–42)	177 (145–212)	14 (11–17)	71 (58–84)	24 073	123	69 (58–85)
Cape Verde	1990	<1	0.61 (0.37–0.91)	175 (107–261)			221	63	36 (24–59)
	1995	<1	0.66 (0.54–0.8)	168 (136–202)			303	77	46 (38–56)
	2000	<1	0.70 (0.57–0.84)	160 (130–193)					–
	2005	<1	0.72 (0.59–0.87)	153 (125–185)	0.034 (0.018–0.057)	7.2 (3.7–12)	292	62	40 (33–50)
	2008	<1	0.73 (0.59–0.88)	149 (121–180)			334	69	46 (38–56)
	2009	<1	0.73 (0.59–0.87)	148 (121–177)			332	68	46 (38–56)
	2010	<1	0.73 (0.6–0.87)	147 (120–175)			356	72	49 (41–60)
Central African Republic	1990	3	4.3 (2.6–6.3)	145 (88–216)	1.1 (0.47–1.9)	36 (16–64)	2 124	72	50 (34–82)
	1995	3	7.0 (5.7–8.4)	209 (170–252)	3.5 (2.6–4.5)	104 (78–134)	3 339	100	48 (40–59)
	2000	4	11 (9.1–13)	302 (246–364)	5.7 (4.4–7.2)	155 (120–195)			–
	2005	4	15 (12–18)	363 (296–438)	6.7 (5.1–8.4)	166 (128–209)	3 210	80	22 (18–27)
	2008	4	14 (12–17)	336 (273–405)	5.7 (4.3–7.3)	135 (103–171)	6 803	161	48 (40–59)
	2009	4	14 (12–17)	327 (268–393)	5.5 (4.2–7)	127 (97–162)	8 743	202	62 (52–76)
	2010	4	14 (12–17)	319 (262–381)	5.3 (4–6.8)	120 (91–154)	6 643	151	47 (40–58)
Chad	1990	6	7.5 (4.6–11)	125 (76–187)	0.84 (0.33–1.6)	14 (5.5–26)	2 591	43	34 (23–56)
	1995	7	13 (10–15)	181 (147–218)	2.4 (1.4–3.8)	35 (20–54)	3 186	46	25 (21–31)
	2000	8	22 (17–26)	262 (213–315)	5.6 (3.8–7.8)	69 (47–95)			–
	2005	10	31 (25–37)	315 (256–379)	9 (6.6–12)	92 (67–120)	6 311	64	20 (17–25)
	2008	11	31 (25–37)	291 (237–351)	9.2 (6.5–12)	86 (61–116)	6 912	65	22 (18–27)
	2009	11	31 (25–37)	283 (232–340)	9.2 (6.4–13)	84 (59–114)	8 411	77	27 (23–33)
	2010	11	31 (26–37)	276 (227–329)	9.2 (6.4–12)	82 (57–111)	9 452	84	31 (26–37)
Comoros	1990	<1	0.37 (0.23–0.56)	85 (52–127)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	140	32	37 (25–61)
	1995	<1	0.34 (0.28–0.41)	69 (56–84)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	123	25	36 (30–44)
	2000	<1	0.32 (0.26–0.38)	56 (46–68)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	120	21	38 (31–47)
	2005	<1	0.29 (0.24–0.35)	46 (37–55)	<0.01 (<0.01–0.016)	<1 (<1–2.5)	111	17	38 (31–46)
	2008	<1	0.28 (0.23–0.34)	40 (33–49)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	132	19	47 (39–58)
	2009	<1	0.28 (0.23–0.33)	39 (32–46)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	120	17	43 (36–53)
	2010	<1	0.27 (0.22–0.32)	37 (30–44)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	*123*	*17*	*45 (38–55)*
Congo	1990	2	4.0 (2.5–6)	169 (103–252)	0.38 (0.22–0.59)	16 (9.1–25)	591	25	15 (10–24)
	1995	3	6.7 (5.4–8.1)	245 (199–295)	0.6 (0.45–0.78)	22 (16–29)	3 615	132	54 (45–66)
	2000	3	11 (9.3–13)	353 (297–414)	0.93 (0.7–1.2)	30 (22–38)	9 239	295	83 (71–99)
	2005	4	15 (12–18)	425 (345–512)	1.2 (0.9–1.6)	35 (26–45)	9 853	279	66 (54–81)
	2008	4	15 (12–18)	393 (319–473)	1.2 (0.89–1.6)	31 (23–41)	8 886	232	59 (49–73)
	2009	4	15 (12–18)	382 (312–459)	1.2 (0.88–1.5)	30 (22–39)	9 765	248	65 (54–79)
	2010	4	15 (12–18)	372 (305–445)	1.2 (0.96–1.4)	29 (24–35)	10 150	251	68 (56–82)
Côte d'Ivoire	1990	13	19 (12–27)	150 (95–217)	3 (0.9–6.4)	24 (7.2–51)	7 841	63	42 (29–66)
	1995	15	27 (20–34)	181 (136–233)	9.5 (6.5–13)	65 (44–89)	11 988	82	45 (35–60)
	2000	17	33 (26–41)	198 (156–245)	12 (9.1–16)	74 (55–95)	15 094	91	46 (37–58)
	2005	18	33 (27–40)	182 (148–220)	11 (8.1–14)	59 (45–76)	19 681	109	60 (50–74)
	2008	19	30 (26–35)	158 (134–184)	8.9 (7.5–10)	47 (40–54)	23 688	125	79 (68–93)
	2009	19	29 (25–33)	148 (128–168)	8.6 (7.5–9.8)	45 (39–51)	22 571	117	79 (69–91)
	2010	20	27 (24–32)	139 (120–160)	6.7 (5.7–7.6)	34 (29–39)	22 708	115	83 (72–96)
Democratic Republic of the Congo	1990	36	120 (95–150)	327 (261–400)	9.2 (6.2–13)	25 (17–35)	21 131	58	18 (15–22)
	1995	44	140 (120–170)	327 (267–393)	11 (7.5–15)	25 (17–34)	42 819	97	30 (25–36)
	2000	50	160 (140–190)	327 (272–387)	12 (8.5–17)	25 (17–34)	61 024	123	38 (32–45)
	2005	57	190 (160–220)	327 (278–380)	15 (10–20)	25 (18–34)	97 075	169	52 (45–61)
	2008	62	200 (180–240)	327 (281–376)	16 (9.2–25)	26 (15–41)	104 861	168	51 (45–60)
	2009	64	210 (180–240)	327 (282–375)	17 (12–23)	26 (19–35)	111 709	174	53 (46–62)
	2010	66	220 (190–250)	327 (281–376)	18 (13–24)	27 (19–36)	114 170	173	53 (46–61)
Equatorial Guinea	1990	<1	0.30 (0.26–0.34)	80 (70–91)	<0.01 (<0.01–<0.01)	1.1 (<1–1.7)	260	70	87 (77–99)
	1995	<1	0.35 (0.31–0.4)	80 (70–90)	0.015 (<0.01–0.025)	3.3 (1.6–5.7)	306	69	87 (77–99)
	2000	<1	0.52 (0.46–0.59)	100 (88–113)	0.061 (0.04–0.087)	12 (7.7–17)			–
	2005	<1	0.67 (0.58–0.75)	110 (96–124)	0.1 (0.074–0.14)	17 (12–23)			–
	2008	<1	0.83 (0.72–0.93)	125 (109–141)	0.046 (0.032–0.061)	6.9 (4.9–9.3)	718	108	87 (77–99)
	2009	<1	0.81 (0.71–0.92)	119 (105–135)	0.21 (0.16–0.27)	31 (23–40)	707	104	87 (77–99)
	2010	<1	0.94 (0.83–1.1)	135 (118–152)	0.45 (0.38–0.52)	64 (55–75)	820	117	87 (77–99)

[a] Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (in *italics*).
[b] Rates are per 100 000 population.

Data can be downloaded from www.who.int/tb/data

TABLE A3.2 **Incidence, notification and case detection rates, all forms, 1990–2010**

			INCIDENCE (INCLUDING HIV)		INCIDENCE HIV-POSITIVE		NOTIFIED NEW AND RELAPSE[a]		CASE DETECTION RATE[a]
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[b]	NUMBER (THOUSANDS)	RATE[b]	NUMBER	RATE[b]	PERCENT
Eritrea	1990	3	2.3 (1.4–3.4)	72 (44–107)	0.26 (0.042–0.68)	8.3 (1.3–22)	3 699	117	163 (110–268)
	1995	3	2.5 (2–3)	78 (64–94)	0.86 (0.48–1.3)	27 (15–42)	21 453	668	854 (709–1050)
	2000	4	3.1 (2.5–3.8)	85 (69–102)	1.3 (0.84–1.9)	36 (23–51)	6 652	181	214 (177–262)
	2005	4	4.1 (3.5–4.9)	92 (78–108)	1.5 (1–2.2)	34 (22–48)	3 549	79	86 (73–102)
	2008	5	4.8 (3.9–5.8)	97 (79–117)	1.6 (0.87–2.5)	32 (18–50)	2 970	60	62 (51–76)
	2009	5	5.0 (4.1–6)	99 (81–118)	1.6 (1–2.4)	32 (20–46)	2 904	57	58 (48–71)
	2010	5	5.3 (4.3–6.3)	100 (82–120)	1.6 (1–2.4)	31 (20–45)	2 870	55	55 (46–66)
Ethiopia	1990	48	83 (70–98)	173 (145–203)			88 634	183	106 (90–127)
	1995	57	100 (91–120)	182 (159–205)			26 034	46	25 (22–29)
	2000	66	150 (140–170)	235 (212–259)			91 101	139	59 (54–66)
	2005	74	200 (190–220)	276 (252–301)			124 262	167	61 (56–67)
	2008	79	220 (200–230)	271 (248–294)			141 157	178	66 (60–72)
	2009	81	210 (200–230)	265 (243–287)			148 936	183	69 (64–76)
	2010	83	220 (200–230)	261 (240–282)			154 694	186	72 (66–78)
Gabon	1990	<1	1.4 (0.91–2)	153 (98–219)	0.14 (0.065–0.25)	15 (7–27)	917	99	65 (45–100)
	1995	1	1.7 (1.4–2)	155 (127–186)	0.46 (0.32–0.62)	42 (30–57)	1 115	103	66 (55–81)
	2000	1	3.1 (2.5–3.7)	248 (201–300)	1.2 (0.87–1.6)	97 (71–127)			–
	2005	1	4.5 (3.6–5.4)	326 (265–393)	1.9 (1.4–2.4)	136 (102–175)	2 512	183	56 (47–69)
	2008	1	6.6 (5.3–7.9)	452 (368–545)	2.8 (2–3.6)	190 (140–248)	4 540	313	69 (57–85)
	2009	1	7.4 (6.1–8.9)	502 (410–602)	3.1 (2.3–4)	211 (158–271)	3 073	208	41 (35–51)
	2010	2	8.3 (6.8–10)	553 (454–662)	3.5 (2.6–4.5)	233 (176–299)	3 473	231	42 (35–51)
Gambia	1990	<1	1.8 (1.1–2.7)	185 (113–275)	0.014 (<0.01–0.1)	1.4 (<1–11)			–
	1995	1	2.3 (1.9–2.8)	204 (166–246)	0.045 (<0.01–0.16)	4 (<1–14)	1 023	91	44 (37–55)
	2000	1	2.9 (2.4–3.5)	225 (183–272)	0.13 (0.05–0.24)	9.8 (3.8–19)			–
	2005	2	3.7 (3–4.5)	248 (202–299)	0.31 (0.19–0.47)	21 (13–31)	2 031	135	54 (45–67)
	2008	2	4.3 (3.5–5.2)	263 (214–318)	0.51 (0.32–0.74)	31 (19–45)	2 107	129	49 (41–60)
	2009	2	4.5 (3.7–5.4)	269 (220–322)	0.72 (0.58–0.88)	43 (34–52)	2 145	128	48 (40–58)
	2010	2	4.7 (3.9–5.6)	273 (225–327)	0.54 (0.43–0.66)	31 (25–38)	2 070	120	44 (37–53)
Ghana	1990	15	23 (9.9–41)	155 (67–280)	0.95 (0.055–3.1)	6.5 (<1–21)	6 407	43	28 (15–65)
	1995	17	28 (16–45)	167 (91–266)	5.4 (2.6–9.4)	32 (15–55)	8 636	51	30 (19–56)
	2000	19	29 (18–43)	152 (95–222)	7.5 (4.3–12)	39 (23–60)	10 933	57	37 (26–60)
	2005	22	26 (19–33)	119 (88–155)	6.3 (4.2–8.8)	29 (19–41)	12 124	56	47 (36–64)
	2008	23	23 (19–27)	99 (83–116)	5.1 (4.3–6)	22 (19–26)	14 149	61	62 (52–73)
	2009	24	22 (19–25)	92 (81–103)	4.9 (4.3–5.5)	21 (18–23)	14 892	63	68 (61–77)
	2010	24	21 (18–24)	86 (75–97)	4.9 (4.3–5.6)	20 (18–23)	14 607	60	70 (62–80)
Guinea	1990	6	6.9 (4.2–10)	119 (73–177)	1.1 (0.021–4)	18 (<1–69)	1 988	35	29 (19–48)
	1995	8	12 (9.5–14)	154 (126–186)	3.1 (1.2–6)	42 (16–80)	3 523	47	30 (25–37)
	2000	8	17 (14–20)	200 (163–241)	4.7 (2.7–7.2)	56 (32–86)	5 440	65	33 (27–40)
	2005	9	23 (19–28)	259 (211–312)	6.2 (4.3–8.5)	69 (47–94)	6 863	76	29 (24–36)
	2008	10	29 (24–35)	302 (246–364)	7.4 (5.1–10)	78 (53–107)	10 025	105	35 (29–43)
	2009	10	31 (25–37)	318 (259–382)	7.3 (6–8.8)	75 (61–91)	8 357	86	27 (22–33)
	2010	10	33 (27–40)	334 (274–400)	8.9 (7.3–11)	89 (73–106)	11 038	111	33 (28–40)
Guinea-Bissau	1990	1	1.6 (1.1–2.2)	158 (106–219)	0.057 (0.021–0.11)	5.6 (2.1–11)	1 163	114	73 (52–107)
	1995	1	2.0 (1.6–2.4)	174 (141–209)	0.21 (0.13–0.3)	18 (11–27)	1 613	143	82 (68–101)
	2000	1	2.4 (1.9–2.9)	192 (156–231)	0.46 (0.32–0.63)	37 (25–51)	1 273	103	54 (44–66)
	2005	1	2.9 (2.4–3.5)	211 (172–255)	0.69 (0.49–0.93)	51 (36–68)	1 774	130	61 (51–75)
	2008	1	3.3 (2.7–3.9)	224 (182–270)	0.81 (0.58–1.1)	55 (40–74)	2 117	146	65 (54–80)
	2009	1	3.4 (2.8–4.1)	229 (187–275)	0.85 (0.61–1.1)	57 (41–76)	2 171	146	64 (53–78)
	2010	2	3.5 (2.9–4.2)	233 (191–279)	0.89 (0.64–1.2)	59 (42–78)	2 183	144	62 (52–75)
Kenya	1990	23	33 (28–37)	139 (121–159)	9.3 (6–13)	39 (26–56)	11 788	50	36 (32–42)
	1995	27	46 (42–50)	169 (155–184)	24 (20–28)	88 (75–103)	28 142	103	61 (56–66)
	2000	31	89 (83–95)	286 (267–305)	47 (40–54)	149 (128–172)	64 159	205	72 (67–77)
	2005	36	130 (120–140)	359 (338–380)	62 (53–72)	174 (148–202)	102 680	288	80 (76–85)
	2008	38	130 (120–130)	332 (316–348)	58 (54–63)	151 (140–164)	99 941	260	78 (75–82)
	2009	39	120 (120–130)	312 (299–325)	54 (51–57)	137 (129–145)	102 997	261	84 (80–87)
	2010	41	120 (120–130)	298 (286–311)	50 (45–55)	122 (110–135)	99 272	245	82 (79–86)
Lesotho	1990	2	3.0 (2.2–4)	184 (134–241)	0.26 (0.14–0.41)	16 (8.6–25)	2 525	154	84 (64–115)
	1995	2	5.8 (5.1–6.6)	323 (282–368)	3.4 (2.8–4)	187 (155–223)	5 181	289	89 (78–102)
	2000	2	11 (9.5–12)	553 (483–628)	8.1 (6.9–9.3)	410 (352–472)	9 746	496	90 (79–103)
	2005	2	13 (11–16)	639 (533–754)	9.9 (8.2–12)	481 (397–574)	10 802	523	82 (69–98)
	2008	2	14 (12–15)	635 (552–725)	10 (8.9–12)	482 (420–549)	12 019	565	89 (78–102)
	2009	2	14 (12–16)	634 (551–723)	10 (9.1–12)	485 (423–551)	12 213	568	90 (79–103)
	2010	2	14 (12–16)	633 (551–721)	11 (9.2–12)	487 (425–552)	11 674	538	85 (75–98)
Liberia	1990	2	4.2 (2.6–6.3)	199 (121–295)	0.035 (<0.01–0.086)	1.6 (<1–4)			–
	1995	2	4.6 (3.7–5.5)	219 (178–264)	0.33 (0.19–0.51)	16 (8.9–24)	1 393	67	30 (25–37)
	2000	3	6.9 (5.6–8.3)	242 (197–291)	0.54 (0.36–0.75)	19 (13–26)	1 500	53	22 (18–27)
	2005	3	8.5 (6.9–10)	266 (217–321)	0.56 (0.4–0.75)	18 (13–24)	3 432	108	40 (34–50)
	2008	4	10 (8.4–12)	283 (230–341)	0.33 (0.28–0.38)	9.1 (7.7–11)	4 970	136	48 (40–59)
	2009	4	11 (9–13)	288 (236–345)	0.52 (0.36–0.72)	14 (9.3–19)	5 918	154	54 (45–65)
	2010	4	12 (9.6–14)	293 (241–350)	0.91 (0.72–1.1)	23 (18–28)	6 597	165	56 (47–68)
Madagascar	1990	11	20 (12–30)	177 (108–264)	0.59 (0.29–1)	5.3 (2.6–8.9)	6 261	56	31 (21–51)
	1995	13	26 (21–31)	196 (163–233)	0.77 (0.47–1.1)	5.9 (3.6–8.7)	21 616	165	84 (71–101)
	2000	15	33 (27–40)	217 (177–262)	1 (0.62–1.5)	6.7 (4–10)			–
	2005	18	43 (35–52)	241 (196–290)	1.4 (0.85–2.1)	7.8 (4.8–12)	18 993	106	44 (37–54)
	2008	20	50 (41–60)	256 (208–308)	1.6 (0.99–2.4)	8.3 (5.1–12)	22 034	113	44 (37–54)
	2009	20	53 (43–63)	261 (213–314)	1.7 (1–2.6)	8.6 (5.1–13)	22 758	113	43 (36–53)
	2010	21	55 (45–66)	266 (219–319)	1.8 (1.1–2.7)	8.8 (5.3–13)	24 432	118	44 (37–54)
Malawi	1990	9	31 (21–41)	326 (228–441)	14 (8.6–21)	153 (91–229)	12 395	132	41 (30–58)
	1995	10	46 (38–54)	462 (382–550)	31 (25–38)	315 (252–384)	19 155	194	42 (35–51)
	2000	11	52 (43–62)	467 (385–556)	37 (29–45)	326 (262–397)	23 604	210	45 (38–55)
	2005	13	45 (37–54)	354 (291–423)	31 (24–37)	238 (190–291)	25 491	199	56 (47–68)
	2008	14	38 (34–43)	273 (242–306)	24 (22–27)	173 (154–194)	23 929	171	63 (56–71)
	2009	14	35 (33–38)	243 (227–260)	23 (21–24)	157 (146–168)	22 674	157	65 (60–69)
	2010	15	33 (30–35)	219 (203–237)	21 (19–22)	138 (128–149)	21 092	142	65 (60–70)
Mali	1990	9	14 (9.7–19)	163 (112–223)	0.77 (0.027–2.7)	8.9 (<1–31)	2 933	34	21 (15–30)
	1995	10	18 (14–23)	185 (142–234)	4.1 (2–6.8)	41 (20–69)	3 087	31	17 (13–22)
	2000	11	14 (12–17)	124 (103–148)	3 (2–4.2)	27 (18–37)	4 216	37	30 (25–36)
	2005	13	8 (7.6–8.4)	61 (58–64)	1.4 (1–1.9)	11 (7.6–14)	4 704	36	59 (56–62)
	2008	14	8.6 (8.3–9)	60 (57–62)	1.3 (1.2–1.4)	8.9 (8.1–9.7)	5 989	41	69 (67–72)
	2009	15	9.7 (9.2–10)	65 (62–68)	1.5 (1.4–1.6)	10 (9.2–11)	6 611	44	68 (65–72)
	2010	15	10 (9.9–11)	68 (64–71)	1.5 (1–2)	9.7 (6.7–13)	5 291	34	51 (49–53)
Mauritania	1990	2	4.5 (2.8–6.8)	228 (139–339)	0.11 (0.045–0.21)	5.7 (2.3–11)	5 284	265	116 (78–191)
	1995	2	5.8 (4.7–6.9)	251 (204–303)	0.28 (0.17–0.41)	12 (7.5–18)	3 849	168	67 (55–82)
	2000	3	7.3 (6–8.8)	277 (225–334)	0.54 (0.35–0.78)	21 (13–30)	3 067	116	42 (35–52)
	2005	3	9.3 (7.6–11)	305 (249–368)	0.83 (0.54–1.2)	27 (18–39)	2 162	71	23 (19–29)
	2008	3	11 (8.7–13)	324 (264–390)	1 (0.66–1.4)	30 (20–43)	2 698	82	25 (21–31)
	2009	3	11 (9.1–13)	330 (270–397)	1.1 (0.69–1.5)	31 (20–45)	2 640	78	24 (20–29)
	2010	3	12 (9.6–14)	337 (276–404)	1.1 (0.73–1.6)	32 (21–46)	2 461	71	21 (18–26)
Mauritius	1990	1	0.29 (0.18–0.44)	28 (17–41)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	119	11	41 (27–67)
	1995	1	0.3 (0.24–0.36)	26 (21–31)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	131	12	44 (37–54)
	2000	1	0.29 (0.24–0.35)	24 (20–29)	<0.01 (<0.01–0.011)	<1 (<1–<1)	160	13	55 (45–67)
	2005	1	0.29 (0.23–0.35)	23 (19–28)	<0.01 (<0.01–0.017)	<1 (<1–1.4)	125	10	43 (36–53)
	2008	1	0.28 (0.23–0.34)	22 (18–27)	0.024 (<0.01–0.044)	1.8 (<1–3.5)	107	8	38 (31–46)
	2009	1	0.28 (0.23–0.34)	22 (18–26)	0.021 (<0.01–0.037)	1.7 (<1–2.9)	115	9	41 (34–50)
	2010	1	0.28 (0.23–0.34)	22 (18–26)	0.019 (<0.01–0.035)	1.4 (<1–2.7)	122	9	44 (36–53)

[a] Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (in *italics*).
[b] Rates are per 100 000 population.

TABLE A3.2 **Incidence, notification and case detection rates, all forms, 1990–2010**

			INCIDENCE (INCLUDING HIV)		INCIDENCE HIV-POSITIVE		NOTIFIED NEW AND RELAPSE[a]		CASE DETECTION RATE[a]
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[b]	NUMBER (THOUSANDS)	RATE[b]	NUMBER	RATE[b]	PERCENT
Mozambique	1990	14	54 (7.2–150)	401 (53–1091)	6.9 (0.99–18)	51 (7.3–136)	15 899	117	29 (11–222)
	1995	16	76 (23–160)	478 (144–1008)	24 (7.4–51)	152 (47–318)	17 882	112	23 (11–78)
	2000	18	93 (40–170)	513 (220–929)	46 (20–82)	251 (108–453)	21 158	116	23 (13–53)
	2005	21	110 (61–170)	524 (293–819)	62 (35–98)	300 (168–470)	33 231	160	31 (20–55)
	2008	22	120 (77–170)	535 (347–763)	72 (47–100)	321 (210–455)	39 261	176	33 (23–51)
	2009	23	120 (84–170)	539 (368–743)	81 (56–110)	355 (244–486)	43 221	189	35 (25–51)
	2010	23	130 (87–170)	544 (374–746)	77 (53–110)	330 (228–449)	43 558	186	34 (25–50)
Namibia	1990	1	9.8 (7.4–13)	696 (525–890)	1.4 (0.77–2.2)	98 (54–153)	2 671	189	27 (21–36)
	1995	2	14 (12–17)	862 (723–1012)	5.7 (4.4–7.2)	345 (264–436)	1 540	93	11 (9–13)
	2000	2	20 (18–23)	1077 (938–1225)	12 (9.8–14)	619 (516–732)	10 799	570	53 (46–61)
	2005	2	21 (19–24)	1028 (916–1145)	13 (11–15)	615 (525–713)	14 920	717	70 (63–78)
	2008	2	17 (16–19)	793 (729–860)	10 (9.5–11)	473 (433–515)	13 440	611	77 (71–84)
	2009	2	15 (14–16)	682 (637–727)	9.1 (7.6–11)	405 (338–478)	11 980	534	78 (73–84)
	2010	2	14 (13–15)	603 (563–643)	7.6 (7.1–8.1)	333 (311–356)	11 281	494	82 (77–88)
Niger	1990	8	9.7 (5.9–14)	125 (76–186)	0.16 (0.077–0.27)	2 (<1–3.4)	5 200	67	53 (36–88)
	1995	9	13 (10–15)	138 (112–166)	1 (0.66–1.4)	11 (7.2–15)	1 980	22	16 (13–19)
	2000	11	17 (14–20)	152 (124–183)	2.1 (1.4–2.8)	19 (13–26)	4 701	43	28 (23–35)
	2005	13	22 (18–26)	168 (136–202)	2.6 (1.7–3.6)	20 (13–27)	7 873	61	36 (30–44)
	2008	14	26 (21–31)	178 (145–214)	2.9 (1.9–4)	20 (13–28)	9 209	64	36 (30–44)
	2009	15	27 (22–33)	181 (148–217)	3 (2.3–3.8)	20 (15–25)	9 904	66	37 (30–45)
	2010	16	29 (24–34)	185 (152–221)	3.1 (2.4–4)	20 (15–26)	10 130	65	35 (30–43)
Nigeria	1990	98	130 (0.48–560)	128 (<1–579)	13 (0.12–56)	14 (<1–57)	20 122	21	16 (4–4184)
	1995	110	150 (5.3–540)	139 (4.8–489)	38 (1.7–130)	34 (1.5–115)	13 423	12	9 (2–254)
	2000	124	210 (11–710)	172 (8.6–571)	55 (3.9–170)	44 (3.2–138)	25 821	21	12 (4–242)
	2005	140	240 (27–700)	175 (19–498)	62 (7.9–170)	45 (5.6–123)	62 598	45	26 (9–232)
	2008	151	220 (76–430)	145 (51–288)	57 (20–110)	38 (13–76)	85 674	57	39 (20–112)
	2009	154	200 (120–310)	130 (77–198)	54 (33–80)	35 (22–52)	88 589	57	44 (29–75)
	2010	158	210 (99–360)	133 (63–228)	51 (25–87)	32 (16–55)	84 121	53	40 (23–85)
Rwanda	1990	7	29 (12–53)	405 (169–740)	13 (5.2–24)	183 (73–343)	6 387	90	22 (12–53)
	1995	6	22 (11–37)	394 (193–665)	11 (4.9–18)	189 (88–327)	3 054	55	14 (8–28)
	2000	8	23 (15–34)	286 (181–415)	10 (6–15)	124 (74–187)	6 093	75	26 (18–42)
	2005	9	15 (14–16)	162 (149–176)	6.4 (5.8–7)	69 (63–76)	7 220	78	48 (45–53)
	2008	10	12 (11–13)	123 (114–132)	4.3 (4–4.6)	43 (40–46)	7 472	75	61 (57–65)
	2009	10	12 (11–13)	115 (102–128)	3.9 (3.5–4.4)	38 (34–43)	7 251	70	61 (55–69)
	2010	11	11 (10–13)	106 (94–118)	3.6 (3.2–4)	34 (30–38)	6 703	63	60 (54–67)
Sao Tome and Principe	1990	<1	0.16 (0.096–0.23)	135 (82–201)			17	15	11 (7–18)
	1995	<1	0.16 (0.13–0.19)	124 (101–150)					–
	2000	<1	0.16 (0.13–0.19)	114 (93–137)			97	69	60 (50–74)
	2005	<1	0.16 (0.13–0.19)	105 (88–123)	<0.01 (<0.01–0.011)	3.4 (<1–7.5)	136	89	85 (72–102)
	2008	<1	0.16 (0.13–0.19)	99 (81–120)	0.014 (<0.01–0.028)	8.6 (2.9–17)	66	41	42 (34–51)
	2009	<1	0.16 (0.13–0.19)	98 (80–117)	0.02 (<0.01–0.035)	12 (5.7–21)	78	48	49 (41–60)
	2010	<1	0.16 (0.13–0.19)	96 (79–115)	0.018 (<0.01–0.03)	11 (5.7–18)	121	73	76 (64–93)
Senegal	1990	7	14 (8.6–21)	195 (118–289)	0.2 (0.071–0.39)	2.7 (<1–5.3)	4 977	69	35 (24–58)
	1995	8	18 (15–22)	215 (175–259)	0.72 (0.46–1)	8.6 (5.5–12)	7 561	90	42 (35–52)
	2000	10	23 (18–27)	237 (193–285)	1.4 (0.89–2)	14 (9.4–21)	8 508	90	38 (31–46)
	2005	11	28 (23–34)	261 (212–315)	2.2 (1.4–3.1)	20 (13–29)	9 765	90	34 (29–42)
	2008	12	33 (27–39)	277 (225–334)	2.8 (2.2–3.5)	24 (18–30)	11 040	94	34 (28–42)
	2009	12	34 (28–41)	282 (231–339)	3 (2.6–3.5)	25 (21–29)	11 139	92	33 (27–40)
	2010	12	36 (29–43)	288 (237–345)	3.2 (2.6–4)	26 (21–32)	11 061	89	31 (26–38)
Seychelles	1990	<1	0.031 (0.019–0.046)	43 (26–64)			41	58	133 (90–219)
	1995	<1	0.03 (0.024–0.036)	40 (32–48)			8	11	27 (22–33)
	2000	<1	0.029 (0.023–0.035)	37 (30–44)			20	25	70 (58–86)
	2005	<1	0.028 (0.023–0.034)	33 (27–40)			14	17	50 (42–62)
	2008	<1	0.027 (0.022–0.033)	32 (26–38)			6	7	22 (18–27)
	2009	<1	0.027 (0.022–0.032)	31 (26–38)	<0.01 (<0.01–0.012)	6.3 (1.2–14)	15	17	56 (46–68)
	2010	<1	0.027 (0.022–0.032)	31 (25–37)	<0.01 (<0.01–<0.01)	1.8 (<1–8)	17	20	64 (53–78)
Sierra Leone	1990	4	8.2 (5–12)	207 (126–308)	0.013 (<0.01–0.028)	<1 (<1–<1)	632	16	8 (5–13)
	1995	4	11 (8.9–13)	279 (227–337)	0.2 (<0.01–0.68)	5.1 (<1–18)	1 955	50	18 (15–22)
	2000	4	16 (13–19)	377 (307–454)	1.1 (0.56–1.9)	27 (13–46)	3 760	91	24 (20–30)
	2005	5	26 (21–32)	509 (414–613)	2.7 (1.8–3.7)	52 (35–73)	6 737	131	26 (21–32)
	2008	6	34 (28–41)	608 (495–733)	3.9 (3.2–4.8)	70 (57–85)	10 786	192	32 (26–39)
	2009	6	37 (30–44)	644 (526–774)	4.2 (3.4–5.1)	74 (60–89)	11 524	201	31 (26–38)
	2010	6	40 (33–48)	682 (560–816)	4 (3.3–4.8)	68 (56–82)	12 859	219	32 (27–39)
South Africa	1990	37	110 (75–150)	301 (204–416)	8.3 (4.7–13)	23 (13–35)	80 400	219	73 (53–107)
	1995	41	130 (110–160)	317 (258–382)	47 (36–59)	112 (86–142)	73 917	179	56 (47–69)
	2000	45	260 (210–310)	576 (468–694)	140 (120–180)	321 (257–391)	151 239	338	59 (49–72)
	2005	48	440 (360–530)	925 (753–1115)	260 (210–320)	544 (438–661)	270 178	565	61 (51–75)
	2008	49	470 (390–570)	960 (781–1157)	280 (230–340)	569 (458–693)	343 855	697	73 (60–89)
	2009	50	480 (400–580)	971 (794–1165)	280 (230–330)	563 (463–673)	360 183	724	75 (62–91)
	2010	50	490 (400–590)	981 (806–1173)	300 (240–350)	591 (488–704)	354 786	708	72 (60–88)
Swaziland	1990	<1	2.3 (1.4–3.4)	267 (163–397)	0.48 (0.26–0.76)	56 (30–88)			–
	1995	<1	3.2 (2.6–3.9)	337 (274–406)	1.8 (1.4–2.2)	187 (145–233)	2 050	213	63 (52–78)
	2000	1	8.5 (7–10)	803 (654–968)	6.4 (5.2–7.8)	605 (486–737)	5 877	552	69 (57–85)
	2005	1	13 (10–15)	1147 (934–1381)	10 (8.3–12)	932 (755–1127)	8 062	730	64 (53–78)
	2008	1	14 (11–17)	1227 (998–1479)	12 (9.5–14)	### (828–1221)	8 685	755	62 (51–76)
	2009	1	15 (12–18)	1257 (1028–1508)	12 (10–15)	### (852–1245)	10 038	859	68 (57–84)
	2010	1	15 (13–18)	1287 (1058–1538)	13 (10–15)	### (873–1256)	10 101	852	66 (55–80)
Togo	1990	4	11 (6.9–17)	308 (187–457)	0.49 (0.14–1.1)	13 (3.8–29)	1 324	36	12 (8–19)
	1995	4	14 (11–17)	339 (276–409)	2.1 (1.4–2.9)	50 (34–71)	1 520	37	11 (9–13)
	2000	5	18 (15–22)	374 (304–451)	3.6 (2.6–4.7)	75 (54–98)	1 409	29	8 (7–10)
	2005	5	22 (18–27)	413 (336–497)	4.6 (3.3–6.1)	85 (62–112)	2 537	47	11 (9–14)
	2008	6	25 (21–30)	438 (356–527)	5.1 (3.7–6.7)	88 (64–116)	2 967	51	12 (10–14)
	2009	6	26 (21–32)	446 (364–536)	5.2 (4.2–6.4)	89 (71–108)	2 986	51	11 (9–14)
	2010	6	27 (22–33)	455 (373–545)	5.4 (4.3–6.5)	89 (72–108)	2 791	46	10 (8–12)
Uganda	1990	18	110 (57–180)	624 (321–1025)	72 (37–120)	407 (209–669)	14 740	83	13 (8–26)
	1995	21	110 (61–180)	542 (291–869)	73 (39–120)	349 (187–561)	25 316	122	22 (14–42)
	2000	24	100 (62–160)	427 (256–642)	61 (36–93)	252 (148–384)	30 372	125	29 (20–49)
	2005	28	87 (62–120)	304 (218–405)	48 (33–66)	169 (117–231)	41 040	144	47 (36–66)
	2008	31	76 (60–95)	244 (191–303)	44 (34–54)	139 (108–173)	42 178	135	55 (44–70)
	2009	32	73 (59–89)	226 (181–275)	41 (33–49)	126 (102–152)	41 703	129	57 (47–71)
	2010	33	70 (56–85)	209 (168–254)	38 (30–46)	112 (91–136)	42 885	128	61 (51–76)
United Republic of Tanzania	1990	25	58 (49–67)	226 (192–262)	20 (15–25)	77 (60–97)	22 249	87	39 (33–45)
	1995	30	68 (58–78)	226 (192–262)	31 (25–38)	103 (82–126)	39 847	133	59 (51–69)
	2000	34	80 (70–91)	236 (206–269)	37 (30–45)	109 (88–132)	54 442	160	68 (60–78)
	2005	39	83 (76–89)	213 (196–229)	36 (30–43)	93 (78–110)	61 022	157	74 (69–80)
	2008	42	80 (75–86)	190 (178–203)	33 (31–35)	78 (73–83)	60 490	143	75 (71–81)
	2009	44	79 (74–85)	183 (171–195)	31 (30–33)	72 (68–77)	61 537	141	77 (73–83)
	2010	45	79 (75–85)	177 (166–189)	30 (28–32)	67 (62–71)	61 098	136	77 (72–82)
Zambia	1990	8	56 (49–63)	710 (623–803)	33 (22–48)	426 (274–610)	16 863	215	30 (27–34)
	1995	9	70 (64–77)	788 (718–862)	48 (42–54)	537 (469–609)	35 958	403	51 (47–56)
	2000	10	73 (67–78)	713 (660–768)	49 (44–56)	485 (428–546)	49 806	488	68 (64–74)
	2005	11	65 (59–71)	566 (518–616)	44 (38–50)	382 (333–434)	49 576	433	76 (70–84)
	2008	12	62 (56–68)	500 (452–551)	42 (38–46)	341 (309–375)	43 686	353	71 (64–78)
	2009	13	61 (55–68)	482 (433–533)	41 (37–45)	324 (291–357)	44 879	353	73 (66–81)
	2010	13	61 (55–67)	462 (417–510)	40 (36–44)	302 (273–332)	44 154	337	73 (66–81)
Zimbabwe	1990	10	31 (16–50)	296 (156–482)	18 (9.4–30)	173 (89–282)	9 132	87	29 (18–56)
	1995	12	56 (39–77)	483 (332–662)	48 (33–65)	409 (282–559)	30 831	264	55 (40–80)
	2000	13	91 (71–110)	726 (570–901)	78 (61–97)	623 (487–775)	50 855	407	56 (45–71)
	2005	13	100 (79–120)	799 (630–988)	81 (64–100)	647 (506–806)	50 454	401	50 (41–64)
	2008	12	89 (69–110)	716 (554–899)	69 (54–86)	555 (435–689)	36 650	294	41 (33–53)
	2009	12	83 (64–110)	668 (510–846)	65 (49–82)	518 (397–655)	42 971	344	52 (41–67)
	2010	13	80 (61–100)	633 (486–799)	60 (47–76)	480 (371–603)	44 209	352	56 (44–72)

[a] Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (in *italics*).
[b] Rates are per 100 000 population.

Data can be downloaded from www.who.int/tb/data

TABLE A3.3 **Case notifications, 1990–2010**

	NEW AND RELAPSE NOTIFICATION RATE[a] 1990–2010	YEAR	NEW AND RELAPSE[a]	NEW CASES: SMEAR-POSITIVE	NEW CASES: SMEAR-NEGATIVE/ UNKNOWN	NEW CASES: EXTRA-PULMONARY	NEW CASES: OTHER	RELAPSE	RE-TREAT EXCL. RELAPSE	TOTAL RETREAT	HISTORY UNKNOWN	% SMEAR-POS AMONG NEW PULM
Algeria		1990	11 607									–
		1995	13 507	5 735	2 256	5 065		451		451		72
		2000	18 572	8 328	2 019	7 758		467	80	547		80
		2005	21 336	8 654	1 651	10 216	267	548	165	713		84
		2008	20 588	8 643	1 528	9 908	0	509	142	651		85
		2009	21 701	8 402	1 691	10 888	230	490	122	612	0	83
	• 46 63 •	2010	22 336	8 299	1 770	11 770	0	497	194	691	0	82
Angola		1990	10 271									–
		1995	5 143	3 804	1 631	266		134		134		70
		2000	16 062	9 053	5 367	1 102		540		540		63
		2005	37 175	20 410	12 467	2 569		1 729	1 142	2 871		62
		2008	44 576	22 562	16 490	3 287	0	2 237	1 347	3 584	0	58
		2009	41 221	22 488	13 755	2 580	0	2 398	1 465	3 863	0	62
	• 99 234 •	2010	44 655	21 146	17 285	3 780		2 444	5 332	7 776		55
Benin		1990	2 074	1 410	310	182		172	49	221		82
		1995	2 400	1 839	281	212		68		68		87
		2000	2 697	2 277	130	199		91	189	280		95
		2005	3 270	2 739	96	285		150	187	337		97
		2008	3 872	2 966	375	400	0	131	105	236	0	89
		2009	3 878	2 960	338	418	0	162	109	271	0	90
	• 43 42 •	2010	3 756	2 973	296	367	0	120	85	205	0	91
Botswana		1990	2 938									–
		1995	5 665	1 903	2 885	720		147		147		40
		2000	9 292	3 091	4 789	1 231		181	1 058	1 239		39
		2005	10 058	3 170	5 166	1 220		502	46	548		38
		2008	8 891	3 217	3 654	1 679	0	341	754	1 095	0	47
		2009	8 362	3 144	3 393	1 429	0	396	726	1 122	0	48
	• 213 349 •	2010	7 013	3 295	2 055	1 210	0	453	619	1 072	0	62
Burkina Faso		1990	1 497									–
		1995	2 572	1 028	195	195		45		45		84
		2000	2 331	1 545	196	502		88	90	178	0	89
		2005	3 478	2 290	367	571	90	160	167	327	0	86
		2008	4 238	2 757	625	599	68	189	311	500	0	82
		2009	4 716	3 061	679	671	92	213	395	608	0	82
	• 16 29 •	2010	4 800	3 041	736	729	77	217	335	552	0	81
Burundi		1990	4 575									–
		1995	3 326	1 121	908	1 116		181		181		55
		2000	6 421	3 159	1 489	1 568	0	205	20	225	0	68
		2005	6 585	3 262	1 160	2 089	0	74	42	116	0	74
		2008	6 808	3 610	862	2 188	0	148	57	205	0	81
		2009	7 277	3 974	1 207	1 880	24	192	46	238	0	77
	• 82 91 •	2010	7 611	4 590	963	1 826	8	224	108	332	0	83
Cameroon		1990	5 892									–
		1995	3 292	2 896	142	18		236		236		95
		2000	5 251	3 960	625	415		251		251		86
		2005	21 499	13 001	5 021	2 461	0	1 016	574	1 590	0	72
		2008	24 622	14 232	6 282	3 191		917	503	1 420	0	69
		2009	24 662	14 635	5 780	3 190	0	1 057	512	1 569	0	72
	• 48 123 •	2010	24 073	14 464	5 437	3 157	0	1 015	479	1 494	0	73
Cape Verde		1990	221									–
		1995	303	111	150	12		30		30		43
		2000										–
		2005	292	135	93	43	0	21	13	34	0	59
		2008	334	197	82	39	0	16	15	31	0	71
		2009	332	172	94	53	0	13	20	33	0	65
	• 63 72 •	2010	356	186	98	54		18	9	27		65
Central African Republic		1990	2 124									–
		1995	3 339	1 794	964	393		188		188		65
		2000										–
		2005	3 210	2 153	608	286	0	163	128	291	0	78
		2008	6 803	4 232	1 387	943	0	241	132	373	0	75
		2009	8 743	5 132	1 841	1 394		376	253	629		74
	• 72 151 •	2010	6 643	3 638	1 598	1 079	24	304	117	421	0	69
Chad		1990	2 591									–
		1995	3 186	2 002	518	463		203		203		79
		2000										–
		2005	6 311	2 516	2 419	1 055		321	194	515		51
		2008	6 912	3 309	2 331	924	0	348	283	631	0	59
		2009	8 411	3 820	2 949	1 206	0	436	240	676	0	56
	• 43 84 •	2010	9 452	3 833	3 746	1 217	193	463	245	708	0	51
Comoros		1990	140									–
		1995	123	103	10	7		7		7		91
		2000	120	87	14	15		4	1	5		86
		2005	111	79	14	16	0	2	1	3	0	85
		2008	132	77	20	27	5	3	3	6	2	79
		2009	120	76	15	24	0	5	1	6	8	84
	• 32 *17* •	2010	*123*									–
Congo		1990	591									–
		1995	3 615	2 013	849	675		78		78		70
		2000	9 239	4 218	2 016	2 810		169	650	819		68
		2005	9 853	3 640	3 249	2 665		299	108	407		53
		2008	8 886	3 371	2 868	2 345		302	171	473		54
		2009	9 765	3 433	3 398	2 653	0	281	170	451	0	50
	• 25 251 •	2010	10 150	3 568	3 545	2 692		345	171	516		50
Côte d'Ivoire		1990	7 841									–
		1995	11 988	8 254	1 508	1 577		649		649		85
		2000	15 094	10 276	1 616	2 756	0	446	447	893	0	86
		2005	19 681	12 496	2 315	4 235	0	635	345	980	0	84
		2008	23 688	15 294	2 733	4 592	0	1 069	360	1 429	0	85
		2009	22 571	14 300	2 321	4 952	0	998	438	1 436	0	86
	• 63 115 •	2010	22 708	14 131	2 381	5 179	0	1 017	502	1 519	0	86
Democratic Republic of the Congo		1990	21 131									–
		1995	42 819	20 914	7 953	9 112		2 891		2 891		72
		2000	61 024	36 513	8 089	13 785		2 637		2 637		82
		2005	97 075	65 040	9 959	18 494		3 582	2 483	6 065		87
		2008	104 861	69 720	11 490	19 654		3 997	3 741	7 738		86
		2009	111 709	73 078	12 968	21 313		4 350	4 316	8 666		85
	• 58 173 •	2010	114 170	73 653	14 039	22 340	0	4 138	4 466	8 604	0	84
Equatorial Guinea		1990	260									–
		1995	306	219	45	41		1		1		83
		2000										–
		2005										–
		2008	718	541	92	58	0	27	23	50	0	85
		2009	707	490	109	77	0	31	13	44	0	82
	• 70 117 •	2010	820	579	98	109	0	34	33	67	0	86

[a] Rates are per 100 000 population. Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (*in italics*).

TABLE A3.3 **Case notifications, 1990–2010**

	NEW AND RELAPSE NOTIFICATION RATE[a] 1990–2010	YEAR	NEW AND RELAPSE[a]	NEW CASES: SMEAR-POSITIVE	NEW CASES: SMEAR-NEGATIVE/ UNKNOWN	NEW CASES: EXTRA-PULMONARY	NEW CASES: OTHER	RELAPSE	RE-TREAT EXCL. RELAPSE	TOTAL RETREAT	HISTORY UNKNOWN	% SMEAR-POS AMONG NEW PULM
Eritrea		1990	3 699									–
		1995	21 453		18 205	3 248						–
		2000	6 652	590	5 332	683		47	20	67		10
		2005	3 549	687	1 764	1 001		97	27	124	36	28
		2008	2 970	839	1 063	880	79	109	36	145		44
		2009	2 904	802	1 123	890	0	89	118	207	0	42
	• 117 55 •	2010	2 870	832	1 115	836	0	87	121	208	0	43
Ethiopia		1990	88 634									–
		1995	26 034	9 040	8 888	7 763		343		343		50
		2000	91 101	30 510	30 565	28 907		1 119	1 658	2 777		50
		2005	124 262	38 525	39 816	43 675		2 246	873	3 119		49
		2008	141 157	40 794	49 372	48 794		2 197	752	2 949		45
		2009	148 936	44 396	52 053	50 228		2 259	1 285	3 544		46
	• 183 186 •	2010	154 694	46 634	54 979	50 417	0	2 664	2 234	4 898		46
Gabon		1990	917									–
		1995	1 115	486	517	68		44		44		48
		2000										–
		2005	2 512	1 042	1 071	241		158	99	257		49
		2008	4 540	1 502	2 306	419	155	158	138	296		39
		2009	3 073	1 244	1 414	246	0	169	486	655	0	47
	• 99 231 •	2010	3 473	1 560	1 366	379	0	168	390	558	317	53
Gambia		1990										–
		1995	1 023	778	171	68		6		6		82
		2000										–
		2005	2 031	1 127	749	78	0	77	89	166	0	60
		2008	2 107	1 300	610	116	0	81	62	143	0	68
		2009	2 145	1 316	622	141	0	66	41	107		68
	– 120 •	2010	2 070	1 344	462	143	81	40	41	81	0	74
Ghana		1990	6 407									–
		1995	8 636	2 638	1 225	109		159		159		68
		2000	10 933	7 316	2 500	615		502		502		75
		2005	12 124	7 505	3 068	1 019		532		532		71
		2008	14 149	7 904	4 416	1 383	0	446	318	764	0	64
		2009	14 892	8 255	4 734	1 437	0	466	394	860	0	64
	• 43 60 •	2010	14 607	7 656	5 068	1 400	0	483	538	1 021	0	60
Guinea		1990	1 988									–
		1995	3 523	2 263	527	620		55		55		81
		2000	5 440	3 920	430	938		152	294	446		90
		2005	6 863	5 479	524	629		231	227	458		91
		2008	10 025	6 561	1 288	1 825	0	351	320	671	0	84
		2009	8 357	5 377	1 021	1 611	0	348	241	589	16	84
	• 35 111 •	2010	11 038	7 041	1 472	2 077	86	362	286	648	0	83
Guinea-Bissau		1990	1 163									–
		1995	1 613	956	714	19		59		59		57
		2000	1 273	526	600	57		90		90		47
		2005	1 774	1 132	522	24	0	96	42	138	0	68
		2008	2 117	1 223	797	28	0	69	13	82	0	61
		2009	2 171	1 310	786	16	0	59	17	76	0	63
	• 114 144 •	2010	2 183	1 409	636	22	0	116	76	192	0	69
Kenya		1990	11 788	6 800								–
		1995	28 142	13 934	9 676	3 468		1 064		1 064		59
		2000	64 159	28 773	24 143	9 118		1 773	704	2 477		54
		2005	102 680	40 389	43 772	15 265		3 254	5 721	8 975		48
		2008	99 941	36 811	46 115	16 881	0	134	10 310	10 444	0	44
		2009	102 997	37 402	44 514	17 438		3 643	7 068	10 711		46
	• 50 245 •	2010	99 272	36 260	41 962	17 382	0	3 668	6 811	10 479	0	46
Lesotho		1990	2 525									–
		1995	5 181	1 361	2 685	653		147		147		34
		2000	9 746	3 041	2 838	2 520		385	1 096	1 481		52
		2005	10 802	4 280	4 063	2 020		439	602	1 041		51
		2008	12 019	3 862	4 879	2 692		586	1 200	1 786		44
		2009	12 213	3 976	5 083	2 486		668	1 302	1 970		44
	• 154 538 •	2010	11 674	3 600	5 331	2 222		521	1 464	1 985		40
Liberia		1990										–
		1995	1 393	1 154	119	120						91
		2000	1 500	1 021	285	187		7	25	32		78
		2005	3 432	2 167	575	657		33	24	57		79
		2008	4 970	3 038	941	912	0	79	53	132	0	76
		2009	5 918	3 796	1 022	1 023	0	77	46	123	0	79
	– 165 •	2010	6 597	3 750	1 385	1 363	0	99	71	170	0	73
Madagascar		1990	6 261									–
		1995	21 616	8 026	987	2 219		596		596		89
		2000										–
		2005	18 993	13 056	1 287	3 634	0	1 016	482	1 498	0	91
		2008	22 034	15 391	1 311	4 111	0	1 221	741	1 962	0	92
		2009	22 758	15 729	1 639	3 990	0	1 400	689	2 089	0	91
	• 56 118 •	2010	24 432	16 795	1 657	4 545	0	1 435	674	2 109	0	91
Malawi		1990	12 395	4 301	5 827	1 885		382		382		42
		1995	19 155	6 285	7 054	5 257		551		551		47
		2000	23 604	8 260	8 846	5 734		764	0	764		48
		2005	25 491	8 443	10 132	5 823		1 093	2 119	3 212		45
		2008	23 929	7 627	10 155	5 369		778	1 755	2 533		43
		2009	22 674	7 623	9 297	4 966	0	788	1 682	2 470	0	45
	• 132 142 •	2010	21 092	7 240	8 245	4 857	0	750	1 444	2 194		47
Mali		1990	2 933									–
		1995	3 087	1 866	609	459		153		153		75
		2000	4 216	2 527	797	653		239		239		76
		2005	4 704	3 530	482	492		200	180	380	0	88
		2008	5 989	4 734	403	660	0	192	219	411	0	92
		2009	6 611	5 163	429	818	0	201	224	425	0	92
	• 34 34 •	2010	5 291	3 686	481	926	0	198	157	355	0	88
Mauritania		1990	5 284									–
		1995	3 849	2 074	800	455		520		520		72
		2000	3 067	1 583	687	580		580	358	938		70
		2005	2 162	1 155	454	403	0	150	56	206	0	72
		2008	2 698	1 605	415	512		166	28	194		79
		2009	2 640	1 555	444	483	0	158	24	182	0	78
	• 265 71 •	2010	2 461	1 422	390	524	0	125	28	153		78
Mauritius		1990	119									–
		1995	131	113	8	12		2		2		93
		2000	160	115	14	23		8	4	12		89
		2005	125	110	4	8		3	2	5		96
		2008	107	85	14	5	0	3	1	4	0	86
		2009	115	98	7	6	0	4	1	5	0	93
	• 11 9 •	2010	122	105	5	6	0	6	1	7	0	95

[a] Rates are per 100 000 population. Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (*in italics*).

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TABLE A3.3 **Case notifications, 1990–2010**

	NEW AND RELAPSE NOTIFICATION RATE[a] 1990–2010	YEAR	NEW AND RELAPSE[a]	NEW CASES: SMEAR-POSITIVE	NEW CASES: SMEAR-NEGATIVE/ UNKNOWN	NEW CASES: EXTRA-PULMONARY	NEW CASES: OTHER	RELAPSE	RE-TREAT EXCL. RELAPSE	TOTAL RETREAT	HISTORY UNKNOWN	% SMEAR-POS AMONG NEW PULM
Mozambique		1990	15 899									–
		1995	17 882	10 566	5 054	1 363		899		899		68
		2000	21 158	13 257	4 037	2 262		917	546	1 463		77
		2005	33 231	17 877	9 184	4 771		1 399	487	1 886		66
		2008	39 261	18 824	14 117	5 012	0	1 308	474	1 782	0	57
		2009	43 221	19 579	17 019	5 301	0	1 322	2 308	3 630	0	53
	• 117 186 •	2010	43 558	20 097	16 408	5 621	0	1 432	2 616	4 048	0	55
Namibia		1990	2 671									–
		1995	1 540	697	507	248		88		88		58
		2000	10 799	4 012	4 724	1 459		604	930	1 534		46
		2005	14 920	5 222	4 455	1 907	2 487	849	974	1 823		54
		2008	13 440	4 928	3 714	2 582	1 074	1 142	297	1 439	0	57
		2009	11 980	4 608	3 628	2 538	0	1 206	1 352	2 558	0	56
	• 189 494 •	2010	11 281	4 464	3 309	2 330		1 178	1 344	2 522		57
Niger		1990	5 200									–
		1995	1 980	1 492	116	372						93
		2000	4 701	3 045	699	702		255		255		81
		2005	7 873	5 050	1 193	1 227		403	351	754	0	81
		2008	9 209	5 853	1 593	1 227	103	433	184	617		79
		2009	9 904	6 347	1 689	1 385	0	483	207	690	117	79
	• 67 65 •	2010	10 130	6 283	1 730	1 492	173	452	215	667	0	78
Nigeria		1990	20 122									–
		1995	13 423	9 476	3 364	280		303		303		74
		2000	25 821	17 423	6 613	1 069		716	1 640	2 356		72
		2005	62 598	35 048	22 705	2 836	0	2 009	2 858	4 867	1 392	61
		2008	85 674	46 026	34 211	3 026	0	2 411	4 637	7 048	0	57
		2009	88 589	44 863	37 540	3 560	0	2 626	5 525	8 151	0	54
	• 21 53 •	2010	84 121	45 416	32 616	3 422	0	2 667	6 326	8 993	0	58
Rwanda		1990	6 387									–
		1995	3 054	1 840	676	338		200		200		73
		2000	6 093	3 681	845	1 289		278	96	374		81
		2005	7 220	4 166	859	1 727	97	371	460	831		83
		2008	7 472	4 173	1 311	1 743	0	245	152	397	217	76
		2009	7 251	4 184	1 239	1 582	0	246	229	475	164	77
	• 90 63 •	2010	6 703	3 785	1 072	1 577		269	362	631		78
Sao Tome and Principe		1990	17									–
		1995										–
		2000	97	30	56	7		4		4		35
		2005	136	49	75	1	0	11	16	27		40
		2008	66	52	11	0	0	3	3	6	2	83
		2009	78	52	20	4	0	2	1	3	0	72
	• 15 73 •	2010	121	47	63	10	0	1	1	2	0	43
Senegal		1990	4 977									–
		1995	7 561	5 421	1 073	504		563		563		83
		2000	8 508	5 823	1 370	800	0	515	541	1 056		81
		2005	9 765	6 722	1 557	921		565	355	920		81
		2008	11 040	7 584	1 580	1 283	0	593	551	1 144	0	83
		2009	11 139	7 883	1 504	1 233	0	519	593	1 112	0	84
	• 69 89 •	2010	11 061	7 688	1 470	1 404	0	499	530	1 029	0	84
Seychelles		1990	41									–
		1995	8	6	2	1		0		0		75
		2000	20	11	7	2		0		0		61
		2005	14	8	3	1	0	2	0	2		73
		2008	6	4	0	2	0	0	0	0	0	100
		2009	15	11	2	2	0	0	0	0	0	85
	• 58 20 •	2010	17	9	8	0	0	0	0	0	0	53
Sierra Leone		1990	632									–
		1995	1 955	1 454	339	121		41		41		81
		2000	3 760	2 472	821	400		67	374	441		75
		2005	6 737	4 370	1 679	551		137	193	330		72
		2008	10 786	5 826	3 952	854		154	235	389		60
		2009	11 524	6 092	4 491	776	0	165	302	467	0	58
	• 16 219 •	2010	12 859	6 898	4 919	831		211	336	547		58
South Africa		1990	80 400									–
		1995	73 917	23 112	74 399	10 636		179		179		24
		2000	151 239	75 967	16 392	17 486			56 202	56 202		82
		2005	270 178	125 460	76 680	39 739	0	28 299	32 289	60 588	0	62
		2008	343 855	138 803	132 972	48 251	0	23 829	40 641	64 470	4 386	51
		2009	360 183	139 468	147 187	53 411	0	20 117	45 799	65 916	0	49
	• 219 708 •	2010	354 786	132 107	151 772	52 095	0	18 812	41 768	60 580	0	47
Swaziland		1990										–
		1995	2 050	660	687	219		489		489		49
		2000	5 877	1 823	3 198	583		273	976	1 249		36
		2005	8 062	2 187	4 106	1 458		311	159	470	643	35
		2008	8 685	3 105	3 379	1 762	0	439	880	1 319	0	48
		2009	10 038	3 498	4 157	1 903	0	480	994	1 474	0	46
	– 852 •	2010	10 101	3 011	5 064	1 631		395	1 045	1 440		37
Togo		1990	1 324									–
		1995	1 520	887	304	236		93		93		74
		2000	1 409	984	91	287		47	86	133		92
		2005	2 537	1 798	170	484		85	94	179	4	91
		2008	2 967	2 234	231	408	0	94	102	196	0	91
		2009	2 986	2 267	235	377	0	107	107	214	0	91
	• 36 46 •	2010	2 791	2 096	164	397	0	134	106	240	0	93
Uganda		1990	14 740									–
		1995	25 316	13 631	5 912	2 070		955		955		70
		2000	30 372	17 246	9 003	2 618		1 505	0	1 505		66
		2005	41 040	20 559	15 040	3 780	0	1 661	769	2 430		58
		2008	42 178	22 766	13 190	4 710	0	1 512	1 665	3 177	0	63
		2009	41 703	23 113	12 315	4 893	0	1 382	2 632	4 014		65
	• 83 128 •	2010	42 885	23 456	13 567	4 571	0	1 291	2 661	3 952	0	63
United Republic of Tanzania		1990	22 249	11 553								–
		1995	39 847	19 955	12 362	6 195		1 335		1 335		62
		2000	54 442	24 049	17 624	10 997		1 772		1 772		58
		2005	61 022	25 264	20 810	13 094		1 854	3 178	5 032		55
		2008	60 490	24 171	21 935	12 784		1 600	2 874	4 474		52
		2009	61 537	24 895	21 750	13 405		1 487	2 730	4 217		53
	• 87 136 •	2010	61 098	24 769	21 184	13 715		1 430	2 355	3 785		54
Zambia		1990	16 863									–
		1995	35 958	10 038	3 268	656		243		243		75
		2000	49 806	12 927	25 222	10 202		1 455		1 455		34
		2005	49 576	14 857	24 327	8 587		1 805	3 691	5 496		38
		2008	43 686	13 211	19 344	9 580	0	1 551	3 685	5 236	0	41
		2009	44 879	12 995	20 825	9 246	0	1 813	672	2 485	0	38
	• 215 337 •	2010	44 154	12 639	20 412	9 255	0	1 848	4 462	6 310	0	38
Zimbabwe		1990	9 132									–
		1995	30 831	8 965	10 934	5 040		737		737		45
		2000	50 855	14 392	27 626	8 837						34
		2005	50 454	13 155	29 074	6 721	0	1 504	4 437	5 941		31
		2008	36 650	9 830	19 956	5 931	0	933	2 698	3 631	0	33
		2009	42 971	10 195	24 890	6 683	0	1 203	3 482	4 685		29
	• 87 352 •	2010	44 209	11 654	25 157	6 061	0	1 337	3 348	4 685	0	32

[a] Rates are per 100 000 population. Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (*in italics*).

TABLE A3.4 **Treatment outcomes, new smear-positive cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Algeria		1995	5 735		–						
		2000	8 328	8 328	100	80	7	1	2	5	5
		2005	8 654	8 379	97	74	13	2	0	3	8
		2007	8 439	8 510	101	79	11	2	1	4	4
		2008	8 643	8 190	95	80	10	2	0	3	4
	– 91 •	2009	8 402	8 438	100	81	10	2	1	3	3
Angola		1995	3 804		–						
		2000	9 053	6 392	71	68		3	2	26	2
		2005	20 410	20 113	99	45	28	3	3	19	3
		2007	21 422	21 422	100	48	26	3	2	18	3
		2008	22 562	22 562	100	45	24	4	2	18	6
	– 72 •	2009	22 488	21 627	96	47	25	4	2	18	5
Benin		1995	1 839	1 839	100	50	21	6	1	17	5
		2000	2 277	2 277	100	57	20	6	2	11	3
		2005	2 739	2 766	101	74	13	7	2	3	1
		2007	2 770	2 771	100	79	8	6	3	3	1
		2008	2 966	2 979	100	81	8	6	2	2	1
	• 71 90 •	2009	2 960	2 963	100	82	9	5	2	1	0
Botswana		1995	1 903	2 060	108	13	54	5	1	12	15
		2000	3 091	3 991	129	22	55	6	0	7	10
		2005	3 170	3 335	105	37	33	7	1	8	15
		2007	3 122	3 335	107	50	23	5	2	6	15
		2008	3 217	3 289	102	46	18	5	2	4	24
	• 67 79 •	2009	3 144	3 492	111	57	22	5	3	4	9
Burkina Faso		1995	1 028	1 200	117	22	2	5	1	3	67
		2000	1 545	1 574	102	53	7	13	2	16	9
		2005	2 290	2 290	100	66	5	14	7	6	1
		2007	2 605	2 605	100	67	5	14	7	6	1
		2008	2 757	2 757	100	73	3	11	8	4	1
	• 25 76 •	2009	3 061	3 061	100	72	4	10	9	4	2
Burundi		1995	1 121	1 798	160	25	20	3	0	14	38
		2000	3 159	3 465	110	42	39	4	0	13	1
		2005	3 262	3 424	105	52	27	4	0	17	1
		2007	3 595	3 169	88	74	12	5	1	8	0
		2008	3 610	3 635	101	76	14	4	0	6	0
	• 45 90 •	2009	3 974	3 974	100	83	7	3	1	5	0
Cameroon		1995	2 896	2 740	95	45	8	7	1	35	4
		2000	3 960	3 164	80	67	10	7	2	13	1
		2005	13 001	13 169	101	66	7	6	1	14	5
		2007	13 220	13 025	99	61	15	7	1	11	6
		2008	14 232	14 091	99	62	15	6	1	10	5
	• 53 78 •	2009	14 635	14 428	99	65	13	6	1	10	5
Cape Verde		1995	111		–						
		2000		14	–	64	0	7	0	0	29
		2005	135	135	100	56	8	3	2	19	12
		2007	158		–						
		2008	197	197	100	57	17	4	2	11	11
	– –	2009	172		–						
Central African Republic		1995	1 794	692	39	16	21	7	0	53	3
		2000		1 366	–	36	21	0	3	34	5
		2005	2 153	3 217	149	38	28	6	2	8	19
		2007		4 130	–	47	20	8	2	12	11
		2008	4 232	3 571	84	43	29	7	2	12	9
	• 37 53 •	2009	5 132	5 132	100	33	20	3	1	13	30
Chad		1995	2 002	529	26	17	30	6	1	43	3
		2000			–						
		2005	2 516		–						
		2007	2 513		–						
		2008	3 309		–						
	• 47 76 •	2009	3 820	3 820	100	55	22	4	2	15	3
Comoros		1995	103	113	110	90	0	4	0	6	0
		2000	87	85	98	91	2	4	4	0	0
		2005	79	70	89	91	0	3	4	0	1
		2007		56	–	91	2	2	4	2	0
		2008	77	77	100	90	0	4	0	4	3
	• 90 –	2009	76		–						
Congo		1995	2 013		–						
		2000	4 218	3 114	74	57	12	4	0	22	5
		2005	3 640	4 121	113	24	4	0	1	13	58
		2007	3 552		–						
		2008	3 371	3 263	97	63	13	1	0	21	1
	– 78 •	2009	3 433	3 634	106	66	12	1	0	13	7
Côte d'Ivoire		1995	8 254	7 221	87	63	6	4	1	17	9
		2000	10 276	10 631	103	47	10	5	2	16	20
		2005	12 496	12 496	100	63	11	8	2	10	6
		2007	14 071	14 071	100	62	11	7	1	13	5
		2008	15 294	15 294	100	67	9	9	2	9	4
	• 68 79 •	2009	14 300	14 300	100	69	10	8	3	7	4
Democratic Republic of the Congo		1995	20 914	16 247	78	55	20	5	1	10	9
		2000	36 513	36 123	99	69	8	6	1	8	7
		2005	65 040	65 066	100	80	5	6	1	4	4
		2007	66 099	65 975	100	83	4	4	1	4	4
		2008	69 720	65 962	95	83	4	4	1	3	4
	• 74 88 •	2009	73 078	72 367	99	85	3	4	1	3	4
Equatorial Guinea		1995	219	219	100	89	0	3	0	8	0
		2000			–						
		2005			–						
		2007		436	–	60	0	7	1	26	6
		2008	541	541	100	42	14	4	1	31	7
	• 89 66 •	2009	490	490	100	47	19	3	1	16	14
Eritrea		1995			–						
		2000	590	765	130	64	12	8	1	9	6
		2005	687	688	100	83	5	7	1	2	1
		2007	694	795	115	83	5	5	2	2	3
		2008	839	839	100	72	3	4	1	1	18
	– 85 •	2009	802	804	100	83	2	5	3	2	5
Ethiopia		1995	9 040	5 087	56	56	5	5	2	13	19
		2000	30 510	29 662	97	63	17	6	1	9	4
		2005	38 525	39 430	102	64	14	5	1	4	12
		2007	38 040	38 078	100	67	17	4	1	3	8
		2008	40 794	40 794	100	67	17	3	1	3	10
	• 61 84 •	2009	44 396	44 807	101	65	19	3	1	3	10

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

Data can be downloaded from www.who.int/tb/data

TABLE A3.4 **Treatment outcomes, new smear-positive cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Gabon		1995	486	249	51	63	22	1	2	9	2
		2000			–						
		2005	1 042	1 165	112	35	12	10	1	42	1
		2007	1 462	1 484	102	22	14	3	0	18	43
		2008	1 502	1 502	100	30	24	1	0	19	27
	• 86 55 •	2009	1 244	1 163	93	37	18	1	1	25	18
Gambia		1995	778	686	88	69	7	5	1	13	5
		2000			–						
		2005	1 127	1 127	100	81	6	7	1	3	2
		2007	1 238	1 199	97	80	4	8	2	3	3
		2008	1 300	1 318	101	80	4	9	2	2	3
	• 76 89 •	2009	1 316	1 296	98	88	1	6	1	2	1
Ghana		1995	2 638	361	14	41	13	11	2	11	22
		2000	7 316	7 316	100	45	5	6	3	14	27
		2005	7 505	7 584	101	68	5	9	2	11	5
		2007	7 429	7 429	100	77	7	9	1	3	3
		2008	7 904	7 904	100	78	8	8	1	2	3
	• 54 87 •	2009	8 255	8 255	100	79	8	7	1	3	3
Guinea		1995	2 263	2 263	100	62	17	6	2	9	5
		2000	3 920	3 920	100	59	9	7	1	15	9
		2005	5 479	5 811	106	65	7	6	2	10	10
		2007	6 199	6 199	100	71	8	4	1	7	9
		2008	6 561	4 984	76	70	8	5	2	7	8
	• 78 79 •	2009	5 377	5 597	104	72	6	5	2	7	8
Guinea-Bissau		1995	956	959	100	42	23	6	0	23	6
		2000	526		–						
		2005	1 132	1 167	103	51	18	12	1	11	7
		2007		1 237	–	64	7	5	0	14	9
		2008	1 223	1 242	102	59	11	4	0	17	9
	• 65 67 •	2009	1 310	1 498	114	51	17	6	1	21	5
Kenya		1995	13 934	6 470	46	60	14	9	1	9	7
		2000	28 773	28 376	99	66	14	5	0	9	6
		2005	40 389	40 436	100	71	11	5	0	8	5
		2007	38 360	38 360	100	75	11	4	0	7	4
		2008	36 811	36 811	100	76	9	4	0	7	4
	• 75 86 •	2009	37 402	37 402	100	78	8	4	1	6	4
Lesotho		1995	1 361	1 788	131	32	14	7	0	9	36
		2000	3 041		–						
		2005	4 280	5 542	129		73	8	1	4	14
		2007	3 723	3 728	100	55	12	10	2	4	16
		2008	3 862	3 858	100	64	9	11	2	4	9
	• 47 70 •	2009	3 976	4 070	102	59	11	11	2	5	12
Liberia		1995	1 154	1 595	138	79		5	5	12	0
		2000	1 021	924	90	71	9	2	6	10	3
		2005	2 167	2 167	100	60	16	3	0	12	8
		2007		2 309	–	58	13	6	1	16	5
		2008	3 038	3 042	100	64	15	4	2	10	5
	• 79 83 •	2009	3 796	3 796	100	57	26	5	1	9	3
Madagascar		1995	8 026	9 101	113	47	8	6	2	16	20
		2000		10 506	–	61	9	7	1	17	5
		2005	13 056	15 298	117	67	7	6	1	13	5
		2007	15 344	15 261	99	75	5	5	1	11	4
		2008	15 391	15 376	100	77	4	5	1	9	5
	• 55 82 •	2009	15 729	15 709	100	78	3	4	1	9	5
Malawi		1995	6 285	6 293	100	65	6	19	1	0	10
		2000	8 260	8 296	100	70	3	19	1	4	3
		2005	8 443	8 443	100	72	2	15	1	3	7
		2007	7 608	8 065	106	83	2	9	3	1	2
		2008	7 627	7 632	100	85	2	8	1	2	2
	• 71 88 •	2009	7 623	7 624	100	87	2	7	1	2	1
Mali		1995	1 866	1 290	69	41	18	5	0	22	14
		2000	2 527		–						
		2005	3 530	3 530	100	69	6	11	4	7	3
		2007	3 894	3 897	100	72	6	11	3	5	2
		2008	4 734	4 734	100	75	6	9	4	4	2
	• 59 78 •	2009	5 163	4 454	86	66	12	10	4	7	2
Mauritania		1995	2 074		–						
		2000	1 583		–						
		2005	1 155	1 761	152	44	11	2	1	19	24
		2007	1 714	1 716	100	55	11	2	0	17	15
		2008	1 605	1 605	100	54	14	2	1	12	17
	– 63 •	2009	1 555	1 563	101	51	12	3	1	10	23
Mauritius		1995	113		–						
		2000	115	160	139	0	93	3	2	3	0
		2005	110	110	100	86		3		6	5
		2007	86	86	100	85	0	3	0	8	3
		2008	85	85	100	87	0	6	0	5	2
	– 88 •	2009	98	98	100	88	0	4	0	4	4
Mozambique		1995	10 566	10 566	100	34	5	3	1	9	48
		2000	13 257	13 296	100	73	2	10	1	11	3
		2005	17 877	17 877	100	78	1	12	1	5	2
		2007	18 214	18 214	100	78	1	10	1	5	5
		2008	18 824	18 824	100	83	1	10	1	4	1
	• 39 85 •	2009	19 579	19 579	100	84	1	9	1	3	2
Namibia		1995	697		–						
		2000	4 012	4 012	100	41	15	6	2	15	21
		2005	5 222	5 222	100	59	16	7	2	10	7
		2007	5 114	5 114	100	72	11	5	3	5	5
		2008	4 928	4 928	100	72	10	6	4	4	4
	– 85 •	2009	4 608	4 702	102	74	11	5	4	4	2
Niger		1995	1 492		–						
		2000	3 045	3 193	105	42	22	8	4	12	11
		2005	5 050	5 050	100	49	25	5	2	14	5
		2007	5 773	5 722	99	68	11	5	3	10	4
		2008	5 853	5 860	100	71	10	6	2	7	4
	– 79 •	2009	6 347	6 313	99	66	13	7	2	7	5
Nigeria		1995	9 476	9 476	100	34	15	5	2	9	35
		2000	17 423	16 372	94	65	14	6	2	11	2
		2005	35 048	35 080	100	50	25	9	4	11	1
		2007	44 016	44 070	100	71	11	5	2	9	2
		2008	46 026	46 026	100	68	11	2	5	9	6
	• 49 83 •	2009	44 863	44 863	100	73	10	5	1	8	4

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

TABLE A3.4 **Treatment outcomes, new smear-positive cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Rwanda		1995	1 840		–						
		2000	3 681	3 776	103	52	9	6	1	4	28
		2005	4 166	4 175	100	73	10	6	2	3	6
		2007	4 053	4 081	101	77	9	5	3	2	4
		2008	4 173	4 173	100	79	8	5	4	2	3
	– 85 •	2009	4 184	4 165	100	77	8	5	4	3	3
Sao Tome and Principe		1995			–						
		2000	30	97	323	52	27	9	5	7	0
		2005	49	49	100	98	0	2	0	0	0
		2007	58	58	100	90	0	2	5	3	0
		2008	52	52	100	94	0	4	2	0	0
	– 98 •	2009	52	50	96	98	0	0	2	0	0
Senegal		1995	5 421	5 421	100	35	9	4	6	16	31
		2000	5 823	5 823	100	43	9	3	1	21	22
		2005	6 722	6 722	100	70	6	4	2	11	8
		2007	7 108	7 109	100	72	6	4	2	10	7
		2008	7 584	7 584	100	79	5	4	2	7	4
	• 44 85 •	2009	7 883	7 883	100	81	3	4	2	5	5
Seychelles		1995	6	9	150	89	0	11	0	0	0
		2000	11	11	100	82	0	0	0	9	9
		2005	8		–						
		2007		9	–	44	44	0	0	11	0
		2008	4	6	150	33	67	0	0	0	0
	• 89 64 •	2009	11	11	100	55	9	18	0	0	18
Sierra Leone		1995	1 454	1 315	90	55	15	5	7	16	2
		2000	2 472	2 296	93	70	7	6	2	13	2
		2005	4 370	4 370	100	77	8	6	1	6	2
		2007	5 347	5 346	100	77	13	4	1	5	1
		2008	5 826	5 847	100	73	13	4	1	7	2
	• 69 79 •	2009	6 092	6 083	100	68	10	6	1	11	4
South Africa		1995	23 112	28 209	122	40	18	4	4	15	19
		2000	75 967	86 276	114	54	9	6	1	13	17
		2005	125 460	134 782	107	58	13	7	2	10	10
		2007	135 604	143 222	106	64	10	8	2	8	8
		2008	138 803	143 510	103	67	9	8	2	8	7
	• 58 73 •	2009	139 468	139 458	100	67	6	7	2	7	12
Swaziland		1995	660		–						
		2000	1 823		–						
		2005	2 187	2 187	100	22	20	6	2	5	45
		2007	2 764	2 879	104	36	22	7	6	11	18
		2008	3 105	3 213	103	50	18	10	7	8	7
	– 69 •	2009	3 498	3 498	100	51	19	10	7	7	7
Togo		1995	887	856	97	42	18	9	3	17	11
		2000	984		–						
		2005	1 798	1 796	100	66	5	12	4	11	2
		2007	1 796	1 796	100	71	4	12	3	6	3
		2008	2 234	2 229	100	76	3	11	3	3	3
	• 60 81 •	2009	2 267	2 267	100	77	4	10	4	3	2
Uganda		1995	13 631	15 301	112	26	18	7	1	13	36
		2000	17 246	13 874	80	33	30	7	0	17	12
		2005	20 559	20 559	100	32	41	6	0	16	5
		2007	21 303	21 303	100	31	44	5	0	15	5
		2008	22 766	22 766	100	28	42	5	1	11	14
	• 44 67 •	2009	23 113	23 113	100	30	38	5	1	12	16
United Republic of Tanzania		1995	19 955	19 955	100	69	5	9	1	6	11
		2000	24 049	23 923	99	72	6	10	0	6	5
		2005	25 264	25 324	100	79	4	9	0	4	4
		2007	24 520	24 520	100	83	4	6	0	3	3
		2008	24 171	24 171	100	84	5	5	0	2	4
	• 73 88 •	2009	24 895	24 895	100	82	6	5	0	2	5
Zambia		1995	10 038	5 957	59	47	23	7	2	14	8
		2000	12 927	7 014	54	48	19	7	6	6	14
		2005	14 857	14 857	100	76	8	8	1	2	5
		2007	13 378	13 378	100	78	7	6	1	3	5
		2008	13 211	13 173	100	83	5	5	1	3	4
	• 70 90 •	2009	12 995	12 995	100	85	6	6	1	3	0
Zimbabwe		1995	8 965	9 702	108	32	21	10	0	10	26
		2000	14 392	14 392	100	61	8	12	0	7	13
		2005	13 155	12 860	98	59	9	12	2	7	12
		2007	10 583	10 583	100	70	7	8	0	6	8
		2008	9 830	10 370	105	67	7	9	0	7	9
	• 53 78 •	2009	10 195	10 195	100	70	9	8	1	7	6

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

Data can be downloaded from www.who.int/tb/data

TABLE A3.5 **Treatment outcomes, retreatment cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Algeria		1995	451		–						
		2000	547	512	94	61	16	5	4	5	10
		2005	713	713	100	48	24	2	1	6	19
		2007	718		–						
		2008	651	620	95	72	11	4	2	6	6
	– 84 •	2009	612	553	90	72	12	4	2	5	5
Angola		1995	134		–						
		2000	540		–						
		2005	2 871	1 613	56	23	24	5	17	26	4
		2007	3 317	3 317	100	43	22	5	4	21	5
		2008	3 584	3 584	100	39	18	4	4	18	18
	– 66 •	2009	3 863	3 044	79	45	21	5	4	21	3
Benin		1995	68	139	204	48	19	9	4	19	1
		2000	280	282	101	61	21	5	1	11	0
		2005	337	341	101	60	21	10	3	6	1
		2007	278	278	100	70	16	6	4	3	2
		2008	236	230	97	65	12	13	7	3	0
	• 67 80 •	2009	271	270	100	70	11	11	6	1	1
Botswana		1995	147		–						
		2000	1 239	395	32	21	54	8	1	11	6
		2005	548	219	40	33	28	11	5	12	11
		2007	719	350	49	32	20	10	8	10	21
		2008	1 095	1 067	97	15	30	11	3	11	30
	– 64 •	2009	1 122	1 126	100	22	43	13	4	8	10
Burkina Faso		1995	45	26	58	65	12	8	12	0	4
		2000	178	166	93	57	4	13	5	15	7
		2005	327	272	83	71	4	6	10	6	4
		2007	463	413	89	71	4	9	9	6	1
		2008	500	427	85	72	5	10	9	4	1
	• 77 75 •	2009	608	509	84	70	5	9	8	5	3
Burundi		1995	181	265	146	25	21	6	2	28	18
		2000	225	92	41	50	13	15	3	17	1
		2005	116		–						
		2007	225	219	97	69	9	8	4	10	0
		2008	205	205	100	67	9	7	1	10	5
	• 46 84 •	2009	238	238	100	81	3	6	3	4	2
Cameroon		1995	236		–						
		2000	251	347	138	50	10	9	5	26	2
		2005	1 590	1 611	101	49	7	6	3	16	19
		2007	1 465	1 522	104	49	15	9	2	15	10
		2008	1 420	1 431	101	51	16	9	2	15	8
	– 69 •	2009	1 569	1 516	97	51	18	9	2	13	7
Cape Verde		1995	30		–						
		2000			–						
		2005	34	34	100	41	15	0	0	24	21
		2007	32		–						
		2008	31	31	100	32	16	6	3	29	13
	– –	2009	33		–						
Central African Republic		1995	188		–						
		2000		353	–	33	16	1	4	39	8
		2005	291	291	100	53	30	9	0	8	1
		2007			–						
		2008	373	1 139	305	41	41	3	3	6	6
	– 32 •	2009	629	629	100	19	12	5	2	8	53
Chad		1995	203	92	45	29	18	5	2	40	4
		2000			–						
		2005	515		–						
		2007	402		–						
		2008	631		–						
	• 48 70 •	2009	676	676	100	49	21	4	3	15	8
Comoros		1995	7	7	100	43	0	29	0	29	0
		2000	5	5	100	100	0	0	0	0	0
		2005	3	5	167	100	0	0	0	0	0
		2007		6	–	67	0	0	33	0	0
		2008	6	6	100	100	0	0	0	0	0
	• 43 –	2009	6		–						
Congo		1995	78		–						
		2000	819	187	23	49	13	3	3	28	4
		2005	407	477	117	12	2	0	0	3	83
		2007	349		–						
		2008	473	524	111	49	22	3	4	21	0
	– 81 •	2009	451	418	93	59	22	2	1	14	2
Côte d'Ivoire		1995	649		–						
		2000	893	507	57	45	10	8	9	21	7
		2005	980	980	100	43	14	8	7	13	15
		2007	1 315	1 315	100	46	21	8	4	16	4
		2008	1 429	1 429	100	55	12	7	12	9	4
	– 64 •	2009	1 436	1 436	100	50	14	13	11	9	3
Democratic Republic of the Congo		1995	2 891	1 202	42	56	16	8	2	12	6
		2000	2 637		–						
		2005	6 065	5 448	90	71	4	10	4	6	5
		2007	6 960	6 412	92	61	14	8	3	6	8
		2008	7 738	5 399	70	70	5	9	3	5	8
	• 72 77 •	2009	8 666	7 193	83	54	23	8	2	4	8
Equatorial Guinea		1995	1	6	600	83	0	0	17	0	0
		2000			–						
		2005			–						
		2007		27	–	19	0	15	0	63	4
		2008	50	50	100	26	10	14	4	38	8
	• 83 50 •	2009	44	44	100	36	14	14	2	16	18
Eritrea		1995			–						
		2000	67		–						
		2005	124		–						
		2007	210	133	63	66	12	9	8	2	3
		2008	145	145	100	66	2	7	7	1	17
	– 82 •	2009	207	157	76	70	12	7	6	2	3
Ethiopia		1995	343	193	56	71	8	3	5	8	5
		2000	2 777	1 556	56	60	11	10	4	8	7
		2005	3 119	3 116	100	41	15	9	2	5	28
		2007	2 934	3 014	103	47	16	6	2	3	26
		2008	2 949	2 949	100	46	29	6	2	4	13
	• 79 67 •	2009	3 544	2 942	83	47	21	5	2	3	23

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

TABLE A3.5 **Treatment outcomes, retreatment cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Gabon		1995	44		–						
		2000			–						
		2005	257	150	58	18	12	5	3	60	3
		2007	342	167	49	19	23	1	0	26	31
		2008	296	158	53	10	21	18	2	11	39
	– 79 •	2009	655	611	93	12	67	2	1	17	1
Gambia		1995	6	45	750	69	0	11	2	11	7
		2000			–						
		2005	166		–						
		2007	140	88	63	72	3	14	0	7	5
		2008	143	118	83	68	6	15	3	3	6
	• 69 72 •	2009	107	100	93	67	5	17	2	7	2
Ghana		1995	159	47	30	68	6	6	9	9	2
		2000	502		–						
		2005	532	540	102	40	8	6	3	11	32
		2007	681	681	100	41	17	9	2	1	30
		2008	764	764	100	40	27	8	2	2	21
	• 74 76 •	2009	860	717	83	50	26	10	2	3	10
Guinea		1995	55	112	204	44	23	3	9	13	8
		2000	446	299	67	63	8	5	3	8	13
		2005	458	458	100	45	16	10	7	13	11
		2007	652	652	100	33	8	4	1	6	49
		2008	671	414	62	60	11	7	4	10	8
	• 67 –	2009	589		–						
Guinea-Bissau		1995	59		–						
		2000	90		–						
		2005	138	146	106	44	34	8	0	8	7
		2007		40	–	70	18	5	0	0	8
		2008	82	92	112	53	13	9	0	13	12
	– 64 •	2009	76	89	117	30	34	2	0	29	4
Kenya		1995	1 064	879	83	61	11	9	1	10	8
		2000	2 477	1 964	79	65	11	2	8	10	4
		2005	8 975	3 794	42	68	9	10	1	7	5
		2007	10 462	3 285	31	73	8	7	1	7	4
		2008	10 444	10 444	100	25	47	7	0	7	14
	• 72 78 •	2009	10 711	4 859	45	70	8	8	4	7	4
Lesotho		1995	147		–						
		2000	1 481		–						
		2005	1 041	597	57		71	11	2	2	14
		2007	1 569	1 397	89	20	34	19	2	5	19
		2008	1 786	1 746	98	23	39	18	2	3	14
	– 62 •	2009	1 970	1 931	98	20	42	17	2	4	15
Liberia		1995			–						
		2000	32	41	128	39	22	12	7	20	0
		2005	57	57	100	75	9	2		9	5
		2007		120	–	60	21	6	8	4	2
		2008	132	112	85	72	15	8	2	3	0
	– 85 •	2009	123	123	100	70	15	8	4	2	0
Madagascar		1995	596		–						
		2000			–						
		2005	1 498	1 825	122	65	7	7	2	12	6
		2007	1 803	1 803	100	67	9	8	1	10	6
		2008	1 962	1 676	85	74	3	6	1	10	7
	– 73 •	2009	2 089	2 073	99	62	11	7	2	8	10
Malawi		1995	551	492	89	65	4	22	2	1	6
		2000	764	797	104	61	5	23	1	6	3
		2005	3 212	1 093	34	74	1	19	1	3	3
		2007	2 792	932	33	82	2	10	2	2	2
		2008	2 533	779	31	80	4	10	1	1	4
	• 69 85 •	2009	2 470	788	32	83	2	9	2	2	1
Mali		1995	153		–						
		2000	239		–						
		2005	380	379	100	67	6	10	5	10	3
		2007	423	423	100	69	7	11	6	5	2
		2008	411	407	99	69	5	12	7	5	2
	– 75 •	2009	425	390	92	67	8	9	6	7	3
Mauritania		1995	520		–						
		2000	938		–						
		2005	206		–						
		2007	214	168	79	46	8	5	5	22	13
		2008	194	216	111	44	13	3	1	22	15
	– 62 •	2009	182	182	100	48	13	3	1	20	14
Mauritius		1995	2		–						
		2000	12	2	17	0	0	50	50	0	0
		2005	5	5	100	60	20			20	0
		2007	6	6	100	50	0	17	0	33	0
		2008	4	4	100	50	0	25	0	25	0
	– 60 •	2009	5	5	100	60	0	20	0	20	0
Mozambique		1995	899		–						
		2000	1 463	1 594	109	69	3	11	4	11	2
		2005	1 886	1 855	98	69	1	15	2	10	3
		2007	1 746	1 746	100	68	2	12	3	8	7
		2008	1 782	1 782	100	63	2	10	6	5	14
	– –	2009	3 630		–						
Namibia		1995	88		–						
		2000	1 534	604	39	41	14	8	6	13	17
		2005	1 823	2 009	110	24	29	11	3	13	22
		2007	2 491	1 486	60	53	12	10	11	10	4
		2008	1 439	1 439	100	58	15	9	10	5	2
	– 73 •	2009	2 558	1 546	60	58	15	9	9	6	3
Niger		1995			–						
		2000	255		–						
		2005	754		–						
		2007	794	790	99	54	20	7	7	8	3
		2008	617	616	100	67	12	8	5	6	3
	– 76 •	2009	690	667	97	64	12	9	4	5	6
Nigeria		1995	303		–						
		2000	2 356	1 848	78	58	13	7	7	11	4
		2005	4 867	3 662	75	48	18	2	11	20	1
		2007	6 093	6 093	100	54	13	6	3	7	17
		2008	7 048	5 488	78	61	15	3	7	8	6
	– 81 •	2009	8 151	8 151	100	48	33	6	2	7	4

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

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TABLE A3.5 **Treatment outcomes, retreatment cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Rwanda		1995	200		–						
		2000	374	296	79	49	5	14	1	5	25
		2005	831	506	61	56	9	15	3	4	13
		2007	478	448	94	62	8	7	14	3	6
		2008	397	397	100	64	9	7	7	5	8
	– 72 •	2009	475	448	94	62	10	11	7	4	6
Sao Tome and Principe		1995			–						
		2000	4		–						
		2005	27	0	0	–	–	–	–	–	–
		2007	5	5	100	60	0	0	20	20	0
		2008	6	3	50	67	0	0	33	0	0
	– 67 •	2009	3	3	100	33	33	0	33	0	0
Senegal		1995	563	634	113	45	11	5	10	25	4
		2000	1 056	931	88	40	8	4	3	23	23
		2005	920	920	100	58	5	8	5	13	11
		2007	843	843	100	62	5	8	4	13	8
		2008	1 144	972	85	70	5	7	4	10	5
	• 56 71 •	2009	1 112	889	80	67	4	7	5	10	8
Seychelles		1995	0		–						
		2000	0		–						
		2005	2		–						
		2007		0	–	–	–	–	–	–	–
		2008	0	0	–	–	–	–	–	–	–
	– –	2009	0	0	–	–	–	–	–	–	–
Sierra Leone		1995	41	69	168	72	14	3	4	4	1
		2000	441		–						
		2005	330	328	99	68	7	6	3	15	1
		2007	373	168	45	80	10	8	0	2	0
		2008	389	153	39	78	7	5	1	6	3
	• 87 69 •	2009	467	466	100	56	13	10	3	15	4
South Africa		1995	179		–						
		2000	56 202	24 847	44	43	8	8	3	19	19
		2005	60 588	64 923	107	29	29	11	2	16	13
		2007	66 646	60 084	90	54	10	5	6	13	13
		2008	64 470	38 754	60	53	11	11	3	13	9
	– 60 •	2009	65 916	34 122	52	53	8	10	3	12	15
Swaziland		1995	489		–						
		2000	1 249		–						
		2005	470	1 113	237	7	21	11	3	5	54
		2007	1 083	663	61	20	17	12	11	12	27
		2008	1 319	1 418	108	14	34	15	11	9	17
	– 55 •	2009	1 474	1 474	100	14	41	17	9	10	8
Togo		1995	93	93	100	16	17	5	4	19	38
		2000	133		–						
		2005	179	128	72	73	2	14	4	7	0
		2007	130	133	102	59	4	23	2	11	2
		2008	196	194	99	73	2	14	4	7	0
	• 33 71 •	2009	214	237	111	68	3	18	3	4	5
Uganda		1995	955		–						
		2000	1 505	1 209	80	34	30	13	0	13	10
		2005	2 430		–						
		2007	2 136	1 433	67	32	49	8	1	6	4
		2008	3 177	2 491	78	31	48	8	1	12	0
	– 70 •	2009	4 014	2 856	71	31	39	7	1	15	7
United Republic of Tanzania		1995	1 335	1 455	109	66	10	11	1	8	4
		2000	1 772	3 356	189	49	24	14	1	6	6
		2005	5 032	5 067	101	37	39	13	1	4	6
		2007	4 525	4 525	100	39	43	10	0	3	5
		2008	4 474	4 474	100	34	47	10	1	3	4
	• 76 83 •	2009	4 217	4 217	100	34	49	8	1	3	5
Zambia		1995	243		–						
		2000	1 455	894	61	52	15	11	4	5	12
		2005	5 496	5 496	100	24	60	9	1	3	4
		2007	5 833	5 833	100	24	58	9	0	3	6
		2008	5 236	2 958	56	0	80	9	0	4	6
	– 86 •	2009	2 485	5 444	219	33	53	9	1	4	0
Zimbabwe		1995	737		–						
		2000		1 063	–	51	14	17	1	8	9
		2005	5 941	4 667	79	13	46	16	0	13	11
		2007	2 486	2 486	100	35	15	19	1	14	16
		2008	3 631	1 109	31	63	10	12	1	7	7
	– 80 •	2009	4 685	1 203	26	72	8	11	0	5	4

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

TABLE A3.6 **HIV testing and provision of CPT, ART and IPT, 2005–2010**

	% OF TB PATIENTS WITH KNOWN HIV STATUS 2005–2010	YEAR	% OF TB PATIENTS WITH KNOWN HIV STATUS	NUMBER OF TB PATIENTS WITH KNOWN HIV STATUS	PATIENTS NOTIFIED (NEW AND RETREAT)	NUMBER OF HIV-POSITIVE TB PATIENTS	% OF TESTED TB PATIENTS HIV-POSITIVE	% OF HIV-POSITIVE TB PATIENTS ON CPT	% OF HIV-POSITIVE TB PATIENTS ON ART	NUMBER OF HIV-POSITIVE PEOPLE PROVIDED IPT
Algeria		2005	–		21 501		–	–	–	
		2008	–		20 730		–	–	–	
		2009	–		21 823		–	–	–	
	– –	2010	–		22 530		–	–	–	
Angola		2005	–		38 317		–	–	–	
		2008	–		45 923		–	–	–	
		2009	5	2 023	42 686	306	15	14	9	
	– 5 •	2010	5	2 434	49 987	672	28	18	12	
Benin		2005	15	503	3 457	57	11	–	–	
		2008	96	3 802	3 977	653	17	97	40	
		2009	96	3 845	3 987	633	16	98	44	
	• 15 98 •	2010	98	3 774	3 841	585	16	–	–	
Botswana		2005	23	2 291	10 104	1 829	80	–	–	18 762
		2008	63	6 120	9 645	4 149	68	32	32	12 802
		2009	75	6 795	9 088	4 415	65	31	36	11 732
	• 23 80 •	2010	80	6 098	7 632	3 990	65	79	45	738
Burkina Faso		2005	33	1 213	3 645	559	46	68	32	
		2008	95	4 308	4 549	948	22	98	52	0
		2009	90	4 602	5 111	903	20	97	53	
	• 33 83 •	2010	83	4 282	5 135	760	18	96	41	
Burundi		2005	–		6 627		–	–	–	0
		2008	8	526	6 865	243	46	25	14	
		2009	50	3 625	7 323	1 305	36	47	32	617
	– 71 •	2010	71	5 512	7 719	1 260	23	95	40	
Cameroon		2005	–		22 073		–	–	–	0
		2008	71	17 885	25 125	7 211	40	59	36	0
		2009	72	18 218	25 174	7 383	41	86	50	674
	– 78 •	2010	78	19 117	24 552	7 628	40	–	–	
Cape Verde		2005	98	298	305	14	5	–	100	
		2008	–		349		–	–	–	
		2009	80	282	352	57	20	–	–	0
	• 98 –	2010	–		365		–	–	–	
Central African Republic		2005	–		3 338		–	–	–	
		2008	–		6 935		–	–	–	0
		2009	42	3 749	8 996	1 230	33	66	35	0
	– 39 •	2010	39	2 638	6 760	862	33	–	62	
Chad		2005	–		6 505		–	–	–	
		2008	–		7 195		–	–	–	
		2009	–		8 651		–	–	–	
	– 39 •	2010	39	3 801	9 697	663	17	–	–	
Comoros		2005	100	112	112	2	2	100	100	
		2008	80	110	137	0	0	–	–	0
		2009	91	117	129	0	0	–	–	0
	• 100 –	2010	–				–	–	–	0
Congo		2005	–		9 961		–	–	–	
		2008	2	180	9 057	36	20	100	100	
		2009	24	2 357	9 935	99	4	2	2	
	– 94 •	2010	94	9 714	10 321	757	8	3	3	
Côte d'Ivoire		2005	20	4 079	20 026	1 551	38	38	14	
		2008	72	17 201	24 048	5 073	29	60	22	
		2009	75	17 253	23 009	5 207	30	71	31	0
	• 20 73 •	2010	73	16 992	23 210	4 112	24	80	26	
Democratic Republic of the Congo		2005	2	1 885	99 558	386	20	74	1	
		2008	20	21 856	108 602	3 932	18	42	18	
		2009	27	31 312	116 025	6 126	20	45	21	0
	• 2 24 •	2010	24	28 997	118 636	5 273	18	24	9	
Equatorial Guinea		2005	–				–	–	–	
		2008	100	741	741	41	6	–	–	0
		2009	46	331	720	121	37	14	55	
	– 55 •	2010	55	470	853	225	48	85	20	
Eritrea		2005	–		3 612		–	–	–	
		2008	–		3 006		–	–	–	
		2009	–		3 022		–	–	–	
	– –	2010	–		2 991		–	–	–	
Ethiopia		2005	3	3 211	125 135	1 321	41	88	29	1 983
		2008	23	33 021	141 909	7 891	24	67	44	1 493
		2009	37	56 040	150 221	11 098	20	68	41	2 403
	• 3 43 •	2010	43	66 955	156 928	9 809	15	69	39	6 636
Gabon		2005	7	185	2 611	185	100	100	–	0
		2008	21	966	4 678	613	63	49	49	0
		2009	32	1 130	3 559	667	59	52	52	
	• 7 –	2010	–		4 180		–	–	–	
Gambia		2005	–		2 120		–	–	–	
		2008	73	1 578	2 169	294	19	–	18	
		2009	94	2 045	2 186	326	16	–	11	
	– 93 •	2010	93	1 962	2 111	224	11	93	46	
Ghana		2005	7	844	12 124	340	40	100	37	
		2008	51	7 373	14 467	1 630	22	87	24	0
		2009	65	9 870	15 286	2 218	22	72	24	0
	• 7 69 •	2010	69	10 442	15 145	2 451	23	86	20	
Guinea		2005	–		7 090		–	–	–	
		2008	10	1 020	10 345	197	19	97	24	0
		2009	63	5 444	8 614	1 288	24	40	7	
	– 51 •	2010	51	5 785	11 324	1 539	27	83	45	
Guinea-Bissau		2005	11	200	1 816	110	55	100	30	0
		2008	25	543	2 130	250	46	83	–	
		2009	30	664	2 188	268	40	–	–	
	• 11 46 •	2010	46	1 046	2 259	396	38	–	–	
Kenya		2005	14	15 658	108 401	8 954	57	44	17	
		2008	83	91 463	110 251	41 174	45	92	30	0
		2009	88	96 676	110 065	42 294	44	92	34	
	• 14 91 •	2010	91	96 930	106 083	40 069	41	100	48	
Lesotho		2005	1	156	11 404	127	81	79	–	
		2008	68	9 008	13 219	6 830	76	82	27	
		2009	78	10 563	13 515	8 084	77	94	28	
	• 1 84 •	2010	84	11 005	13 138	8 459	77	96	27	
Liberia		2005	3	114	3 456	14	12	–	–	
		2008	80	4 002	5 023	64	2	50	39	
		2009	100	5 964	5 964	72	1	42	49	0
	• 3 53 •	2010	53	3 533	6 668	283	8	–	–	

Data can be downloaded from www.who.int/tb/data

TABLE A3.6 **HIV testing and provision of CPT, ART and IPT, 2005–2010**

	% OF TB PATIENTS WITH KNOWN HIV STATUS 2005–2010	YEAR	% OF TB PATIENTS WITH KNOWN HIV STATUS	NUMBER OF TB PATIENTS WITH KNOWN HIV STATUS	PATIENTS NOTIFIED (NEW AND RETREAT)	NUMBER OF HIV-POSITIVE TB PATIENTS	% OF TESTED TB PATIENTS HIV-POSITIVE	% OF HIV-POSITIVE TB PATIENTS ON CPT	% OF HIV-POSITIVE TB PATIENTS ON ART	NUMBER OF HIV-POSITIVE PEOPLE PROVIDED IPT
Madagascar		2005	9	1 759	19 475	16	1	–	–	
		2008	28	6 471	22 775	9	0	–	–	0
		2009	9	2 176	23 447	7	0	–	71	
	• 9 17 •	2010	17	4 149	25 106	14	0	–	100	
Malawi		2005	44	12 243	27 610	8 447	69	92	49	
		2008	84	21 557	25 684	13 687	63	96	38	
		2009	86	21 041	24 356	13 558	64	94	45	0
	• 44 88 •	2010	88	19 855	22 536	12 476	63	94	46	
Mali		2005	–		4 884		–	–	–	
		2008	49	3 041	6 208	452	15	9	4	0
		2009	55	3 760	6 835	585	16	100	10	0
	– 43 •	2010	43	2 353	5 448	416	18	75	52	0
Mauritania		2005	0	10	2 218	0	0	–	–	
		2008	2	52	2 726	52	100	100	100	
		2009	11	281	2 664	27	10	–	–	
	• 0 24 •	2010	24	608	2 489	35	6	–	–	0
Mauritius		2005	91	115	127	2	2	100	50	
		2008	94	101	108	10	10	50	50	0
		2009	95	110	116	7	6	100	71	0
	• 91 95 •	2010	95	117	123	8	7	100	75	
Mozambique		2005	–		33 718		–	–	–	
		2008	81	32 182	39 735	19 330	60	92	30	724
		2009	84	38 087	45 529	25 056	66	89	22	2 429
	– 88 •	2010	88	40 554	46 174	24 574	61	97	25	8 904
Namibia		2005	16	2 547	15 894	1 465	58	–	–	
		2008	67	9 188	13 737	5 718	62	92	35	
		2009	74	9 849	13 332	5 676	58	78	35	17 737
	• 16 76 •	2010	76	9 535	12 625	5 227	55	92	42	13 989
Niger		2005	–		8 224	152	–	43	34	
		2008	24	2 243	9 393	320	14	45	–	
		2009	24	2 424	10 228	403	17	24	–	
	– 46 •	2010	46	4 711	10 345	402	9	–	–	
Nigeria		2005	10	6 897	66 848	1 241	18	–	–	
		2008	62	56 053	90 311	15 301	27	26	45	2 099
		2009	75	70 693	94 114	18 087	26	48	39	1 853
	• 10 79 •	2010	79	71 844	90 447	17 736	25	59	33	1 750
Rwanda		2005	65	5 003	7 680	2 276	45	15	13	
		2008	96	7 510	7 841	2 560	34	87	60	0
		2009	97	7 448	7 644	2 529	34	92	63	0
	• 65 98 •	2010	98	6 914	7 065	2 199	32	97	–	
Sao Tome and Principe		2005	100	152	152	5	3	–	–	
		2008	97	69	71	6	9	100	50	
		2009	100	79	79	10	13	100	30	2
	• 100 92 •	2010	92	112	122	13	12	92	54	0
Senegal		2005	–		10 120		–	–	–	
		2008	51	5 963	11 591	601	10	71	34	0
		2009	59	6 906	11 732	455	7	85	27	0
	– 69 •	2010	69	8 018	11 591	776	10	85	37	
Seychelles		2005	–		14	2	–	100	100	
		2008	100	6	6	0	0	–	–	0
		2009	100	15	15	3	20	100	100	0
	– 100 •	2010	100	17	17	1	6	100	100	0
Sierra Leone		2005	–		6 930		–	–	–	
		2008	72	7 949	11 021	920	12	–	–	
		2009	73	8 625	11 826	987	11	7	13	
	– 74 •	2010	74	9 718	13 195	976	10	6	19	
South Africa		2005	22	67 988	302 467	35 299	52	100	33	1 466
		2008	39	150 542	388 882	89 950	60	72	25	7 359
		2009	49	197 448	405 982	114 523	58	71	42	23 583
	• 22 54 •	2010	54	213 006	396 554	128 457	60	74	54	124 049
Swaziland		2005	–		8 864		–	–	–	
		2008	101	9 635	9 565	8 081	84	94	24	0
		2009	97	10 730	11 032	8 889	83	94	26	2 107
	– 86 •	2010	86	9 536	11 146	7 788	82	93	35	
Togo		2005	–		2 635		–	–	–	0
		2008	17	512	3 069	162	32	34	30	0
		2009	56	1 734	3 093	342	20	74	36	0
	– 78 •	2010	78	2 256	2 897	444	20	–	–	
Uganda		2005	25	10 555	41 809	7 523	71	25	10	
		2008	63	27 695	43 843	16 432	59	78	22	
		2009	71	31 695	44 335	17 131	54	86	22	
	• 25 81 •	2010	81	36 724	45 546	19 836	54	90	24	
United Republic of Tanzania		2005	3	1 613	64 200	841	52	61	22	
		2008	77	48 846	63 364	19 940	41	82	30	
		2009	88	56 388	64 267	21 541	38	89	31	153
	• 3 90 •	2010	90	56 849	63 453	21 662	38	92	35	
Zambia		2005	2	1 082	53 267	614	57	–	68	
		2008	65	30 654	47 371	20 839	68	46	41	850
		2009	77	34 992	45 551	23 584	67	64	42	
	• 2 83 •	2010	83	40 543	48 616	26 418	65	77	47	
Zimbabwe		2005	–		54 891		–	–	–	
		2008	56	22 062	39 348	16 619	75	75	28	226
		2009	62	28 952	46 453	22 745	79	92	38	
	– 80 •	2010	80	38 012	47 557	28 662	75	18	30	

TABLE A3.7 **Testing for MDR-TB and number of confirmed cases of MDR-TB, 2005–2010**

	YEAR	TOTAL CONFIRMED CASES OF MDR-TB[a]	NEW CASES				PREVIOUSLY TREATED CASES			
			NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB	NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB
Algeria	2005	74	20 788	809	4	14	713	164	23	60
	2008		20 079		–		651		–	
	2009		21 211		–		612		–	
	2010	56	21 839		–		691		–	
Angola	2005		35 446		–		2 871		–	
	2008		42 339		–		3 584		–	
	2009		38 823		–		3 863		–	
	2010	3	42 211		–		7 776		–	
Benin	2005	28	3 120	31	1	3	337	107	32	25
	2008	4	3 741	0	0	0	236	141	60	4
	2009	14	3 716		–		271	94	35	14
	2010	15	3 636	103	3	15	205	6	3	0
Botswana	2005		9 556		–		548		–	
	2008	126	8 550	530	6	51	1 095	299	27	75
	2009	101	7 966	268	3	30	1 122	251	22	54
	2010	106	6 560	488	7	45	1 072	286	27	51
Burkina Faso	2005	3	3 318		–		327	126	39	3
	2008	16	4 049	1	0	1	500	0	0	0
	2009	19	4 503	3	0	0	608	52	9	19
	2010	31	4 583	1	0	1	552	117	21	30
Burundi	2005		6 511		–		116		–	
	2008	17	6 660	0	0	0	205	0	0	0
	2009	0	7 085	0	0	0	238	0	0	0
	2010	24	7 387	22	0	22	332	2	1	2
Cameroon	2005		20 483		–		1 590		–	
	2008		23 705		–		1 420		–	
	2009	26	23 605	0	0	0	1 569	216	14	26
	2010	35	23 058	0	0	0	1 494	35	2	35
Cape Verde	2005		271		–		34		–	
	2008	0	318	0	0	0	31	1	3	0
	2009	0	319	0	0	0	33	0	0	0
	2010	0	338		–		27		–	
Central African Republic	2005		3 047		–		291		–	
	2008	12	6 562	233	4	1	373	21	6	11
	2009	7	8 367	225	3	1	629	21	3	6
	2010	9	6 339	9	0	9	421	0	0	0
Chad	2005		5 990		–		515		–	
	2008		6 564		–		631		–	
	2009		7 975		–		676		–	
	2010	3	8 989	0	0	0	708	0	0	0
Comoros	2005		109		–		3		–	
	2008	2	129	0	0	0	6	0	0	0
	2009	0	115	0	0	0	6	0	0	0
	2010				–				–	
Congo	2005		9 554		–		407		–	
	2008		8 584		–		473		–	
	2009		9 484		–		451		–	
	2010		9 805		–		516		–	
Côte d'Ivoire	2005	47	19 046	0	0		980	0	0	
	2008	24	22 619	0	0	0	1 429	53	4	24
	2009	43	21 573	0	0	0	1 436	309	22	43
	2010	50	21 691	0	0	0	1 519	72	5	50
Democratic Republic of the Congo	2005		93 493		–		6 065		–	
	2008	128	100 864	40	0	3	7 738	190	2	125
	2009	91	107 359		–		8 666	111	1	91
	2010	87	110 032		–		8 604	100	1	87
Equatorial Guinea	2005				–				–	
	2008	5	691	1	0	1	50	0	0	0
	2009		676		–		44		–	
	2010	0	786	0	0	0	67	0	0	0
Eritrea	2005		3 452		–		124		–	
	2008		2 861		–		145		–	
	2009		2 815		–		207		–	
	2010		2 783		–		208		–	
Ethiopia	2005		122 016		–		3 119		–	
	2008	130	138 960		–		2 949		–	
	2009	233	146 677	16	0	12	3 544	298	8	180
	2010	140	152 030	42	0	19	4 898	510	10	121
Gabon	2005		2 354		–		257		–	
	2008		4 382		–		296		–	
	2009		2 904		–		655		–	
	2010	0	3 305		–		558		–	
Gambia	2005		1 954		–		166		–	
	2008	0	2 026	0	0	0	143	143	100	0
	2009	0	2 079	0	0	0	107	0	0	0
	2010	0	2 030		–		81		–	
Ghana	2005	1	11 592	50	0	0	532	2	0	1
	2008	2	13 703	0	0	0	764	100	13	2
	2009		14 426		–		860		–	
	2010	4	14 124		–		1 021	21	2	4
Guinea	2005	20	6 632	215	3	5	458	34	7	15
	2008	72	9 674	0	0	0	671	0	0	0
	2009	69	8 009	6	0	6	589	63	11	63
	2010	31	10 676	5	0	5	648	26	4	26
Guinea-Bissau	2005		1 678		–		138		–	
	2008		2 048		–		82		–	
	2009		2 112		–		76		–	
	2010		2 067		–		192		–	
Kenya	2005	44	99 426	0	0	0	8 975	1 829	20	44
	2008	102	99 807	0	0	0	10 444	5 043	48	102
	2009	150	99 354	0	0	0	10 711	1 971	18	130
	2010	112	95 604		–		10 479	706	7	103
Lesotho	2005		10 363		–		1 041		–	
	2008		11 433		–		1 786		–	
	2009		11 545		–		1 970		–	
	2010	527	11 153		–		1 985		–	
Liberia	2005		3 399		–		57		–	
	2008		4 891		–		132		–	
	2009		5 841		–		123		–	
	2010	0	6 498	0	0	0	170	0	0	0

[a] TOTAL CONFIRMED CASES OF MDR-TB includes cases with unknown previous treatment history (i.e. not included under NEW CASES or PREVIOUSLY TREATED CASES).

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TABLE A3.7 **Testing for MDR-TB and number of confirmed cases of MDR-TB, 2005–2010**

	YEAR	TOTAL CONFIRMED CASES OF MDR-TB[a]	NEW CASES				PREVIOUSLY TREATED CASES			
			NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB	NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB
Madagascar	2005		17 977		–		1 498		–	
	2008	6	20 813		–		1 962	144	7	6
	2009	3	21 358	44	0	0	2 089	22	1	3
	2010	3	22 997	60	0	0	2 109	24	1	3
Malawi	2005	9	24 398		–		3 212	917	29	9
	2008	16	23 151	0	0	0	2 533	867	34	16
	2009	6	21 886	0	0	0	2 470	34	1	
	2010	40	20 342	871	4	1	2 194	449	20	39
Mali	2005	2	4 504	0	0	0	380	0	0	0
	2008	7	5 797	0	0	0	411	16	4	7
	2009	22	6 410	14	0	11	425	14	3	11
	2010	12	5 093	0	0	0	355	12	3	12
Mauritania	2005	11	2 012	161	8	4	206	30	15	7
	2008	6	2 532		–	6	194	6	3	
	2009		2 482		–		182		–	
	2010	35	2 336		–		153		–	
Mauritius	2005	0	122	114	93	0	5	3	60	0
	2008	1	104	85	82	0	4	4	100	1
	2009	1	111	98	88	1	5	5	100	0
	2010	2	116	105	91	1	7	7	100	1
Mozambique	2005	115	31 832	113	0	18	1 886	305	16	97
	2008	181	37 953	75	0	30	1 782	277	16	109
	2009	140	41 899	73	0	45	3 630	213	6	95
	2010	165	42 126	80	0	18	4 048	251	6	130
Namibia	2005		14 071		–		1 823		–	
	2008	221	12 298		–	13	1 439		–	208
	2009	301	10 774		–	25	2 558		–	267
	2010	214	10 103		–	19	2 522		–	193
Niger	2005		7 470		–		754		–	
	2008	52	8 776		–		617		–	
	2009	24	9 421	0	0	0	690	33	5	24
	2010	39	9 678	0	0	0	667	47	7	39
Nigeria	2005		60 589		–		4 867		–	
	2008	23	83 263	168	0	9	7 048	19	0	14
	2009	28	85 963	17	0	12	8 151	25	0	11
	2010	21	81 454	27	0	8	8 993	19	0	11
Rwanda	2005	35	6 849	57	1	35	831	0	0	0
	2008	79	7 227	41	1	31	397	76	19	48
	2009	78	7 005	77	1	8	475	138	29	70
	2010	90	6 434	171	3	8	631	431	68	82
Sao Tome and Principe	2005		125		–		27		–	
	2008		63		–		6		–	
	2009		76		–		3		–	
	2010	0	120		–		2		–	
Senegal	2005		9 200		–		920		–	
	2008	7	10 447	168	2	3	1 144	31	3	4
	2009	11	10 620	57	1	3	1 112	31	3	8
	2010	38	10 562	41	0	2	1 029	66	6	35
Seychelles	2005		12		–		2		–	
	2008		6		–		0		–	
	2009	0	15		–		0		–	
	2010	0	17		–		0		–	
Sierra Leone	2005		6 600		–		330		–	
	2008		10 632		–		389		–	
	2009		11 359		–		467		–	
	2010		12 648		–		547		–	
South Africa	2005	2 000	241 879		–	197	60 588		–	1 803
	2008	8 026	320 026		–		64 470		–	
	2009	9 070	340 066		–		65 916		–	
	2010	7 386	335 974		–		60 580		–	
Swaziland	2005		7 751		–		470		–	
	2008	170	8 246	298	4	17	1 319	980	74	105
	2009	190	9 558	2 200	23	190	1 474		–	
	2010	326	9 706	148	2	51	1 440	505	35	246
Togo	2005		2 452		–		179		–	
	2008	2	2 873	0	0	0	196	39	20	2
	2009	4	2 879	0	0	0	214	4	2	4
	2010	2	2 657		–		240		–	
Uganda	2005	46	39 379		–		2 430		–	
	2008	26	40 666	476	1	5	3 177	407	13	21
	2009	57	40 321	369	1	6	4 014	228	6	41
	2010	93	41 594	358	1	15	3 952	356	9	37
United Republic of Tanzania	2005	10	59 168	276	0	1	5 032	405	8	9
	2008	24	58 890	450	1	6	4 474	191	4	17
	2009	24	60 050	348	1	9	4 217	177	4	15
	2010	34	59 668	201	0	9	3 785	246	6	22
Zambia	2005		47 771		–		5 496		–	
	2008	56	42 135	0	0	0	5 236	566	11	56
	2009	29	43 066	63	0	13	2 485	30	1	16
	2010		42 306		–		6 310		–	
Zimbabwe	2005		48 950		–		5 941		–	
	2008		35 717		–		3 631		–	
	2009		41 768		–		4 685		–	
	2010	17	42 872		–		4 685		–	

[a] TOTAL CONFIRMED CASES OF MDR-TB includes cases with unknown previous treatment history (i.e. not included under NEW CASES or PREVIOUSLY TREATED CASES).

TABLE A3.8 **New smear-positive case notification by age and sex, 1995–2010**

		MALE								FEMALE								
	YEAR	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	MALE/FEMALE RATIO
Algeria	1995																	–
	2000	59	927	1 516	610	491	234	299		36	1 005	1 293	746	314	208	312		1.1
	2005	53	1 309	1 841	919	473	314	426		102	1 044	820	389	270	229	465		1.6
	2010	52	1 203	1 669	825	513	392	397		79	1 086	826	417	251	222	367		1.6
Angola	1995	386	724	562	346	224	155	14		371	707	443	264	248	130	18		1.1
	2000	186	999	1 003	912	482	312	194		247	1 142	1 091	844	417	200	120		1.0
	2005	520	2 549	2 797	1 918	1 255	665	461		704	2 926	2 682	1 797	1 138	581	417		1.0
	2010	448	2 900	3 584	2 415	1 424	691	355		558	2 763	2 594	1 688	958	482	286		1.3
Benin	1995	14	186	352	306	176	101	92		26	148	197	118	69	32	22		2.0
	2000	19	277	428	327	213	103	74		36	239	275	149	76	45	25		1.7
	2005	21	306	595	396	270	135	87		25	249	331	145	89	51	39		1.9
	2010	18	314	631	443	267	164	85	0	29	265	382	200	98	42	35	0	1.8
Botswana	1995																	–
	2000	25	185	605	488	267	135	96		37	335	469	262	98	57	36		1.4
	2005	27	260	563	506	272	135	97		45	321	491	253	97	55	48		1.4
	2010	45	256	590	477	239	137	107	0	68	338	509	301	119	56	53	0	1.3
Burkina Faso	1995	4	67	133	124	62	48	29		7	76	53	39	26	11	10		2.1
	2000	12	91	274	252	133	68	65		7	59	128	101	45	38	14		2.3
	2005	18	181	430	370	273	144	113		15	125	248	174	109	54	40		2.0
	2010	20	231	620	493	328	224	173	0	33	158	259	198	124	97	83	0	2.2
Burundi	1995	5	128	238	224	73	32	19		19	109	124	89	33	12	4		1.8
	2000																	–
	2005	34	352	591	525	372	111	55		46	298	399	288	122	36	33		1.7
	2010	56	481	773	651	570	270	157	0	78	390	421	332	225	99	87	0	1.8
Cameroon	1995	20	208	569	323	287	204	164		9	185	313	223	153	106	93		1.6
	2000	41	518	842	584	284	130	75		63	368	530	293	139	60	33		1.7
	2005	134	1 472	2 482	1 766	1 035	463	289		226	1 467	1 788	1 028	503	205	143		1.4
	2010	106	1 497	2 750	1 996	1 314	559	329		172	1 474	2 031	1 121	642	290	183		1.4
Cape Verde	1995																	–
	2000																	–
	2005	0	22	23	26	9	2	8		2	9	16	4	5	3	6		2.0
	2010																	–
Central African Republic	1995	38	162	356	206	120	40	18		39	233	350	145	57	21	9		1.1
	2000																	–
	2005	29	40	1 136	160	26	35	15		30	32	420	145	30	40	15		2.0
	2010	78	379	633	468	251	135	63	1	88	367	576	319	155	73	44	8	1.2
Chad	1995																	–
	2000																	–
	2005	25	194	535	409	229	123	82		28	148	298	211	148	59	27		1.7
	2010	76	382	850	666	379	173	99	0	59	274	413	263	158	79	44	0	2.0
Comoros	1995	0	18	13	9	7	8	4		1	13	9	8	6	5	2		1.3
	2000	0	18	7	14	9	3	4		1	9	6	12	1	2	1		1.7
	2005	0	12	9	6	4	2	4		2	10	7	4	8	3	8		0.9
	2010																	–
Congo	1995	16	265	409	221	73	44	15		17	296	353	167	61	38	11		1.1
	2000																	–
	2005																	–
	2010	41	435	672	424	203	77	55		49	409	510	296	152	70	56		1.2
Côte d'Ivoire	1995	41	989	2 092	1 344	759	283	130		99	810	813	497	273	105	19		2.2
	2000																	–
	2005	128	1 346	2 449	1 606	888	422	385		193	1 280	1 756	989	528	232	201		1.4
	2010	159	1 751	2 858	1 882	1 010	505	375		246	1 431	1 819	1 051	531	304	209		1.5
Democratic Republic of the Congo	1995	373	1 572	2 382	1 890	1 184	634	289		331	1 223	1 532	1 232	863	427	137		1.4
	2000	485	4 048	5 833	4 151	2 549	1 295	602		718	4 422	5 146	3 309	1 724	855	351		1.1
	2005	1 321	6 675	9 808	7 577	5 022	2 637	1 499		1 695	7 570	8 501	5 832	3 898	2 054	951		1.1
	2010	1 707	6 859	10 412	9 134	6 464	3 641	1 907		1 987	7 199	9 120	6 721	4 579	2 612	1 311		1.2
Equatorial Guinea	1995	8	15	45	37	15	11	7		2	18	28	20	4	7	1		1.7
	2000																	–
	2005																	–
	2010	10	71	80	59	35	16	10	0	13	80	57	45	26	9	6	0	1.2
Eritrea	1995																	–
	2000	9	70	75	57	32	25	20		10	100	87	71	21	12	8		0.9
	2005	9	68	73	50	45	51	39		8	67	127	72	39	21	18		1.0
	2010	10	93	109	81	51	37	60	0	3	88	111	79	43	31	36	0	1.1
Ethiopia	1995	247	1 221	1 017	541	276	142	51		283	908	781	382	152	64	15		1.4
	2000	915	5 095	5 187	3 082	1 495	610	397		1 037	4 699	4 424	2 105	976	366	122		1.2
	2005	1 109	6 726	6 181	3 454	1 985	1 027	475		1 326	5 885	5 663	2 730	1 296	513	155		1.2
	2010	1 582	7 400	7 785	4 451	2 746	1 473	822		1 608	5 708	6 480	3 439	1 950	855	335		1.3
Gabon	1995	3	45	74	80	54	30	15		9	47	54	28	25	19	3		1.6
	2000																	–
	2005	13	123	199	140	70	38	25		19	128	123	88	29	29	18		1.4
	2010	15	145	223	208	130	89	91	0	13	110	164	122	100	86	64	0	1.4
Gambia	1995	3	68	181	88	72	29	24		4	39	61	44	25	12	8		2.4
	2000																	–
	2005	13	133	292	206	62	53	44		2	84	87	64	38	22	27		2.5
	2010	9	194	314	184	141	68	39	0	6	104	121	71	35	40	18	0	2.4
Ghana	1995	42	223	397	398	302	190	112		40	199	272	205	122	88	48		1.7
	2000	73	550	1 266	1 115	811	495	426		74	456	791	566	338	179	176		1.8
	2005	49	592	1 201	1 311	944	462	414		68	450	693	527	366	207	221		2.0
	2010	63	570	1 146	1 301	1 030	540	447		64	446	667	560	369	204	249		2.0
Guinea	1995	18	244	538	357	189	98	61		28	202	255	153	64	37	19		2.0
	2000	39	551	860	570	282	203	103		66	314	446	245	114	82	45		2.0
	2005	51	749	1 165	778	463	195	130		65	594	583	354	203	94	55		1.8
	2010	61	679	877	982	876	565	289		51	549	739	751	405	145	72		1.6
Guinea-Bissau	1995																	–
	2000	2	52	92	80	64	39	19		4	30	46	47	24	15	12		2.0
	2005	14	116	167	153	130	72	42		13	78	110	92	82	44	19		1.6
	2010	18	164	219	183	141	80	43	0	30	100	161	133	80	38	19	0	1.5
Kenya	1995	154	2 072	3 073	1 675	920	485	296		187	1 802	1 759	741	411	242	117		1.6
	2000	264	3 739	6 653	3 548	1 630	630	414		416	3 916	4 363	1 874	831	347	148		1.4
	2005	359	4 790	8 832	5 069	2 521	1 031	590		577	5 144	6 521	2 781	1 266	593	315		1.3
	2010	357	4 698	7 945	5 077	2 509	994	658		549	4 044	5 112	2 372	1 056	544	345		1.6
Lesotho	1995	9	108	214	256	189	96	88		14	106	125	71	49	17	19		2.4
	2000	8	165	458	517	395	198	76		11	222	336	195	83	36	29		2.0
	2005	32	395	695	397	148	82	37		19	226	721	616	494	297	121		0.7
	2010	16	222	607	497	364	244	133		27	283	597	329	169	64	48		1.4
Liberia	1995																	–
	2000	12	133	196	127	52	17	26		21	140	149	88	28	16	16		1.2
	2005	26	240	352	333	155	74	65		37	232	297	171	108	52	25		1.4
	2010	90	338	621	510	295	114	21	0	254	339	488	259	171	151	99	0	1.1
Madagascar	1995	79	791	1 289	1 173	630	423	242		100	799	1 108	744	340	230	78		1.4
	2000																	–
	2005	98	1 159	1 867	1 732	1 349	582	333		150	1 012	1 451	1 047	614	248	129		1.5
	2010	204	1 721	1 621	2 525	1 782	960	485	0	323	1 621	1 943	1 376	946	397	192	0	1.4

Data can be downloaded from www.who.int/tb/data

TABLE A3.8 **New smear-positive case notification by age and sex, 1995–2010**

		MALE								FEMALE								
	YEAR	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	MALE/FEMALE RATIO
Malawi	1995	25	493	1 195	833	519	215	89		65	802	1 028	573	294	108	45		1.2
	2000	50	653	1 476	1 113	585	245	114		66	1 038	1 481	831	401	148	64		1.1
	2005	58	622	1 653	1 031	549	279	157		84	913	1 598	859	386	180	74		1.1
	2010	50	565	1 509	985	485	275	187	0	103	610	1 196	661	314	198	102	0	1.3
Mali	1995	27	72	357	294	181	138	102		31	132	184	128	107	61	52		1.7
	2000	23	206	430	396	297	235	144		14	174	232	152	106	75	43		2.2
	2005	26	350	628	539	365	263	193		33	208	348	245	152	101	72		2.0
	2010	94	381	707	526	354	227	207		31	265	337	247	144	96	70		2.1
Mauritania	1995																	–
	2000																	–
	2005																	–
	2010	17	192	295	206	137	99	76		14	90	104	82	52	29	29		2.6
Mauritius	1995	2	17	13	22	27	13	8		2	4	12	10	8	4	4		2.3
	2000	2	6	9	18	19	14	8		1	5	8	8	6	7	4		1.9
	2005		10	15	21	20	10	6			4	5	5	11	2	1		2.9
	2010	0	9	9	13	23	15	7	0	0	7	9	4	4	3	2	0	2.6
Mozambique	1995	187	1 136	1 475	1 338	1 022	664	320		226	994	1 314	1 016	551	234	89		1.4
	2000																	–
	2005																	–
	2010																	–
Namibia	1995	0	68	235	113	55	21	6		5	49	78	50	16	1	0		2.5
	2000	18	269	874	665	300	147	81		16	352	654	348	161	76	52		1.4
	2005	98	355	1 027	874	365	146	120		105	399	809	525	213	95	91		1.3
	2010	36	359	852	680	287	146	126		67	429	685	382	206	122	87		1.3
Niger	1995																	–
	2000	29	270	174	441	252	151	78		31	123	206	168	151	63	9		1.9
	2005	35	557	1 204	819	497	350	198		34	214	388	330	223	131	70		2.6
	2010	44	669	1 587	988	615	415	342		39	272	418	347	238	174	135		2.9
Nigeria	1995	450	845	921	937	557	611	515		404	842	795	770	724	654	451		1.0
	2000	157	2 173	3 164	1 836	1 091	566	463		239	2 934	2 434	1 110	676	344	231		1.2
	2005	325	3 824	6 758	4 544	2 863	1 464	950		482	3 996	4 884	2 448	1 350	745	415		1.4
	2010	521	4 457	9 186	6 218	3 804	1 974	1 363	0	595	4 182	6 117	3 431	1 846	1 040	682	0	1.5
Rwanda	1995																	–
	2000	155	466	974	824	393	129	56		105	396	473	309	109	52	14		2.1
	2005	45	494	713	592	408	142	71		73	483	442	262	157	60	29		1.6
	2010	48	430	741	526	325	202	126		48	399	448	261	128	65	38		1.7
Sao Tome and Principe	1995																	–
	2000	1	5	11	4	7	3	10		3	7	15	5	7	4	15		0.7
	2005	2	5	7	6	4	5	2		1	4	5	3	2	3	0		1.7
	2010	0	10	14	7	1	0	1	0	0	5	4	3	2	0	0	0	2.4
Senegal	1995	94	717	1 219	813	408	300	213		84	428	461	283	203	126	72		2.3
	2000	60	772	1 297	857	470	279	189		77	521	540	376	217	107	61		2.1
	2005	71	1 050	1 561	904	533	274	236		83	709	568	351	185	116	81		2.2
	2010	81	1 351	1 793	972	590	329	221	0	81	835	643	332	217	136	105	0	2.3
Seychelles	1995	0	2	0	1	1	2	1		0	0	1	0	0	0	1		3.5
	2000			2	4	1	1					1	0	1	1			2.7
	2005	0	2	1	2	1	0	0		0	0	1	1	0	0	0		3.0
	2010	0	0	0	6	0	0	1	0	0	2	0	0	0	0	0	0	3.5
Sierra Leone	1995	10	184	305	201	99	47	22		18	165	193	110	65	24	11		1.5
	2000	18	287	486	361	190	113	47		27	249	298	225	92	49	30		1.5
	2005	45	490	792	651	397	226	124		54	393	518	312	207	114	47		1.7
	2010	64	718	1 176	1 076	663	320	254		77	648	742	556	293	180	131		1.6
South Africa	1995																	–
	2000	116	723	1 999	2 135	1 146	435	212		122	1 283	1 716	933	423	167	80		1.4
	2005	2 035	10 422	20 576	19 465	11 143	4 124	1 705		2 561	13 632	19 343	11 338	5 416	2 352	1 348		1.2
	2010	1 496	9 925	20 855	19 842	12 386	5 155	2 211	0	1 933	13 023	20 205	12 910	6 873	3 165	2 128	0	1.2
Swaziland	1995	4	59	117	130	98	40	16		5	52	57	39	29	8	6		2.4
	2000	11	130	352	249	138	37	17		10	198	298	62	62	24	5		1.4
	2005	9	162	406	285	139	57	27		14	318	453	207	73	21	8		1.0
	2010	30	207	537	369	192	109	50	0	51	354	662	276	104	54	16	0	1.0
Togo	1995	7	95	151	123	82	64	49		9	80	96	45	38	23	15		1.9
	2000	4	101	168	144	109	48	39		13	107	124	50	36	24	15		1.7
	2005	11	177	320	283	125	79	69		23	157	236	146	67	41	32		1.5
	2010	21	150	350	358	217	116	80		39	163	285	148	78	62	29		1.6
Uganda	1995	370	1 193	2 491	1 797	1 115	602	323		402	1 376	1 845	1 104	635	312	113		1.4
	2000	283	1 511	3 497	2 479	1 279	607	395		400	1 649	2 782	1 510	671	316	163		1.3
	2005	257	1 598	4 075	3 209	1 576	725	539		371	1 811	3 099	1 800	818	389	257		1.4
	2010	268	2 055	4 735	4 133	2 214	905	613	16	401	1 964	2 923	1 691	924	365	248	1	1.8
United Republic of Tanzania	1995	183	2 108	4 091	2 916	1 754	1 007	640		201	1 904	2 532	1 324	735	380	179		1.8
	2000	200	2 357	4 836	3 430	2 022	1 202	834		257	2 106	3 426	1 738	868	494	269		1.6
	2005	190	2 062	4 939	4 025	2 310	1 279	1 054		271	1 852	3 521	1 892	968	547	354		1.7
	2010	232	1 975	4 493	4 141	2 427	1 309	1 161	0	248	1 689	2 988	2 013	1 044	578	471	0	1.7
Zambia	1995	91	659	1 668	1 124	487	231	130		129	1 125	1 779	717	257	117	63		1.0
	2000	349	2 175	2 610	3 045	435	261	174		150	932	1 118	1 305	186	112	75		2.3
	2005	135	1 240	3 166	2 160	917	358	321		168	1 507	2 463	1 433	569	235	185		1.3
	2010																	–
Zimbabwe	1995																	–
	2000																	–
	2005	210	837	2 264	1 855	762	295	656		269	1 136	2 242	1 255	578	193	603		1.1
	2010	150	710	2 208	1 682	761	350	252	0	173	974	2 185	1 283	490	265	171	0	1.1

TABLE A3.9 **Laboratories, NTP services, drug management, human resources and infection control, 2010**

	LABORATORIES					FREE THROUGH NTP		DRUG MANAGEMENT			% OF STAFF TRAINED BY THE NTP (IN 2010)[c]				TB NOTIFICATION RATE PER 100 000 HEALTH-CARE WORKERS
	SMEAR LABS PER 100K POPULATION	CULTURE LABS PER 5M POPULATION	DST LABS PER 5M POPULATION	SECOND-LINE DST AVAILABLE	NRL[a]	TB DIAGNOSIS	FIRST-LINE DRUGS	RIFAMPICIN USED THROUGHOUT TREATMENT	% OF PATIENTS TREATED WITH FDC[b]	PAEDIATRIC FORMULATIONS PROCURED	MEDICAL OFFICERS	NURSES	HEALTH ASSISTANTS	LABORATORY TECHNICIANS	
Algeria	0.9	5.6	0.4	In country	Yes	Yes, all suspects	Yes	Yes	98	Yes	20	0	0	30	
Angola	0.8	0.3	0.3	No	Yes	Yes, all suspects	Yes	No	100	Yes					1587
Benin	0.7	0.6	0.6	In country		If TB is confirmed	Yes	Yes	100	Yes					64
Botswana	2.8	2.5	2.5	Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes					
Burkina Faso	0.7	0.3	0	Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes	0	29		30	
Burundi	2.0	0.6	0.6	Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes	100	100	100	100	0
Cameroon	1.1	0.8	0.5	In and out of cty	Yes	No	Yes	Yes	100	Yes	0	0	0	0	
Cape Verde	3.2	0	0	Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes	0	0	0	0	
Central African Republic	1.7	1.1	1.1	No	Yes	Yes, all suspects	No	Yes	100	Yes	0	0	0	0	
Chad	0.5	0	0	No	Yes	Yes, all suspects	Yes	No	0	Yes					
Comoros															
Congo	0.6	0	0	No	Yes	Yes, all suspects	Yes	Yes	100	Yes					
Côte d'Ivoire	0.6	0.3	0.3	No	Yes	Yes, all suspects	Yes	Yes	100	Yes	53	28	13	58	49
Democratic Republic of the Congo	2.2	<0.1	<0.1	No	Yes	If TB is confirmed	Yes	Yes	100	Yes					
Equatorial Guinea	3.3	0	0	No	No	Yes, all suspects	Yes	Yes	100	Yes	0	0	0	4	1176
Eritrea	1.5	1.0	1.0	No	Yes	If TB is confirmed	Yes	No	100	Yes	50	50	50	50	
Ethiopia	2.3	0.1	0.1	In country	Yes	Yes, all suspects	Yes	Yes	100	Yes					
Gabon	1.0	3.3	3.3	No	No	No	Yes	Yes	100	No					
Gambia	1.7	2.9	2.9	No	Yes	Yes, all suspects	Yes	Yes	100	Yes					
Ghana	1.0	0.6	0.6	No	Yes	Yes, all suspects	Yes	Yes	100	No	35	60	70	65	0
Guinea	0.6	0.5	0.5	No	Yes	If TB is confirmed	Yes	Yes	100	Yes	5	3	3	12	0
Guinea-Bissau	2.6	3.3	0	No	Yes	Yes, all suspects	Yes	Yes	100	Yes	0	0	0	0	
Kenya	3.3	0.7	0.5	Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes					31
Lesotho	0.8	2.3	2.3	Out of country	Yes	If TB is confirmed	Yes	Yes	100	Yes					
Liberia	3.6	1.3	0	No	No	If TB is confirmed	Yes	Yes	99	Yes	0	0	0	0	0
Madagascar	1.2	0.2	0.2	In country	Yes	Yes, all suspects	Yes	No	100	Yes					
Malawi	1.4	1.3	0.3	Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes	1	20	10	23	100
Mali	0.5	1.0	1.0	No	Yes	Yes, all suspects	Yes	Yes	100	Yes	0	0	0	0	
Mauritania	1.7	1.4		No	Yes	Yes, all suspects	Yes	Yes	100	Yes	0	0	0	0	
Mauritius				Out of country	Yes	Yes, all suspects	Yes	Yes	90	No					
Mozambique	1.9	0.4	0.4	Out of country	Yes	Yes, all suspects	Yes	Yes	95	Yes	28	6		22	55
Namibia	1.4	2.2	2.2	Out of country	Yes	If TB is confirmed	Yes	Yes	98	Yes	41	7	0	0	60
Niger	1.1	0.3	0.3	Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes	100	60	20		
Nigeria	0.6	0.2	0.1	Out of country	Yes	Yes, all suspects	Yes	No	100	Yes	100	100		100	
Rwanda	1.8	0.9	0.5	No	Yes	Yes, all suspects	Yes	Yes	100	Yes					
Sao Tome and Principe	1.2	0	0	No	Yes	Yes, all suspects	Yes	Yes	0	No	75	63	0	64	198
Senegal	0.7	1.2	1.2	In country	Yes	If TB is confirmed	Yes	Yes	100	Yes	1	5	0	20	0
Seychelles				Out of country	No	Yes, all suspects	Yes	Yes	100	No					
Sierra Leone	2.5	0	0	No	Yes	Yes, all suspects	Yes	No	100	Yes					
South Africa	0.5	1.5	1.5	In country	Yes	Yes, all suspects	Yes	Yes	100	Yes					408
Swaziland	1.3	4.2	4.2	Out of country	Yes	If TB is confirmed	Yes	Yes	100	No	25	15		50	
Togo	1.8	0.8	0.8	No	Yes	For smear-positive TB	Yes	Yes	100	Yes					
Uganda	2.9	1.2	0.6	In country	Yes	If TB is confirmed	Yes	Yes	100	Yes					
United Republic of Tanzania	1.6	0.4	0.2	In and out of cty	Yes	Yes, all suspects	Yes	Yes	100	Yes	23	37	29	20	
Zambia				No	Yes	Yes, all suspects	Yes			Yes	100				
Zimbabwe	0.9	0.8	0.8	No	Yes	Yes, all suspects	Yes	Yes	100	Yes					

a NRL = national reference laboratory
b FDC = fixed-dose combination
c NURSES (Registered Nurses, Registered Midwives, Enrolled Nurses, Enrolled Midwives); HEALTH ASSISTANTS (Medical Assistants, Clinical Officers); LABORATORY TECHNICIANS (Microscopists)

Data can be downloaded from www.who.int/tb/data

Region of the Americas

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Estimates of mortality, prevalence and incidence

Estimated values are shown as best estimates followed by lower and upper bounds. The lower and upper bounds are defined as the 2.5th and 97.5th centiles of outcome distributions produced in simulations. See **ANNEX 1** for further details.

Estimated numbers are shown rounded to two significant figures. Estimated rates are shown rounded to three significant figures unless the value is under 100, in which case rates are shown rounded to two significant figures.

Estimates for all years are recalculated as new information becomes available and techniques are refined, so they may differ from those published in previous reports in this series. Estimates published in previous global TB control reports should no longer be used.

Data source

Data shown in this annex are taken from the WHO global TB database on 2 September 2011. Data shown in the main part of the report were taken from the database on 21 June 2011. As a result, data in this annex may differ slightly from those in the main part of the report.

Data can be downloaded from **www.who.int/tb/data**.

Country notes

Caribbean Islands

Data from the territories of Anguilla; Bermuda; Bonaire, Saint Eustatius and Saba; British Virgin Islands; Cayman Islands; Curaçao; Montserrat; Sint Maarten (Dutch part); Turks and Caicos Islands; and US Virgin Islands have been re-introduced with support from the Caribbean Epidemiology Centre (CAREC/PAHO/WHO).

USA

In addition to the 51 reporting areas, the USA includes territories that report separately to WHO. The data for these territories are not included in the data reported by the USA.

Definitions of case types and outcomes do not exactly match those used by WHO.

TABLE A3.1 **Estimates of the burden of disease caused by TB, 1990–2010**

	YEAR	POPULATION (MILLIONS)	MORTALITY (EXCLUDING HIV)		PREVALENCE (INCLUDING HIV)		INCIDENCE (INCLUDING HIV)	
			NUMBER (THOUSANDS)	RATE[a]	NUMBER (THOUSANDS)	RATE	NUMBER (THOUSANDS)	RATE
Anguilla	1990	<1	<0.01 (<0.01–<0.01)	2.4 (1.4–3.7)	<0.01 (<0.01–<0.01)	60 (22–114)	<0.01 (<0.01–<0.01)	24 (15–36)
	1995	<1	<0.01 (<0.01–<0.01)	2.1 (1.6–2.5)	<0.01 (<0.01–<0.01)	44 (21–71)	<0.01 (<0.01–<0.01)	23 (20–27)
	2000	<1	<0.01 (<0.01–<0.01)	2.3 (1.7–2.9)	<0.01 (<0.01–0.01)	56 (24–94)	<0.01 (<0.01–<0.01)	23 (18–27)
	2005	<1	<0.01 (<0.01–<0.01)	2.2 (1.6–2.8)	<0.01 (<0.01–0.012)	55 (23–91)	<0.01 (<0.01–<0.01)	22 (18–26)
	2008	<1	<0.01 (<0.01–<0.01)	2.1 (1.6–2.8)	<0.01 (<0.01–0.013)	54 (22–90)	<0.01 (<0.01–<0.01)	22 (17–26)
	2009	<1	<0.01 (<0.01–<0.01)	2 (1.5–2.5)	<0.01 (<0.01–0.011)	44 (21–73)	<0.01 (<0.01–<0.01)	21 (18–26)
	2010	<1	<0.01 (<0.01–<0.01)	2 (1.5–2.5)	<0.01 (<0.01–0.011)	44 (20–72)	<0.01 (<0.01–<0.01)	21 (17–25)
Antigua and Barbuda	1990	<1	<0.01 (<0.01–<0.01)	5.3 (4.3–6.5)	<0.01 (<0.01–<0.01)	5.3 (2.5–8.4)	<0.01 (<0.01–<0.01)	2.6 (2.2–3)
	1995	<1	<0.01 (<0.01–<0.01)	8.9 (7.2–11)	<0.01 (<0.01–<0.01)	8.9 (4.2–14)	<0.01 (<0.01–<0.01)	4.4 (3.7–5)
	2000	<1	<0.01 (<0.01–<0.01)	4.9 (3.1–7.3)	<0.01 (<0.01–<0.01)	6.6 (2.6–11)	<0.01 (<0.01–<0.01)	4.6 (3.8–5.4)
	2005	<1	<0.01 (<0.01–0.013)	5.9 (1.4–15)	<0.01 (<0.01–0.016)	8.1 (2.4–19)	<0.01 (<0.01–<0.01)	6.5 (5.5–7.6)
	2008	<1	<0.01 (<0.01–<0.01)	1.9 (1.5–2.5)	<0.01 (<0.01–<0.01)	3.2 (1–6.3)	<0.01 (<0.01–<0.01)	2.6 (2.4–2.7)
	2009	<1	<0.01 (<0.01–<0.01)	2.1 (1.6–3.7)	<0.01 (<0.01–<0.01)	4.3 (<1–8.5)	<0.01 (<0.01–<0.01)	3.8 (3.2–4.5)
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–1.5)	<0.01 (<0.01–<0.01)	3.1 (<1–6.8)	<0.01 (<0.01–<0.01)	4.9 (4.3–5.5)
Argentina	1990	33	1.6 (0.68–3)	4.8 (2.1–9.2)	31 (11–61)	94 (33–187)	19 (12–28)	60 (38–86)
	1995	35	0.99 (0.58–1.6)	2.8 (1.7–4.7)	23 (8.5–40)	66 (24–116)	17 (14–21)	49 (40–59)
	2000	37	0.85 (0.85–0.86)	2.3 (2.3–2.3)	20 (7.5–35)	55 (20–94)	15 (12–18)	40 (33–49)
	2005	39	0.74 (0.74–0.74)	1.9 (1.9–1.9)	17 (6.7–30)	45 (17–78)	13 (10–16)	33 (27–40)
	2008	40	0.62 (0.62–0.62)	1.6 (1.6–1.6)	16 (6.3–27)	41 (16–69)	12 (9.6–14)	30 (24–36)
	2009	40	0.76 (0.48–1.1)	1.9 (1.2–2.9)	16 (6.8–27)	41 (17–69)	11 (9.3–14)	28 (23–34)
	2010	40	0.77 (0.5–1.1)	1.9 (1.2–2.8)	16 (6.9–27)	40 (17–67)	11 (9.1–13)	27 (22–33)
Aruba	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	6.2 (1.4–11)		
	1995	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	6.2 (1.4–11)		
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	6.1 (1.4–11)		
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–0.011)	6.1 (1.4–11)		
	2008	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–0.012)	6.2 (1.4–11)		
	2009	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–0.012)	6.1 (1.4–11)		
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–0.012)	6.2 (1.4–11)		
Bahamas	1990	<1	<0.01 (<0.01–<0.01)	1.9 (1.3–2.7)	0.048 (0.016–0.089)	19 (6.1–35)	0.054 (0.048–0.061)	21 (19–24)
	1995	<1	<0.01 (<0.01–<0.01)	2 (1.5–2.5)	0.056 (0.017–0.099)	20 (6.1–35)	0.077 (0.069–0.085)	27 (25–31)
	2000	<1	<0.01 (<0.01–<0.01)	2.5 (2.4–2.6)	0.091 (0.035–0.16)	31 (12–54)	0.083 (0.071–0.095)	28 (24–32)
	2005	<1	<0.01 (<0.01–<0.01)	1.5 (1.5–1.6)	0.049 (0.015–0.089)	15 (4.7–28)	0.058 (0.051–0.065)	18 (16–20)
	2008	<1	<0.01 (<0.01–<0.01)	1.6 (1.1–2.3)	0.054 (0.02–0.098)	16 (6–29)	0.054 (0.047–0.062)	16 (14–18)
	2009	<1	<0.01 (<0.01–<0.01)	1.6 (1.2–2.3)	0.055 (0.021–0.098)	16 (6.2–29)	0.048 (0.042–0.055)	14 (12–16)
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–1.2)	0.032 (<0.01–0.057)	9.2 (2.8–17)	0.039 (0.035–0.044)	11 (10–13)
Barbados	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–0.014)	3.2 (1.2–5.2)	<0.01 (<0.01–<0.01)	2.4 (2.1–2.7)
	1995	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–0.011)	2.6 (1.1–4.1)	<0.01 (<0.01–<0.01)	1.7 (1.5–1.9)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–0.015)	3.5 (1.6–5.6)	<0.01 (<0.01–<0.01)	2.4 (2.2–2.6)
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.012 (<0.01–0.022)	4.6 (1.5–8.2)	0.013 (0.011–0.014)	4.7 (4.1–5.4)
	2008	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.014 (<0.01–0.027)	5 (1.9–10)	<0.01 (<0.01–<0.01)	3.1 (2.9–3.3)
	2009	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–0.013)	2.2 (<1–4.9)	<0.01 (<0.01–<0.01)	2.4 (2.3–2.5)
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–0.013)	1.9 (<1–4.6)	<0.01 (<0.01–<0.01)	1.7 (1.4–2)
Belize	1990	<1	0.011 (<0.01–0.026)	6 (3.8–14)	0.088 (0.021–0.17)	46 (11–87)	0.076 (0.052–0.1)	40 (27–55)
	1995	<1	0.012 (<0.01–0.021)	5.3 (3.6–9.5)	0.096 (0.027–0.17)	43 (12–76)	0.088 (0.072–0.11)	40 (33–48)
	2000	<1	0.011 (0.01–0.011)	4.3 (4.1–4.4)	0.12 (0.032–0.2)	46 (13–80)	0.1 (0.081–0.12)	40 (33–48)
	2005	<1	<0.01 (<0.01–<0.01)	2.5 (2.4–2.6)	0.13 (0.051–0.22)	46 (18–78)	0.11 (0.097–0.13)	40 (34–46)
	2008	<1	0.018 (0.017–0.018)	5.9 (5.7–6.1)	0.16 (0.069–0.27)	53 (23–90)	0.12 (0.097–0.14)	40 (33–48)
	2009	<1	0.019 (0.011–0.035)	6.2 (3.6–11)	0.14 (0.047–0.24)	45 (15–79)	0.12 (0.099–0.15)	40 (32–48)
	2010	<1	0.015 (0.01–0.029)	4.9 (3.2–9.2)	0.13 (0.04–0.23)	41 (13–73)	0.12 (0.1–0.15)	40 (33–48)
Bermuda	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	2.7 (<1–4.9)	<0.01 (<0.01–<0.01)	1.6 (<1–3.1)
	1995	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	9 (3.7–15)	<0.01 (<0.01–<0.01)	6 (5.1–7)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–0.01)	9.2 (2.7–16)	<0.01 (<0.01–<0.01)	7.5 (6.5–8.6)
	2008	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	5.5 (2.3–9)	<0.01 (<0.01–<0.01)	3.8 (3.3–4.2)
	2009	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	3.7 (1.4–6.1)	<0.01 (<0.01–<0.01)	2.6 (2.3–3)
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	2 (<1–4.3)	<0.01 (<0.01–<0.01)	1.6 (1.4–1.9)
Bolivia (Plurinational State of)	1990	7	2.4 (1–4.7)	36 (16–71)	26 (9–51)	390 (135–772)	17 (11–24)	251 (164–357)
	1995	7	2.1 (1.5–2.9)	28 (20–39)	24 (10–39)	319 (134–523)	16 (14–19)	215 (184–249)
	2000	8	2.1 (1.4–3.1)	26 (17–38)	23 (9.9–39)	281 (119–473)	15 (12–18)	184 (150–222)
	2005	9	2 (1.3–3)	22 (14–33)	22 (9.5–37)	243 (104–405)	14 (12–17)	158 (129–190)
	2008	10	2 (1.3–2.9)	21 (14–30)	22 (9.3–36)	225 (97–376)	14 (11–17)	144 (117–173)
	2009	10	2 (1.3–2.9)	20 (13–29)	21 (9.2–36)	217 (94–364)	14 (11–16)	140 (114–168)
	2010	10	1.9 (1.3–2.8)	20 (13–28)	21 (9–35)	209 (91–349)	13 (11–16)	135 (111–162)
Bonaire, Saint Eustatius and Saba	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)		
Brazil	1990	150	13 (5.4–27)	8.9 (3.6–18)	170 (62–350)	116 (41–234)	130 (78–180)	84 (52–122)
	1995	162	10 (6–17)	6.3 (3.7–10)	150 (60–250)	92 (37–157)	110 (94–140)	71 (58–86)
	2000	174	8.2 (8.2–8.2)	4.7 (4.7–4.7)	140 (56–230)	78 (32–133)	110 (86–130)	60 (49–73)
	2005	186	6.6 (6.6–6.6)	3.6 (3.6–3.6)	110 (37–180)	57 (20–98)	95 (79–110)	51 (43–61)
	2008	192	6.6 (6.6–6.6)	3.4 (3.4–3.4)	100 (39–170)	53 (20–91)	89 (73–110)	46 (38–55)
	2009	193	5.4 (3.3–9)	2.8 (1.7–4.7)	96 (35–160)	50 (18–84)	87 (72–100)	45 (37–53)
	2010	195	5 (3.1–8.3)	2.6 (1.6–4.3)	92 (34–160)	47 (17–80)	85 (70–100)	43 (36–51)
British Virgin Islands	1990	<1	<0.01 (<0.01–<0.01)	1.5 (1.1–2.4)	<0.01 (<0.01–<0.01)	26 (7.2–54)	<0.01 (<0.01–<0.01)	19 (12–29)
	1995	<1	<0.01 (<0.01–<0.01)	1.1 (1.1–1.2)	<0.01 (<0.01–<0.01)	17 (3.8–30)	<0.01 (<0.01–<0.01)	15 (12–18)
	2000	<1	<0.01 (<0.01–<0.01)	1.1 (<1–1.4)	<0.01 (<0.01–<0.01)	23 (11–38)	<0.01 (<0.01–<0.01)	12 (9.7–14)
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–1.2)	<0.01 (<0.01–<0.01)	22 (10–36)	<0.01 (<0.01–<0.01)	10 (8.5–13)
	2008	<1	<0.01 (<0.01–<0.01)	<1 (<1–1.2)	<0.01 (<0.01–<0.01)	21 (9.7–35)	<0.01 (<0.01–<0.01)	10 (8.2–12)
	2009	<1	<0.01 (<0.01–<0.01)	<1 (<1–1.1)	<0.01 (<0.01–<0.01)	19 (8.6–31)	<0.01 (<0.01–<0.01)	9.9 (8.1–12)
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–1.1)	<0.01 (<0.01–<0.01)	18 (8.4–30)	<0.01 (<0.01–<0.01)	9.7 (8–12)
Canada	1990	28	0.12 (0.1–0.14)	<1 (<1–<1)	2.9 (1.1–4.9)	11 (3.9–18)	2.3 (2–2.6)	8.4 (7.4–9.5)
	1995	29	0.11 (0.097–0.14)	<1 (<1–<1)	2.8 (0.98–4.7)	9.5 (3.3–16)	2.3 (2–2.5)	7.7 (6.8–8.7)
	2000	31	0.082 (0.082–0.082)	<1 (<1–<1)	2.4 (0.84–4.1)	7.9 (2.8–13)	2 (1.7–2.2)	6.4 (5.6–7.2)
	2005	32	0.086 (0.073–0.1)	<1 (<1–<1)	2.1 (0.76–3.6)	6.6 (2.4–11)	1.7 (1.5–2)	5.4 (4.7–6)
	2008	33	0.081 (0.07–0.098)	<1 (<1–<1)	2 (0.68–3.3)	5.9 (2–10)	1.7 (1.4–1.9)	5 (4.3–5.6)
	2009	34	0.078 (0.069–0.094)	<1 (<1–<1)	1.8 (0.57–3.2)	5.5 (1.7–9.4)	1.6 (1.4–1.9)	4.8 (4.2–5.5)
	2010	34	0.078 (0.067–0.094)	<1 (<1–<1)	1.9 (0.64–3.2)	5.6 (1.9–9.4)	1.6 (1.4–1.8)	4.7 (4.1–5.3)
Cayman Islands	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	12 (3.5–21)	<0.01 (<0.01–<0.01)	10 (9–11)
	1995	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	5.7 (1.7–10)	<0.01 (<0.01–<0.01)	4.6 (3.8–5.6)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	12 (4.1–21)	<0.01 (<0.01–<0.01)	8.4 (6.7–10)
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–1.7)	<0.01 (<0.01–<0.01)	<1 (<1–<1)
	2008	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	5.6 (2.2–9.2)	<0.01 (<0.01–<0.01)	3.9 (3.4–4.5)
	2009	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	8.3 (3.2–14)	<0.01 (<0.01–<0.01)	6 (5.3–6.8)
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–0.012)	12 (5.1–20)	<0.01 (<0.01–<0.01)	8.2 (7.2–9.2)
Chile	1990	13	0.84 (0.52–1.3)	6.4 (3.9–9.7)	12 (5–21)	94 (38–159)	8.2 (6.6–10)	62 (50–76)
	1995	14	0.51 (0.31–0.81)	3.5 (2.1–5.6)	7.9 (3.1–14)	55 (21–95)	5.5 (4.5–6.7)	38 (31–47)
	2000	15	0.31 (0.3–0.31)	2 (2–2)	5.5 (2–9.6)	36 (13–62)	4 (3.2–4.9)	26 (21–32)
	2005	16	0.25 (0.25–0.25)	1.6 (1.5–1.6)	4.6 (1.7–8)	28 (11–49)	3.3 (2.7–4.1)	20 (17–25)
	2008	17	0.29 (0.17–0.46)	1.7 (1–2.7)	4.5 (1.8–7.8)	27 (11–46)	3.2 (2.6–3.9)	19 (16–23)
	2009	17	0.28 (0.17–0.45)	1.7 (<1–2.7)	4.4 (1.7–7.6)	26 (10–45)	3.2 (2.6–3.9)	19 (15–23)
	2010	17	0.28 (0.16–0.45)	1.6 (<1–2.6)	4.4 (1.7–7.5)	25 (9.8–44)	3.2 (2.6–3.8)	19 (15–22)
Colombia	1990	33	1.6 (0.71–3.1)	4.8 (2.1–9.5)	27 (9.1–52)	80 (28–158)	18 (12–25)	54 (36–75)
	1995	36	1.9 (1.3–2.7)	5.3 (3.7–7.3)	29 (13–48)	79 (36–131)	18 (14–21)	48 (39–58)
	2000	40	1.5 (1.5–1.5)	3.7 (3.7–3.8)	25 (11–42)	63 (27–106)	17 (14–21)	43 (35–52)
	2005	43	1.3 (1.3–1.3)	3 (3–3.1)	25 (11–41)	57 (25–96)	17 (13–20)	38 (31–46)
	2008	45	1.5 (0.96–2.1)	3.3 (2.1–4.7)	24 (11–40)	54 (24–90)	16 (13–20)	36 (29–43)
	2009	46	1.4 (0.9–2.1)	3.1 (2–4.5)	24 (10–39)	52 (22–86)	16 (13–19)	35 (29–42)
	2010	46	1.3 (0.8–1.9)	2.8 (1.7–4.2)	22 (9.1–37)	48 (20–81)	16 (13–19)	34 (28–41)

[a] Rates are per 100 000 population.

TABLE A3.1 **Estimates of the burden of disease caused by TB, 1990–2010**

	YEAR	POPULATION (MILLIONS)	MORTALITY (EXCLUDING HIV) NUMBER (THOUSANDS)	MORTALITY (EXCLUDING HIV) RATE[a]	PREVALENCE (INCLUDING HIV) NUMBER (THOUSANDS)	PREVALENCE (INCLUDING HIV) RATE	INCIDENCE (INCLUDING HIV) NUMBER (THOUSANDS)	INCIDENCE (INCLUDING HIV) RATE
Costa Rica	1990	3	0.021 (0.011–0.038)	<1 (<1–1.2)	0.36 (0.12–0.64)	12 (3.9–21)	0.26 (0.2–0.33)	8.5 (6.6–11)
	1995	3	0.064 (0.036–0.11)	1.8 (1–3.1)	0.99 (0.37–1.8)	29 (11–51)	0.69 (0.54–0.86)	20 (16–25)
	2000	4	0.072 (0.071–0.073)	1.8 (1.8–1.9)	1.3 (0.49–2.1)	32 (13–54)	0.9 (0.75–1.1)	23 (19–27)
	2005	4	0.066 (0.065–0.066)	1.5 (1.5–1.5)	1 (0.42–1.7)	24 (9.7–40)	0.75 (0.61–0.9)	17 (14–21)
	2008	5	0.055 (0.054–0.055)	1.2 (1.2–1.2)	0.88 (0.34–1.5)	19 (7.4–33)	0.66 (0.53–0.8)	15 (12–18)
	2009	5	0.046 (0.046–0.046)	1 (1–1)	0.86 (0.35–1.5)	19 (7.6–32)	0.64 (0.52–0.76)	14 (11–17)
	2010	5	0.052 (0.029–0.087)	1.1 (<1–1.9)	0.84 (0.33–1.5)	18 (7–32)	0.63 (0.5–0.77)	13 (11–16)
Cuba	1990	11	0.19 (0.11–0.3)	1.8 (1–2.8)	5.8 (2.3–11)	55 (22–106)	2.6 (1.6–3.9)	25 (15–37)
	1995	11	0.065 (0.038–0.11)	<1 (<1–<1)	2.9 (1.1–5)	27 (9.9–46)	2 (1.6–2.5)	19 (15–23)
	2000	11	0.044 (0.044–0.044)	<1 (<1–<1)	2.1 (0.76–3.6)	18 (6.8–33)	1.4 (1.1–1.8)	13 (10–16)
	2005	11	0.035 (0.035–0.035)	<1 (<1–<1)	1.5 (0.55–2.6)	13 (4.9–23)	1 (0.84–1.3)	9.2 (7.5–11)
	2008	11	0.035 (0.035–0.035)	<1 (<1–<1)	1.5 (0.61–2.5)	13 (5.4–22)	1 (0.81–1.3)	9.1 (7.2–11)
	2009	11	0.031 (0.019–0.048)	<1 (<1–<1)	1.4 (0.54–2.4)	12 (4.8–21)	1 (0.84–1.2)	9.1 (7.5–11)
	2010	11	0.032 (0.018–0.053)	<1 (<1–<1)	1.4 (0.54–2.5)	13 (4.8–22)	1 (0.83–1.3)	9.3 (7.4–11)
Curaçao	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–0.013)	5.1 (1.7–8.8)	<0.01 (<0.01–<0.01)	4 (3.5–4.5)
Dominica	1990	<1	<0.01 (<0.01–<0.01)	1.8 (1.2–4.9)	0.012 (<0.01–0.024)	17 (3.7–34)	0.01 (<0.01–0.015)	15 (9.2–22)
	1995	<1	<0.01 (<0.01–<0.01)	1.6 (1.2–3)	0.012 (<0.01–0.02)	16 (3.6–28)	0.01 (<0.01–0.012)	14 (12–17)
	2000	<1	<0.01 (<0.01–<0.01)	4.9 (4.9–5.1)	0.02 (<0.01–0.032)	28 (13–46)	<0.01 (<0.01–0.012)	14 (11–17)
	2005	<1	<0.01 (<0.01–<0.01)	1.8 (1.5–2.2)	0.013 (<0.01–0.023)	19 (4.3–34)	<0.01 (<0.01–0.011)	13 (11–16)
	2008	<1	<0.01 (<0.01–<0.01)	3 (1.8–4.8)	0.013 (<0.01–0.023)	19 (7.5–34)	<0.01 (<0.01–0.011)	13 (11–16)
	2009	<1	<0.01 (<0.01–<0.01)	1.4 (<1–4.7)	<0.01 (<0.01–0.021)	13 (3.1–32)	<0.01 (<0.01–0.011)	13 (11–16)
	2010	<1	<0.01 (<0.01–<0.01)	3.4 (2.2–5)	0.014 (<0.01–0.023)	20 (8.5–34)	<0.01 (<0.01–0.011)	13 (11–16)
Dominican Republic	1990	7	2.6 (1.5–4.1)	36 (20–57)	22 (8.7–42)	302 (121–580)	11 (6.5–16)	148 (90–220)
	1995	8	1.5 (1–2.1)	19 (13–26)	15 (6.8–24)	186 (86–309)	9.6 (7.8–12)	121 (99–146)
	2000	9	1.1 (0.69–1.6)	13 (8.1–18)	12 (5.3–20)	137 (62–230)	8.6 (7–10)	100 (81–120)
	2005	9	0.96 (0.62–1.4)	10 (6.7–15)	10 (4.7–17)	113 (51–189)	7.6 (6.2–9.2)	82 (67–99)
	2008	10	0.92 (0.6–1.3)	9.5 (6.2–14)	9.8 (4.5–16)	102 (46–168)	7 (5.7–8.5)	73 (59–88)
	2009	10	0.92 (0.62–1.3)	9.4 (6.4–13)	9.8 (4.5–16)	100 (46–165)	6.9 (5.6–8.2)	70 (57–84)
	2010	10	0.81 (0.55–1.1)	8.2 (5.5–12)	8.9 (4.1–15)	90 (41–147)	6.7 (5.5–8)	67 (55–80)
Ecuador	1990	10	2.2 (1.1–3.8)	21 (10–37)	31 (12–61)	307 (122–595)	18 (11–27)	174 (106–259)
	1995	11	1.5 (0.97–2.1)	13 (8.6–18)	23 (11–39)	204 (94–339)	16 (13–19)	136 (111–164)
	2000	12	1.6 (1.6–1.6)	13 (13–13)	21 (9.8–35)	170 (79–280)	13 (11–16)	107 (87–128)
	2005	13	1.2 (1.2–1.2)	9.1 (9.1–9.2)	18 (8.5–30)	136 (64–225)	11 (9.1–13)	83 (68–100)
	2008	14	0.99 (0.98–0.99)	7 (7–7.1)	16 (7.6–27)	116 (54–191)	10 (8.2–12)	72 (58–87)
	2009	14	0.84 (0.84–0.85)	5.9 (5.9–5.9)	15 (7–24)	104 (49–168)	9.7 (8–12)	68 (56–82)
	2010	14	0.97 (0.7–1.3)	6.7 (4.8–9)	15 (7–24)	103 (48–167)	9.4 (7.7–11)	65 (53–78)
El Salvador	1990	5	0.25 (0.11–0.49)	4.6 (2–9.2)	5.1 (1.8–10)	96 (33–189)	3.4 (2.3–4.7)	63 (42–89)
	1995	6	0.079 (0.063–0.096)	1.4 (1.1–1.7)	2.9 (0.69–5.1)	50 (12–88)	2.6 (2.2–2.9)	45 (39–50)
	2000	6	0.16 (0.16–0.16)	2.6 (2.6–2.7)	3.1 (1.3–5.3)	53 (22–89)	2.2 (1.8–2.6)	37 (30–44)
	2005	6	0.12 (0.11–0.12)	1.9 (1.9–1.9)	3.3 (1.4–5.6)	55 (23–92)	2.4 (1.9–2.9)	39 (32–47)
	2008	6	0.1 (0.1–0.1)	1.6 (1.6–1.6)	2.3 (0.82–3.9)	38 (13–64)	2 (1.7–2.3)	32 (27–37)
	2009	6	0.065 (0.044–0.11)	1.1 (<1–1.7)	2 (0.64–3.5)	33 (10–56)	1.8 (1.6–2.1)	30 (25–35)
	2010	6	0.057 (0.04–0.093)	<1 (<1–1.5)	1.9 (0.53–3.3)	31 (8.6–53)	1.8 (1.5–2)	28 (24–33)
Grenada	1990	<1	<0.01 (<0.01–<0.01)	2.4 (1.4–3.7)	0.01 (<0.01–0.02)	11 (4.2–21)	<0.01 (<0.01–<0.01)	4.6 (2.8–6.9)
	1995	<1	<0.01 (<0.01–<0.01)	1.5 (1.1–1.9)	<0.01 (<0.01–0.013)	8 (3.7–13)	<0.01 (<0.01–<0.01)	4.5 (3.8–5.2)
	2000	<1	<0.01 (<0.01–<0.01)	1.3 (<1–1.9)	<0.01 (<0.01–0.013)	7.4 (3.3–12)	<0.01 (<0.01–<0.01)	4.4 (3.6–5.3)
	2005	<1	<0.01 (<0.01–<0.01)	2.6 (2.5–2.8)	<0.01 (<0.01–0.014)	8.5 (3.9–14)	<0.01 (<0.01–<0.01)	4.2 (3.4–5.1)
	2008	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	4.6 (1–8.2)	<0.01 (<0.01–<0.01)	4.2 (3.4–5)
	2009	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	4.4 (1.1–9)	<0.01 (<0.01–<0.01)	4.1 (3.4–5)
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	4.1 (<1–8.7)	<0.01 (<0.01–<0.01)	4.1 (3.4–4.9)
Guatemala	1990	9	0.4 (0.19–0.71)	4.4 (2.1–7.9)	12 (4.7–23)	134 (52–262)	6.6 (4.1–9.8)	74 (46–110)
	1995	10	0.45 (0.33–0.59)	4.5 (3.3–5.9)	13 (6–21)	130 (60–213)	7.1 (5.8–8.6)	71 (58–86)
	2000	11	0.56 (0.55–0.56)	5 (4.9–5)	14 (6.6–23)	124 (58–203)	7.6 (6.2–9.2)	68 (55–82)
	2005	13	0.42 (0.42–0.42)	3.3 (3.3–3.3)	14 (6.6–23)	110 (52–180)	8.2 (6.7–9.9)	65 (53–78)
	2008	14	0.38 (0.38–0.38)	2.8 (2.8–2.8)	14 (6.9–24)	106 (50–172)	8.6 (7–10)	63 (51–76)
	2009	14	0.51 (0.39–0.66)	3.6 (2.8–4.7)	15 (7–24)	105 (50–170)	8.7 (7.2–10)	62 (51–75)
	2010	14	0.56 (0.42–0.71)	3.9 (2.9–4.9)	16 (7.5–26)	111 (52–179)	8.9 (7.3–11)	62 (51–74)
Guyana	1990	<1	0.16 (0.081–0.28)	23 (11–38)	0.8 (0.32–1.6)	110 (44–218)	0.65 (0.39–0.96)	89 (54–133)
	1995	<1	0.14 (0.084–0.21)	19 (11–29)	0.78 (0.36–1.3)	107 (49–184)	0.65 (0.53–0.78)	89 (73–108)
	2000	<1	0.16 (0.095–0.25)	22 (13–34)	0.96 (0.44–1.7)	131 (60–226)	0.76 (0.62–0.92)	104 (85–125)
	2005	<1	0.14 (0.13–0.14)	18 (18–19)	0.97 (0.36–1.7)	129 (48–225)	0.86 (0.7–1)	115 (94–139)
	2008	<1	0.13 (0.071–0.21)	17 (9.5–28)	0.96 (0.38–1.7)	128 (50–220)	0.85 (0.69–1)	113 (92–136)
	2009	<1	0.11 (0.065–0.19)	15 (8.7–26)	0.93 (0.36–1.6)	123 (48–208)	0.84 (0.69–1)	112 (91–134)
	2010	<1	0.097 (0.058–0.17)	13 (7.7–22)	0.87 (0.32–1.5)	115 (43–195)	0.84 (0.69–1)	111 (91–133)
Haiti	1990	7	2.6 (1.1–5.1)	37 (15–72)	27 (9.8–54)	376 (138–756)	18 (11–26)	247 (151–368)
	1995	8	3.2 (2.3–4.2)	40 (29–53)	29 (14–47)	364 (173–599)	19 (16–23)	247 (201–298)
	2000	9	3.5 (2.5–4.8)	41 (29–55)	34 (16–55)	388 (185–639)	23 (19–28)	271 (220–327)
	2005	9	3.3 (2.2–4.7)	35 (23–50)	34 (16–57)	368 (170–611)	25 (21–31)	272 (221–327)
	2008	10	2.9 (1.9–4.3)	30 (19–44)	32 (15–53)	326 (149–541)	24 (20–29)	246 (200–297)
	2009	10	2.9 (1.9–4.2)	30 (19–43)	32 (15–53)	323 (148–532)	24 (19–28)	238 (195–286)
	2010	10	2.9 (1.9–4)	29 (19–40)	31 (14–51)	314 (145–512)	23 (19–28)	230 (189–276)
Honduras	1990	5	0.79 (0.33–1.6)	16 (6.7–33)	8.8 (3.1–18)	180 (63–361)	6.1 (3.8–9)	125 (78–183)
	1995	6	0.91 (0.58–1.3)	16 (10–24)	9.9 (4.4–17)	178 (79–297)	7 (5.7–8.4)	125 (102–151)
	2000	6	0.8 (0.52–1.2)	13 (8.4–19)	9.6 (4.1–16)	155 (66–257)	7.2 (6.1–8.4)	116 (99–135)
	2005	7	0.95 (0.66–1.3)	14 (9.5–19)	9.6 (4.4–16)	140 (64–231)	6.1 (5–7.4)	89 (72–107)
	2008	7	0.69 (0.47–0.97)	9.5 (6.5–13)	7.2 (3.3–12)	99 (45–162)	4.7 (3.8–5.7)	64 (52–78)
	2009	7	0.54 (0.35–0.78)	7.2 (4.7–11)	6.1 (2.7–10)	81 (36–135)	4.3 (3.5–5.1)	58 (47–69)
	2010	8	0.39 (0.24–0.62)	5.2 (3.1–8.2)	5 (2–8.4)	65 (26–111)	3.9 (3.2–4.6)	51 (42–61)
Jamaica	1990	2	0.012 (<0.01–0.025)	<1 (<1–1)	0.17 (0.06–0.31)	7.1 (2.5–13)	0.15 (0.11–0.21)	6.5 (4.6–8.8)
	1995	2	0.015 (<0.01–0.025)	<1 (<1–1)	0.19 (0.079–0.32)	7.6 (3.2–13)	0.16 (0.13–0.19)	6.5 (5.3–7.9)
	2000	3	0.015 (<0.01–0.026)	<1 (<1–1)	0.19 (0.08–0.33)	7.4 (3.1–13)	0.17 (0.14–0.2)	6.5 (5.3–7.9)
	2005	3	0.023 (0.015–0.033)	<1 (<1–1.2)	0.24 (0.11–0.4)	8.9 (4.2–15)	0.18 (0.14–0.21)	6.5 (5.3–7.9)
	2008	3	0.017 (<0.01–0.029)	<1 (<1–1.1)	0.21 (0.082–0.37)	7.6 (3–13)	0.18 (0.14–0.21)	6.6 (5.3–7.9)
	2009	3	0.02 (0.012–0.031)	<1 (<1–1.1)	0.23 (0.1–0.39)	8.4 (3.8–14)	0.18 (0.15–0.21)	6.6 (5.4–7.9)
	2010	3	0.016 (<0.01–0.027)	<1 (<1–1)	0.21 (0.084–0.36)	7.6 (3.1–13)	0.18 (0.15–0.21)	6.6 (5.4–7.8)
Mexico	1990	84	11 (5.9–17)	13 (7–21)	100 (42–200)	123 (50–237)	52 (31–77)	61 (37–91)
	1995	92	7.5 (5.6–9.8)	8.2 (6.1–11)	76 (36–120)	82 (39–135)	41 (33–49)	44 (36–53)
	2000	100	3.6 (3.6–3.6)	3.6 (3.6–3.6)	50 (22–83)	51 (22–83)	32 (26–38)	32 (26–38)
	2005	106	2.7 (2.7–2.7)	2.5 (2.5–2.5)	35 (15–60)	33 (14–56)	24 (20–29)	23 (19–27)
	2008	111	2.4 (2.4–2.4)	2.2 (2.2–2.2)	25 (7.8–42)	22 (7.1–38)	21 (18–24)	19 (16–21)
	2009	112	1.1 (0.8–1.7)	<1 (<1–1.5)	22 (5.5–37)	19 (4.9–33)	20 (17–22)	17 (15–20)
	2010	113	0.96 (0.77–1.2)	<1 (<1–1)	21 (5–36)	18 (4.4–32)	18 (16–21)	16 (14–19)
Montserrat	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	10 (2.3–18)	<0.01 (<0.01–<0.01)	7.9 (6.6–9.3)
	1995	<1	<0.01 (<0.01–<0.01)	<1 (<1–1)	<0.01 (<0.01–<0.01)	21 (9–33)	<0.01 (<0.01–<0.01)	8.4 (7.9–8.9)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	13 (2.9–23)	<0.01 (<0.01–<0.01)	8.9 (<1–18)
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–1.1)	<0.01 (<0.01–<0.01)	15 (6–28)	<0.01 (<0.01–<0.01)	9.4 (7–12)
	2008	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	13 (2.8–22)	<0.01 (<0.01–<0.01)	9.7 (<1–19)
	2009	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	9.8 (<1–20)
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	9.9 (<1–20)
Netherlands Antilles	1990	<1			<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)
	1995	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	2.9 (<1–5.2)	<0.01 (<0.01–<0.01)	2.6 (2.3–3)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–0.012)	3.7 (<1–6.5)	<0.01 (<0.01–<0.01)	3.2 (2.8–3.6)
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.012 (<0.01–0.021)	6.5 (2.2–11)	<0.01 (<0.01–0.01)	5 (4.3–5.6)
	2008	<1			<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.11 (0.086–0.13)	54 (44–65)
	2009	<1			<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.054 (0.044–0.065)	27 (22–33)

[a] Rates are per 100 000 population.

Data can be downloaded from www.who.int/tb/data

TABLE A3.1 **Estimates of the burden of disease caused by TB, 1990–2010**

	YEAR	POPULATION (MILLIONS)	MORTALITY (EXCLUDING HIV) NUMBER (THOUSANDS)	MORTALITY (EXCLUDING HIV) RATE[a]	PREVALENCE (INCLUDING HIV) NUMBER (THOUSANDS)	PREVALENCE (INCLUDING HIV) RATE	INCIDENCE (INCLUDING HIV) NUMBER (THOUSANDS)	INCIDENCE (INCLUDING HIV) RATE
Nicaragua	1990	4	0.67 (0.3–1.3)	16 (7.2–32)	7.1 (2.5–14)	172 (61–339)	4.4 (2.9–6.3)	108 (70–153)
	1995	5	0.5 (0.31–0.77)	11 (6.7–17)	5.8 (2.3–9.9)	125 (50–213)	4 (3.2–4.8)	85 (69–103)
	2000	5	0.44 (0.27–0.66)	8.6 (5.3–13)	5 (2–8.5)	99 (39–168)	3.4 (2.8–4.1)	68 (55–81)
	2005	5	0.38 (0.24–0.57)	7 (4.4–10)	4.3 (1.8–7.3)	79 (33–134)	2.9 (2.4–3.5)	53 (44–64)
	2008	6	0.22 (0.14–0.36)	4 (2.5–6.4)	3.2 (1.1–5.6)	57 (19–99)	2.6 (2.2–3)	46 (40–54)
	2009	6	0.18 (0.12–0.3)	3.2 (2.2–5.3)	3 (0.87–5.1)	52 (15–90)	2.5 (2.2–2.9)	44 (38–51)
	2010	6	0.15 (0.11–0.25)	2.6 (1.9–4.2)	2.7 (0.69–4.7)	47 (12–81)	2.4 (2.1–2.8)	42 (36–49)
Panama	1990	2	0.37 (0.17–0.73)	15 (7.1–30)	1.6 (0.55–3.1)	68 (23–130)	1.1 (0.78–1.6)	47 (32–65)
	1995	3	0.22 (0.13–0.43)	8.3 (4.8–16)	1.4 (0.44–2.4)	51 (17–90)	1.3 (1–1.5)	47 (39–57)
	2000	3	0.2 (0.2–0.21)	6.9 (6.8–6.9)	1.4 (0.39–2.4)	47 (13–83)	1.4 (1.2–1.7)	47 (39–56)
	2005	3	0.22 (0.18–0.27)	6.9 (5.6–8.4)	1.7 (0.46–2.9)	53 (14–91)	1.5 (1.3–1.9)	47 (39–57)
	2008	3	0.22 (0.22–0.22)	6.5 (6.4–6.5)	1.7 (0.51–2.8)	49 (15–83)	1.6 (1.4–1.8)	47 (42–53)
	2009	3	0.29 (0.2–0.44)	8.3 (5.7–13)	1.8 (0.59–3)	52 (17–87)	1.6 (1.4–1.9)	48 (42–53)
	2010	4	0.3 (0.2–0.46)	8.6 (5.8–13)	1.8 (0.62–3.1)	52 (18–88)	1.7 (1.5–1.9)	48 (42–54)
Paraguay	1990	4	0.25 (0.2–0.32)	5.9 (4.6–7.5)	3.9 (1.6–6.3)	92 (37–149)	2.8 (2.6–3)	66 (61–72)
	1995	5	0.24 (0.19–0.29)	5 (4–6.1)	3.6 (1.5–5.7)	75 (32–119)	2.5 (2.3–2.7)	52 (48–56)
	2000	5	0.24 (0.19–0.29)	4.4 (3.5–5.5)	3.6 (1.5–5.9)	68 (28–110)	2.6 (2.4–2.8)	49 (45–53)
	2005	6	0.3 (0.3–0.3)	5.1 (5.1–5.2)	4 (1.7–6.4)	68 (28–109)	2.9 (2.7–3.1)	49 (45–53)
	2008	6	0.24 (0.24–0.25)	3.9 (3.9–4)	4.2 (1.7–6.7)	67 (28–107)	3 (2.7–3.2)	48 (44–52)
	2009	6	0.28 (0.22–0.35)	4.4 (3.4–5.5)	4.2 (1.8–6.7)	66 (28–106)	3 (2.7–3.2)	47 (43–51)
	2010	6	0.27 (0.21–0.33)	4.2 (3.3–5.2)	4.1 (1.7–6.6)	64 (26–103)	3 (2.7–3.2)	46 (42–50)
Peru	1990	22	11 (4.8–22)	53 (22–102)	120 (41–230)	532 (191–1078)	69 (42–100)	317 (193–472)
	1995	24	6.3 (3.7–10)	26 (15–43)	79 (29–140)	330 (122–570)	58 (47–69)	242 (197–291)
	2000	26	4.9 (2.8–8.1)	19 (11–31)	63 (22–110)	244 (86–425)	48 (39–57)	184 (150–221)
	2005	28	3.4 (2.1–5.6)	12 (7.7–20)	48 (16–84)	176 (58–305)	39 (32–45)	140 (118–165)
	2008	28	2.3 (1.6–3.5)	8.1 (5.7–12)	39 (10–67)	136 (37–235)	34 (30–38)	119 (104–135)
	2009	29	2 (1.5–3.2)	7 (5.2–11)	36 (9.1–63)	126 (31–218)	32 (28–37)	113 (98–128)
	2010	29	1.8 (1.4–2.2)	6.1 (5–7.4)	34 (7.9–61)	118 (27–210)	31 (27–35)	106 (93–121)
Puerto Rico	1990	4	0.016 (0.014–0.018)	<1 (<1–<1)	0.24 (0.065–0.42)	6.9 (1.8–12)	0.21 (0.19–0.23)	5.9 (5.3–6.6)
	1995	4	0.023 (0.02–0.028)	<1 (<1–<1)	0.39 (0.14–0.66)	11 (3.7–18)	0.3 (0.26–0.34)	8 (7–9.1)
	2000	4	0.015 (0.013–0.018)	<1 (<1–<1)	0.24 (0.081–0.42)	6.4 (2.1–11)	0.19 (0.17–0.22)	5 (4.3–5.7)
	2005	4	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.13 (0.047–0.23)	3.5 (1.2–6)	0.13 (0.11–0.15)	3.4 (3–3.9)
	2008	4	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.13 (0.051–0.22)	3.4 (1.4–5.7)	0.1 (0.089–0.12)	2.7 (2.4–3.1)
	2009	4	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.08 (0.022–0.14)	2.1 (<1–3.8)	0.091 (0.082–0.1)	2.4 (2.2–2.7)
	2010	4	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.11 (0.045–0.19)	3 (1.2–5.1)	0.083 (0.072–0.095)	2.2 (1.9–2.5)
Saint Kitts and Nevis	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	1.3 (<1–2.4)	<0.01 (<0.01–<0.01)	2.7 (<1–5.5)
	1995	<1	<0.01 (<0.01–<0.01)	11 (8.2–14)	<0.01 (<0.01–0.015)	22 (9.9–35)	<0.01 (<0.01–<0.01)	13 (11–15)
	2000	<1	<0.01 (<0.01–<0.01)	2.2 (2.2–2.3)	<0.01 (<0.01–<0.01)	4 (<1–7.1)	<0.01 (<0.01–<0.01)	7.9 (<1–16)
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	2.2 (<1–4)	<0.01 (<0.01–<0.01)	4.2 (<1–8.4)
	2008	<1	<0.01 (<0.01–<0.01)	2.5 (2–3)	<0.01 (<0.01–<0.01)	9.3 (2.1–17)	<0.01 (<0.01–<0.01)	6.6 (5.3–8.1)
	2009	<1	<0.01 (<0.01–<0.01)	2.2 (1.7–3.7)	<0.01 (<0.01–<0.01)	8.1 (1.8–16)	<0.01 (<0.01–<0.01)	7.2 (6.1–8.4)
	2010	<1	<0.01 (<0.01–<0.01)	4.7 (3.8–5.7)	<0.01 (<0.01–<0.01)	11 (4.6–19)	<0.01 (<0.01–<0.01)	7.6 (7.1–8.2)
Saint Lucia	1990	<1	<0.01 (<0.01–<0.01)	4 (3.3–4.8)	0.038 (0.017–0.061)	28 (12–44)	0.026 (0.024–0.028)	19 (17–20)
	1995	<1	<0.01 (<0.01–<0.01)	1.6 (1.3–2.2)	0.026 (<0.01–0.046)	18 (4.3–32)	0.024 (0.022–0.025)	16 (15–17)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.034 (0.015–0.053)	22 (9.8–33)	0.021 (0.02–0.022)	13 (13–14)
	2005	<1	<0.01 (<0.01–<0.01)	4 (3.9–4.1)	0.024 (<0.01–0.039)	14 (5.2–24)	0.018 (0.016–0.02)	11 (9.4–12)
	2008	<1	<0.01 (<0.01–<0.01)	2.5 (1.1–4.8)	0.031 (0.012–0.058)	18 (6.8–34)	0.015 (0.012–0.019)	9 (7.3–11)
	2009	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.012 (<0.01–0.023)	6.8 (1.9–13)	0.015 (0.013–0.016)	8.5 (7.6–9.3)
	2010	<1	<0.01 (<0.01–<0.01)	1.8 (1.4–2.2)	0.021 (<0.01–0.034)	12 (5.4–19)	0.014 (0.013–0.015)	7.9 (7.2–8.7)
Saint Vincent and the Grenadines	1990	<1	<0.01 (<0.01–<0.01)	4.8 (2.9–7.2)	0.071 (0.027–0.14)	66 (25–126)	0.029 (0.018–0.044)	27 (17–41)
	1995	<1	<0.01 (<0.01–<0.01)	4 (3.1–5)	0.063 (0.029–0.1)	58 (27–96)	0.029 (0.023–0.035)	27 (22–32)
	2000	<1	<0.01 (<0.01–<0.01)	3.1 (3–3.2)	0.053 (0.025–0.088)	49 (23–81)	0.028 (0.023–0.034)	26 (21–31)
	2005	<1	<0.01 (<0.01–<0.01)	1 (<1–1.1)	0.048 (0.02–0.09)	44 (18–83)	0.027 (0.022–0.033)	25 (20–30)
	2008	<1	<0.01 (<0.01–<0.01)	1 (<1–1.1)	0.033 (0.013–0.066)	30 (12–60)	0.027 (0.022–0.032)	25 (20–30)
	2009	<1	<0.01 (<0.01–<0.01)	<1 (<1–2.5)	0.019 (<0.01–0.049)	17 (4.5–45)	0.027 (0.022–0.032)	24 (20–29)
	2010	<1	<0.01 (<0.01–<0.01)	2 (<1–3.7)	0.036 (0.014–0.073)	33 (13–67)	0.027 (0.022–0.032)	24 (20–29)
Sint Maarten (Dutch part)	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	12 (3.7–22)	<0.01 (<0.01–<0.01)	9.1 (7.9–10)
Suriname	1990	<1	<0.01 (<0.01–0.011)	1.7 (<1–2.7)	0.57 (0.23–1.1)	140 (56–267)	0.27 (0.16–0.4)	66 (40–98)
	1995	<1	<0.01 (<0.01–<0.01)	1.1 (<1–1.4)	0.4 (0.18–0.67)	92 (42–154)	0.22 (0.18–0.27)	51 (42–62)
	2000	<1	<0.01 (<0.01–<0.01)	1.4 (1.4–1.4)	0.62 (0.29–1)	133 (62–221)	0.37 (0.3–0.45)	80 (65–96)
	2005	<1	0.011 (0.011–0.011)	2.2 (2.2–2.3)	0.82 (0.38–1.4)	164 (76–272)	0.5 (0.4–0.6)	100 (81–120)
	2008	<1	0.013 (<0.01–0.016)	2.5 (1.8–3.2)	1.1 (0.49–1.7)	205 (95–340)	0.65 (0.53–0.78)	125 (102–151)
	2009	<1	0.014 (0.01–0.018)	2.6 (2–3.4)	1.1 (0.53–1.9)	221 (102–368)	0.7 (0.57–0.84)	135 (110–162)
	2010	<1	0.015 (0.011–0.019)	2.8 (2.1–3.7)	1.2 (0.58–2.1)	238 (110–396)	0.76 (0.62–0.91)	145 (118–173)
Trinidad and Tobago	1990	1	0.024 (0.021–0.029)	2 (1.7–2.4)	0.17 (0.055–0.29)	14 (4.5–24)	0.14 (0.12–0.16)	11 (9.9–13)
	1995	1	0.031 (0.025–0.038)	2.4 (2–3)	0.23 (0.086–0.4)	19 (6.8–31)	0.19 (0.17–0.22)	15 (13–17)
	2000	1	0.029 (0.029–0.029)	2.2 (2.2–2.3)	0.23 (0.081–0.39)	18 (6.3–30)	0.23 (0.2–0.26)	18 (15–20)
	2005	1	0.022 (0.021–0.022)	1.6 (1.6–1.7)	0.27 (0.12–0.44)	20 (8.8–33)	0.19 (0.17–0.22)	15 (13–16)
	2008	1	0.039 (0.033–0.047)	2.9 (2.5–3.6)	0.29 (0.1–0.5)	22 (7.6–37)	0.32 (0.28–0.36)	24 (21–27)
	2009	1	0.04 (0.033–0.049)	3 (2.4–3.7)	0.33 (0.14–0.54)	25 (10–41)	0.31 (0.27–0.35)	23 (21–26)
	2010	1	0.037 (0.032–0.045)	2.8 (2.4–3.4)	0.29 (0.1–0.48)	21 (7.6–36)	0.25 (0.22–0.29)	19 (16–21)
Turks and Caicos Islands	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)
	1995	<1			<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	37 (32–42)
	2000	<1	<0.01 (<0.01–<0.01)	5.1 (4.3–6.1)	0.017 (<0.01–0.028)	90 (36–149)	0.012 (0.011–0.014)	64 (56–72)
	2005	<1	<0.01 (<0.01–<0.01)	2 (1.7–2.4)	0.01 (<0.01–0.017)	33 (11–56)	<0.01 (<0.01–<0.01)	25 (22–29)
	2008	<1	<0.01 (<0.01–<0.01)	1.8 (1.5–2.1)	0.011 (<0.01–0.018)	29 (9.8–50)	<0.01 (<0.01–<0.01)	23 (20–26)
	2009	<1	<0.01 (<0.01–<0.01)	1.7 (1.5–2)	0.01 (<0.01–0.018)	28 (9.4–48)	<0.01 (<0.01–<0.01)	22 (19–25)
	2010	<1	<0.01 (<0.01–<0.01)	1.3 (<1–2.2)	<0.01 (<0.01–0.019)	23 (5.7–50)	<0.01 (<0.01–<0.01)	21 (18–24)
United States of America	1990	253	1.3 (1.1–1.6)	<1 (<1–<1)	36 (12–60)	14 (4.9–24)	30 (26–34)	12 (10–13)
	1995	266	1.1 (0.96–1.4)	<1 (<1–<1)	31 (11–53)	12 (4.1–20)	26 (23–30)	9.8 (8.6–11)
	2000	282	0.79 (0.79–0.79)	<1 (<1–<1)	22 (7.8–38)	8 (2.7–13)	19 (17–21)	6.7 (5.9–7.6)
	2005	297	0.66 (0.66–0.66)	<1 (<1–<1)	19 (6.8–32)	6.4 (2.3–11)	16 (14–18)	5.5 (4.8–6.2)
	2008	305	0.63 (0.54–0.76)	<1 (<1–<1)	18 (6.3–30)	5.8 (2.1–9.7)	15 (13–17)	4.8 (4.2–5.4)
	2009	308	0.59 (0.51–0.7)	<1 (<1–<1)	16 (5.8–27)	5.3 (1.9–8.9)	14 (12–15)	4.4 (3.9–5)
	2010	310	0.55 (0.48–0.66)	<1 (<1–<1)	15 (5–25)	4.8 (1.6–8.2)	13 (11–14)	4.1 (3.6–4.7)
Uruguay	1990	3	0.055 (0.035–0.15)	1.8 (1.1–4.7)	0.99 (0.23–2)	32 (7.4–64)	0.86 (0.52–1.3)	28 (17–41)
	1995	3	0.081 (0.047–0.13)	2.5 (1.5–4.2)	1.1 (0.41–2)	35 (13–60)	0.84 (0.68–1)	26 (21–31)
	2000	3	0.07 (0.069–0.07)	2.1 (2.1–2.1)	1 (0.37–1.8)	31 (11–54)	0.81 (0.66–0.98)	24 (20–29)
	2005	3	0.058 (0.034–0.098)	1.7 (1–3)	0.89 (0.32–1.5)	27 (9.5–47)	0.76 (0.62–0.91)	23 (19–27)
	2008	3	0.046 (0.031–0.072)	1.4 (<1–2.1)	0.81 (0.27–1.4)	24 (8–41)	0.74 (0.64–0.84)	22 (19–25)
	2009	3	0.04 (0.028–0.063)	1.2 (<1–1.9)	0.78 (0.24–1.3)	23 (7.2–39)	0.73 (0.63–0.83)	22 (19–25)
	2010	3	0.036 (0.026–0.061)	1.1 (<1–1.8)	0.75 (0.22–1.3)	22 (6.4–38)	0.72 (0.62–0.84)	21 (18–25)
US Virgin Islands	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–0.01)	5.7 (1.9–9.8)	<0.01 (<0.01–<0.01)	4.5 (3.9–5)
	1995	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–0.014)	7.5 (1.7–13)	<0.01 (<0.01–<0.01)	4.3 (3.7–4.9)
	2000	<1			<0.01 (<0.01–<0.01)	<1 (<1–<1)		
	2005	<1			<0.01 (<0.01–<0.01)	<1 (<1–<1)		
	2008	<1			<0.01 (<0.01–<0.01)	<1 (<1–<1)		
	2009	<1			<0.01 (<0.01–<0.01)	<1 (<1–<1)		
	2010	<1			<0.01 (<0.01–<0.01)	<1 (<1–<1)		
Venezuela (Bolivarian Republic of)	1990	20	0.54 (0.26–1.1)	2.8 (1.3–5.4)	10 (3.2–19)	51 (16–97)	7 (4.9–9.4)	35 (25–48)
	1995	22	0.67 (0.42–1)	3.1 (1.9–4.7)	12 (4.7–20)	53 (21–91)	7.7 (6.2–9.2)	35 (28–42)
	2000	24	0.64 (0.64–0.64)	2.6 (2.6–2.6)	12 (4.4–21)	49 (18–85)	8.3 (6.8–10)	34 (28–41)
	2005	27	0.63 (0.63–0.63)	2.4 (2.4–2.4)	13 (4.9–23)	49 (18–85)	9 (7.3–11)	34 (27–41)
	2008	28	0.75 (0.47–1.1)	2.7 (1.7–4)	13 (5.6–22)	47 (20–79)	9.4 (7.6–11)	33 (27–40)
	2009	29	0.79 (0.51–1.2)	2.8 (1.8–4.1)	14 (6–23)	48 (21–80)	9.5 (7.8–11)	33 (27–40)
	2010	29	0.82 (0.54–1.2)	2.8 (1.9–4.1)	14 (6.1–23)	48 (21–80)	9.7 (7.9–12)	33 (27–40)

[a] Rates are per 100 000 population.

TABLE A3.2 **Incidence, notification and case detection rates, all forms, 1990–2010**

			INCIDENCE (INCLUDING HIV)		INCIDENCE HIV-POSITIVE		NOTIFIED NEW AND RELAPSE[a]		CASE DETECTION RATE[a]
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[b]	NUMBER (THOUSANDS)	RATE[b]	NUMBER	RATE[b]	PERCENT
Anguilla	1990	<1	<0.01 (<0.01–<0.01)	24 (15–36)			0	0	0
	1995	<1	<0.01 (<0.01–<0.01)	23 (20–27)			2	20	88 (75–104)
	2000	<1	<0.01 (<0.01–<0.01)	23 (18–27)					–
	2005	<1	<0.01 (<0.01–<0.01)	22 (18–26)					–
	2008	<1	<0.01 (<0.01–<0.01)	22 (17–26)					–
	2009	<1	<0.01 (<0.01–<0.01)	21 (18–26)					–
	2010	<1	<0.01 (<0.01–<0.01)	21 (17–25)			1	7	31 (26–37)
Antigua and Barbuda	1990	<1	<0.01 (<0.01–<0.01)	2.6 (2.2–3)			1	2	63 (54–74)
	1995	<1	<0.01 (<0.01–<0.01)	4.4 (3.7–5)			0	0	0
	2000	<1	<0.01 (<0.01–<0.01)	4.6 (3.8–5.4)			4	5	113 (96–134)
	2005	<1	<0.01 (<0.01–<0.01)	6.5 (5.5–7.6)	<0.01 (<0.01–<0.01)	4.1 (1.2–7.2)	6	7	110 (94–130)
	2008	<1	<0.01 (<0.01–<0.01)	2.6 (2.4–2.7)			1	1	45 (42–48)
	2009	<1	<0.01 (<0.01–<0.01)	3.8 (3.2–4.5)			3	3	89 (75–107)
	2010	<1	<0.01 (<0.01–<0.01)	4.9 (4.3–5.5)	<0.01 (<0.01–<0.01)	3.9 (1.9–5)	6	7	137 (122–156)
Argentina	1990	33	19 (12–28)	60 (38–86)	0.71 (0.36–1.2)	2.2 (1.1–3.6)	12 309	38	63 (44–99)
	1995	35	17 (14–21)	49 (40–59)	0.74 (0.44–1.1)	2.1 (1.3–3.2)	13 450	39	79 (65–97)
	2000	37	15 (12–18)	40 (33–49)	0.79 (0.49–1.2)	2.1 (1.3–3.1)	11 767	32	79 (65–97)
	2005	39	13 (10–16)	33 (27–40)	0.81 (0.51–1.2)	2.1 (1.3–3)	9 770	25	76 (63–93)
	2008	40	12 (9.6–14)	30 (24–36)	0.8 (0.49–1.2)	2 (1.2–3)	9 196	23	78 (65–96)
	2009	40	11 (9.3–14)	28 (23–34)	0.78 (0.49–1.1)	1.9 (1.2–2.8)	7 701	19	68 (56–82)
	2010	40	11 (9.1–13)	27 (22–33)	0.76 (0.48–1.1)	1.9 (1.2–2.7)	7 287	18	66 (55–80)
Aruba	1990	<1							–
	1995	<1							–
	2000	<1							–
	2005	<1							–
	2008	<1							–
	2009	<1							–
	2010	<1					6	6	–
Bahamas	1990	<1	0.054 (0.048–0.061)	21 (19–24)	0.024 (0.016–0.034)	9.4 (6.3–13)	46	18	85 (75–96)
	1995	<1	0.077 (0.069–0.085)	27 (25–31)	0.033 (0.024–0.043)	12 (8.6–15)	57	20	74 (67–83)
	2000	<1	0.083 (0.071–0.095)	28 (24–32)	0.031 (0.02–0.044)	10 (6.8–15)	82	28	99 (86–115)
	2005	<1	0.058 (0.051–0.065)	18 (16–20)	0.023 (0.016–0.032)	7.2 (4.9–10)	48	15	83 (74–95)
	2008	<1	0.054 (0.047–0.062)	16 (14–18)	0.019 (0.012–0.029)	5.8 (3.6–8.6)	48	14	88 (78–101)
	2009	<1	0.048 (0.042–0.055)	14 (12–16)	0.018 (0.011–0.026)	5.3 (3.4–7.7)	45	13	94 (82–108)
	2010	<1	0.039 (0.035–0.044)	11 (10–13)	0.017 (0.011–0.024)	4.8 (3.1–6.9)	31	9	79 (71–89)
Barbados	1990	<1	<0.01 (<0.01–<0.01)	2.4 (2.1–2.7)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	5	2	81 (72–92)
	1995	<1	<0.01 (<0.01–<0.01)	1.7 (1.5–1.9)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	3	1	67 (61–74)
	2000	<1	<0.01 (<0.01–<0.01)	2.4 (2.2–2.6)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	3	1	47 (43–50)
	2005	<1	0.013 (0.011–0.014)	4.7 (4.1–5.4)	<0.01 (<0.01–<0.01)	1.4 (<1–2.2)			–
	2008	<1	<0.01 (<0.01–<0.01)	3.1 (2.9–3.3)	<0.01 (<0.01–<0.01)	1.2 (<1–1.8)	3	1	36 (34–38)
	2009	<1	<0.01 (<0.01–<0.01)	2.4 (2.3–2.5)	<0.01 (<0.01–<0.01)	1 (<1–1.8)	2	<1	31 (30–32)
	2010	<1	<0.01 (<0.01–<0.01)	1.7 (1.4–2)	<0.01 (<0.01–<0.01)	<1 (<1–1.9)	6	2	130 (108–159)
Belize	1990	<1	0.076 (0.052–0.1)	40 (27–55)	<0.01 (<0.01–<0.01)	1.4 (<1–2.2)	57	30	75 (55–109)
	1995	<1	0.088 (0.072–0.11)	40 (33–48)	0.01 (<0.01–0.014)	4.6 (3–6.5)	95	43	108 (89–133)
	2000	<1	0.1 (0.081–0.12)	40 (33–48)	0.016 (0.011–0.021)	6.3 (4.4–8.4)	106	42	106 (88–130)
	2005	<1	0.11 (0.097–0.13)	40 (34–46)	0.027 (0.018–0.037)	9.5 (6.3–13)	102	36	91 (79–106)
	2008	<1	0.12 (0.097–0.14)	40 (33–48)	0.024 (0.015–0.037)	8.2 (4.9–12)	88	29	74 (61–90)
	2009	<1	0.12 (0.099–0.15)	40 (32–48)	0.023 (0.014–0.036)	7.6 (4.4–12)	88	29	72 (60–89)
	2010	<1	0.12 (0.1–0.15)	40 (33–48)	0.025 (0.017–0.036)	8.1 (5.3–11)	145	47	116 (97–143)
Bermuda	1990	<1	<0.01 (<0.01–<0.01)	1.6 (<1–3.1)			0	0	0
	1995	<1	<0.01 (<0.01–<0.01)	6 (5.1–7)			4	7	108 (93–127)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)			0	0	–
	2005	<1	<0.01 (<0.01–<0.01)	7.5 (6.5–8.6)					–
	2008	<1	<0.01 (<0.01–<0.01)	3.8 (3.3–4.2)					–
	2009	<1	<0.01 (<0.01–<0.01)	2.6 (2.3–3)					–
	2010	<1	<0.01 (<0.01–<0.01)	1.6 (1.4–1.9)			1	2	94 (83–109)
Bolivia (Plurinational State of)	1990	7	17 (11–24)	251 (164–357)	0.33 (0.12–0.63)	4.9 (1.8–9.5)	11 166	168	67 (47–102)
	1995	7	16 (14–19)	215 (184–249)	0.45 (0.26–0.69)	6 (3.5–9.2)	14 422	193	90 (78–105)
	2000	8	15 (12–18)	184 (150–222)	0.59 (0.35–0.89)	7.1 (4.2–11)	10 127	122	66 (55–81)
	2005	9	14 (12–17)	158 (129–190)	0.52 (0.31–0.78)	5.7 (3.4–8.5)	9 748	107	67 (56–83)
	2008	10	14 (11–17)	144 (117–173)	0.47 (0.28–0.72)	4.9 (2.9–7.5)	9 070	94	66 (54–81)
	2009	10	14 (11–16)	140 (114–168)	0.46 (0.27–0.71)	4.7 (2.7–7.2)	8 847	91	65 (54–79)
	2010	10	13 (11–16)	135 (111–162)	0.45 (0.26–0.68)	4.5 (2.6–6.9)	8 345	84	62 (52–76)
Bonaire, Saint Eustatius and Saba	2010	<1					0	0	–
Brazil	1990	150	130 (78–180)	84 (52–122)	21 (11–34)	14 (7.1–23)	74 570	50	60 (41–95)
	1995	162	110 (94–140)	71 (58–86)	19 (12–28)	12 (7.2–17)	91 013	56	79 (66–97)
	2000	174	110 (86–130)	60 (49–73)	17 (11–25)	10 (6.2–15)	77 899	45	74 (61–91)
	2005	186	95 (79–110)	51 (43–61)	17 (14–20)	9.2 (7.8–11)	80 209	43	84 (71–101)
	2008	192	89 (73–110)	46 (38–55)	18 (15–21)	9.2 (7.6–11)	73 395	38	82 (69–100)
	2009	193	87 (72–100)	45 (37–53)	18 (15–21)	9.3 (7.7–11)	75 040	39	86 (73–104)
	2010	195	85 (70–100)	43 (36–51)	18 (15–22)	9.3 (7.7–11)	74 395	38	88 (74–106)
British Virgin Islands	1990	<1	<0.01 (<0.01–<0.01)	19 (12–29)					–
	1995	<1	<0.01 (<0.01–<0.01)	15 (12–18)					–
	2000	<1	<0.01 (<0.01–<0.01)	12 (9.7–14)			1	5	41 (34–50)
	2005	<1	<0.01 (<0.01–<0.01)	10 (8.5–13)			0	0	0
	2008	<1	<0.01 (<0.01–<0.01)	10 (8.2–12)					–
	2009	<1	<0.01 (<0.01–<0.01)	9.9 (8.1–12)					–
	2010	<1	<0.01 (<0.01–<0.01)	9.7 (8–12)			1	4	44 (37–54)
Canada	1990	28	2.3 (2–2.6)	8.4 (7.4–9.5)	0.14 (0.093–0.2)	<1 (<1–<1)	1 968	7	85 (75–96)
	1995	29	2.3 (2–2.5)	7.7 (6.8–8.7)	0.14 (0.092–0.21)	<1 (<1–<1)	1 921	7	85 (75–97)
	2000	31	2 (1.7–2.2)	6.4 (5.6–7.2)	0.14 (0.093–0.2)	<1 (<1–<1)	1 667	5	85 (75–97)
	2005	32	1.7 (1.5–2)	5.4 (4.7–6)	0.14 (0.093–0.2)	<1 (<1–<1)	1 484	5	86 (76–98)
	2008	33	1.7 (1.4–1.9)	5 (4.3–5.6)	0.14 (0.11–0.18)	<1 (<1–<1)	1 452	4	88 (77–100)
	2009	34	1.6 (1.4–1.9)	4.8 (4.2–5.5)	0.14 (0.12–0.16)	<1 (<1–<1)	1 505	4	93 (81–107)
	2010	34	1.6 (1.4–1.8)	4.7 (4.1–5.3)	0.14 (0.092–0.2)	<1 (<1–<1)	1 322	4	83 (74–94)
Cayman Islands	1990	<1	<0.01 (<0.01–<0.01)	10 (9–11)			2	8	76 (68–86)
	1995	<1	<0.01 (<0.01–<0.01)	4.6 (3.8–5.6)			2	6	132 (110–162)
	2000	<1	<0.01 (<0.01–<0.01)	8.4 (6.7–10)			5	12	147 (120–185)
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)					–
	2008	<1	<0.01 (<0.01–<0.01)	3.9 (3.4–4.5)					–
	2009	<1	<0.01 (<0.01–<0.01)	6 (5.3–6.8)					–
	2010	<1	<0.01 (<0.01–<0.01)	8.2 (7.2–9.2)			4	7	87 (77–99)
Chile	1990	13	8.2 (6.6–10)	62 (50–76)	0.048 (0.014–0.1)	<1 (<1–<1)	6 151	47	75 (62–93)
	1995	14	5.5 (4.5–6.7)	38 (31–47)	0.097 (0.043–0.17)	<1 (<1–1.2)	4 150	29	75 (62–93)
	2000	15	4 (3.2–4.9)	26 (21–32)	0.15 (0.089–0.23)	<1 (<1–1.5)	3 021	20	75 (62–93)
	2005	16	3.3 (2.7–4.1)	20 (17–25)	0.18 (0.11–0.26)	1.1 (<1–1.6)	2 505	15	75 (62–93)
	2008	17	3.2 (2.6–3.9)	19 (16–23)	0.19 (0.12–0.28)	1.1 (<1–1.7)	2 427	14	75 (62–93)
	2009	17	3.2 (2.6–3.9)	19 (15–23)	0.19 (0.12–0.28)	1.1 (<1–1.7)	2 398	14	75 (62–93)
	2010	17	3.2 (2.6–3.8)	19 (15–22)	0.19 (0.12–0.28)	1.1 (<1–1.7)	2 376	14	75 (62–93)
Colombia	1990	33	18 (12–25)	54 (36–75)	0.44 (0.23–0.71)	1.3 (<1–2.1)	12 447	37	70 (50–105)
	1995	36	18 (14–21)	48 (39–58)	1.1 (0.67–1.7)	3 (1.8–4.5)	9 912	27	57 (47–70)
	2000	40	17 (14–21)	43 (35–52)	1.4 (0.89–2)	3.5 (2.2–5.1)	11 630	29	68 (56–84)
	2005	43	17 (13–20)	38 (31–46)	1.1 (0.92–1.4)	2.6 (2.1–3.2)	10 360	24	63 (52–77)
	2008	45	16 (13–20)	36 (29–43)	1.1 (0.76–1.4)	2.4 (1.7–3.2)	11 344	25	70 (58–86)
	2009	46	16 (13–19)	35 (29–42)	1.1 (0.56–1.8)	2.4 (1.2–3.9)	11 324	25	70 (59–86)
	2010	46	16 (13–19)	34 (28–41)	1.1 (0.75–1.5)	2.4 (1.6–3.3)	11 420	25	72 (60–87)

[a] Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (in *italics*).
[b] Rates are per 100 000 population.

Data can be downloaded from www.who.int/tb/data

TABLE A3.2 **Incidence, notification and case detection rates, all forms, 1990–2010**

	YEAR	POPULATION (MILLIONS)	INCIDENCE (INCLUDING HIV) NUMBER (THOUSANDS)	INCIDENCE (INCLUDING HIV) RATE[b]	INCIDENCE HIV-POSITIVE NUMBER (THOUSANDS)	INCIDENCE HIV-POSITIVE RATE[b]	NOTIFIED NEW AND RELAPSE[a] NUMBER	NOTIFIED NEW AND RELAPSE[a] RATE[b]	CASE DETECTION RATE[a] PERCENT
Costa Rica	1990	3	0.26 (0.2–0.33)	8.5 (6.6–11)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	230	7	88 (70–114)
	1995	3	0.69 (0.54–0.86)	20 (16–25)	<0.01 (<0.01–0.02)	<1 (<1–<1)	586	17	85 (68–109)
	2000	4	0.9 (0.75–1.1)	23 (19–27)	0.036 (0.02–0.057)	<1 (<1–1.4)	585	15	65 (55–78)
	2005	4	0.75 (0.61–0.9)	17 (14–21)	0.095 (0.067–0.13)	2.2 (1.6–3)	534	12	71 (59–87)
	2008	5	0.66 (0.53–0.8)	15 (12–18)	0.06 (0.041–0.082)	1.3 (<1–1.8)	501	11	76 (62–94)
	2009	5	0.64 (0.52–0.76)	14 (11–17)	0.062 (0.037–0.092)	1.3 (<1–2)	443	10	70 (58–85)
	2010	5	0.63 (0.5–0.77)	13 (11–16)	0.07 (0.043–0.1)	1.5 (<1–2.2)	490	11	78 (64–98)
Cuba	1990	11	2.6 (1.6–3.9)	25 (15–37)	<0.01 (<0.01–0.012)	<1 (<1–<1)	546	5	21 (14–35)
	1995	11	2 (1.6–2.5)	19 (15–23)	0.01 (<0.01–0.021)	<1 (<1–<1)	1 553	14	76 (63–95)
	2000	11	1.4 (1.1–1.8)	13 (10–16)	0.02 (<0.01–0.034)	<1 (<1–<1)	1 183	11	83 (67–105)
	2005	11	1 (0.84–1.3)	9.2 (7.5–11)	0.018 (0.01–0.029)	<1 (<1–<1)	770	7	74 (61–91)
	2008	11	1 (0.81–1.3)	9.1 (7.2–11)	0.068 (0.039–0.1)	<1 (<1–<1)	817	7	80 (65–101)
	2009	11	1 (0.84–1.2)	9.1 (7.5–11)	0.074 (0.054–0.096)	<1 (<1–<1)	712	6	69 (58–84)
	2010	11	1 (0.83–1.3)	9.3 (7.4–11)	0.074 (0.054–0.098)	<1 (<1–<1)	827	7	79 (65–100)
Curaçao	2010	<1	<0.01 (<0.01–<0.01)	4 (3.5–4.5)			5	3	87 (77–100)
Dominica	1990	<1	0.01 (<0.01–0.015)	15 (9.2–22)			6	8	57 (39–92)
	1995	<1	0.01 (<0.01–0.012)	14 (12–17)			8	11	78 (65–96)
	2000	<1	<0.01 (<0.01–0.012)	14 (11–17)					–
	2005	<1	<0.01 (<0.01–0.011)	13 (11–16)					–
	2008	<1	<0.01 (<0.01–0.011)	13 (11–16)			13	19	144 (119–177)
	2009	<1	<0.01 (<0.01–0.011)	13 (11–16)	<0.01 (<0.01–<0.01)	3.3 (<1–9.7)	4	6	45 (37–55)
	2010	<1	<0.01 (<0.01–0.011)	13 (11–16)			8	12	90 (75–110)
Dominican Republic	1990	7	11 (6.5–16)	148 (90–220)	0.83 (0.13–2.1)	12 (1.9–30)	2 597	36	24 (16–40)
	1995	8	9.6 (7.8–12)	121 (99–146)	1.7 (0.97–2.5)	21 (12–32)	4 053	51	42 (35–52)
	2000	9	8.6 (7–10)	100 (81–120)	1.7 (1.1–2.4)	20 (13–28)	5 291	62	62 (51–76)
	2005	9	7.6 (6.2–9.2)	82 (67–99)	1.4 (0.98–2)	16 (11–22)	5 003	54	66 (55–81)
	2008	10	7 (5.7–8.5)	73 (59–88)	1.3 (0.9–1.9)	14 (9.3–19)	4 280	44	61 (50–75)
	2009	10	6.9 (5.6–8.2)	70 (57–84)	1.1 (0.88–1.3)	11 (9–14)	4 256	43	62 (52–76)
	2010	10	6.7 (5.5–8)	67 (55–80)	1.5 (1.2–1.8)	15 (12–18)	3 964	40	59 (50–72)
Ecuador	1990	10	18 (11–27)	174 (106–259)	1.6 (0.63–3.1)	16 (6.1–30)	8 243	80	46 (31–76)
	1995	11	16 (13–19)	136 (111–164)	2.3 (1.4–3.5)	21 (13–30)	7 893	69	51 (42–63)
	2000	12	13 (11–16)	107 (87–128)	2 (1.2–2.9)	16 (9.7–23)	6 908	56	53 (44–65)
	2005	13	11 (9.1–13)	83 (68–100)	1.6 (0.95–2.4)	12 (7.1–18)	4 416	33	39 (33–49)
	2008	14	10 (8.2–12)	72 (58–87)	1.4 (0.82–2.1)	9.7 (5.8–15)	4 845	34	48 (40–59)
	2009	14	9.7 (8–12)	68 (56–82)	1.8 (1.5–2.2)	13 (10–15)	4 703	33	48 (40–59)
	2010	14	9.4 (7.7–11)	65 (53–78)	1.2 (0.96–1.4)	8.2 (6.6–10)	4 832	33	51 (43–63)
El Salvador	1990	5	3.4 (2.3–4.7)	63 (42–89)	0.062 (0.022–0.12)	1.2 (<1–2.3)	2 367	44	70 (50–105)
	1995	6	2.6 (2.2–2.9)	45 (39–50)	0.13 (0.076–0.2)	2.2 (1.3–3.4)	2 422	42	95 (84–108)
	2000	6	2.2 (1.8–2.6)	37 (30–44)	0.19 (0.11–0.27)	3.1 (1.9–4.6)	1 485	25	68 (56–83)
	2005	6	2.4 (1.9–2.9)	39 (32–47)	0.22 (0.16–0.29)	3.6 (2.6–4.8)	1 794	30	76 (63–93)
	2008	6	2 (1.7–2.3)	32 (27–37)	0.23 (0.19–0.28)	3.7 (3–4.5)	1 718	28	88 (76–104)
	2009	6	1.8 (1.6–2.1)	30 (25–35)	0.23 (0.19–0.28)	3.7 (3–4.5)	1 686	27	92 (79–108)
	2010	6	1.8 (1.5–2)	28 (24–33)	0.23 (0.2–0.27)	3.7 (3.1–4.4)	1 700	27	96 (83–113)
Grenada	1990	<1	<0.01 (<0.01–<0.01)	4.6 (2.8–6.9)			0	0	0
	1995	<1	<0.01 (<0.01–<0.01)	4.5 (3.8–5.2)			4	4	89 (77–104)
	2000	<1	<0.01 (<0.01–<0.01)	4.4 (3.6–5.3)			0	0	0
	2005	<1	<0.01 (<0.01–<0.01)	4.2 (3.4–5.1)					–
	2008	<1	<0.01 (<0.01–<0.01)	4.2 (3.4–5)			5	5	116 (96–142)
	2009	<1	<0.01 (<0.01–<0.01)	4.1 (3.4–5)	<0.01 (<0.01–<0.01)	<1 (<1–2.7)	5	5	116 (96–142)
	2010	<1	<0.01 (<0.01–<0.01)	4.1 (3.4–4.9)	<0.01 (<0.01–<0.01)	1 (<1–3)	4	4	93 (77–113)
Guatemala	1990	9	6.6 (4.1–9.8)	74 (46–110)	0.1 (0.028–0.23)	1.2 (<1–2.6)	3 813	43	57 (39–93)
	1995	10	7.1 (5.8–8.6)	71 (58–86)	0.36 (0.17–0.6)	3.6 (1.7–6)	3 119	31	44 (36–54)
	2000	11	7.6 (6.2–9.2)	68 (55–82)	0.73 (0.44–1.1)	6.5 (3.9–9.6)	2 913	26	38 (32–47)
	2005	13	8.2 (6.7–9.9)	65 (53–78)	1.1 (0.65–1.5)	8.3 (5.1–12)	3 365	26	41 (34–50)
	2008	14	8.6 (7–10)	63 (51–76)	1.5 (1.2–1.8)	11 (8.7–13)	3 246	24	38 (31–46)
	2009	14	8.7 (7.2–10)	62 (51–75)	1.5 (1.2–1.8)	11 (8.5–13)	2 902	21	33 (28–41)
	2010	14	8.9 (7.3–11)	62 (51–74)	1 (0.82–1.3)	7.2 (5.7–8.8)	3 322	23	37 (31–46)
Guyana	1990	<1	0.65 (0.39–0.96)	89 (54–133)	0.29 (0.16–0.46)	40 (22–64)	168	23	26 (17–43)
	1995	<1	0.65 (0.53–0.78)	89 (73–108)	0.27 (0.18–0.37)	36 (25–50)	296	41	45 (38–56)
	2000	<1	0.76 (0.62–0.92)	104 (85–125)	0.24 (0.15–0.36)	33 (20–49)	422	58	55 (46–68)
	2005	<1	0.86 (0.7–1)	115 (94–139)	0.22 (0.18–0.26)	30 (24–35)	639	86	74 (62–91)
	2008	<1	0.85 (0.69–1)	113 (92–136)	0.21 (0.16–0.26)	28 (21–34)	653	87	77 (64–95)
	2009	<1	0.84 (0.69–1)	112 (91–134)	0.2 (0.15–0.26)	27 (21–34)	763	101	91 (75–111)
	2010	<1	0.84 (0.69–1)	111 (91–133)	0.2 (0.15–0.25)	26 (20–33)	712	94	85 (71–104)
Haiti	1990	7	18 (11–26)	247 (151–368)	2.3 (0.96–4.3)	33 (14–61)			–
	1995	8	19 (16–23)	247 (201–298)	5.9 (4.2–7.8)	75 (54–99)	6 212	79	32 (26–39)
	2000	9	23 (19–28)	271 (220–327)	6.5 (4.7–8.6)	75 (54–100)	10 420	121	44 (37–55)
	2005	9	25 (21–31)	272 (221–327)	6.2 (4.5–8.3)	67 (48–89)	14 311	153	56 (47–69)
	2008	10	24 (20–29)	246 (200–297)	5.8 (4.3–7.6)	60 (44–78)	14 602	150	61 (50–75)
	2009	10	24 (19–28)	238 (195–286)	5.3 (3.7–7.1)	54 (38–72)			–
	2010	10	23 (19–28)	230 (189–276)	4.6 (3.8–5.5)	46 (38–55)	14 222	142	62 (52–75)
Honduras	1990	5	6.1 (3.8–9)	125 (78–183)	0.69 (0.37–1.1)	14 (7.5–23)	3 647	75	60 (41–95)
	1995	6	7 (5.7–8.4)	125 (102–151)	0.99 (0.64–1.4)	18 (11–25)	4 984	89	71 (59–88)
	2000	6	7.2 (6.1–8.4)	116 (99–135)	0.93 (0.59–1.3)	15 (9.5–22)	6 406	103	89 (77–104)
	2005	7	6.1 (5–7.4)	89 (72–107)	0.64 (0.4–0.95)	9.4 (5.8–14)	3 333	48	55 (45–67)
	2008	7	4.7 (3.8–5.7)	64 (52–78)	0.55 (0.42–0.7)	7.6 (5.8–9.6)	2 829	39	60 (50–74)
	2009	7	4.3 (3.5–5.1)	58 (47–69)	0.52 (0.41–0.65)	7 (5.6–8.7)	2 924	39	68 (57–83)
	2010	8	3.9 (3.2–4.6)	51 (42–61)	0.49 (0.39–0.61)	6.5 (5.1–8)	2 876	38	74 (62–90)
Jamaica	1990	2	0.15 (0.11–0.21)	6.5 (4.6–8.8)	0.047 (0.029–0.069)	2 (1.2–2.9)	123	5	79 (59–113)
	1995	2	0.16 (0.13–0.19)	6.5 (5.3–7.9)	0.05 (0.034–0.07)	2 (1.4–2.8)	109	4	68 (56–83)
	2000	3	0.17 (0.14–0.2)	6.5 (5.3–7.9)	0.052 (0.036–0.072)	2 (1.4–2.8)	127	5	75 (62–92)
	2005	3	0.18 (0.14–0.21)	6.5 (5.3–7.9)	0.051 (0.031–0.075)	1.9 (1.2–2.8)	90	3	51 (43–63)
	2008	3	0.18 (0.14–0.21)	6.6 (5.3–7.9)	0.047 (0.032–0.065)	1.7 (1.2–2.4)	105	4	59 (49–72)
	2009	3	0.18 (0.15–0.21)	6.6 (5.4–7.9)	0.046 (0.029–0.067)	1.7 (1–2.5)	139	5	78 (65–95)
	2010	3	0.18 (0.15–0.21)	6.6 (5.4–7.8)	0.045 (0.031–0.061)	1.6 (1.1–2.2)	130	5	72 (61–88)
Mexico	1990	84	52 (31–77)	61 (37–91)	2.5 (1.3–4.1)	3 (1.5–4.9)	14 437	17	28 (19–46)
	1995	92	41 (33–49)	44 (36–53)	1.9 (1.2–2.8)	2.1 (1.3–3)	11 329	12	28 (23–34)
	2000	100	32 (26–38)	32 (26–38)	1.5 (0.91–2.1)	1.5 (<1–2.1)	18 434	18	58 (48–72)
	2005	106	24 (20–29)	23 (19–27)	1.1 (0.71–1.7)	1.1 (<1–1.6)	18 524	17	76 (63–94)
	2008	111	21 (18–24)	19 (16–21)	1 (0.66–1.5)	<1 (<1–1.3)	18 810	17	91 (80–104)
	2009	112	20 (17–22)	17 (15–20)	0.98 (0.73–1.3)	<1 (<1–1.1)	18 846	17	96 (84–112)
	2010	113	18 (16–21)	16 (14–19)	0.92 (0.68–1.2)	<1 (<1–1.1)	19 570	17	106 (91–124)
Montserrat	1990	<1	<0.01 (<0.01–<0.01)	7.9 (6.6–9.3)			1	9	118 (100–142)
	1995	<1	<0.01 (<0.01–<0.01)	8.4 (7.9–8.9)					–
	2000	<1	<0.01 (<0.01–<0.01)	8.9 (<1–18)			0	0	0
	2005	<1	<0.01 (<0.01–<0.01)	9.4 (7–12)			1	18	190 (146–256)
	2008	<1	<0.01 (<0.01–<0.01)	9.7 (<1–19)					–
	2009	<1	<0.01 (<0.01–<0.01)	9.8 (<1–20)					–
	2010	<1	<0.01 (<0.01–<0.01)	9.9 (<1–20)			0	0	0
Netherlands Antilles	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)					–
	1995	<1	<0.01 (<0.01–<0.01)	2.6 (2.3–3)					–
	2000	<1	<0.01 (<0.01–<0.01)	3.2 (2.8–3.6)			5	3	87 (77–100)
	2005	<1	<0.01 (<0.01–0.01)	5 (4.3–5.6)					–
	2008	<1	0.11 (0.086–0.13)	54 (44–65)					–
	2009	<1	0.054 (0.044–0.065)	27 (22–33)					–

[a] Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (in *italics*).
[b] Rates are per 100 000 population.

TABLE A3.2 **Incidence, notification and case detection rates, all forms, 1990–2010**

			INCIDENCE (INCLUDING HIV)		INCIDENCE HIV-POSITIVE		NOTIFIED NEW AND RELAPSE[a]		CASE DETECTION RATE[a]
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[b]	NUMBER (THOUSANDS)	RATE[b]	NUMBER	RATE[b]	PERCENT
Nicaragua	1990	4	4.4 (2.9–6.3)	108 (70–153)	0.023 (<0.01–0.046)	<1 (<1–1.1)	2 944	71	66 (47–102)
	1995	5	4 (3.2–4.8)	85 (69–103)	0.057 (0.03–0.093)	1.2 (<1–2)	2 842	61	72 (60–88)
	2000	5	3.4 (2.8–4.1)	68 (55–81)	0.081 (0.046–0.12)	1.6 (<1–2.5)	2 402	47	70 (58–86)
	2005	5	2.9 (2.4–3.5)	53 (44–64)	0.094 (0.055–0.14)	1.7 (1–2.6)	1 907	35	66 (55–81)
	2008	6	2.6 (2.2–3)	46 (40–54)	0.098 (0.059–0.15)	1.7 (1–2.6)	2 336	41	89 (77–105)
	2009	6	2.5 (2.2–2.9)	44 (38–51)	0.1 (0.06–0.15)	1.8 (1–2.6)	2 283	40	90 (78–106)
	2010	6	2.4 (2.1–2.8)	42 (36–49)	0.1 (0.074–0.13)	1.8 (1.3–2.3)	2 448	42	100 (87–117)
Panama	1990	2	1.1 (0.78–1.6)	47 (32–65)	0.046 (<0.01–0.12)	1.9 (<1–5)	846	35	74 (54–108)
	1995	3	1.3 (1–1.5)	47 (39–57)	0.28 (0.16–0.43)	10 (6–16)	1 300	49	102 (85–126)
	2000	3	1.4 (1.2–1.7)	47 (39–56)	0.3 (0.16–0.49)	10 (5.4–16)	1 169	40	83 (70–101)
	2005	3	1.5 (1.3–1.9)	47 (39–57)	0.2 (0.15–0.24)	6 (4.7–7.5)	1 637	51	107 (88–131)
	2008	3	1.6 (1.4–1.8)	47 (42–53)	0.29 (0.24–0.34)	8.5 (7.2–9.9)	1 532	45	95 (84–108)
	2009	3	1.6 (1.4–1.9)	48 (42–53)	0.26 (0.21–0.3)	7.4 (6.2–8.7)	1 539	44	94 (83–106)
	2010	4	1.7 (1.5–1.9)	48 (42–54)	0.27 (0.22–0.31)	7.6 (6.3–8.9)	1 496	43	89 (79–102)
Paraguay	1990	4	2.8 (2.6–3)	66 (61–72)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	2 167	51	77 (71–84)
	1995	5	2.5 (2.3–2.7)	52 (48–56)	0.03 (0.015–0.051)	<1 (<1–1.1)	1 745	36	70 (65–75)
	2000	5	2.6 (2.4–2.8)	49 (45–53)	0.043 (0.027–0.062)	<1 (<1–1.2)	1 950	36	74 (69–81)
	2005	6	2.9 (2.7–3.1)	49 (45–53)	0.051 (0.033–0.073)	<1 (<1–1.2)	2 075	35	72 (66–78)
	2008	6	3 (2.7–3.2)	48 (44–52)	0.056 (0.036–0.08)	<1 (<1–1.3)	2 222	36	75 (69–81)
	2009	6	3 (2.7–3.2)	47 (43–51)	0.057 (0.036–0.084)	<1 (<1–1.3)	2 346	37	79 (72–86)
	2010	6	3 (2.7–3.2)	46 (42–50)	0.058 (0.045–0.074)	<1 (<1–1.1)	2 277	35	77 (71–83)
Peru	1990	22	69 (42–100)	317 (193–472)	1.7 (0.82–2.9)	7.8 (3.8–13)	37 905	175	55 (37–91)
	1995	24	58 (47–69)	242 (197–291)	2.1 (1.3–3.1)	8.9 (5.6–13)	45 310	190	79 (65–97)
	2000	26	48 (39–57)	184 (150–221)	1.8 (1.2–2.6)	7 (4.5–10)	38 661	149	81 (68–99)
	2005	28	39 (32–45)	140 (118–165)	1.4 (0.92–2)	5.2 (3.3–7.4)	33 421	121	86 (73–103)
	2008	28	34 (30–38)	119 (104–135)	1.2 (0.8–1.7)	4.3 (2.8–6)	32 193	113	95 (84–108)
	2009	29	32 (28–37)	113 (98–128)	0.98 (0.59–1.5)	3.4 (2.1–5.1)	31 844	111	98 (87–113)
	2010	29	31 (27–35)	106 (93–121)	0.7 (0.42–1)	2.4 (1.5–3.6)	31 073	107	100 (89–115)
Puerto Rico	1990	4	0.21 (0.19–0.23)	5.9 (5.3–6.6)			159	5	76 (68–85)
	1995	4	0.3 (0.26–0.34)	8 (7–9.1)			262	7	88 (78–101)
	2000	4	0.19 (0.17–0.22)	5 (4.3–5.7)			174	5	91 (80–105)
	2005	4	0.13 (0.11–0.15)	3.4 (3–3.9)	0.039 (0.027–0.053)	1 (<1–1.4)	113	3	87 (77–100)
	2008	4	0.1 (0.089–0.12)	2.7 (2.4–3.1)	0.028 (0.018–0.039)	<1 (<1–1)	95	3	93 (82–107)
	2009	4	0.091 (0.082–0.1)	2.4 (2.2–2.7)	0.011 (<0.01–0.019)	<1 (<1–<1)	63	2	69 (63–77)
	2010	4	0.083 (0.072–0.095)	2.2 (1.9–2.5)	0.017 (<0.01–0.026)	<1 (<1–<1)	80	2	96 (84–111)
Saint Kitts and Nevis	1990	<1	<0.01 (<0.01–<0.01)	2.7 (<1–5.5)			0	0	0
	1995	<1	<0.01 (<0.01–<0.01)	13 (11–15)			5	12	89 (78–102)
	2000	<1	<0.01 (<0.01–<0.01)	7.9 (<1–16)			0	0	0
	2005	<1	<0.01 (<0.01–<0.01)	4.2 (<1–8.4)			0	0	0
	2008	<1	<0.01 (<0.01–<0.01)	6.6 (5.3–8.1)			5	10	148 (120–186)
	2009	<1	<0.01 (<0.01–<0.01)	7.2 (6.1–8.4)			4	8	107 (92–126)
	2010	<1	<0.01 (<0.01–<0.01)	7.6 (7.1–8.2)			2	4	50 (46–54)
Saint Lucia	1990	<1	0.026 (0.024–0.028)	19 (17–20)			13	9	50 (47–54)
	1995	<1	0.024 (0.022–0.025)	16 (15–17)			11	7	47 (44–50)
	2000	<1	0.021 (0.02–0.022)	13 (13–14)			9	6	43 (40–46)
	2005	<1	0.018 (0.016–0.02)	11 (9.4–12)			14	8	80 (71–90)
	2008	<1	0.015 (0.012–0.019)	9 (7.3–11)	<0.01 (<0.01–0.011)	3.1 (<1–6.4)	21	12	136 (113–169)
	2009	<1	0.015 (0.013–0.016)	8.5 (7.6–9.3)	<0.01 (<0.01–<0.01)	2.4 (<1–4.5)	10	6	68 (62–76)
	2010	<1	0.014 (0.013–0.015)	7.9 (7.2–8.7)			9	5	65 (59–72)
Saint Vincent and the Grenadines	1990	<1	0.029 (0.018–0.044)	27 (17–41)			2	2	7 (5–11)
	1995	<1	0.029 (0.023–0.035)	27 (22–32)			13	12	45 (38–56)
	2000	<1	0.028 (0.023–0.034)	26 (21–31)			16	15	57 (48–71)
	2005	<1	0.027 (0.022–0.033)	25 (20–30)	<0.01 (<0.01–0.015)	3.6 (<1–13)	7	6	26 (21–32)
	2008	<1	0.027 (0.022–0.032)	25 (20–30)	0.011 (<0.01–0.018)	9.8 (4–17)	12	11	45 (37–55)
	2009	<1	0.027 (0.022–0.032)	24 (20–29)	0.019 (<0.01–0.028)	18 (8.1–26)	9	8	34 (28–41)
	2010	<1	0.027 (0.022–0.032)	24 (20–29)	<0.01 (<0.01–0.017)	7.3 (1.6–15)	15	14	56 (47–69)
Sint Maarten (Dutch part)	2010	<1	<0.01 (<0.01–<0.01)	9.1 (7.9–10)			3	8	87 (77–100)
Suriname	1990	<1	0.27 (0.16–0.4)	66 (40–98)	<0.01 (<0.01–0.017)	1.8 (<1–4.2)	82	20	30 (21–50)
	1995	<1	0.22 (0.18–0.27)	51 (42–62)	0.041 (0.021–0.068)	9.4 (4.7–16)			–
	2000	<1	0.37 (0.3–0.45)	80 (65–96)	0.094 (0.06–0.14)	20 (13–29)	89	19	24 (20–29)
	2005	<1	0.5 (0.4–0.6)	100 (81–120)	0.13 (0.083–0.19)	26 (17–38)	117	23	23 (19–29)
	2008	<1	0.65 (0.53–0.78)	125 (102–151)	0.17 (0.11–0.25)	34 (22–48)	108	21	17 (14–21)
	2009	<1	0.7 (0.57–0.84)	135 (110–162)	0.18 (0.12–0.27)	35 (22–51)	177	34	25 (21–31)
	2010	<1	0.76 (0.62–0.91)	145 (118–173)	0.19 (0.12–0.28)	37 (23–53)	*179*	*34*	*24 (20–29)*
Trinidad and Tobago	1990	1	0.14 (0.12–0.16)	11 (9.9–13)	0.012 (<0.01–0.018)	1 (<1–1.5)	120	10	87 (77–99)
	1995	1	0.19 (0.17–0.22)	15 (13–17)	0.027 (0.016–0.041)	2.2 (1.3–3.3)	166	13	87 (77–99)
	2000	1	0.23 (0.2–0.26)	18 (15–20)	0.043 (0.027–0.062)	3.3 (2.1–4.8)	198	15	87 (77–99)
	2005	1	0.19 (0.17–0.22)	15 (13–16)	0.059 (0.043–0.078)	4.5 (3.2–5.9)	166	13	87 (77–99)
	2008	1	0.32 (0.28–0.36)	24 (21–27)	0.069 (0.053–0.087)	5.2 (4–6.6)	279	21	87 (77–99)
	2009	1	0.31 (0.27–0.35)	23 (21–26)	0.072 (0.054–0.094)	5.4 (4–7)	272	20	87 (77–99)
	2010	1	0.25 (0.22–0.29)	19 (16–21)	0.076 (0.062–0.091)	5.6 (4.6–6.8)	219	16	87 (77–99)
Turks and Caicos Islands	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)			0	0	–
	1995	<1	<0.01 (<0.01–<0.01)	37 (32–42)					–
	2000	<1	0.012 (0.011–0.014)	64 (56–72)					–
	2005	<1	<0.01 (<0.01–<0.01)	25 (22–29)					–
	2008	<1	<0.01 (<0.01–<0.01)	23 (20–26)					–
	2009	<1	<0.01 (<0.01–<0.01)	22 (19–25)					–
	2010	<1	<0.01 (<0.01–<0.01)	21 (18–24)	<0.01 (<0.01–<0.01)	4.2 (<1–14)	6	16	75 (66–85)
United States of America	1990	253	30 (26–34)	12 (10–13)	2.8 (1.8–4.1)	1.1 (<1–1.6)	25 701	10	86 (76–99)
	1995	266	26 (23–30)	9.8 (8.6–11)	2.5 (1.6–3.6)	<1 (<1–1.3)	22 728	9	87 (77–99)
	2000	282	19 (17–21)	6.7 (5.9–7.6)	1.9 (1.2–2.8)	<1 (<1–<1)	16 310	6	86 (76–98)
	2005	297	16 (14–18)	5.5 (4.8–6.2)	2.1 (1.8–2.4)	<1 (<1–<1)	14 080	5	87 (77–99)
	2008	305	15 (13–17)	4.8 (4.2–5.4)	1.5 (1.3–1.7)	<1 (<1–<1)	12 904	4	89 (78–101)
	2009	308	14 (12–15)	4.4 (3.9–5)	1.3 (1.1–1.5)	<1 (<1–<1)	11 545	4	85 (75–97)
	2010	310	13 (11–14)	4.1 (3.6–4.7)	1.1 (0.96–1.3)	<1 (<1–<1)	11 181	4	88 (77–100)
Uruguay	1990	3	0.86 (0.52–1.3)	28 (17–41)	0.031 (<0.01–0.068)	1 (<1–2.2)	886	28	103 (69–169)
	1995	3	0.84 (0.68–1)	26 (21–31)	0.046 (0.021–0.082)	1.4 (<1–2.5)	625	19	75 (62–92)
	2000	3	0.81 (0.66–0.98)	24 (20–29)	0.082 (0.051–0.12)	2.5 (1.5–3.7)	645	19	80 (66–98)
	2005	3	0.76 (0.62–0.91)	23 (19–27)	0.11 (0.083–0.14)	3.3 (2.5–4.2)	622	19	82 (68–100)
	2008	3	0.74 (0.64–0.84)	22 (19–25)	0.11 (0.092–0.14)	3.4 (2.8–4.2)	686	21	93 (82–107)
	2009	3	0.73 (0.63–0.83)	22 (19–25)	0.12 (0.093–0.14)	3.5 (2.8–4.3)	704	21	96 (84–111)
	2010	3	0.72 (0.62–0.84)	21 (18–25)	0.12 (0.094–0.15)	3.5 (2.8–4.4)	699	21	97 (84–113)
US Virgin Islands	1990	<1	<0.01 (<0.01–<0.01)	4.5 (3.9–5)			4	4	87 (77–100)
	1995	<1	<0.01 (<0.01–<0.01)	4.3 (3.7–4.9)			4	4	87 (77–100)
	2000	<1							–
	2005	<1							–
	2008	<1							–
	2009	<1							–
	2010	<1							–
Venezuela (Bolivarian Republic of)	1990	20	7 (4.9–9.4)	35 (25–48)			5 457	28	79 (58–112)
	1995	22	7.7 (6.2–9.2)	35 (28–42)			5 578	25	73 (60–89)
	2000	24	8.3 (6.8–10)	34 (28–41)			6 466	27	77 (64–95)
	2005	27	9 (7.3–11)	34 (27–41)			6 847	26	76 (63–93)
	2008	28	9.4 (7.6–11)	33 (27–40)	1.1 (0.85–1.3)	3.8 (3–4.7)	6 408	23	68 (57–84)
	2009	29	9.5 (7.8–11)	33 (27–40)	0.96 (0.77–1.2)	3.4 (2.7–4.1)	6 474	23	68 (57–83)
	2010	29	9.7 (7.9–12)	33 (27–40)	0.89 (0.71–1.1)	3.1 (2.5–3.7)	6 335	22	66 (55–80)

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[b] Rates are per 100 000 population.

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TABLE A3.3 **Case notifications, 1990–2010**

	NEW AND RELAPSE NOTIFICATION RATE[a] 1990–2010	YEAR	NEW AND RELAPSE[a]	NEW CASES: SMEAR-POSITIVE	NEW CASES: SMEAR-NEGATIVE/ UNKNOWN	NEW CASES: EXTRA-PULMONARY	NEW CASES: OTHER	RELAPSE	RE-TREAT EXCL. RELAPSE	TOTAL RETREAT	HISTORY UNKNOWN	% SMEAR-POS AMONG NEW PULM
Anguilla		1990	0									–
		1995	2	0	2	0		0		0		0
		2000										–
		2005										–
		2008										–
		2009										–
	• 0 7 •	2010	1	0	1	0	0	0	0	0	0	0
Antigua and Barbuda		1990	1									–
		1995	0									–
		2000	4	3	1	0		0		0		75
		2005	6	6	0	0	0	0	0	0	0	100
		2008	1	1	0	0	0	0	0	0	0	100
		2009	3	1	1	0	0	1	1	2	0	50
	• 2 7 •	2010	6	6	0	0	0	0	0	0	1	100
Argentina		1990	12 309									–
		1995	13 450	5 698	4 668	3 067						55
		2000	11 767	4 749	4 110	1 773		104	1 724	1 828		54
		2005	9 770	4 709	3 357	1 561	0	143	666	809	806	58
		2008	9 196	4 758	2 783	1 493	24	138	1 254	1 392		63
		2009	7 701	4 044	2 165	937	217	338	489	827		65
	• 38 18 •	2010	7 287	3 973	2 011	854	159	290	426	716	49	66
Aruba		1990										–
		1995										–
		2000										–
		2005										–
		2008										–
		2009										–
	– 6 •	2010	6	4	2							67
Bahamas		1990	46									–
		1995	57	38	11	8		1		1		78
		2000	82	56	23	4		0	0	0		71
		2005	48	30	8	7	1	2	2	4	0	79
		2008	48	31	10	5	0	2	2	4	1	76
		2009	45	26	10	5	0	4	1	5	0	72
	• 18 9 •	2010	31	19	3	7	1	1	1	2	0	86
Barbados		1990	5									–
		1995	3	3								–
		2000	3	3	0	0		0	0	0		100
		2005										–
		2008	3	1	2	0	0	0	0	0	0	33
		2009	2	2	0	0	0	0	0	0	0	100
	• 2 2 •	2010	6	6	0	0	0	0	0	0	0	100
Belize		1990	57									–
		1995	95	36	34	1		4		4		51
		2000	106	44	55	1		6	0	6		44
		2005	102	59	29	3	0	11	4	15	0	67
		2008	88	83				5		5		–
		2009	88	82	0		0	6	6	12	0	100
	• 30 47 •	2010	145	97	47	0	0	1	0	1	0	67
Bermuda		1990	0									–
		1995	4	2	2							50
		2000	0	0	0	0		0	0	0		–
		2005										–
		2008										–
		2009										–
	• 0 2 •	2010	1	1	0	0	0	0	0	0	0	100
Bolivia (Plurinational State of)		1990	11 166									–
		1995	14 422	7 010	1 408	1 133		63		63		83
		2000	10 127	6 458	1 565	1 288		451	1 630	2 081		80
		2005	9 748	6 278	1 250	1 673		547	225	772		83
		2008	9 070	6 048	893	1 693		436	154	590		87
		2009	8 847	5 937	699	1 742		469	263	732	18	89
	• 168 84 •	2010	8 345	5 613	630	1 694	0	408	257	665	18	90
Bonaire, Saint Eustatius and Saba		2010	0	0	0	0	0					–
Brazil		1990	74 570									–
		1995	91 013	45 650	29 291	13 814						61
		2000	77 899	41 186	23 622	10 457		2 634	8 700	11 334		64
		2005	80 209	42 093	23 990	11 037		3 089	6 548	9 637	466	64
		2008	73 395	37 697	22 665	10 122	10	2 901	8 263	11 164	0	62
		2009	75 040	39 267	22 144	10 275	14	3 340	6 478	9 818	3 641	64
	• 50 38 •	2010	74 395	37 932	23 030	10 017	18	3 398	7 551	10 949	0	62
British Virgin Islands		1990										–
		1995										–
		2000	1	1								–
		2005	0	0	0	0	0	0	0	0	0	–
		2008										–
		2009										–
	– 4 •	2010	1	1	0	0	0	0	0	0	0	100
Canada		1990	1 968	549	516	723	0	180		180	29	52
		1995	1 921	436	656	634	0	195		195	44	40
		2000	1 667	492	528	482	20	145		145	56	48
		2005	1 484	433	446	562	4	39	64	103	68	49
		2008	1 452	488	466	416	0	82	40	122	109	51
		2009	1 505	462	519	466	0	58	36	94	58	47
	• 7 4 •	2010	1 322	358	472	444	0	48	24	72	39	43
Cayman Islands		1990	2									–
		1995	2	0	2	1		0		0		0
		2000	5	5	0	0		0	0	0		100
		2005										–
		2008										–
		2009										–
	• 8 7 •	2010	4	2	2	0	0	0	0	0	0	50
Chile		1990	6 151									–
		1995	4 150	1 561	1 284	1 017		225		225		55
		2000	3 021	1 290	879	694		158		158		59
		2005	2 505	1 186	502	631		186	128	314		70
		2008	2 427	1 114	525	636		152	67	219		68
		2009	2 398	1 152	509	549	0	188	118	306	0	69
	• 47 14 •	2010	2 376	1 154	502	553	0	167	96	263	0	70
Colombia		1990	12 447									–
		1995	9 912	7 530	1 380	1 002						85
		2000	11 630	8 358	1 446	1 487		339		339		85
		2005	10 360	6 870	1 429	1 618		443		443		83
		2008	11 344	7 196	1 709	2 026	0	413	0	413	0	81
		2009	11 324	7 319	1 611	2 117	0	277	339	616	0	82
	• 37 25 •	2010	11 420	7 028	1 696	1 985	311	400	469	869	0	81

[a] Rates are per 100 000 population. Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (*in italics*).

TABLE A3.3 **Case notifications, 1990–2010**

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Costa Rica		1990	230									–
		1995	586	245	71	31		0		0		78
		2000	585	349	184	98		35		35		65
		2005	534	330	81	104		19	26	45		80
		2008	501	287	14	107	79	14	10	24		95
		2009	443	271	66	89		17	14	31		80
	• 7 11 •	2010	490	267	89	108	1	25	7	32	2	75
Cuba		1990	546									–
		1995	1 553	834	520	199		54		54		62
		2000	1 183	675	257	201		50	122	172		72
		2005	770	467	160	103		40	9	49	2	74
		2008	817	498	167	106		46	14	60		75
		2009	712	418	150	91	7	46	5	51	0	74
	• 5 7 •	2010	827	462	212	98	10	45	11	56	0	69
Curaçao		2010	5	5	0	0	0					100
Dominica		1990	6									–
		1995	8	5				3		3		–
		2000										–
		2005										–
		2008	13	3	9	0	0	1	3	4	0	25
		2009	4	4	0	0	0	0	1	1	0	100
	• 8 12 •	2010	8	8	0	0	0	0	0	0	0	100
Dominican Republic		1990	2 597									–
		1995	4 053	2 787	1 418	244		204		204		66
		2000	5 291	2 907	1 234	540		610		610		70
		2005	5 003	2 949	1 032	602		420	309	729		74
		2008	4 280	2 458	933	580	0	309	188	497	0	72
		2009	4 256	2 441	822	615	112	266	186	452	0	75
	• 36 40 •	2010	3 964	2 159	803	578	100	324	196	520	0	73
Ecuador		1990	8 243									–
		1995	7 893	5 890	2 237	420						72
		2000	6 908	5 064	1 338	400		106	280	386		79
		2005	4 416	3 048	635	330		403	392	795		83
		2008	4 845	3 380	435	609	0	421	357	778	0	89
		2009	4 703	3 317	369	584		433	323	756		90
	• 80 33 •	2010	4 832	3 373	404	655	0	400	263	663	0	89
El Salvador		1990	2 367									–
		1995	2 422		2 241	181						–
		2000	1 485	1 008	278	108		91	180	271		78
		2005	1 794	1 059	402	255		78	36	114	0	72
		2008	1 718	985	362	313	0	58	28	86	0	73
		2009	1 686	930	363	329	1	63	50	113	0	72
	• 44 27 •	2010	1 700	972	338	328	0	62	30	92	0	74
Grenada		1990	0									–
		1995	4	2								–
		2000	0	0	0	0		0	0	0		–
		2005										–
		2008	5	5	0	0	0	0	1	1	0	100
		2009	5	4	1	0	0	0	0	0	0	80
	• 0 4 •	2010	4	4	0	0	0	0	0	0	0	100
Guatemala		1990	3 813									–
		1995	3 119	2 368	546	205		249		249		81
		2000	2 913	2 052	518	202		141		141		80
		2005	3 365	2 420	588	256		101	58	159	438	80
		2008	3 246	2 070	326	346	372	132	70	202	0	86
		2009	2 902	1 609	170	207	828	88	40	128	0	90
	• 43 23 •	2010	3 322	2 121	265	348	436	152	29	181	0	89
Guyana		1990	168									–
		1995	296	85	187	22		2		2		31
		2000	422	119	231	34		38	46	84		34
		2005	639	240	352	33	6	8	17	25	0	41
		2008	653	320	242	61	0	30	87	117	0	57
		2009	763	328	301	78	0	56	149	205	0	52
	• 23 94 •	2010	712	325	274	75	0	38	124	162	0	54
Haiti		1990										–
		1995	6 212									–
		2000	10 420	5 887	2 930	1 367		236	110	346		67
		2005	14 311	7 340	5 292	1 484		195	33	228		58
		2008	14 602	8 171	4 655	1 463	0	313	60	373	0	64
		2009										–
	– 142 •	2010	14 222	8 242	4 335	1 307	0	338	43	381	0	66
Honduras		1990	3 647									–
		1995	4 984	2 306	2 214	232		100		100		51
		2000	6 406	3 404	2 396	370		236		236		59
		2005	3 333	2 069	721	362		181		181		74
		2008	2 829	1 897	451	330	0	151	33	184	0	81
		2009	2 924	1 881	520	331	0	192	33	225	0	78
	• 75 38 •	2010	2 876	1 842	482	382	0	170	25	195	0	79
Jamaica		1990	123									–
		1995	109	93	14	2		2		2		87
		2000	127	90	20	4		13		13		82
		2005	90	53	31	6	0	0	5	5	0	63
		2008	105	78	22	2	0	3	0	3	0	78
		2009	139	77	48	5	0	9	11	20	0	62
	• 5 5 •	2010	130	76	46	6	0	2	17	19	0	62
Mexico		1990	14 437									–
		1995	11 329	9 220	1 807	302						84
		2000	18 434	11 676	1 675	2 081		421	914	1 335		87
		2005	18 524	11 997	421	2 657	2 831	618	1 408	2 026		97
		2008	18 810	11 903	1 062	3 175	1 896	774	596	1 370	0	92
		2009	18 846	11 862	958	3 193	2 114	719	816	1 535	111	93
	• 17 17 •	2010	19 570	12 572	2 812	3 464	0	722	544	1 266	585	82
Montserrat		1990	1									–
		1995										–
		2000	0	0	0	0		0	0	0		–
		2005	1	1	0	0	0	0	0	0	0	100
		2008										–
		2009										–
	• 9 0 •	2010	0	0	0	0	0	0	0	0		–
Netherlands Antilles		1990										–
		1995										–
		2000	5	2	3	0	0	0	0	0	0	40
		2005										–
		2008										–
	– –	2009										–

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Nicaragua		1990	2 944									–
		1995	2 842	1 568	854	253		167		167		65
		2000	2 402	1 471	541	231		159		159		73
		2005	1 907	1 253	395	160		99	169	268	0	76
		2008	2 336	1 394	530	245	0	167	0	167	0	72
		2009	2 283	1 329	541	261	0	152	130	282	0	71
	• 71 42 •	2010	2 448	1 440	575	274	0	159	127	286	0	71
Panama		1990	846									–
		1995	1 300	1 066	114	28		108		108		90
		2000	1 169	460	589	74	5	41	93	134		44
		2005	1 637	860	505	216		56	191	247		63
		2008	1 532	829	402	251	0	50	141	191	52	67
		2009	1 539	755	452	287	0	45	190	235		63
	• 35 43 •	2010	1 496	707	425	287	0	77	134	211	0	62
Paraguay		1990	2 167	993								–
		1995	1 745	748	870	127		28		28		46
		2000	1 950	900	791	170		14	516	530		53
		2005	2 075	1 260	665	150			273	273		65
		2008	2 222	1 345	554	240	7	76	78	154	70	71
		2009	2 346	1 498	428	283	41	96	81	177	0	78
	• 51 35 •	2010	2 277	1 318	499	269	86	105	109	214	75	73
Peru		1990	37 905									–
		1995	45 310	32 096	7 803	5 411						80
		2000	38 661	22 580	6 018	5 682		4 381		4 381		79
		2005	33 421	18 490	5 592	5 335	809	3 195	1 794	4 989	326	77
		2008	32 193	17 989	5 176	5 137	831	3 060	1 474	4 534	0	78
		2009	31 844	17 391	5 203	5 380	871	2 999	1 325	4 324	0	77
	• 175 107 •	2010	31 073	17 264	5 201	5 185	647	2 776	1 404	4 180		77
Puerto Rico		1990	159									–
		1995	262	128	111	23						54
		2000	174	81	69	24						54
		2005	113	60	37	16	0	0	0	0	0	62
		2008	95	52	30	13	0	0	0	0	0	63
		2009	63	30	25	8	0	0	0	0	0	55
	• 5 2 •	2010	80	37	35	4	0	4	0	4	0	51
Saint Kitts and Nevis		1990	0									–
		1995	5	4								–
		2000	0	0	0	0		0	0	0		–
		2005	0	0	0	0	0	0	2	2		–
		2008	5	5	0	0	0	0	0	0	0	100
		2009	4	4	0	0	0	0	0	0	0	100
	• 0 4 •	2010	2	2	0	0	0	0	0	0	0	100
Saint Lucia		1990	13									–
		1995	11	11								–
		2000	9	7	1	0		1	2	3		88
		2005	14	11	1	0	0	2	0	2		92
		2008	21	18	1	1	0	1	0	1	0	95
		2009	10	7	0	1	0	2	1	3	0	100
	• 9 5 •	2010	9	9	0	0	0	0	0	0	0	100
Saint Vincent and the Grenadines		1990	2									–
		1995	13	5	7	0		4		4		42
		2000	16	9	4	0		3	0	3		69
		2005	7	6	1	0	0	0	0	0	0	86
		2008	12	11	0	0	0	1	3	4	0	100
		2009	9	3	6	0	0	0	2	2	0	33
	• 2 14 •	2010	15	8	7	0	0	0	2	2	0	53
Sint Maarten (Dutch part)		2010	3	3	0	0	0	0	0	0		100
Suriname		1990	82									–
		1995										–
		2000	89	37	40	12		0	1	1		48
		2005	117	49	54	6	2	6	2	8	0	48
		2008	108	68	24	13	1	2	5	7	0	74
		2009	177	149	14	9	0	5	10	15	1	91
	• 20 *34* •	2010	*179*									–
Trinidad and Tobago		1990	120									–
		1995	166	7	68	12		22		22		9
		2000	198	115	61	17		5	26	31		65
		2005	166	95	50	12	0	9	13	22		66
		2008	279	169	97	9	0	4	43	47	0	64
		2009	272	154	91	19	0	8	52	60	0	63
	• 10 16 •	2010	219	136	58	20	0	5	39	44	0	70
Turks and Caicos Islands		1990	0									–
		1995										–
		2000										–
		2005										–
		2008										–
		2009										–
	• 0 16 •	2010	6	3	1	1	0	1	1	2	0	75
United States of America		1990	25 701									–
		1995	22 728	8 093	10 795	3 835	5					43
		2000	16 310	5 883	7 204	3 211	12					45
		2005	14 080	5 111	6 030	2 939	0					46
		2008	12 904	4 742	5 515	2 638	9					46
		2009	11 545	4 014	4 990	2 383	158					45
	• 10 4 •	2010	11 181	3 695	4 990	2 134	362					43
Uruguay		1990	886									–
		1995	625	349	178	78		20		20		66
		2000	645	348	165	77		39		39		68
		2005	622	355	147	73	32	15	4	19		71
		2008	686	424	159	72	0	31	25	56	0	73
		2009	704	409	192	66	0	37		37		68
	• 28 21 •	2010	699	368	218	72	0	41	0	41	0	63
US Virgin Islands		1990	4									–
		1995	4	2	2	0						50
		2000										–
		2005										–
		2008										–
		2009										–
	• 4 –	2010										–
Venezuela (Bolivarian Republic of)		1990	5 457									–
		1995	5 578	3 056	1 517	709		272		272		67
		2000	6 466	3 525	1 616	948		377		377		69
		2005	6 847	3 653	1 853	1 094		247	103	350		66
		2008	6 408	3 344	1 599	1 116	114	235	197	432	0	68
		2009	6 474	3 436	1 665	1 112	0	261	167	428	0	67
	• 28 22 •	2010	6 335	3 252	1 758	1 077	0	248	194	442	116	65

[a] Rates are per 100 000 population. Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (*in italics*).

TABLE A3.4 **Treatment outcomes, new smear-positive cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Anguilla		1995	0		–						
		2000			–						
		2005			–						
		2007	0		–						
		2008			–						
	– –	2009		0	–						
Antigua and Barbuda		1995			–						
		2000	3	4	133	100	0	0	0	0	0
		2005	6	6	100	50		33			17
		2007	2	2	100	0	50	0	0	50	0
		2008	1	1	100	100	0	0	0	0	0
	– 67 •	2009	1	3	300	67	0	33	0	0	0
Argentina		1995	5 698	5 707	100	5	7	1	0	3	84
		2000	4 749	5 177	109	26	20	5	0	6	43
		2005	4 709	4 709	100	19	34	5	0	5	37
		2007	4 985	5 036	101	26	36	5	0	11	21
		2008	4 758	2 577	54	24	19	4	0	5	47
	• 12 46 •	2009	4 044	5 062	125	19	26	4	0	7	43
Aruba		1995			–						
		2000			–						
		2005			–						
		2007			–						
		2008			–						
	– –	2009		6	–						
Bahamas		1995	38		–						
		2000	56		–						
		2005	30	30	100	17	40	17	7	20	0
		2007	32	32	100	6	56	13	0	25	0
		2008	31	31	100	32	42	6	3	10	6
	– 81 •	2009	26	26	100	12	69	8	0	12	0
Barbados		1995	3		–						
		2000	3		–						
		2005		11	–	45	45	9			0
		2007	8	8	100	100	0	0	0	0	0
		2008	1	3	300	100	0	0	0	0	0
	– 100 •	2009	2	2	100	100	0	0	0	0	0
Belize		1995	36	29	81	52	0	10	3	28	7
		2000	44	45	102	78	0	9	0	2	11
		2005	59	59	100	56	19	12	2	12	0
		2007	54	63	117	44	2	6	3	13	32
		2008	83	82	99	83	0	17	0	0	0
	• 52 –	2009	82		–						
Bermuda		1995	2		–						
		2000	0		–						
		2005			–						
		2007			–						
		2008			–						
	– –	2009		1	–	0	0	0	0	0	100
Bolivia (Plurinational State of)		1995	7 010	7 010	100	53	9	4	1	9	24
		2000	6 458	6 212	96	73	6	4	1	9	7
		2005	6 278	6 278	100	76	2	3	1	5	12
		2007	5 686	5 686	100	82	2	4	1	5	5
		2008	6 048	6 048	100	82	2	4	1	5	7
	• 62 86 •	2009	5 937	5 897	99	84	1	4	1	5	4
Bonaire, Saint Eustatius and Saba		2009		0	–	–	–	–	–	–	–
Brazil		1995	45 650	45 650	100	17	0	1	1	3	79
		2000	41 186	34 007	83	49	22	4	0	9	16
		2005	42 093	42 093	100	31	44	5	1	9	9
		2007	38 444	38 133	99	33	39	5	1	10	12
		2008	37 697	40 714	108	33	38	5	1	9	14
	• 17 72 •	2009	39 267	40 818	104	31	41	5	1	10	11
British Virgin Islands		1995			–						
		2000	1	1	100			100			0
		2005	0		–						
		2007	0		–						
		2008			–						
	– 100 •	2009		1	–	0	100	0	0	0	0
Canada		1995	436		–						
		2000	492	492	100	22	13	5		1	59
		2005	433	459	106	8	59	9	0	1	22
		2007	463	813	176	5	59	10	0	2	24
		2008	488	919	188	12	65	9	0	1	13
	– 75 •	2009	462	850	184	10	65	7	0	0	17
Cayman Islands		1995	0		–						
		2000	5	5	100	0	40	0	0	0	60
		2005		1	–	0	0	0	0	100	0
		2007	1		–						
		2008			–						
	– 50 •	2009		2	–	50	0	0	0	0	50
Chile		1995	1 561	1 111	71	79		7	0	8	5
		2000	1 290	1 360	105	82		9	0	6	3
		2005	1 186	1 147	97	83	0	9	0	6	2
		2007	1 166	1 143	98	78	7	9	0	6	0
		2008	1 114	1 259	113	72		9	0	7	12
	• 79 72 •	2009	1 152	1 365	118	61	11	9	0	7	12
Colombia		1995	7 530		–						
		2000	8 358	1 634	20	70	10	5	1	8	6
		2005	6 870	7 778	113	63	9	6	1	7	14
		2007	7 188	7 027	98	66	11	7	1	9	6
		2008	7 196	7 288	101	67	9	6	2	8	8
	– 77 •	2009	7 319	6 899	94	68	9	6	2	9	6
Costa Rica		1995	245		–						
		2000	349	349	100	43	14	10	1	12	19
		2005	330	306	93	85	4	5	2	3	1
		2007	322	296	92	83	5	3	2	4	3
		2008	287	280	98	86	3	5	1	2	3
	– 54 •	2009	271	166	61	49	4	5	1	1	39
Cuba		1995	834	834	100	90	0	4	3	2	2
		2000	675	673	100	91	2	4	1	1	1
		2005	467	466	100	90	2	6	1	1	1
		2007	432	430	100	89	3	6	0	1	1
		2008	498	496	100	88	0	8	1	2	0
	• 90 90 •	2009	418	415	99	87	3	7	2	1	0
Curaçao		2009		5	–						

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

Data can be downloaded from www.who.int/tb/data

TABLE A3.4 **Treatment outcomes, new smear-positive cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Dominica		1995	5		–						
		2000			–						
		2005			–						
		2007	3	3	100	67	0	0	0	33	0
		2008	3	3	100	100	0	0	0	0	0
	– 100 •	2009	4	4	100	100	0	0	0	0	0
Dominican Republic		1995	2 787	2 007	72	43	21	5	2	13	16
		2000	2 907	2 760	95	37	34	5	2	19	4
		2005	2 949	2 697	91	80	5	4	2	7	3
		2007	2 373	2 373	100	72	5	3	1	8	10
		2008	2 458	2 458	100	71	4	3	1	8	12
	• 64 85 •	2009	2 441	2 441	100	79	6	4	2	7	2
Ecuador		1995	5 890	5 236	89		39	2	8	14	37
		2000	5 064		–						
		2005	3 048	2 150	71	81	3	3	3	6	5
		2007	3 448	3 448	100	72	3	3	3	6	12
		2008	3 380	3 380	100	74	4	4	4	8	7
	• 39 75 •	2009	3 317	3 330	100	71	4	4	3	8	11
El Salvador		1995			–						
		2000	1 008	1 008	100	78	1	7	1	5	8
		2005	1 059	1 059	100	91	0	4	1	2	1
		2007	942	942	100	90	1	6	1	3	0
		2008	985	985	100	91	1	5	1	3	0
	– 89 •	2009	930	930	100	88	1	5	4	2	0
Grenada		1995	2		–						
		2000	0		–						
		2005		6	–	67		33			0
		2007	3	3	100		100				0
		2008	5	6	120	33		67			0
	– 50 •	2009	4	4	100	50		50			0
Guatemala		1995	2 368	2 368	100	56	5	3	1	4	31
		2000	2 052	1 908	93	75	11	5	1	7	1
		2005	2 420		–						
		2007	2 348	1 920	82	78	7	5	2	8	2
		2008	2 070	2 070	100	79	4	5	1	9	2
	• 61 83 •	2009	1 609	2 121	132	77	6	6	1	9	1
Guyana		1995	85	296	348	10	34	11	1	38	6
		2000	119	119	100	43	13	12	5	24	3
		2005	240	257	107	2	57	7		26	9
		2007	233	309	133	10	61	7	2	14	6
		2008	320	340	106	14	55	5	2	16	8
	• 44 70 •	2009	328	328	100	13	57	8	1	19	2
Haiti		1995		3 081	–		70	4	1	21	3
		2000	5 887	5 887	100	57	14	5	1	13	10
		2005	7 340	7 340	100	72	8	6	1	7	6
		2007	7 915	7 915	100	71	11	5	1	7	5
		2008	8 171		–						
	• 70 79 •	2009		8 435	–	67	12	5	1	8	7
Honduras		1995	2 306	2 226	97	39	25	7	0	4	25
		2000	3 404	2 362	69	81	5	6	1	5	3
		2005	2 069	1 905	92	81	7	5	0	4	3
		2007	1 974	1 830	93	80	5	6	0	5	4
		2008	1 897	1 888	100	80	6	5	1	6	3
	• 64 86 •	2009	1 881	1 881	100	79	6	6	1	6	2
Jamaica		1995	93	93	100	2	65	10	1	17	5
		2000	90	99	110	5	40	23	0	11	20
		2005	53	53	100	4	53	13	0	26	4
		2007	78	78	100	14	42	15	0	8	21
		2008	78	78	100	13	51	10	0	10	15
	• 67 70 •	2009	77	76	99	55	14	14	0	11	5
Mexico		1995	9 220	9 220	100	69	6	4	3	12	6
		2000	11 676	11 538	99	64	12	6	1	9	8
		2005	11 997	12 172	101	71	6	5	1	6	11
		2007	11 531	11 432	99	78	5	6	1	6	3
		2008	11 903	11 840	99	81	4	6	1	5	3
	• 75 86 •	2009	11 862	11 821	100	82	4	6	1	5	2
Montserrat		1995			–						
		2000	0		–						
		2005	1		–						
		2007	1		–						
		2008			–						
	– –	2009		0	–	–	–	–	–	–	–
Netherlands Antilles		1995			–						
		2000	2	5	250			20			80
		2005			–						
		2007			–						
	– –	2008			–						
Nicaragua		1995	1 568	1 536	98	66	14	4	2	10	4
		2000	1 471	1 437	98	70	13	5	1	9	2
		2005	1 253	1 496	119	73	13	5	2	6	3
		2007	1 453	1 708	118	72	14	3	1	6	3
		2008	1 394	1 481	106	73	16	3	1	7	0
	• 80 85 •	2009	1 329	1 552	117	69	16	4	1	7	3
Panama		1995	1 066	1 388	130	10	60	14	1	13	3
		2000	460	460	100	27	33	7	2	22	10
		2005	860	873	102	68	12	8	0	10	1
		2007	833	858	103	61	18	6	0	14	1
		2008	829	883	107	67	13	7	0	13	0
	• 69 80 •	2009	755	768	102	65	16	7	1	12	0
Paraguay		1995	748	748	100	8	43	3	0	17	29
		2000	900	900	100	21	45	5	0	22	7
		2005	1 260	1 452	115	46	33	5		8	7
		2007	1 276	1 279	100	64	19	5	0	7	5
		2008	1 345	1 350	100	68	12	5	0	6	8
	• 51 80 •	2009	1 498	1 467	98	75	5	7	0	5	7
Peru		1995	32 096	28 185	88	75	9	3	2	6	6
		2000	22 580	22 230	98	90	0	2	2	3	4
		2005	18 490	14 793	80	91		2	2	4	1
		2007	17 796	14 056	79	87	5	2	2	4	1
		2008	17 989	14 805	82	78	4	3	1	6	8
	• 83 81 •	2009	17 391	14 212	82	70	11	3	1	6	9

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

TABLE A3.4 **Treatment outcomes, new smear-positive cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Puerto Rico		1995	128	128	100		68	23		8	2
		2000	81	81	100		64	31		5	0
		2005	60	60	100	75	0	22	0	3	0
		2007	56	56	100	86	0	9	0	2	4
		2008	52	43	83	0	63	33	0	5	0
	• 68 81 •	2009	30	37	123	81	0	16	0	0	3
Saint Kitts and Nevis		1995	4	5	125	20	40	20	0	20	0
		2000	0		–						
		2005	0		–						
		2007	4	4	100	0	25	50	0	0	25
		2008	5	5	100		80	0	0	0	20
	• 60 80 •	2009	4	5	125	80	0	0	0	0	20
Saint Lucia		1995	11		–						
		2000	7	8	114	88	13	0	0	0	0
		2005	11	13	118	15	54	31	0	0	0
		2007	18	19	106	11	74	11	0	5	0
		2008	18	18	100	28	67	6	0	0	0
	– 57 •	2009	7	7	100		57	29	0	14	0
Saint Vincent and the Grenadines		1995	5		–						
		2000	9	13	144	100	0	0	0	0	0
		2005	6		–						
		2007	4		–						
		2008	11	4	36		100	0	0	0	0
	– –	2009	3	1	33	0	0	0	0	0	100
Sint Maarten (Dutch part)		2009			–						
Suriname		1995		51	–	10	4	12		8	67
		2000	37	37	100	49	19	16	0	14	3
		2005	49		–						
		2007			–						
		2008	68	71	104	38	21	13	0	24	4
	• 14 –	2009	149		–						
Trinidad and Tobago		1995	7	78	1 114	49	21	19	1	10	0
		2000	115	194	169	22	46	11	2	6	13
		2005	95	106	112	68	4	12		16	0
		2007	130	144	111	61	4	15	2	18	0
		2008	169	169	100	65	2	15	4	14	0
	• 69 69 •	2009	154	154	100	61	8	14	1	14	1
Turks and Caicos Islands		1995			–						
		2000		2	–	0	0	0	0	100	0
		2005		3	–	33	33	0	0	0	33
		2007			–						
		2008			–						
	– –	2009			–						
United States of America		1995	8 093	8 116	100		76	15		4	6
		2000	5 883	5 901	100		83	11		3	3
		2005	5 111	5 136	100		84	8	2		6
		2007	4 864	4 881	100		85	8	3		5
		2008	4 742	3 709	78		85	9		2	5
	• 76 60 •	2009	4 014	7 460	186		60	6		1	32
Uruguay		1995	349	370	106	41	27	10	1	4	17
		2000	348	344	99	85	0	13	1	1	0
		2005	355	345	97	80	4	11	0	4	1
		2007	380	373	98	82	2	11	0	6	0
		2008	424	422	100	77	7	9	1	5	2
	• 68 80 •	2009	409	406	99	73	7	12	0	6	2
US Virgin Islands		1995	2	2	100	50		0	0	0	50
		2000			–						
		2005			–						
		2007			–						
		2008			–						
	• 50 –	2009			–						
Venezuela (Bolivarian Republic of)		1995	3 056	3 056	100	68	6	4	1	8	13
		2000	3 525	3 390	96	76	0	4	0	13	6
		2005	3 653	3 581	98	83		5	0	10	2
		2007	3 392	3 336	98	82	0	5	0	11	2
		2008	3 344	3 301	99	83	0	4	0	11	1
	• 74 84 •	2009	3 436	3 433	100	84	0	4	0	11	1

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

Data can be downloaded from www.who.int/tb/data

TABLE A3.5 **Treatment outcomes, retreatment cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Anguilla		1995	0		–						
		2000			–						
		2005			–						
		2007	0		–						
		2008			–						
	– –	2009		0	–						
Antigua and Barbuda		1995			–						
		2000	0		–						
		2005	0		–						
		2007	0		–						
		2008	0	0	–	–	–	–	–	–	–
	– 100 •	2009	2	1	50	100	0	0	0	0	0
Argentina		1995			–						
		2000	1 828		–						
		2005	809	1 615	200	7	26	5	0	9	53
		2007	618	1 083	175	14	29	6	1	16	34
		2008	1 392	374	27	10	16	6	1	9	59
	– 30 •	2009	827	893	108	10	20	4	1	13	52
Aruba		1995			–						
		2000			–						
		2005			–						
		2007			–						
		2008			–						
	– –	2009			–						
Bahamas		1995	1		–						
		2000	0		–						
		2005	4	4	100	25	50	0	0	25	0
		2007	3	1	33	0	100	0	0	0	0
		2008	4	3	75	0	33	33	0	0	33
	– 80 •	2009	5	5	100	20	60	20	0	0	0
Barbados		1995			–						
		2000	0		–						
		2005			–						
		2007	0	0	–	–	–	–	–	–	–
		2008	0	0	–	–	–	–	–	–	–
	– –	2009	0	0	–	–	–	–	–	–	–
Belize		1995	4	13	325	23	0	23	8	38	8
		2000	6		–						
		2005	15	14	93	57	29	14	0	0	0
		2007	7		–						
		2008	5	0	0	–	–	–	–	–	–
	• 23 –	2009	12		–						
Bermuda		1995			–						
		2000	0		–						
		2005			–						
		2007			–						
		2008			–						
	– –	2009		0	–	–	–	–	–	–	–
Bolivia (Plurinational State of)		1995	63	462	733	57	9	7	5	15	7
		2000	2 081	804	39	49	11	12	2	8	16
		2005	772	772	100	63	3	5	3	7	19
		2007	652	652	100	73	3	4	2	10	9
		2008	590	590	100	72	4	8	2	7	7
	• 66 78 •	2009	732	598	82	73	5	7	2	7	7
Bonaire, Saint Eustatius and Saba		2009		0	–	–	–	–	–	–	–
Brazil		1995			–						
		2000	11 334	7 859	69	30	10	4	0	14	41
		2005	9 637	9 479	98	26	22	7	2	19	25
		2007	8 634	9 519	110	18	33	8	1	23	17
		2008	11 164	9 494	85	18	32	8	2	25	15
	– 42 •	2009	9 818	10 664	109	15	28	8	2	23	24
British Virgin Islands		1995			–						
		2000			–						
		2005	0		–						
		2007	0		–						
		2008			–						
	– –	2009		0	–	–	–	–	–	–	–
Canada		1995	195		–						
		2000	145	145	100	16	16	6	1	2	60
		2005	103	106	103	8	59	7	0	3	23
		2007	109	110	101	4	59	6	2	3	26
		2008	122	126	103	7	71	10	0	0	11
	– 64 •	2009	94	95	101	4	60	7	0	1	27
Cayman Islands		1995	0		–						
		2000	0		–						
		2005		0	–	–	–	–	–	–	–
		2007	2		–						
		2008			–						
	– –	2009		0	–	–	–	–	–	–	–
Chile		1995	225		–						
		2000	158	150	95	32	26	8	1	18	15
		2005	314	140	45	69	3	14	1	9	3
		2007	226	212	94	29		3	0	9	58
		2008	219	231	105	22		8	1	10	59
	– 24 •	2009	306	219	72	15	9	7	2	7	60
Colombia		1995			–						
		2000	339		–						
		2005	443	0	0	–	–	–	–	–	–
		2007	423		–						
		2008	413		–						
	– –	2009	616		–						
Costa Rica		1995	0		–						
		2000	35	69	197	23	9	10	3	25	30
		2005	45	49	109	55	12	4	2	24	2
		2007	42	34	81	59	9	9	3	21	0
		2008	24	32	133	56	28	3		6	6
	– 0 •	2009	31	2	6	0	0	50	0	0	50
Cuba		1995	54	55	102	82	0	7	5	5	0
		2000	172	58	34	78	7	10	3	2	0
		2005	49	48	98	67		6	4	2	21
		2007	59	58	98	83		14		3	0
		2008	60	56	93	64	16	18	0	2	0
	• 82 74 •	2009	51	61	120	69	5	15	5	7	0
Curaçao		2009			–						

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

Region of the Americas

TABLE A3.5 **Treatment outcomes, retreatment cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Dominica		1995	3		–						
		2000			–						
		2005			–						
		2007	0	1	–	0	0	0	0	100	0
		2008	4	0	0	–	–	–	–	–	–
	– –	2009	1	0	0	–	–	–	–	–	–
Dominican Republic		1995	204		–						
		2000	610	498	82	29	26	3	4	27	11
		2005	729	530	73	56	5	7	8	19	6
		2007	565	565	100	34	4	4	5	16	37
		2008	497	497	100	0	0	0	0	0	100
	– 53 •	2009	452	434	96	47	6	13	5	29	0
Ecuador		1995			–						
		2000	386		–						
		2005	795	554	70	56	8	5	10	12	9
		2007	831	831	100	39	8	5	7	10	31
		2008	778	778	100	61	8	7	8	15	0
	– 55 •	2009	756	756	100	46	9	6	8	16	16
El Salvador		1995			–						
		2000	271	181	67	63	3	9	3	18	3
		2005	114	114	100	68	0	6	4	13	8
		2007	86	86	100	81	1	3	0	14	0
		2008	86	86	100	84	0	8	0	5	3
	– 88 •	2009	113	113	100	85	3	3	1	8	1
Grenada		1995			–						
		2000	0		–						
		2005			–						
		2007	0		–						
		2008	1	0	0						
	– –	2009	0	0	–						
Guatemala		1995	249	254	102	59	15	4	2	4	17
		2000	141	164	116	63	16	4	4	10	2
		2005	159		–						
		2007	197	199	101	65	8	5	7	11	5
		2008	202	202	100	55	10	8	6	16	5
	• 73 64 •	2009	128	181	141	55	8	5	7	20	4
Guyana		1995	2		–						
		2000	84	38	45	24	29	13	5	26	3
		2005	25	23	92	22	35	9	9	13	13
		2007	78	95	122	3	51	12	4	26	4
		2008	117	146	125	4	22	10	2	24	38
	– 51 •	2009	205	205	100	0	51	14	0	18	17
Haiti		1995			–						
		2000	346	55	16	42	15	5	7	22	9
		2005	228	228	100	63	7	3	0	13	14
		2007	374	367	98	59	10	10	3	10	8
		2008	373		–						
	– 69 •	2009		381	–	49	20	7	3	10	11
Honduras		1995	100		–						
		2000	236	180	76	44	10	8	2	6	29
		2005	181	169	93	59	9	6	2	17	7
		2007	189	189	100	0	100	0	0	0	0
		2008	184	145	79	65	6	10	3	14	3
	– 57 •	2009	225	192	85	50	7	10	1	10	22
Jamaica		1995	2	6	300	0	67	17	0	17	0
		2000	13		–						
		2005	5	5	100		20			80	0
		2007	2	0	0	–	–	–	–	–	–
		2008	3	3	100	0	67	0	0	33	0
	• 67 74 •	2009	20	19	95	16	58	5	0	21	0
Mexico		1995			–						
		2000	1 335	138	10	33	4	8	7	12	36
		2005	2 026	1 456	72	48	7	7	4	14	20
		2007	1 656	1 806	109	58	8	5	9	13	7
		2008	1 370	1 829	134	55	7	11	4	11	11
	– 61 •	2009	1 535	1 229	80	56	5	9	6	10	14
Montserrat		1995			–						
		2000	0		–						
		2005	0		–						
		2007	0		–						
		2008			–						
	– –	2009		0	–	–	–	–	–	–	–
Netherlands Antilles		1995			–						
		2000	0		–						
		2005			–						
		2007			–						
	– –	2008			–						
Nicaragua		1995	167	289	173	69	10	4	3	11	3
		2000	159	230	145	65	10	6	2	15	2
		2005	268	181	68	71	12	7	2	7	2
		2007	296	228	77	72	6	5	3	9	5
		2008	167	150	90	97	0	0	0	3	0
	• 78 76 •	2009	282	178	63	70	6	3	6	11	3
Panama		1995	108		–						
		2000	134	42	31	19	24	2	0	48	7
		2005	247	237	96	23	35	9	4	22	7
		2007	228	233	102	19	30	11	2	36	2
		2008	191	238	125	16	30	9	2	42	1
	– 48 •	2009	235	203	86	18	30	10	0	37	4
Paraguay		1995	28		–						
		2000	530	144	27	19	40	6	1	25	9
		2005	273	164	60	44	26	4		10	16
		2007	163	160	98	49	21	4	1	14	11
		2008	154	164	106	46	14	9	1	10	21
	– 56 •	2009	177	188	106	47	9	9	4	11	20
Peru		1995			–						
		2000	4 381	4 521	103	78	0	4	7	6	4
		2005	4 989	2 299	46	78		5	5	11	1
		2007	5 141	2 201	43	74	7	3	3	11	1
		2008	4 534		–						
	– 70 •	2009	4 324	2 163	50	49	21	4	2	12	12

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

Data can be downloaded from www.who.int/tb/data

TABLE A3.5 **Treatment outcomes, retreatment cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Puerto Rico		1995			–						
		2000			–						
		2005	0	113	–		73	23	0	4	1
		2007	0	0	–	–	–	–	–	–	–
		2008	0	0	–	–	–	–	–	–	–
	– –	2009	0	0	–	–	–	–	–	–	–
Saint Kitts and Nevis		1995			–						
		2000	0		–						
		2005	2	2	100		50				50
		2007	0	0	–	–	–	–	–	–	–
		2008	0	0	–	–	–	–	–	–	–
	– –	2009	0	0	–	–	–	–	–	–	–
Saint Lucia		1995			–						
		2000	3	1	33	100	0	0	0	0	0
		2005	2		–						
		2007	1	1	100	100	0	0	0	0	0
		2008	1	1	100	0	0	0	100	0	0
	– 33 •	2009	3	3	100		33	67	0	0	0
Saint Vincent and the Grenadines		1995	4		–						
		2000	3	3	100	100	0	0	0	0	0
		2005	0		–						
		2007	6		–						
		2008	4	4	100	0	0	0	0	100	0
	– 0 •	2009	2	1	50	0	0	0	0	100	0
Sint Maarten (Dutch part)		2009			–						
Suriname		1995			–						
		2000	1		–						
		2005	8		–						
		2007			–						
		2008	7	3	43	0	33	0	0	33	33
	– –	2009	15		–						
Trinidad and Tobago		1995	22		–						
		2000	31	22	71	23	45	14	9	9	0
		2005	22	21	95	19	38	29		14	0
		2007	52	51	98	27	2	37	0	31	2
		2008	47	47	100	32	4	11	6	47	0
	– 68 •	2009	60	60	100	48	20	15	0	17	0
Turks and Caicos Islands		1995			–						
		2000			–						
		2005		3	–	33	33	33	0	0	0
		2007			–						
		2008			–						
	– –	2009			–						
United States of America		1995			–						
		2000			–						
		2005			–						
		2007	0		–						
		2008			–						
	– –	2009			–						
Uruguay		1995	20	25	125	56	20	16	0	8	0
		2000	39		–						
		2005	19	30	158	57	17	13	3	7	3
		2007	47	45	96	69	4	20	0	4	2
		2008	56	57	102	60	12	14	0	14	0
	• 76 56 •	2009	37	41	111	46	10	34	0	7	2
US Virgin Islands		1995			–						
		2000			–						
		2005			–						
		2007			–						
		2008			–						
	– –	2009			–						
Venezuela (Bolivarian Republic of)		1995	272		–						
		2000	377		–						
		2005	350	247	71	80		4	2	12	2
		2007	351	248	71	79	0	6	2	12	1
		2008	432	227	53	84	0	5	1	10	0
	– 80 •	2009	428	261	61	80	0	4	2	13	2

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

TABLE A3.6 **HIV testing and provision of CPT, ART and IPT, 2005–2010**

	% OF TB PATIENTS WITH KNOWN HIV STATUS 2005–2010	YEAR	% OF TB PATIENTS WITH KNOWN HIV STATUS	NUMBER OF TB PATIENTS WITH KNOWN HIV STATUS	PATIENTS NOTIFIED (NEW AND RETREAT)	NUMBER OF HIV-POSITIVE TB PATIENTS	% OF TESTED TB PATIENTS HIV-POSITIVE	% OF HIV-POSITIVE TB PATIENTS ON CPT	% OF HIV-POSITIVE TB PATIENTS ON ART	NUMBER OF HIV-POSITIVE PEOPLE PROVIDED IPT
Anguilla		2005	–				–	–	–	
		2008	–				–	–	–	
		2009	–				–	–	–	
	– 0	2010	0	0	1	0	–	–	–	
Antigua and Barbuda		2005	100	6	6	3	50	100	100	0
		2008	100	1	1	0	0	–	–	
		2009	100	4	4	0	0	–	–	0
	100 86	2010	86	6	7	5	83	20	100	0
Argentina		2005	–		11 242		–	–	–	
		2008	7	715	10 450	375	52	84	84	
		2009	13	1 093	8 190	530	48	–	–	
	– 13	2010	13	1 008	7 762	566	56	–	–	
Aruba		2005	–				–	–	–	
		2008	–				–	–	–	
		2009	–				–	–	–	
	– –	2010	–		6		–	–	–	
Bahamas		2005	–		50		–	–	–	
		2008	88	45	51	17	38	59	65	2
		2009	100	46	46	15	33	40	67	
	– 100	2010	100	32	32	15	47	27	67	
Barbados		2005	–	8		2	25	–	–	
		2008	100	3	3	2	67	100	100	0
		2009	100	2	2		–	–	–	0
	– 100	2010	100	6	6	2	33	–	100	
Belize		2005	100	106	106	25	24	68	68	409
		2008	100	88	88	18	20	100	100	
		2009	95	89	94	17	19	100	100	
	100 99	2010	99	143	145	29	20	100	100	
Bermuda		2005	–	1			–	–	–	
		2008	–				–	–	–	
		2009	–				–	–	–	
	– 100	2010	100	1	1	0	0	–	–	
Bolivia (Plurinational State of)		2005	0	0	9 973	0	–	–	–	50
		2008	5	485	9 224	19	4	84	16	
		2009	17	1 509	9 128	38	3	21	76	
	0 23	2010	23	2 003	8 620	140	7	0	81	
Bonaire, Saint Eustatius and Saba		2010	–	0	0	0	–	–	–	
Brazil		2005	59	51 552	87 223	8 249	16	–	85	674
		2008	51	41 796	81 658	8 331	20	–	91	
		2009	52	44 038	85 159	8 828	20	–	88	
	59 45	2010	45	37 210	81 946	8 558	23	–	93	
British Virgin Islands		2005	–	0	0	0	–	–	–	27
		2008	–				–	–	–	
		2009	–	1		1	100	100	100	
	– 0	2010	0	0	1	0	–	–	–	
Canada		2005	26	414	1 616	63	15	–	–	
		2008	36	574	1 601	94	16	–	–	
		2009	40	645	1 599	64	10	–	–	
	26 28	2010	28	382	1 385	23	6	–	–	
Cayman Islands		2005	–	1			–	–	–	
		2008	–				–	–	–	
		2009	–	2			–	–	–	
	– 100	2010	100	4	4	0	0	–	–	
Chile		2005	–		2 633		–	–	–	
		2008	–		2 494		–	–	–	
		2009	–		2 516		–	–	–	
	– –	2010	–		2 472		–	–	–	
Colombia		2005	53	5 537	10 360	353	6	–	–	
		2008	40	4 540	11 344	956	21	–	–	0
		2009	43	5 031	11 663	1 133	23	–	21	
	53 43	2010	43	5 079	11 889	1 231	24	–	35	
Costa Rica		2005	67	374	560	50	13	–	84	
		2008	96	491	511	44	9	–	–	
		2009	104	476	457	41	9	–	–	
	67 –	2010	–		499		–	–	–	
Cuba		2005	93	729	781		–	–	–	
		2008	84	698	831	71	10	–	17	
		2009	99	710	717	46	6	0	80	1 561
	93 103	2010	103	862	838	53	6	0	66	1 366
Curaçao		2010	0	0	5	0	–	–	–	
Dominica		2005	–				–	–	–	
		2008	19	3	16	2	67	100	50	0
		2009	80	4	5	1	25	0	100	2
	– 38	2010	38	3	8	1	33	100	100	
Dominican Republic		2005	1	78	5 312	3	4	–	–	953
		2008	45	2 011	4 468	399	20	–	–	443
		2009	57	2 516	4 442	403	16	–	–	822
	1 60	2010	60	2 489	4 160	547	22	8	4	5 041
Ecuador		2005	0	10	4 808	3	30	0	–	
		2008	18	959	5 202	402	42	–	100	3
		2009	47	2 385	5 026	443	19	–	100	
	0 66	2010	66	3 379	5 095	427	13	–	100	
El Salvador		2005	84	1 544	1 830	188	12	20	38	
		2008	95	1 655	1 746	194	12	53	47	
		2009	95	1 650	1 736	204	12	28	35	97
	84 96	2010	96	1 667	1 730	180	11	82	63	455
Grenada		2005	–				–	–	–	
		2008	33	2	6	2	100	100	100	0
		2009	100	5	5	1	20	100	100	0
	– 100	2010	100	4	4	1	25	0	0	0
Guatemala		2005	16	600	3 861	478	80	–	243	
		2008	56	1 871	3 316	326	17	100	100	20
		2009	65	1 920	2 942	260	14	100	100	250
	16 63	2010	63	2 103	3 351	325	15	100	100	
Guyana		2005	70	456	656	80	18	–	–	
		2008	70	516	740	123	24	97	59	132
		2009	79	717	912	195	27	82	55	162
	70 88	2010	88	734	836	209	28	77	59	144
Haiti		2005	35	5 062	14 344	1 797	35	–	–	
		2008	65	9 476	14 662	2 068	22	9	10	7 250
		2009	–	9 886		2 236	23	5	8	
	35 67	2010	67	9 518	14 265	1 892	20	13	10	4 112

Data can be downloaded from www.who.int/tb/data

TABLE A3.6 **HIV testing and provision of CPT, ART and IPT, 2005–2010**

	% OF TB PATIENTS WITH KNOWN HIV STATUS 2005–2010	YEAR	% OF TB PATIENTS WITH KNOWN HIV STATUS	NUMBER OF TB PATIENTS WITH KNOWN HIV STATUS	PATIENTS NOTIFIED (NEW AND RETREAT)	NUMBER OF HIV-POSITIVE TB PATIENTS	% OF TESTED TB PATIENTS HIV-POSITIVE	% OF HIV-POSITIVE TB PATIENTS ON CPT	% OF HIV-POSITIVE TB PATIENTS ON ART	NUMBER OF HIV-POSITIVE PEOPLE PROVIDED IPT
Honduras		2005	44	1 455	3 333	200	14	–	–	0
		2008	56	1 595	2 862	205	13	–	100	153
		2009	55	1 619	2 957	192	12	100	89	96
	• 44 54 •	2010	54	1 557	2 901	201	13	90	90	27
Jamaica		2005	83	79	95	28	35	43	54	
		2008	82	86	105	16	19	63	100	0
		2009	64	96	150	29	30	–	100	
	• 83 87 •	2010	87	128	147	29	23	–	100	
Mexico		2005	7	1 382	19 932	217	16	–	–	
		2008	35	6 878	19 406	581	8	100	38	1 490
		2009	30	5 879	19 773	945	16	100	23	676
	• 7 43 •	2010	43	8 842	20 699	1 189	13	100	36	
Montserrat		2005	100	1	1	0	0	–	–	
		2008	–				–	–	–	
		2009	–				–	–	–	
	• 100 –	2010	–	0	0	0	–	–	–	
Netherlands Antilles		2005	–	2		2	100	–	–	
		2008	–				–	–	–	
	– –	2009	–				–	–	–	
Nicaragua		2005	27	556	2 076	30	5	–	–	
		2008	45	1 062	2 336	28	3	100	100	
		2009	45	1 081	2 413	32	3	94	94	60
	• 27 56 •	2010	56	1 445	2 575	60	4	67	67	465
Panama		2005	86	1 569	1 828	200	13	–	10	400
		2008	89	1 540	1 725	275	18	–	13	16
		2009	79	1 364	1 729	213	16	42	28	196
	• 86 82 •	2010	82	1 337	1 630	213	16	64	66	
Paraguay		2005	–		2 348		–	–	–	
		2008	4	103	2 370	88	85	0	66	0
		2009	11	271	2 427	140	52	0	51	0
	– 32 •	2010	32	777	2 461	138	18	0	70	
Peru		2005	2	668	35 541	668	100	–	–	1 214
		2008	32	10 636	33 667	775	7	0	17	2 137
		2009	35	11 710	33 169	678	6	–	18	1 361
	• 2 29 •	2010	29	9 539	32 477	853	9	–	10	1 183
Puerto Rico		2005	82	93	113	28	30	–	–	
		2008	96	91	95	23	25	17	9	
		2009	97	61	63	9	15	33	56	0
	• 82 95 •	2010	95	76	80	14	18	43	50	
Saint Kitts and Nevis		2005	–		2		–	–	–	
		2008	–		5		–	–	–	
		2009	100	4	4	0	0	–	–	
	– 100 •	2010	100	2	2	0	0	–	–	
Saint Lucia		2005	7	1	14	0	0	–	–	
		2008	86	18	21	4	22	0	25	0
		2009	100	11	11	4	36	0	25	0
	• 7 100 •	2010	100	9	9	0	0	–	–	
Saint Vincent and the Grenadines		2005	100	7	7	1	14	0	0	
		2008	100	15	15	6	40	–	33	
		2009	64	7	11	5	71	–	20	1
	• 100 59 •	2010	59	10	17	3	30	–	100	
Sint Maarten (Dutch part)		2010	100	3	3	0	0	–	–	
Suriname		2005	73	87	119	20	23	–	10	
		2008	89	101	113	28	28	7	32	
		2009	82	154	188	49	32	12	51	
	• 73 –	2010	–				–	–	–	
Trinidad and Tobago		2005	69	124	179	42	34	29	36	0
		2008	100	322	322	73	23	14	49	6
		2009	94	306	324	95	31	14	6	4
	• 69 98 •	2010	98	254	258	58	23	19	12	11
Turks and Caicos Islands		2005	–	5		1	20	–	–	
		2008	–				–	–	–	
		2009	–	3		1	33	–	–	
	– 71 •	2010	71	5	7	1	20	0	100	
United States of America		2005	59	8 273	14 080	1 035	13	–	–	
		2008	63	8 177	12 904	826	10	–	–	
		2009	62	7 197	11 545	711	10	–	–	
	• 59 64 •	2010	64	7 107	11 181	612	9	–	–	
Uruguay		2005	92	574	626	74	13	0	–	
		2008	96	686	711	100	15	0	19	
		2009	94	662	704	102	15	0	19	
	• 92 89 •	2010	89	620	699	103	17	0	31	
US Virgin Islands		2005	–				–	–	–	
		2008	–				–	–	–	
		2009	–				–	–	–	
	– –	2010	–				–	–	–	
Venezuela (Bolivarian Republic of)		2005	39	2 678	6 950	392	15	–	39	
		2008	64	4 248	6 605	482	11	0	17	76
		2009	73	4 856	6 641	487	10	0	21	102
	• 39 78 •	2010	78	5 213	6 645	479	9	–	33	

TABLE A3.7 **Testing for MDR-TB and number of confirmed cases of MDR-TB, 2005–2010**

	YEAR	TOTAL CONFIRMED CASES OF MDR-TB[a]	NEW CASES				PREVIOUSLY TREATED CASES			
			NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB	NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB
Anguilla	2005				–				–	
	2008				–				–	
	2009				–				–	
	2010	0	1	0	0	0	0	0	–	0
Antigua and Barbuda	2005		6		–		0		–	
	2008		1		–		0		–	
	2009	0	2	0	0	0	2	1	50	0
	2010	0	6	0	0	0	0	0	–	0
Argentina	2005	276	9 627	2 369	25	66	809	1 290	159	210
	2008	142	9 058		–	12	1 392		–	54
	2009	89	7 363		–		827		–	
	2010	109	6 997		–		716		–	
Aruba	2005				–				–	
	2008				–				–	
	2009				–				–	
	2010		6		–				–	
Bahamas	2005		46		–		4		–	
	2008	1	46	44	96	0	4	3	75	1
	2009	0	41	38	93	0	5	4	80	0
	2010	0	30	21	70	0	2	2	100	0
Barbados	2005				–				–	
	2008		3		–		0		–	
	2009	0	2	0	0	0	0	0	–	0
	2010	0	6	0	0	0	0	0	–	0
Belize	2005	0	91	0	0	0	15	3	20	0
	2008	1	83		–	1	5		–	
	2009	1	82	1	1	1	12	0	0	0
	2010	0	144		–		1		–	
Bermuda	2005				–				–	
	2008				–				–	
	2009				–				–	
	2010	0	1	1	100	0	0	0	–	0
Bolivia (Plurinational State of)	2005	63	9 201		–		772		–	
	2008	34	8 634		–		590	251	43	34
	2009	60	8 378		–		732	670	92	60
	2010	106	7 937	0	0	0	665	664	100	106
Bonaire, Saint Eustatius and Saba	2010	0	0	0	–	0		0	–	0
Brazil	2005	373	77 120		–		9 637	5 917	61	373
	2008	339	70 494		–	35	11 164		–	37
	2009	449	71 700		–	397	9 818		–	52
	2010	573	70 997	22	0	21	10 949	643	6	552
British Virgin Islands	2005		0		–		0		–	
	2008				–				–	
	2009				–				–	
	2010	0	1	0	0	0	0	0	–	0
Canada	2005	22	1 445	1 130	78	8	103		–	
	2008	14	1 370	1 098	80	9	122	91	75	4
	2009	18	1 447	1 321	91	13	94		–	2
	2010	15	1 274	987	77	15	72	51	71	0
Cayman Islands	2005				–				–	
	2008				–				–	
	2009				–				–	
	2010	0	4	1	25	0	0	0	–	0
Chile	2005	6	2 319	49	2	0	314	226	72	6
	2008	7	2 275	1	0	1	219	199	91	6
	2009	23	2 210	56	3	3	306	221	72	20
	2010	10	2 209	65	3	2	263	276	105	8
Colombia	2005		9 917		–		443		–	
	2008	91	10 931	696	6	23	413	551	133	68
	2009	110	11 047	455	4	6	616	487	79	102
	2010	131	11 020	1 240	11	48	869	495	57	78
Costa Rica	2005	3	515	2	0	2	45	1	2	1
	2008	0	487	0	0	0	24	28	117	0
	2009		426		–		31		–	
	2010	3	465	203	44	3	32		–	
Cuba	2005	1	730	169	23	0	49	19	39	1
	2008	10	771	202	26	1	60	33	55	9
	2009	3	666	172	26	1	51	19	37	2
	2010	7	782	174	22	2	56	31	55	5
Curaçao	2010	0	5	5	100	0			–	
Dominica	2005				–				–	
	2008		12		–		4		–	
	2009		4		–		1		–	
	2010	0	8	1	13	0	0	1	–	0
Dominican Republic	2005		4 583		–		729		–	
	2008	12	3 971		–		497		–	
	2009	0	3 990	0	0	0	452	0	0	0
	2010	108	3 640	32	1	25	520	106	20	83
Ecuador	2005	253	4 013	117	3	12	795	502	63	241
	2008	155	4 424	183	4	15	778	548	70	138
	2009	156	4 270		–	10	756		–	133
	2010	176	4 432	363	8	28	663	584	88	148
El Salvador	2005	14	1 716	12	1	7	114	14	12	7
	2008	6	1 660	11	1	0	86	82	95	6
	2009	2	1 623	65	4	1	113	85	75	1
	2010	2	1 638	0	0	0	92	2	2	2
Grenada	2005				–				–	
	2008		5		–		1		–	
	2009		5		–		0		–	
	2010	0	4		–		0		–	
Guatemala	2005	40	3 264	20	1	20	159	40	25	20
	2008	27	3 114	73	2	10	202	37	18	17
	2009	230	2 814	134	5	48	128	182	142	182
	2010	18	3 170		–		181	18	10	18
Guyana	2005		631		–		25		–	
	2008	0	623	34	5	0	117	11	9	0
	2009	0	707	0	0	0	205		–	
	2010	5	674	0	0	0	162	0	0	0

[a] TOTAL CONFIRMED CASES OF MDR-TB includes cases with unknown previous treatment history (i.e. not included under NEW CASES or PREVIOUSLY TREATED CASES).

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TABLE A3.7 **Testing for MDR-TB and number of confirmed cases of MDR-TB, 2005–2010**

	YEAR	TOTAL CONFIRMED CASES OF MDR-TB[a]	NEW CASES				PREVIOUSLY TREATED CASES			
			NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB	NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB
Haiti	2005		14 116	53	0		228		–	
	2008	43	14 289	0	0	0	373	43	12	43
	2009				–				–	
	2010	41	13 884	2	0	2	381	39	10	36
Honduras	2005	3	3 152	3	0	3	181	0	0	0
	2008	10	2 678	0	0	0	184	112	61	10
	2009	4	2 732	27	1	1	225	43	19	3
	2010	9	2 706	57	2	0	195	62	32	9
Jamaica	2005	0	90	11	12	0	5	2	40	0
	2008	0	102	78	76	0	3	0	0	0
	2009	0	130	67	52	0	20		–	
	2010	1	128	40	31	0	19	5	26	1
Mexico	2005	394	17 906	314	2	63	2 026	74	4	63
	2008	121	18 036	0	0	0	1 370	389	28	121
	2009	11	18 127	1	0	1	1 535	11	1	10
	2010	140	18 848	21	0	4	1 266	505	40	119
Montserrat	2005	1	1	0	0	0	0	0	–	0
	2008				–				–	
	2009				–				–	
	2010	0	0	0	–	0	0	0	–	0
Netherlands Antilles	2005				–				–	
	2008				–				–	
	2009				–				–	
Nicaragua	2005	50	1 808	8	0	8	268	8	3	8
	2008	16	2 169	4	0	0	167	103	62	16
	2009		2 131		–		282		–	
	2010	18	2 289	50	2	2	286	150	52	16
Panama	2005	5	1 581	29	2	3	247	48	19	2
	2008	5	1 482	33	2	1	191	4	2	4
	2009	8	1 494		–		235		–	
	2010	10	1 419	58	4		211	17	8	
Paraguay	2005	13	2 075		–		273		–	
	2008	6	2 146	271	13	0	154	48	31	6
	2009	6	2 250	64	3	1	177	46	26	5
	2010	1	2 172	115	5	0	214	52	24	1
Peru	2005	2 748	30 226		–		4 989	2 336	47	2 102
	2008	1 074	29 133	243	1	155	4 534	1 178	26	919
	2009	1 578	28 845	966	3	413	4 324	803	19	524
	2010	1 048	28 297		–		4 180		–	
Puerto Rico	2005	0	113		–		0		–	
	2008	1	95	89	94	1	0	1	–	0
	2009	0	63	54	86	0	0	1	–	0
	2010	0	76	69	91	0	4	4	100	0
Saint Kitts and Nevis	2005		0		–		2		–	
	2008		5		–		0		–	
	2009		4		–		0		–	
	2010	0	2	0	0	0	0	0	–	0
Saint Lucia	2005		12		–		2		–	
	2008		20		–		1		–	
	2009	0	8	0	0	0	3	0	0	0
	2010	0	9	0	0	0	0	0	–	0
Saint Vincent and the Grenadines	2005	6	7	6	86	6	0	0	–	0
	2008		11		–		4		–	
	2009		9		–		2		–	
	2010	0	15	2	13	0	2		–	
Sint Maarten (Dutch part)	2010	0	3		–		0		–	
Suriname	2005	1	111	49	44	1	8	0	0	0
	2008	1	106	44	42	1	7	3	43	0
	2009	1	172	1	1	1	15	0	0	0
	2010				–				–	
Trinidad and Tobago	2005	3	157	0	0	0	22	3	14	3
	2008	0	275	6	2	0	47	3	6	0
	2009	0	264	0	0	0	60	0	0	0
	2010	0	214		–		44		–	
Turks and Caicos Islands	2005				–				–	
	2008				–				–	
	2009				–				–	
	2010	1	5		–		2		–	
United States of America	2005	124	14 080		–				–	
	2008	103	12 904	8 869	69	86		408	–	17
	2009	114	11 545	8 071	70	94		323	–	19
	2010	92	11 181	6 514	58	73		293	–	13
Uruguay	2005		607		–		19		–	
	2008	0	655	468	71	0	56	43	77	0
	2009		667		–		37		–	
	2010	1	658	160	24	1	41	22	54	0
US Virgin Islands	2005				–				–	
	2008				–				–	
	2009				–				–	
	2010				–				–	
Venezuela (Bolivarian Republic of)	2005	28	6 600	163	2	13	350	15	4	15
	2008	8	6 173	13	0	1	432	117	27	7
	2009	21	6 213	20	0	1	428	160	37	20
	2010	21	6 087	26	0	0	442	160	36	21

[a] TOTAL CONFIRMED CASES OF MDR-TB includes cases with unknown previous treatment history (i.e. not included under NEW CASES or PREVIOUSLY TREATED CASES).

TABLE A3.8 **New smear-positive case notification by age and sex, 1995–2010**

		MALE								FEMALE								
	YEAR	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	MALE/FEMALE RATIO
Anguilla	1995																	–
	2000																	–
	2005																	–
	2010	0	0	0	0	0	0	1		0	0	0	0	0	0	0		–
Antigua and Barbuda	1995																	–
	2000	0	0	0	0	0	0	1		1	1	1	0	0	0	0		0.3
	2005				1	1					2	2						0.5
	2010	0	0	2	0	2	1	0	0	0	0	1	0	0	0	0	0	5.0
Argentina	1995																	–
	2000	97	278	594	402	419	368	330		121	544	479	262	230	179	216		1.2
	2005	64	621	530	358	384	340	348		90	530	474	290	198	169	240		1.3
	2010	56	536	491	309	302	340	282	2	59	421	426	233	184	153	176	1	1.4
Aruba	1995																	–
	2000																	–
	2005																	–
	2010																	–
Bahamas	1995	3	3	5	7	4	2	2		0	1	7	2	0	0	1		2.4
	2000	1	2	7	9	4	3	2		2	5	7	8	2	3	1		1.0
	2005																	–
	2010	0	2	3	5	0	2	0	0	0	5	1	1	0	0	0	0	1.7
Barbados	1995																	–
	2000	0	0	0	2	0	0	0		0	0	1	0	0	0	0		2.0
	2005																	–
	2010	0	0	0	1	2	0	0	0	0	1	0	0	2	0	0	0	1.0
Belize	1995	1	1	2	4	0	1	1		0	6	2	0	1	1	2		0.8
	2000	2	5	7	2	6	3	5		0	2	1	2	4	1	4		2.1
	2005	0	8	8	6	8	5	3		0	4	4	4	3	2	4		1.8
	2010	2	9	16	22	24	11	18		4	5	7	7	9	4	5		2.5
Bermuda	1995																	–
	2000																	–
	2005																	–
	2010	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	–
Bolivia (Plurinational State of)	1995																	–
	2000	166	1 182	797	518	466	340	366		191	831	588	334	254	192	233		1.5
	2005	157	1 320	725	439	391	346	415		160	846	533	276	226	182	262		1.5
	2010	95	1 150	622	415	395	338	409		119	744	471	238	191	162	264		1.6
Bonaire, Saint Eustatius and Saba	2010	0	0	0	0	0	0	0		0	0	0	0	0	0	0		–
Brazil	1995																	–
	2000	1 894	7 268	11 568	11 906	8 623	5 085	4 494		1 859	6 719	7 215	5 395	3 582	2 384	2 496		1.7
	2005	317	5 074	6 119	6 128	5 259	2 803	2 140		355	3 496	3 663	2 626	1 897	1 112	1 104		2.0
	2010	298	4 405	6 381	5 293	4 762	2 875	1 947	43	280	2 677	3 008	2 211	1 720	1 038	979	15	2.2
British Virgin Islands	1995																	–
	2000						1											–
	2005																	–
	2010	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	–
Canada	1995	1	28	31	60	34	41	70		7	33	28	22	12	18	51		1.5
	2000	5	34	45	46	41	32	79		4	33	40	30	25	12	66		1.3
	2005	3	37	45	44	40	20	68		6	28	40	27	24	13	37		1.5
	2010	3	30	28	36	32	25	62	0	1	28	24	16	10	19	44	0	1.5
Cayman Islands	1995																	–
	2000	0	0	3	1	0	1	0										–
	2005																	–
	2010	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1.0
Chile	1995	24	148	182	204	155	141	163		24	100	120	108	75	73	107		1.7
	2000	6	81	160	198	150	132	126		10	66	96	70	54	58	83		2.0
	2005	3	74	128	179	162	115	133		4	55	78	60	56	36	93		2.1
	2010	2	90	115	144	159	122	157	0	6	56	76	59	56	40	72	0	2.2
Colombia	1995																	–
	2000	246	763	1 030	963	743	610	746		194	587	758	523	381	304	510		1.6
	2005	178	623	685	666	687	510	695		179	581	533	457	389	292	395		1.4
	2010	148	602	765	540	710	610	814	0	146	560	576	428	374	284	471	0	1.5
Costa Rica	1995	1	17	38	24	19	23	22		2	17	15	11	7	9	14		1.9
	2000	14	31	53	62	39	28	49		13	21	33	24	20	23	24		1.7
	2005	1	43	38	53	34	20	34		1	21	31	18	16	6	14		2.1
	2010	2	18	48	33	27	22	28	1	0	18	20	12	14	15	8	1	2.0
Cuba	1995	2	59	118	83	75	75	156		1	17	52	29	39	48	80		2.1
	2000	0	71	167	90	74	55	75		2	9	22	26	22	23	39		3.7
	2005	2	20	73	90	50	58	51		2	14	17	26	13	22	29		2.8
	2010	3	17	61	89	78	53	57	0	1	15	15	14	16	17	26	0	3.4
Curaçao	2010	0	0	0	2	1	0	0	0	0	1	1	0	0	0	0	0	1.5
Dominica	1995																	–
	2000																	–
	2005																	–
	2010	0	0	0	0	0	3	1	0	0	0	0	1	2	1	0	0	1.0
Dominican Republic	1995																	–
	2000	73	410	481	344	173	125	113		65	317	325	212	115	79	75		1.4
	2005	43	399	483	386	228	123	105		57	339	332	209	119	72	54		1.5
	2010	29	276	346	292	170	112	85	0	43	239	207	142	102	54	62	0	1.5
Ecuador	1995																	–
	2000																	–
	2005	48	446	468	308	237	150	159		48	329	305	199	139	85	127		1.5
	2010	32	499	529	314	309	227	246		52	298	308	178	158	113	110		1.8
El Salvador	1995																	–
	2000	13	99	124	114	92	62	107		28	81	76	63	63	39	47		1.5
	2005	5	97	140	128	104	74	117		6	85	82	59	50	42	70		1.7
	2010	5	101	170	96	77	62	101	0	6	63	65	49	58	51	68	0	1.7
Grenada	1995																	–
	2000																	–
	2005																	–
	2010				1	1	1					1						3.0
Guatemala	1995	51	235	280	236	165	142	139		51	224	255	221	146	129	94		1.1
	2000	36	220	236	216	177	112	140		41	199	167	175	135	87	111		1.2
	2005	39	251	258	185	187	127	115		38	339	245	277	176	88	95		0.9
	2010	60	187	245	207	172	143	165		29	194	190	179	139	108	103		1.3
Guyana	1995	7	8	5	6	9	6	7		3	5	7	6	5	2	4		1.5
	2000	4	20	19	14	7	6	9		1	11	8	7	5	5	3		2.0
	2005	12	48	130	116	81	41	20		14	41	62	41	30	11	9		2.2
	2010	2	32	38	65	49	22	13	0	2	22	25	19	20	10	6	0	2.1
Haiti	1995																	–
	2000	67	836	898	613	350	147	118		96	914	857	513	275	132	71		1.1
	2005	69	1 045	1 035	701	451	222	156		116	1 097	1 099	633	414	170	132		1.0
	2010	98	1 225	1 357	718	469	259	160	0	158	1 268	1 223	608	358	207	134	0	1.1

Data can be downloaded from www.who.int/tb/data

TABLE A3.8 **New smear-positive case notification by age and sex, 1995–2010**

		MALE								FEMALE								
	YEAR	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	MALE/FEMALE RATIO
Honduras	1995	42	280	540	204	130	236	58		54	208	292	134	76	136	48		1.6
	2000	30	123	371	246	277	214	43		25	21	269	258	270	160	38		1.3
	2005	13	238	280	215	152	134	152		27	219	222	125	107	81	104		1.3
	2010	15	177	246	207	165	113	157	0	28	186	163	106	103	69	107	0	1.4
Jamaica	1995	2	9	14	9	11	8	9		2	7	6	5	5	2	2		2.1
	2000	0	6	13	13	15	6	5		1	8	8	7	2	5	1		1.8
	2005	0	4	6	6	10	6	7		0	1	5	4	0	1	3		2.8
	2010	1	7	15	15	8	6	7	0	0	5	4	5	1	0	2	0	3.5
Mexico	1995																	–
	2000	214	1 079	1 387	1 162	1 235	972	1 126		176	663	828	698	832	595	709		1.6
	2005	100	1 095	1 376	1 314	1 238	1 042	1 288		125	771	733	710	784	637	784		1.6
	2010	125	1 081	1 375	1 380	1 392	1 119	1 303	0	112	791	763	730	852	713	836	0	1.6
Montserrat	1995																	–
	2000																	–
	2005					1												–
	2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	–
Netherlands Antilles	1995																	–
	2000	0	0	1	2	0	0	0		0	0	1	0	0	1	0		1.5
	2005																	–
Nicaragua	1995	23	178	172	175	126	96	92		24	176	215	98	83	64	46		1.2
	2000	18	194	174	147	108	64	90		34	188	173	98	76	46	61		1.2
	2005	17	163	159	116	106	61	79		23	135	122	103	61	54	47		1.3
	2010	22	157	189	141	115	82	108	0	27	154	149	92	75	50	79	0	1.3
Panama	1995	86	155	193	112	126	42	83		72	120	111	75	57	16	40		1.6
	2000	3	44	78	61	37	27	26		6	43	34	35	19	12	16		1.7
	2005	5	76	129	129	84	57	49		11	73	81	62	33	30	41		1.6
	2010	6	69	127	80	62	61	49	0	7	51	52	46	45	23	29	0	1.8
Paraguay	1995	18	64	71	96	74	57	61		13	65	49	46	35	34	53		1.5
	2000	16	112	103	105	86	80	71		12	69	86	41	41	30	46		1.8
	2005	23	168	185	136	117	87	99		31	89	98	69	52	29	71		1.9
	2010	18	163	244	129	143	103	99	11	18	106	99	39	50	46	45	5	2.2
Peru	1995	147	1 311	849	454	322	200	216		149	1 005	660	373	259	162	152		1.3
	2000	552	5 290	2 875	1 546	1 041	801	796		633	3 686	2 472	1 156	609	499	624		1.3
	2005	371	3 802	2 670	1 513	1 075	641	708		375	2 674	2 111	1 046	699	333	472		1.4
	2010																	–
Puerto Rico	1995	4	3	12	20	15	9	19		1	2	6	5	7	4	9		2.4
	2000	0	1	4	19	9	10	14		1	4	5	3	7	1	3		2.4
	2005	0	4	4	7	9	7	7		0	3	2	5	4	1	7		1.7
	2010	0	0	3	2	4	5	8	0	0	1	0	2	6	2	4	0	1.5
Saint Kitts and Nevis	1995																	–
	2000																	–
	2005																	–
	2010	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1.0
Saint Lucia	1995																	–
	2000	0	0	0	1	0	1	2		0	1	0	1	0	1	0		1.3
	2005	0	0	0	0	2	1	2		1	1	0	1	1	0	2		0.8
	2010	0	0	1	2	0	1	2	0	0	0	0	1	0	1	1	0	2.0
Saint Vincent and the Grenadines	1995																	–
	2000	0	1	0	4	2	0	1		1	0	0	0	0	0	0		8.0
	2005	0	0	0	2	1	0	2		0	0	1	0	1	0	0		2.5
	2010	0	0	1	0	3	0	2	0	0	0	1	0	0	1	0	0	3.0
Sint Maarten (Dutch part)	2010			1										2				0.5
Suriname	1995																	–
	2000	1	6	6	3	2	0	4		2	3	6	3	0	1	1		1.4
	2005	0	7	8	12	6	3	4		0	3	2	1	2	1	2		3.6
	2010																	–
Trinidad and Tobago	1995	2	6	15	10	12	7	4		0	6	4	2	5	3	0		2.8
	2000	0	7	18	27	17	7	7		0	5	7	9	5	2	4		2.6
	2005	0	10	11	13	21	10	3		0	4	9	3	5	4	3		2.4
	2010	0	11	21	17	32	20	8	0	0	4	7	7	5	2	2	0	4.0
Turks and Caicos Islands	1995																	–
	2000																	–
	2005																	–
	2010	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0.5
United States of America	1995	19	355	876	1 417	1 121	742	1 099		26	280	579	499	285	202	591		2.3
	2000	6	365	602	906	904	577	738		14	246	376	349	253	152	396		2.3
	2005	14	383	535	666	767	499	624		11	241	348	276	242	161	322		2.2
	2010	5	246	360	371	505	403	466	2	9	195	265	183	165	130	223	0	2.0
Uruguay	1995	4	28	40	35	49	38	50		2	21	26	18	12	9	17		2.3
	2000	0	36	48	45	41	30	34		2	28	22	21	13	12	16		2.1
	2005	1	42	48	39	45	34	36		1	33	30	17	9	8	12		2.2
	2010	1	46	70	35	46	33	31	0	3	24	36	12	10	5	16	0	2.5
US Virgin Islands	1995	0	0	0	1	1	0	0										–
	2000																	–
	2005																	–
	2010																	–
Venezuela (Bolivarian Republic of)	1995																	–
	2000																	–
	2005	35	312	395	413	402	265	332		37	351	299	267	183	146	216		1.4
	2010	22	320	376	333	391	253	288		26	269	306	188	145	147	188		1.6

TABLE A3.9 **Laboratories, NTP services, drug management, human resources and infection control, 2010**

	LABORATORIES					FREE THROUGH NTP		DRUG MANAGEMENT			% OF STAFF TRAINED BY THE NTP (IN 2010)[c]				TB NOTIFICATION RATE PER 100 000 HEALTH-CARE WORKERS
	SMEAR LABS PER 100K POPULATION	CULTURE LABS PER 5M POPULATION	DST LABS PER 5M POPULATION	SECOND-LINE DST AVAILABLE	NRL[a]	TB DIAGNOSIS	FIRST-LINE DRUGS	RIFAMPICIN USED THROUGHOUT TREATMENT	% OF PATIENTS TREATED WITH FDC[b]	PAEDIATRIC FORMULATIONS PROCURED	MEDICAL OFFICERS	NURSES	HEALTH ASSISTANTS	LABORATORY TECHNICIANS	
Anguilla				No	No	No	No	No		No					
Antigua and Barbuda				Out of country	Yes	Yes, all suspects	Yes	Yes	0	No					
Argentina	1.7	14	2.1	In and out of cty	Yes	Yes, all suspects	Yes	Yes	90	Yes					
Aruba															
Bahamas				Out of country	Yes	For certain income groups	Yes	Yes	0	No					
Barbados				Out of country	Yes	Yes, all suspects	Yes	Yes	0	No					
Belize	1.3	0	0	Out of country	No	Yes, all suspects	Yes	Yes	80	No	0	0	0	0	
Bermuda				Out of country	Yes	Yes, all suspects	Yes	Yes	50	No					
Bolivia (Plurinational State of)	5.0	21	0.5	Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes					
Bonaire, Saint Eustatius and Saba				Out of country	Yes	Yes, all suspects	No	Yes	0	No					
Brazil	2.0	6.5	1.0	In and out of cty	Yes	Yes, all suspects	Yes	Yes	100	No	29	66	3	2	
British Virgin Islands				Out of country	Yes	Yes, all suspects	No	Yes	100	No					
Canada				In and out of cty	Yes	Yes, all suspects	Yes	No	0	Yes					
Cayman Islands				Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes					
Chile	1.5	19	0.3	In country	Yes	Yes, all suspects	Yes	Yes	0	Yes					
Colombia	7.9	136	0.8	In and out of cty	Yes	Yes, all suspects	Yes	Yes	100	Yes					
Costa Rica															
Cuba				In country	Yes	Yes, all suspects	Yes	Yes	0	No					
Curaçao				Out of country	Yes	Yes, all suspects	Yes	Yes	0	No					
Dominica				Out of country	Yes	Yes, all suspects	Yes	Yes	100	No					
Dominican Republic	2.3	4.0	0.5	In and out of cty	Yes	Yes, all suspects	Yes	Yes	90	No	5	10	5	20	31
Ecuador	2.2	5.9	0.3	In country	Yes	Yes, all suspects	Yes	Yes	0	No				100	
El Salvador	3.2	8.1	0.8	No	Yes	Yes, all suspects	Yes	Yes	100	Yes	100	100	100	100	271
Grenada				Out of country	No	Yes, all suspects	Yes	Yes	0	No					
Guatemala	1.9	3.8	0.3	Out of country	Yes	Yes, all suspects	Yes	Yes	0	Yes	50	75	50	80	14
Guyana	2.7	6.6	6.6	In and out of cty	Yes	Yes, all suspects	Yes	Yes	89	Yes	50	70	65	75	
Haiti	2.3	0.5	0.5	Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes	40	60	70	35	
Honduras	2.0	3.3	0.7	Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes					5
Jamaica	0.1	1.8	0	Out of country	Yes	Yes, all suspects	Yes	Yes	0	No	5	10	0	5	7
Mexico	1.1	2.8	0.7	In and out of cty	Yes	Yes, all suspects	Yes	Yes	90	No	71	25	2	2	0
Montserrat				Out of country	No	Yes, all suspects	Yes	Yes		No					
Nicaragua	3.2	2.6	0.9	Out of country	Yes	Yes, all suspects	Yes	Yes	100	No	85	85		85	
Panama	1.7	11	1.4	No	Yes	For smear-positive TB	Yes	Yes	100	No	0	0	0	0	619
Paraguay	1.6	3.9	0.8	In and out of cty	Yes	Yes, all suspects	Yes	Yes	0	Yes	6	5	16	3	22
Peru	4.9	11	1.0	In country	Yes	Yes, all suspects	Yes	Yes	0	Yes					
Puerto Rico				Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes					
Saint Kitts and Nevis				No	No	Yes, all suspects	Yes	Yes	100	No					
Saint Lucia				Out of country	Yes	If TB is confirmed	Yes	Yes	100	No					
Saint Vincent and the Grenadines				Out of country	Yes	Yes, all suspects	Yes	Yes		No					
Sint Maarten (Dutch part)				Out of country	No		No	Yes	100	No					
Suriname															
Trinidad and Tobago				Out of country	Yes	Yes, all suspects	Yes	Yes	0	Yes					
Turks and Caicos Islands				Out of country	Yes	If TB is confirmed	Yes	Yes	100	No					
United States of America				In country	Yes	Yes, all suspects	Yes	Yes		Yes					
Uruguay	<0.1	1.5	1.5	Out of country	No	Yes, all suspects	Yes	Yes	95	Yes	100	90	0	100	28
US Virgin Islands															
Venezuela (Bolivarian Republic of)	2.0	3.6	0.2	In country	Yes	Yes, all suspects	Yes	Yes	80	Yes	86	83	78	48	

a NRL = national reference laboratory
b FDC = fixed-dose combination
c NURSES (Registered Nurses, Registered Midwives, Enrolled Nurses, Enrolled Midwives); HEALTH ASSISTANTS (Medical Assistants, Clinical Officers); LABORATORY TECHNICIANS (Microscopists)

Data can be downloaded from www.who.int/tb/data

Eastern Mediterranean Region

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Estimates of mortality, prevalence and incidence

Estimated values are shown as best estimates followed by lower and upper bounds. The lower and upper bounds are defined as the 2.5th and 97.5th centiles of outcome distributions produced in simulations. See **ANNEX 1** for further details.

Estimated numbers are shown rounded to two significant figures. Estimated rates are shown rounded to three significant figures unless the value is under 100, in which case rates are shown rounded to two significant figures.

Estimates for all years are recalculated as new information becomes available and techniques are refined, so they may differ from those published in previous reports in this series. Estimates published in previous global TB control reports should no longer be used.

Data source

Data shown in this annex are taken from the WHO global TB database on 2 September 2011. Data shown in the main part of the report were taken from the database on 21 June 2011. As a result, data in this annex may differ slightly from those in the main part of the report.

Data can be downloaded from **www.who.int/tb/data**.

TABLE A3.1 **Estimates of the burden of disease caused by TB, 1990–2010**

	YEAR	POPULATION (MILLIONS)	MORTALITY (EXCLUDING HIV) NUMBER (THOUSANDS)	MORTALITY (EXCLUDING HIV) RATE[a]	PREVALENCE (INCLUDING HIV) NUMBER (THOUSANDS)	PREVALENCE (INCLUDING HIV) RATE	INCIDENCE (INCLUDING HIV) NUMBER (THOUSANDS)	INCIDENCE (INCLUDING HIV) RATE
Afghanistan	1990	13	7.4 (3.7–11)	57 (29–86)	60 (26–99)	457 (198–760)	25 (15–37)	189 (115–281)
	1995	20	11 (7.3–15)	57 (37–77)	91 (39–150)	457 (198–760)	37 (30–45)	189 (154–228)
	2000	23	12 (9.4–15)	52 (41–65)	99 (44–160)	431 (193–714)	43 (35–52)	189 (154–228)
	2005	28	11 (7.9–14)	39 (29–52)	100 (46–170)	362 (167–598)	52 (42–63)	189 (154–228)
	2008	30	11 (7.6–15)	36 (26–49)	100 (47–170)	344 (157–568)	56 (46–68)	189 (154–228)
	2009	31	11 (8.1–15)	37 (27–50)	110 (49–180)	348 (159–572)	58 (47–69)	189 (155–227)
	2010	31	12 (8.6–16)	38 (27–50)	110 (51–180)	352 (161–578)	59 (49–71)	189 (155–226)
Bahrain	1990	<1	<0.01 (<0.01–<0.01)	1.1 (1–1.3)	0.17 (0.048–0.29)	34 (9.8–58)	0.14 (0.12–0.16)	28 (25–32)
	1995	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.079 (0.031–0.13)	14 (5.6–23)	0.057 (0.051–0.063)	10 (9.1–11)
	2000	<1	0.018 (0.017–0.018)	2.8 (2.7–2.9)	0.3 (0.11–0.5)	46 (17–78)	0.22 (0.19–0.25)	34 (30–39)
	2005	<1	0.011 (0.011–0.011)	1.5 (1.5–1.5)	0.41 (0.14–0.7)	57 (20–97)	0.31 (0.27–0.36)	43 (38–49)
	2008	1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.43 (0.14–0.74)	41 (13–70)	0.36 (0.31–0.4)	34 (30–38)
	2009	1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.51 (0.2–0.84)	44 (17–72)	0.36 (0.31–0.41)	30 (27–35)
	2010	1	0.011 (0.01–0.012)	<1 (<1–<1)	0.32 (0.076–0.57)	25 (6–45)	0.29 (0.26–0.33)	23 (20–26)
Djibouti	1990	<1	0.45 (0.19–0.93)	80 (33–165)	5.1 (1.6–10)	905 (293–1827)	3.5 (2.2–5.1)	619 (390–901)
	1995	<1	0.34 (0.2–0.59)	54 (31–94)	4.8 (1.6–8.4)	763 (255–1342)	3.9 (3.2–4.7)	619 (504–746)
	2000	<1	0.33 (0.21–0.54)	45 (29–74)	5.2 (1.7–8.9)	708 (231–1217)	4.5 (3.8–5.3)	619 (526–721)
	2005	<1	0.71 (0.48–1)	88 (59–125)	7.5 (3.4–12)	927 (416–1531)	5 (4.1–6)	619 (504–746)
	2008	<1	0.69 (0.45–1)	81 (52–118)	7.7 (3.4–13)	895 (394–1485)	5.3 (4.3–6.4)	619 (504–746)
	2009	<1	0.61 (0.38–0.94)	70 (43–108)	7.3 (3–12)	834 (343–1413)	5.4 (4.4–6.5)	620 (507–743)
	2010	<1	0.63 (0.4–0.94)	71 (45–106)	7.5 (3.1–13)	839 (348–1411)	5.5 (4.5–6.6)	620 (510–741)
Egypt	1990	57	2.3 (1.9–2.8)	4.1 (3.4–4.9)	45 (20–73)	79 (36–128)	20 (16–23)	34 (29–40)
	1995	62	1.7 (1.3–2.1)	2.7 (2–3.4)	36 (17–58)	59 (27–94)	20 (17–23)	32 (27–37)
	2000	68	1.1 (0.8–1.6)	1.7 (1.2–2.3)	28 (12–46)	41 (18–68)	17 (15–20)	26 (22–30)
	2005	74	1 (1–1)	1.4 (1.4–1.4)	24 (10–39)	32 (13–53)	16 (13–18)	21 (18–25)
	2008	78	0.94 (0.94–0.94)	1.2 (1.2–1.2)	24 (10–39)	31 (13–50)	15 (13–18)	19 (16–22)
	2009	80	0.78 (0.78–0.79)	<1 (<1–<1)	24 (10–39)	30 (13–49)	15 (13–17)	19 (16–22)
	2010	81	0.66 (0.66–0.67)	<1 (<1–<1)	23 (10–37)	28 (12–46)	15 (12–17)	18 (15–21)
Iran (Islamic Republic of)	1990	55	3.2 (1.3–6.4)	5.8 (2.4–12)	33 (11–66)	60 (21–121)	20 (12–29)	36 (22–53)
	1995	60	3 (2–4.5)	5.1 (3.3–7.5)	33 (14–56)	56 (23–94)	21 (17–26)	36 (29–43)
	2000	65	3.4 (2.3–4.7)	5.2 (3.5–7.2)	34 (15–57)	52 (23–87)	21 (17–25)	32 (26–38)
	2005	70	2.8 (1.9–3.9)	4 (2.7–5.5)	28 (13–46)	40 (18–66)	17 (14–20)	24 (20–29)
	2008	72	2 (1.3–2.9)	2.7 (1.8–4)	22 (9.2–36)	30 (13–50)	14 (12–17)	20 (16–24)
	2009	73	1.6 (1–2.5)	2.3 (1.4–3.4)	19 (7.7–33)	26 (10–45)	14 (11–16)	19 (15–22)
	2010	74	1.3 (0.79–2.2)	1.8 (1.1–2.9)	17 (6.1–30)	23 (8.2–40)	13 (10–15)	17 (14–21)
Iraq	1990	17	1.6 (0.78–2.3)	9 (4.5–13)	17 (7.1–29)	99 (41–168)	11 (6.7–16)	64 (39–95)
	1995	20	1.8 (1.1–2.5)	9 (5.4–13)	20 (8.2–34)	99 (41–168)	13 (11–16)	64 (52–77)
	2000	24	2.1 (1.5–2.8)	9 (6.3–12)	24 (9.7–40)	99 (41–168)	15 (12–18)	64 (52–77)
	2005	27	3.1 (2.1–4.3)	11 (7.8–16)	31 (14–51)	112 (50–186)	17 (14–21)	64 (52–77)
	2008	30	3.8 (2.7–5)	13 (9–17)	35 (16–58)	118 (54–195)	19 (15–23)	64 (52–77)
	2009	31	3.8 (2.7–5.1)	12 (8.8–16)	36 (16–59)	117 (53–192)	20 (16–24)	64 (52–77)
	2010	32	3.9 (2.8–5.2)	12 (8.9–16)	37 (17–61)	117 (54–193)	20 (17–24)	64 (52–77)
Jordan	1990	3	0.065 (0.031–0.13)	1.9 (<1–3.7)	0.78 (0.25–1.5)	23 (7.5–43)	0.54 (0.39–0.71)	16 (11–21)
	1995	4	0.052 (0.03–0.089)	1.2 (<1–2)	0.71 (0.23–1.3)	16 (5.1–29)	0.55 (0.45–0.66)	13 (10–15)
	2000	5	0.04 (0.025–0.062)	<1 (<1–1.3)	0.53 (0.18–0.91)	11 (3.8–19)	0.4 (0.35–0.46)	8.4 (7.2–9.6)
	2005	5	0.023 (0.017–0.039)	<1 (<1–<1)	0.41 (0.093–0.71)	7.6 (1.7–13)	0.36 (0.3–0.42)	6.7 (5.6–7.9)
	2008	6	0.022 (0.017–0.036)	<1 (<1–<1)	0.4 (0.092–0.7)	6.8 (1.6–12)	0.35 (0.3–0.4)	6 (5.2–6.9)
	2009	6	0.038 (0.025–0.056)	<1 (<1–<1)	0.48 (0.18–0.8)	7.9 (3–13)	0.34 (0.3–0.39)	5.7 (4.9–6.6)
	2010	6	0.044 (0.031–0.06)	<1 (<1–<1)	0.5 (0.21–0.82)	8 (3.4–13)	0.33 (0.29–0.38)	5.4 (4.7–6.2)
Kuwait	1990	2	0.01 (<0.01–0.012)	<1 (<1–<1)	0.4 (0.12–0.69)	19 (5.5–33)	0.33 (0.29–0.37)	16 (14–18)
	1995	2	0.012 (<0.01–0.014)	<1 (<1–<1)	0.48 (0.16–0.82)	29 (9.9–51)	0.37 (0.32–0.42)	23 (20–26)
	2000	2	0.015 (0.015–0.015)	<1 (<1–<1)	0.76 (0.26–1.3)	39 (13–67)	0.59 (0.51–0.67)	30 (27–34)
	2005	2	0.023 (0.023–0.023)	1 (1–1)	0.69 (0.18–1.2)	30 (7.8–53)	0.63 (0.56–0.71)	28 (25–31)
	2008	3	0.021 (0.021–0.021)	<1 (<1–<1)	1.4 (0.5–2.3)	53 (20–89)	0.96 (0.83–1.1)	38 (33–43)
	2009	3	0.034 (0.034–0.034)	1.3 (1.3–1.3)	1.4 (0.48–2.4)	53 (18–89)	1.1 (0.93–1.2)	40 (35–46)
	2010	3	0.034 (0.029–0.041)	1.2 (1.1–1.5)	1.4 (0.46–2.4)	51 (17–87)	1.1 (0.98–1.3)	41 (36–46)
Lebanon	1990	3	0.076 (0.043–0.2)	2.6 (1.4–6.7)	1.2 (0.27–2.3)	39 (9.2–79)	0.95 (0.58–1.4)	32 (20–48)
	1995	3	0.099 (0.062–0.16)	2.9 (1.8–4.5)	1.4 (0.47–2.3)	40 (14–68)	1.1 (0.93–1.2)	31 (27–36)
	2000	4	0.041 (0.028–0.068)	1.1 (<1–1.8)	0.7 (0.2–1.2)	19 (5.5–32)	0.63 (0.54–0.72)	17 (14–19)
	2005	4	0.032 (0.021–0.051)	<1 (<1–1.3)	0.49 (0.16–0.85)	12 (3.9–21)	0.43 (0.37–0.49)	11 (9.1–12)
	2008	4	0.047 (0.03–0.076)	1.1 (<1–1.8)	0.69 (0.23–1.2)	17 (5.6–28)	0.57 (0.49–0.65)	14 (12–16)
	2009	4	0.063 (0.041–0.093)	1.5 (<1–2.2)	0.82 (0.32–1.4)	20 (7.6–32)	0.63 (0.55–0.73)	15 (13–17)
	2010	4	0.09 (0.064–0.12)	2.1 (1.5–2.9)	1 (0.45–1.7)	24 (11–39)	0.72 (0.63–0.83)	17 (15–20)
Libyan Arab Jamahiriya	1990	4	0.46 (0.36–0.58)	11 (8.3–13)	3.9 (1.8–6.4)	89 (41–147)	1.7 (1.4–2.1)	40 (32–48)
	1995	5	0.25 (0.16–0.39)	5.3 (3.3–8.1)	2.9 (1.1–4.9)	60 (24–103)	1.9 (1.6–2.3)	40 (32–48)
	2000	5	0.27 (0.17–0.42)	5.2 (3.2–8.1)	3.1 (1.2–5.3)	59 (24–102)	2.1 (1.7–2.5)	40 (32–48)
	2005	6	0.23 (0.14–0.37)	4 (2.5–6.3)	3.1 (1.1–5.3)	53 (18–91)	2.3 (2–2.7)	40 (34–46)
	2008	6	0.24 (0.14–0.41)	3.9 (2.3–6.7)	3.2 (1–5.7)	53 (17–93)	2.5 (2–3)	40 (32–48)
	2009	6	0.25 (0.15–0.43)	4 (2.3–6.9)	3.3 (1.1–5.9)	53 (17–94)	2.5 (2–3)	40 (33–48)
	2010	6	0.25 (0.15–0.43)	4 (2.3–6.8)	3.4 (1.1–5.9)	53 (17–93)	2.5 (2.1–3)	40 (33–48)
Morocco	1990	25	4.5 (2.1–8.7)	18 (8.4–35)	53 (17–100)	213 (70–409)	36 (25–50)	147 (102–201)
	1995	27	5 (3–7.8)	19 (11–29)	59 (23–100)	219 (84–376)	41 (33–49)	152 (123–183)
	2000	29	2.4 (1.6–3.8)	8.5 (5.7–13)	38 (11–66)	132 (39–228)	32 (27–36)	109 (95–125)
	2005	30	2.4 (1.6–3.8)	7.8 (5.1–12)	35 (11–61)	117 (36–202)	29 (25–33)	95 (82–109)
	2008	31	2.3 (1.5–3.6)	7.3 (4.9–11)	35 (10–60)	112 (33–193)	29 (25–33)	93 (80–106)
	2009	32	2.1 (1.4–3.2)	6.5 (4.5–10)	34 (9.3–59)	107 (29–186)	29 (25–33)	92 (80–105)
	2010	32	2 (1.4–3.1)	6.2 (4.4–9.7)	34 (8.9–58)	105 (28–182)	29 (25–33)	91 (80–104)
Oman	1990	2	0.043 (0.037–0.051)	2.3 (2–2.8)	0.74 (0.28–1.2)	40 (15–66)	0.55 (0.49–0.63)	30 (26–34)
	1995	2	0.025 (0.022–0.029)	1.1 (<1–1.3)	0.4 (0.13–0.69)	18 (5.7–31)	0.33 (0.29–0.37)	15 (13–17)
	2000	2	0.025 (0.022–0.031)	1.1 (<1–1.4)	0.42 (0.14–0.73)	19 (6.4–32)	0.33 (0.29–0.38)	15 (13–17)
	2005	2	0.025 (0.022–0.03)	1 (<1–1.2)	0.41 (0.14–0.7)	17 (5.7–29)	0.34 (0.3–0.38)	14 (12–15)
	2008	3	0.029 (0.025–0.035)	1.1 (<1–1.3)	0.49 (0.17–0.84)	19 (6.3–32)	0.39 (0.34–0.44)	15 (13–17)
	2009	3	0.029 (0.025–0.035)	1.1 (<1–1.3)	0.48 (0.16–0.82)	18 (5.8–30)	0.38 (0.33–0.43)	14 (12–16)
	2010	3	0.028 (0.024–0.033)	<1 (<1–1.2)	0.46 (0.15–0.78)	16 (5.3–28)	0.36 (0.32–0.41)	13 (12–15)
Pakistan	1990	112	79 (49–120)	71 (44–104)	630 (240–1200)	565 (216–1070)	260 (160–380)	231 (141–344)
	1995	127	89 (72–110)	70 (57–85)	710 (310–1200)	559 (243–929)	290 (240–360)	231 (188–279)
	2000	145	100 (82–120)	70 (57–85)	810 (350–1300)	562 (243–929)	330 (270–400)	231 (188–279)
	2005	159	81 (61–100)	51 (38–66)	720 (340–1200)	456 (212–744)	370 (300–440)	231 (188–279)
	2008	167	59 (39–84)	35 (23–50)	620 (270–1000)	371 (159–620)	390 (320–470)	231 (188–279)
	2009	170	58 (38–84)	34 (22–49)	620 (270–1000)	366 (156–614)	390 (320–470)	231 (189–278)
	2010	174	58 (39–84)	34 (22–49)	630 (270–1100)	364 (154–611)	400 (330–480)	231 (189–277)
Qatar	1990	<1	0.012 (0.011–0.015)	2.6 (2.2–3.1)	0.27 (0.085–0.46)	56 (18–96)	0.21 (0.19–0.24)	45 (39–51)
	1995	<1	0.021 (0.019–0.022)	4.1 (3.9–4.4)	0.49 (0.19–0.8)	97 (38–160)	0.35 (0.31–0.4)	70 (61–79)
	2000	<1	0.019 (0.016–0.022)	3.1 (2.7–3.8)	0.42 (0.14–0.71)	71 (24–120)	0.32 (0.28–0.36)	54 (48–61)
	2005	<1	0.022 (0.019–0.026)	2.7 (2.3–3.2)	0.51 (0.19–0.85)	62 (23–103)	0.37 (0.33–0.42)	46 (40–52)
	2008	1	0.038 (0.033–0.046)	2.7 (2.3–3.3)	0.89 (0.34–1.5)	64 (24–107)	0.65 (0.57–0.74)	47 (41–53)
	2009	2	0.041 (0.035–0.05)	2.6 (2.2–3.1)	0.95 (0.34–1.6)	59 (21–100)	0.71 (0.62–0.81)	45 (39–50)
	2010	2	0.037 (0.034–0.044)	2.1 (1.9–2.5)	0.78 (0.21–1.4)	45 (12–78)	0.67 (0.58–0.75)	38 (33–43)
Saudi Arabia	1990	16	0.22 (0.18–0.26)	1.3 (1.1–1.6)	3.7 (1.3–6.2)	23 (8.4–39)	2.8 (2.4–3.1)	17 (15–19)
	1995	18	0.25 (0.21–0.3)	1.3 (1.1–1.6)	4.3 (1.6–7.2)	23 (8.5–39)	3.1 (2.8–3.6)	17 (15–19)
	2000	20	0.31 (0.26–0.37)	1.5 (1.3–1.8)	5.1 (1.7–8.7)	26 (8.6–44)	4 (3.5–4.5)	20 (17–22)
	2005	24	0.31 (0.27–0.38)	1.3 (1.1–1.6)	5.2 (1.7–8.9)	22 (7.1–37)	4.1 (3.6–4.6)	17 (15–19)
	2008	26	0.36 (0.31–0.43)	1.4 (1.2–1.6)	5.9 (2–10)	23 (7.5–39)	4.6 (4–5.2)	18 (15–20)
	2009	27	0.36 (0.31–0.44)	1.4 (1.2–1.6)	6 (1.9–10)	22 (7.2–38)	4.7 (4.2–5.3)	18 (15–20)
	2010	27	0.39 (0.33–0.46)	1.4 (1.2–1.7)	6.6 (2.4–11)	24 (8.7–41)	5 (4.4–5.7)	18 (16–21)

[a] Rates are per 100 000 population.

TABLE A3.1 **Estimates of the burden of disease caused by TB, 1990–2010**

			MORTALITY (EXCLUDING HIV)		PREVALENCE (INCLUDING HIV)		INCIDENCE (INCLUDING HIV)	
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[a]	NUMBER (THOUSANDS)	RATE	NUMBER (THOUSANDS)	RATE
Somalia	1990	7	5.4 (3.3–8.2)	82 (49–124)	44 (17–83)	667 (263–1261)	19 (11–28)	285 (174–424)
	1995	7	5.1 (4–6.3)	78 (62–96)	42 (19–69)	641 (289–1055)	19 (15–22)	285 (232–344)
	2000	7	5.1 (3.9–6.4)	68 (53–86)	44 (20–71)	589 (274–963)	21 (17–25)	285 (232–344)
	2005	8	4.2 (3–5.7)	50 (36–68)	41 (19–67)	489 (222–805)	24 (19–29)	285 (232–344)
	2008	9	4.7 (3.4–6.3)	53 (39–70)	45 (21–73)	501 (233–819)	25 (21–31)	285 (232–344)
	2009	9	5 (3.6–6.5)	54 (40–71)	46 (21–75)	506 (235–826)	26 (21–31)	285 (233–343)
	2010	9	5.2 (3.9–6.7)	56 (42–72)	48 (23–78)	513 (242–834)	27 (22–32)	286 (235–342)
Sudan	1990	26	7.8 (4.3–12)	29 (16–47)	66 (27–130)	251 (101–482)	31 (19–47)	119 (72–177)
	1995	30	6.2 (4.3–8.5)	21 (14–28)	61 (28–100)	204 (91–337)	36 (29–43)	119 (97–143)
	2000	34	6.1 (4–8.7)	18 (12–25)	64 (28–110)	187 (82–311)	41 (33–49)	119 (97–143)
	2005	38	6.7 (4.5–9.6)	18 (12–25)	70 (31–120)	183 (81–305)	46 (37–55)	119 (97–143)
	2008	41	7.7 (5.4–11)	19 (13–26)	78 (35–130)	188 (86–309)	49 (40–59)	119 (97–143)
	2009	42	8.3 (5.9–11)	19 (14–26)	81 (38–130)	191 (89–313)	50 (41–61)	119 (97–143)
	2010	44	8.3 (5.9–11)	19 (14–26)	82 (38–130)	188 (88–307)	52 (43–62)	119 (98–142)
Syrian Arab Republic	1990	12	0.88 (0.41–1.7)	7.1 (3.4–14)	11 (3.4–20)	86 (28–166)	7.5 (5.2–10)	61 (42–82)
	1995	14	0.79 (0.47–1.3)	5.6 (3.3–8.9)	9.4 (3.6–16)	66 (25–115)	6.5 (5.3–7.8)	46 (37–55)
	2000	16	0.42 (0.28–0.68)	2.6 (1.8–4.3)	6.6 (1.8–12)	42 (12–73)	5.6 (4.7–6.4)	35 (30–40)
	2005	18	0.43 (0.27–0.72)	2.3 (1.4–3.9)	6.2 (1.9–11)	33 (10–58)	4.9 (4.1–5.7)	26 (22–31)
	2008	20	0.37 (0.23–0.64)	1.9 (1.1–3.2)	5.4 (1.6–9.6)	28 (8–49)	4.4 (3.6–5.3)	22 (18–27)
	2009	20	0.35 (0.22–0.6)	1.7 (1.1–3)	5.2 (1.5–9.2)	26 (7.4–46)	4.2 (3.5–5.1)	21 (17–25)
	2010	20	0.28 (0.19–0.49)	1.4 (<1–2.4)	4.7 (1.1–8.3)	23 (5.6–41)	4.1 (3.3–4.8)	20 (16–24)
Tunisia	1990	8	0.22 (0.12–0.43)	2.7 (1.5–5.2)	3.1 (0.89–5.7)	37 (11–69)	2.4 (1.7–3.1)	29 (21–38)
	1995	9	0.2 (0.14–0.31)	2.2 (1.5–3.5)	3.1 (0.9–5.4)	35 (10–60)	2.6 (2.2–2.9)	29 (25–33)
	2000	9	0.19 (0.12–0.3)	2 (1.3–3.2)	2.8 (0.85–4.9)	30 (9–52)	2.3 (2–2.6)	24 (21–28)
	2005	10	0.17 (0.12–0.27)	1.7 (1.2–2.7)	2.7 (0.78–4.6)	27 (7.9–47)	2.2 (1.9–2.5)	23 (20–26)
	2008	10	0.2 (0.13–0.31)	2 (1.3–3)	3 (0.92–5.2)	29 (9–51)	2.5 (2.2–2.8)	24 (21–27)
	2009	10	0.21 (0.14–0.32)	2 (1.4–3.1)	3.1 (0.98–5.4)	30 (9.5–52)	2.5 (2.2–2.9)	24 (21–28)
	2010	10	0.23 (0.15–0.35)	2.2 (1.5–3.3)	3.3 (1.1–5.6)	31 (10–53)	2.6 (2.3–2.9)	25 (22–28)
United Arab Emirates	1990	2	0.019 (0.017–0.02)	1 (<1–1.1)	0.28 (0.062–0.5)	15 (3.4–27)	0.082 (0.06–0.11)	4.5 (3.3–6)
	1995	2	0.034 (0.032–0.037)	1.5 (1.4–1.6)	0.51 (0.11–0.91)	22 (4.9–39)	0.11 (0.078–0.14)	4.6 (3.3–6)
	2000	3	0.015 (<0.01–0.023)	<1 (<1–<1)	0.3 (0.11–0.59)	9.9 (3.8–20)	0.17 (0.11–0.24)	5.5 (3.5–8)
	2005	4	0.017 (0.012–0.024)	<1 (<1–<1)	0.36 (0.15–0.64)	8.7 (3.7–16)	0.2 (0.14–0.26)	4.8 (3.4–6.4)
	2008	6	0.019 (0.014–0.026)	<1 (<1–<1)	0.41 (0.18–0.71)	6.6 (2.9–11)	0.22 (0.17–0.28)	3.6 (2.7–4.5)
	2009	7	0.02 (0.014–0.028)	<1 (<1–<1)	0.41 (0.18–0.74)	5.9 (2.5–11)	0.23 (0.17–0.3)	3.3 (2.4–4.3)
	2010	8	0.022 (0.016–0.031)	<1 (<1–<1)	0.47 (0.2–0.83)	6.2 (2.7–11)	0.23 (0.16–0.31)	3.1 (2.1–4.2)
West Bank and Gaza Strip	1990	2	0.038 (0.033–0.044)	1.8 (1.6–2.1)	0.35 (0.17–0.54)	17 (8–26)	0.18 (0.17–0.2)	8.7 (8–9.5)
	1995	3	0.061 (0.051–0.071)	2.3 (2–2.7)	0.52 (0.25–0.81)	20 (9.5–31)	0.25 (0.22–0.27)	9.5 (8.4–11)
	2000	3	0.079 (0.066–0.094)	2.5 (2.1–2.9)	0.66 (0.31–1.1)	21 (9.6–33)	0.3 (0.26–0.34)	9.4 (8.1–11)
	2005	4	0.075 (0.066–0.086)	2.1 (1.8–2.4)	0.61 (0.28–0.97)	17 (7.8–27)	0.26 (0.23–0.29)	7.4 (6.6–8.2)
	2008	4	0.062 (0.054–0.071)	1.6 (1.4–1.9)	0.51 (0.24–0.81)	13 (6.2–21)	0.23 (0.2–0.25)	5.9 (5.2–6.6)
	2009	4	0.058 (0.05–0.068)	1.5 (1.3–1.7)	0.48 (0.22–0.77)	12 (5.6–20)	0.21 (0.19–0.24)	5.4 (4.7–6.1)
	2010	4	0.055 (0.046–0.064)	1.4 (1.1–1.6)	0.45 (0.21–0.72)	11 (5.1–18)	0.2 (0.17–0.23)	4.9 (4.3–5.6)
Yemen	1990	12	3.7 (1.9–6.4)	31 (16–53)	33 (13–65)	277 (109–540)	16 (10–24)	137 (83–204)
	1995	15	3.1 (2–4.6)	20 (13–30)	33 (14–56)	219 (92–371)	21 (17–25)	137 (112–165)
	2000	18	3.1 (2–4.5)	17 (11–25)	33 (14–55)	184 (78–312)	20 (17–25)	116 (94–139)
	2005	21	2.9 (2–4)	14 (9.6–20)	29 (13–48)	139 (62–231)	17 (14–20)	81 (66–97)
	2008	23	2.1 (1.4–3.1)	9.5 (6.2–14)	22 (9.6–37)	99 (42–166)	14 (11–16)	60 (49–73)
	2009	23	1.8 (1.1–2.7)	7.7 (4.9–11)	20 (8.2–33)	85 (35–143)	13 (10–15)	54 (44–65)
	2010	24	1.4 (0.86–2.2)	5.9 (3.6–9.3)	17 (6.5–29)	71 (27–122)	12 (9.6–14)	49 (40–58)

[a] Rates are per 100 000 population.

Data can be downloaded from www.who.int/tb/data

TABLE A3.2 **Incidence, notification and case detection rates, all forms, 1990–2010**

			INCIDENCE (INCLUDING HIV)		INCIDENCE HIV-POSITIVE		NOTIFIED NEW AND RELAPSE[a]		CASE DETECTION RATE[a]
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[b]	NUMBER (THOUSANDS)	RATE[b]	NUMBER	RATE[b]	PERCENT
Afghanistan	1990	13	25 (15–37)	189 (115–281)			4 332	33	18 (12–29)
	1995	20	37 (30–45)	189 (154–228)					–
	2000	23	43 (35–52)	189 (154–228)			7 107	31	16 (14–20)
	2005	28	52 (42–63)	189 (154–228)			21 844	79	42 (35–51)
	2008	30	56 (46–68)	189 (154–228)			28 301	95	50 (42–62)
	2009	31	58 (47–69)	189 (155–227)			25 417	83	44 (37–54)
	2010	31	59 (49–71)	189 (155–226)			28 029	89	47 (39–57)
Bahrain	1990	<1	0.14 (0.12–0.16)	28 (25–32)			117	24	85 (75–96)
	1995	<1	0.057 (0.051–0.063)	10 (9.1–11)			43	8	76 (68–85)
	2000	<1	0.22 (0.19–0.25)	34 (30–39)			207	32	94 (83–109)
	2005	<1	0.31 (0.27–0.36)	43 (38–49)			280	39	90 (79–103)
	2008	1	0.36 (0.31–0.4)	34 (30–38)	0.011 (<0.01–0.022)	1.1 (<1–2.1)	304	29	85 (75–97)
	2009	1	0.36 (0.31–0.41)	30 (27–35)	0.012 (<0.01–0.022)	1 (<1–1.9)	326	28	91 (80–105)
	2010	1	0.29 (0.26–0.33)	23 (20–26)	0.011 (<0.01–0.021)	<1 (<1–1.7)	246	19	84 (75–95)
Djibouti	1990	<1	3.5 (2.2–5.1)	619 (390–901)	0.15 (0.015–0.42)	26 (2.7–76)	2 100	373	60 (41–96)
	1995	<1	3.9 (3.2–4.7)	619 (504–746)	0.35 (0.16–0.62)	56 (25–99)			–
	2000	<1	4.5 (3.8–5.3)	619 (526–721)	0.52 (0.35–0.72)	71 (48–98)	3 971	543	88 (75–103)
	2005	<1	5 (4.1–6)	619 (504–746)	0.59 (0.42–0.79)	73 (52–98)	3 109	385	62 (52–76)
	2008	<1	5.3 (4.3–6.4)	619 (504–746)	0.61 (0.41–0.85)	72 (48–100)	3 682	430	69 (58–85)
	2009	<1	5.4 (4.4–6.5)	620 (507–743)	0.62 (0.5–0.74)	71 (58–85)	3 783	434	70 (58–86)
	2010	<1	5.5 (4.5–6.6)	620 (510–741)	0.62 (0.49–0.77)	70 (56–86)	4 172	469	76 (63–92)
Egypt	1990	57	20 (16–23)	34 (29–40)	<0.01 (<0.01–0.01)	<1 (<1–<1)	2 142	4	11 (9–13)
	1995	62	20 (17–23)	32 (27–37)	0.011 (<0.01–0.023)	<1 (<1–<1)	11 145	18	57 (48–68)
	2000	68	17 (15–20)	26 (22–30)	0.02 (<0.01–0.035)	<1 (<1–<1)	10 762	16	62 (53–74)
	2005	74	16 (13–18)	21 (18–25)	0.035 (0.018–0.058)	<1 (<1–<1)	11 446	15	73 (62–86)
	2008	78	15 (13–18)	19 (16–22)	0.046 (0.023–0.076)	<1 (<1–<1)	9 452	12	63 (54–75)
	2009	80	15 (13–17)	19 (16–22)	0.05 (0.025–0.083)	<1 (<1–<1)	9 685	12	65 (56–77)
	2010	81	15 (12–17)	18 (15–21)	0.055 (0.028–0.09)	<1 (<1–<1)	9 260	11	64 (55–75)
Iran (Islamic Republic of)	1990	55	20 (12–29)	36 (22–53)	0.12 (0.053–0.21)	<1 (<1–<1)	9 255	17	47 (32–77)
	1995	60	21 (17–26)	36 (29–43)	0.19 (0.1–0.3)	<1 (<1–<1)	15 936	27	74 (62–91)
	2000	65	21 (17–25)	32 (26–38)	0.41 (0.24–0.62)	<1 (<1–<1)	11 850	18	58 (48–71)
	2005	70	17 (14–20)	24 (20–29)	0.58 (0.35–0.88)	<1 (<1–1.3)	9 192	13	54 (45–67)
	2008	72	14 (12–17)	20 (16–24)	0.49 (0.3–0.73)	<1 (<1–1)	9 453	13	66 (55–81)
	2009	73	14 (11–16)	19 (15–22)	0.47 (0.28–0.71)	<1 (<1–<1)	10 097	14	75 (62–91)
	2010	74	13 (10–15)	17 (14–21)	0.44 (0.26–0.66)	<1 (<1–<1)	10 362	14	81 (68–99)
Iraq	1990	17	11 (6.7–16)	64 (39–95)			14 735	85	133 (89–218)
	1995	20	13 (11–16)	64 (52–77)			9 697	48	75 (62–92)
	2000	24	15 (12–18)	64 (52–77)			9 697	41	64 (53–78)
	2005	27	17 (14–21)	64 (52–77)			9 454	35	54 (45–67)
	2008	30	19 (15–23)	64 (52–77)			9 099	31	48 (40–59)
	2009	31	20 (16–24)	64 (52–77)	<0.01 (<0.01–0.016)	<1 (<1–<1)	9 385	31	48 (40–59)
	2010	32	20 (17–24)	64 (52–77)	<0.01 (<0.01–0.015)	<1 (<1–<1)	9 707	31	48 (40–59)
Jordan	1990	3	0.54 (0.39–0.71)	16 (11–21)			439	13	82 (62–114)
	1995	4	0.55 (0.45–0.66)	13 (10–15)			498	11	91 (75–111)
	2000	5	0.4 (0.35–0.46)	8.4 (7.2–9.6)			306	6	76 (66–88)
	2005	5	0.36 (0.3–0.42)	6.7 (5.6–7.9)			367	7	103 (87–122)
	2008	6	0.35 (0.3–0.4)	6 (5.2–6.9)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	338	6	96 (84–112)
	2009	6	0.34 (0.3–0.39)	5.7 (4.9–6.6)			367	6	107 (93–124)
	2010	6	0.33 (0.29–0.38)	5.4 (4.7–6.2)			338	5	101 (89–117)
Kuwait	1990	2	0.33 (0.29–0.37)	16 (14–18)			277	13	83 (74–94)
	1995	2	0.37 (0.32–0.42)	23 (20–26)			336	21	90 (79–104)
	2000	2	0.59 (0.51–0.67)	30 (27–34)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	513	26	87 (77–100)
	2005	2	0.63 (0.56–0.71)	28 (25–31)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	517	23	82 (73–93)
	2008	3	0.96 (0.83–1.1)	38 (33–43)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	867	34	91 (80–104)
	2009	3	1.1 (0.93–1.2)	40 (35–46)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	933	35	88 (77–100)
	2010	3	1.1 (0.98–1.3)	41 (36–46)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	957	35	86 (76–98)
Lebanon	1990	3	0.95 (0.58–1.4)	32 (20–48)	0.01 (<0.01–0.022)	<1 (<1–<1)			–
	1995	3	1.1 (0.93–1.2)	31 (27–36)	0.055 (0.029–0.089)	1.6 (<1–2.6)	983	28	91 (79–106)
	2000	4	0.63 (0.54–0.72)	17 (14–19)	0.059 (0.035–0.09)	1.6 (<1–2.4)	571	15	91 (79–106)
	2005	4	0.43 (0.37–0.49)	11 (9.1–12)	0.039 (0.023–0.061)	<1 (<1–1.5)	391	10	92 (80–106)
	2008	4	0.57 (0.49–0.65)	14 (12–16)	0.049 (0.029–0.075)	1.2 (<1–1.8)	523	13	92 (80–106)
	2009	4	0.63 (0.55–0.73)	15 (13–17)	0.054 (0.034–0.077)	1.3 (<1–1.8)	499	12	79 (69–91)
	2010	4	0.72 (0.63–0.83)	17 (15–20)	0.059 (0.034–0.089)	1.4 (<1–2.1)	513	12	71 (62–82)
Libyan Arab Jamahiriya	1990	4	1.7 (1.4–2.1)	40 (32–48)			442	10	26 (21–31)
	1995	5	1.9 (1.6–2.3)	40 (32–48)			1 440	30	76 (63–93)
	2000	5	2.1 (1.7–2.5)	40 (32–48)			1 341	26	64 (53–79)
	2005	6	2.3 (2–2.7)	40 (34–46)			2 098	36	91 (79–107)
	2008	6	2.5 (2–3)	40 (32–48)			2 010	33	82 (68–101)
	2009	6	2.5 (2–3)	40 (33–48)			2 096	33	84 (70–103)
	2010	6	2.5 (2.1–3)	40 (33–48)			*2 127*	*33*	*84 (70–102)*
Morocco	1990	25	36 (25–50)	147 (102–201)	0.091 (0.036–0.17)	<1 (<1–<1)	27 658	112	76 (55–110)
	1995	27	41 (33–49)	152 (123–183)	0.18 (0.093–0.3)	<1 (<1–1.1)	29 829	111	73 (61–90)
	2000	29	32 (27–36)	109 (95–125)	0.25 (0.14–0.38)	<1 (<1–1.3)	28 852	100	92 (80–106)
	2005	30	29 (25–33)	95 (82–109)	0.27 (0.15–0.42)	<1 (<1–1.4)	26 269	86	91 (79–106)
	2008	31	29 (25–33)	93 (80–106)	0.35 (0.2–0.53)	1.1 (<1–1.7)	26 838	86	92 (81–107)
	2009	32	29 (25–33)	92 (80–105)	0.42 (0.23–0.67)	1.3 (<1–2.1)	27 348	86	94 (82–108)
	2010	32	29 (25–33)	91 (80–104)	0.5 (0.31–0.75)	1.6 (<1–2.3)	28 359	89	97 (85–112)
Oman	1990	2	0.55 (0.49–0.63)	30 (26–34)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	482	26	87 (77–99)
	1995	2	0.33 (0.29–0.37)	15 (13–17)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	276	12	84 (75–96)
	2000	2	0.33 (0.29–0.38)	15 (13–17)	<0.01 (<0.01–0.014)	<1 (<1–<1)	321	14	96 (84–111)
	2005	2	0.34 (0.3–0.38)	14 (12–15)	0.013 (<0.01–0.021)	<1 (<1–<1)	261	11	78 (70–87)
	2008	3	0.39 (0.34–0.44)	15 (13–17)	<0.01 (<0.01–0.017)	<1 (<1–<1)	350	13	90 (79–103)
	2009	3	0.38 (0.33–0.43)	14 (12–16)	<0.01 (<0.01–0.012)	<1 (<1–<1)	332	12	87 (77–99)
	2010	3	0.36 (0.32–0.41)	13 (12–15)	<0.01 (<0.01–0.01)	<1 (<1–<1)	308	11	85 (75–96)
Pakistan	1990	112	260 (160–380)	231 (141–344)	0.034 (<0.01–0.1)	<1 (<1–<1)	156 759	140	61 (41–100)
	1995	127	290 (240–360)	231 (188–279)	0.12 (0.046–0.24)	<1 (<1–<1)	13 142	10	4 (4–5)
	2000	145	330 (270–400)	231 (188–279)	0.41 (0.23–0.65)	<1 (<1–<1)	11 050	8	3 (3–4)
	2005	159	370 (300–440)	231 (188–279)	0.92 (0.53–1.4)	<1 (<1–<1)	142 017	90	39 (32–48)
	2008	167	390 (320–470)	231 (188–279)	1.1 (0.62–1.7)	<1 (<1–1)	245 635	147	63 (53–78)
	2009	170	390 (320–470)	231 (189–278)	1.1 (0.67–1.8)	<1 (<1–1)	264 248	155	67 (56–82)
	2010	174	400 (330–480)	231 (189–277)	1.2 (0.66–1.9)	<1 (<1–1.1)	261 199	150	65 (54–79)
Qatar	1990	<1	0.21 (0.19–0.24)	45 (39–51)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	184	39	87 (77–99)
	1995	<1	0.35 (0.31–0.4)	70 (61–79)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	304	61	87 (77–99)
	2000	<1	0.32 (0.28–0.36)	54 (48–61)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	279	47	87 (77–99)
	2005	<1	0.37 (0.33–0.42)	46 (40–52)			325	40	87 (77–99)
	2008	1	0.65 (0.57–0.74)	47 (41–53)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	567	41	87 (77–99)
	2009	2	0.71 (0.62–0.81)	45 (39–50)			619	39	87 (77–99)
	2010	2	0.67 (0.58–0.75)	38 (33–43)			580	33	87 (77–99)

[a] Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (in *italics*).
[b] Rates are per 100 000 population.

TABLE A3.2 **Incidence, notification and case detection rates, all forms, 1990–2010**

			INCIDENCE (INCLUDING HIV)		INCIDENCE HIV-POSITIVE		NOTIFIED NEW AND RELAPSE[a]		CASE DETECTION RATE[a]
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[b]	NUMBER (THOUSANDS)	RATE[b]	NUMBER	RATE[b]	PERCENT
Saudi Arabia	1990	16	2.8 (2.4–3.1)	17 (15–19)			2 415	15	87 (77–100)
	1995	18	3.1 (2.8–3.6)	17 (15–19)					–
	2000	20	4 (3.5–4.5)	20 (17–22)			3 452	17	87 (77–99)
	2005	24	4.1 (3.6–4.6)	17 (15–19)			3 539	15	87 (77–99)
	2008	26	4.6 (4–5.2)	18 (15–20)			4 025	15	87 (77–100)
	2009	27	4.7 (4.2–5.3)	18 (15–20)			4 043	15	86 (76–97)
	2010	27	5 (4.4–5.7)	18 (16–21)	0.12 (0.091–0.15)	<1 (<1–<1)	4 422	16	88 (77–100)
Somalia	1990	7	19 (11–28)	285 (174–424)	0.15 (<0.01–0.51)	2.3 (<1–7.7)			–
	1995	7	19 (15–22)	285 (232–344)	0.31 (0.088–0.66)	4.7 (1.3–10)	2 504	38	13 (11–17)
	2000	7	21 (17–25)	285 (232–344)	0.6 (0.25–1.1)	8.1 (3.4–15)	5 686	77	27 (22–33)
	2005	8	24 (19–29)	285 (232–344)	1.1 (0.68–1.7)	14 (8.1–21)	12 904	154	54 (45–66)
	2008	9	25 (21–31)	285 (232–344)	1.7 (1.1–2.5)	19 (12–28)	12 481	140	49 (41–60)
	2009	9	26 (21–31)	285 (233–343)	1.9 (1.1–2.8)	21 (13–31)	11 075	121	43 (35–52)
	2010	9	27 (22–32)	286 (235–342)	2.1 (1.6–2.7)	23 (18–29)	10 139	109	38 (32–46)
Sudan	1990	26	31 (19–47)	119 (72–177)	0.4 (0.017–1.4)	1.5 (<1–5.1)	212	<1	1 (0–1)
	1995	30	36 (29–43)	119 (97–143)	0.86 (0.19–2)	2.9 (<1–6.7)	14 320	48	40 (33–49)
	2000	34	41 (33–49)	119 (97–143)	1.8 (0.91–3)	5.3 (2.7–8.8)	24 807	73	61 (51–75)
	2005	38	46 (37–55)	119 (97–143)	3.7 (2.4–5.3)	9.7 (6.3–14)	27 562	72	60 (50–74)
	2008	41	49 (40–59)	119 (97–143)	5.5 (3.6–7.8)	13 (8.8–19)	24 281	59	49 (41–61)
	2009	42	50 (41–61)	119 (97–143)	6.3 (4.1–8.9)	15 (9.8–21)	26 001	61	51 (43–63)
	2010	44	52 (43–62)	119 (98–142)	7.1 (4.8–9.9)	16 (11–23)	26 131	60	50 (42–61)
Syrian Arab Republic	1990	12	7.5 (5.2–10)	61 (42–82)			6 018	49	81 (60–115)
	1995	14	6.5 (5.3–7.8)	46 (37–55)			4 404	31	68 (56–83)
	2000	16	5.6 (4.7–6.4)	35 (30–40)			5 090	32	92 (79–107)
	2005	18	4.9 (4.1–5.7)	26 (22–31)			4 310	23	89 (75–106)
	2008	20	4.4 (3.6–5.3)	22 (18–27)			3 724	19	85 (70–104)
	2009	20	4.2 (3.5–5.1)	21 (17–25)			4 050	20	96 (80–117)
	2010	20	4.1 (3.3–4.8)	20 (16–24)			3 666	18	90 (76–110)
Tunisia	1990	8	2.4 (1.7–3.1)	29 (21–38)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	2 054	25	87 (67–118)
	1995	9	2.6 (2.2–2.9)	29 (25–33)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	2 383	27	92 (81–106)
	2000	9	2.3 (2–2.6)	24 (21–28)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	2 038	22	90 (78–104)
	2005	10	2.2 (1.9–2.5)	23 (20–26)	0.011 (<0.01–0.018)	<1 (<1–<1)	2 079	21	93 (82–107)
	2008	10	2.5 (2.2–2.8)	24 (21–27)	0.017 (<0.01–0.027)	<1 (<1–<1)	2 280	22	92 (82–105)
	2009	10	2.5 (2.2–2.9)	24 (21–28)	0.019 (0.01–0.031)	<1 (<1–<1)	2 155	21	85 (76–97)
	2010	10	2.6 (2.3–2.9)	25 (22–28)	0.022 (0.012–0.035)	<1 (<1–<1)	2 368	23	91 (81–104)
United Arab Emirates	1990	2	0.082 (0.06–0.11)	4.5 (3.3–6)			285	16	348 (264–479)
	1995	2	0.11 (0.078–0.14)	4.6 (3.3–6)					–
	2000	3	0.17 (0.11–0.24)	5.5 (3.5–8)			115	4	68 (47–107)
	2005	4	0.2 (0.14–0.26)	4.8 (3.4–6.4)			103	3	53 (40–74)
	2008	6	0.22 (0.17–0.28)	3.6 (2.7–4.5)			93	1	42 (33–54)
	2009	7	0.23 (0.17–0.3)	3.3 (2.4–4.3)			116	2	51 (38–70)
	2010	8	0.23 (0.16–0.31)	3.1 (2.1–4.2)	<0.01 (<0.01–0.013)	<1 (<1–<1)	131	2	57 (42–83)
West Bank and Gaza Strip	1990	2	0.18 (0.17–0.2)	8.7 (8–9.5)			64	3	35 (32–38)
	1995	3	0.25 (0.22–0.27)	9.5 (8.4–11)			77	3	31 (28–35)
	2000	3	0.3 (0.26–0.34)	9.4 (8.1–11)			82	3	27 (24–32)
	2005	4	0.26 (0.23–0.29)	7.4 (6.6–8.2)			28	<1	11 (10–12)
	2008	4	0.23 (0.2–0.25)	5.9 (5.2–6.6)			40	1	18 (16–20)
	2009	4	0.21 (0.19–0.24)	5.4 (4.7–6.1)			35	<1	16 (15–19)
	2010	4	0.2 (0.17–0.23)	4.9 (4.3–5.6)			31	<1	16 (14–18)
Yemen	1990	12	16 (10–24)	137 (83–204)			4 650	39	28 (19–47)
	1995	15	21 (17–25)	137 (112–165)			14 428	95	69 (58–85)
	2000	18	20 (17–25)	116 (94–139)			13 651	77	67 (55–82)
	2005	21	17 (14–20)	81 (66–97)			9 063	44	54 (45–67)
	2008	23	14 (11–16)	60 (49–73)			8 290	37	61 (50–75)
	2009	23	13 (10–15)	54 (44–65)			8 562	37	67 (56–83)
	2010	24	12 (9.6–14)	49 (40–58)			8 916	37	76 (63–92)

[a] Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (in *italics*).
[b] Rates are per 100 000 population.

Data can be downloaded from www.who.int/tb/data

TABLE A3.3 **Case notifications, 1990–2010**

	NEW AND RELAPSE NOTIFICATION RATE[a] 1990–2010	YEAR	NEW AND RELAPSE[a]	NEW CASES: SMEAR-POSITIVE	NEW CASES: SMEAR-NEGATIVE/ UNKNOWN	NEW CASES: EXTRA-PULMONARY	NEW CASES: OTHER	RELAPSE	RE-TREAT EXCL. RELAPSE	TOTAL RETREAT	HISTORY UNKNOWN	% SMEAR-POS AMONG NEW PULM
Afghanistan		1990	4 332									–
		1995										–
		2000	7 107	2 892	2 358	1 620		237		237		55
		2005	21 844	9 949	6 085	4 954		856		856		62
		2008	28 301	13 136	7 903	6 127	0	1 135	0	1 135	0	62
		2009	25 417	12 497	6 108	5 730		1 082	208	1 290	733	67
	• 33 89 •	2010	28 029	12 947	7 085	6 248	633	1 116	209	1 325		65
Bahrain		1990	117									–
		1995	43	17	14	85		0		0		55
		2000	207	23	16	8						59
		2005	280	101	72	107	0	0	0	0	0	58
		2008	304	141	59	104	0	0	0	0	0	71
		2009	326	131	74	121	0	0	0	0	0	64
	• 24 19 •	2010	246	90	58	98	0	0	0	0	0	61
Djibouti		1990	2 100									–
		1995										–
		2000	3 971	1 391	518	1 875		184		184		73
		2005	3 109	1 120	739	1 058	0	192	61	253	0	60
		2008	3 682	1 375	477	1 669		161	35	196		74
		2009	3 783	1 377	507	1 710	0	189	21	210	0	73
	• 373 469 •	2010	4 172	1 181	538	2 253	0	200	19	219	0	69
Egypt		1990	2 142									–
		1995	11 145	4 229	9 204	4 684		753		753		31
		2000	10 762	4 606	2 693	2 843		620		620		63
		2005	11 446	5 217	2 617	3 163	0	449	289	738	0	67
		2008	9 452	5 102	1 190	2 676	0	484	308	792	0	81
		2009	9 685	5 201	1 238	2 850	0	396	352	748	0	81
	• 4 11 •	2010	9 260	4 679	1 158	3 048	0	375	328	703	0	80
Iran (Islamic Republic of)		1990	9 255									–
		1995	15 936	5 347	6 432	3 779		477		477		45
		2000	11 850	5 361	2 642	3 442		405		405		67
		2005	9 192	4 581	1 807	2 530		274	154	428	20	72
		2008	9 453	4 722	1 865	2 569	0	297	126	423	0	72
		2009	10 097	5 152	1 926	2 685	0	334	439	773	0	73
	• 17 14 •	2010	10 362	5 188	1 985	2 869	0	320	440	760	0	72
Iraq		1990	14 735	1 587	12 394	754						11
		1995	9 697	3 194	13 962	1 367		68		68		19
		2000	9 697	3 194	3 188	2 753		562		562		50
		2005	9 454	3 096	2 887	2 703		768		768		52
		2008	9 099	3 150	2 727	2 718	0	504	181	685	0	54
		2009	9 385	3 347	2 666	2 904	0	468	283	751	0	56
	• 85 31 •	2010	9 707	3 618	2 693	3 009	0	387	390	777	0	57
Jordan		1990	439									–
		1995	498	187	210	101		6		6		47
		2000	306	89	69	145		3		3		56
		2005	367	86	76	187	12	6	4	10	0	53
		2008	338	104	68	165	0	1	0	1	18	60
		2009	367	109	64	190	0	4	16	20	4	63
	• 13 5 •	2010	338	117	69	150	0	2	16	18	0	63
Kuwait		1990	277									–
		1995	336	175	42	115	0	4	0	4	0	81
		2000	513	180	89	244	0	0	0	0	0	67
		2005	517	187	95	234	0	1	0	1	0	66
		2008	867	345	158	363	0	1	0	1	0	69
		2009	933	386	155	391	0	1	0	1	0	71
	• 13 35 •	2010	957	385	163	407	0	2	0	2	0	70
Lebanon		1990										–
		1995	983	197	528	255		3		3		27
		2000	571	202	149	214		6		6		58
		2005	391	131	75	181	0	4	0	4	0	64
		2008	523	158	123	231	0	11	0	11	0	56
		2009	499	179	94	218	0	8	2	10	0	66
	– 12 •	2010	513	194	99	210	0	10	2	12	0	66
Libyan Arab Jamahiriya		1990	442									–
		1995	1 440		626	814						–
		2000	1 341	607	82	652						88
		2005	2 098	860	474	762		2	269	271		64
		2008	2 010	871	390	749	0					69
		2009	2 096	936	455	696	0	9	14	23	0	67
	• 10 *33* •	2010	*2 127*									–
Morocco		1990	27 658									–
		1995	29 829	14 171	4 095	11 563						78
		2000	28 852	12 872	2 934	13 046						81
		2005	26 269	12 757	2 142	11 370	0					86
		2008	26 838	11 825	2 002	11 646	0	1 365	281	1 646	0	86
		2009	27 348	11 907	2 021	12 131	0	1 289	316	1 605	0	85
	• 112 89 •	2010	28 359	12 239	2 174	12 730	0	1 216	429	1 645	0	85
Oman		1990	482									–
		1995	276	135	60	81		0		0		69
		2000	321	164	37	112		8		8		82
		2005	261	131	37	89		4		4		78
		2008	350	171	48	129	0	2	2	4	0	78
		2009	332	164	36	127	0	5	2	7	0	82
	• 26 11 •	2010	308	152	28	124	0	4	5	9	0	84
Pakistan		1990	156 759									–
		1995	13 142	2 578	3 806	3 037		184		184		40
		2000	11 050	3 285	5 578	1 846		341		341		37
		2005	142 017	48 220	68 337	22 789		2 671	2 754	5 425		41
		2008	245 635	100 102	106 207	34 386		4 940	3 043	7 983		49
		2009	264 248	101 887	112 948	43 416		5 997	3 203	9 200		47
	• 140 150 •	2010	261 199	104 263	105 623	45 443	0	5 870	5 055	10 925	3 036	50
Qatar		1990	184									–
		1995	304	60	135	109		1		1		31
		2000	279	53	98	128		0		0		35
		2005	325	96	73	156		0	0	0		57
		2008	567	201	112	254	0	0	0	0	0	64
		2009	619	220	102	297	0	0	0	0	0	68
	• 39 33 •	2010	580	223	101	256	0	0	0	0	0	69

[a] Rates are per 100 000 population. Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (*in italics*).

TABLE A3.3 **Case notifications, 1990–2010**

	NEW AND RELAPSE NOTIFICATION RATE[a] 1990–2010	YEAR	NEW AND RELAPSE[a]	NEW CASES: SMEAR-POSITIVE	NEW CASES: SMEAR-NEGATIVE/ UNKNOWN	NEW CASES: EXTRA-PULMONARY	NEW CASES: OTHER	RELAPSE	RE-TREAT EXCL. RELAPSE	TOTAL RETREAT	HISTORY UNKNOWN	% SMEAR-POS AMONG NEW PULM
Saudi Arabia		1990	2 415									–
		1995										–
		2000	3 452	1 595	722	1 023		112		112		69
		2005	3 539	1 722	545	1 067	0	205		205		76
		2008	4 025	2 108	545	1 266		106	39	145		79
		2009	4 043	2 201	578	1 170		94	50	144		79
	• 15 16 •	2010	4 422	2 302	687	1 311	0	122	84	206	43	77
Somalia		1990										–
		1995	2 504	1 572	692	318		134		134		69
		2000	5 686	3 776	837	722		351		351		82
		2005	12 904	7 068	3 168	2 258	0	410	102	512	0	69
		2008	12 481	6 520	2 983	2 357	0	621	0	621	0	69
		2009	11 075	6 047	2 604	1 965	0	459	196	655	0	70
	– 109 •	2010	10 139	5 225	2 654	1 885	0	375	330	705	0	66
Sudan		1990	212									–
		1995	14 320	8 761	2 655	1 675		474		474		77
		2000	24 807	12 311	6 512	3 843		2 141		2 141		65
		2005	27 562	12 730	9 212	5 434	0	186	1 616	1 802		58
		2008	24 281	10 800	7 849	4 715	0	917	1 163	2 080	0	58
		2009	26 001	10 541	8 897	5 530	76	957	1 036	1 993		54
	• 1 60 •	2010	26 131	9 958	9 144	6 217		812	1 110	1 922		52
Syrian Arab Republic		1990	6 018									–
		1995	4 404	1 295	1 507	1 574		28		28		46
		2000	5 090	1 584	1 409	2 000		97		97		53
		2005	4 310	1 350	796	2 103	0	61	83	144		63
		2008	3 724	1 116	667	1 888	0	53	214	267	0	63
		2009	4 050	1 143	796	2 036	0	75	101	176	0	59
	• 49 18 •	2010	3 666	1 122	544	1 948	0	52	54	106	107	67
Tunisia		1990	2 054									–
		1995	2 383	1 243	407	733						75
		2000	2 038	1 099	179	727		61		61		86
		2005	2 079	915	239	874		51		51		79
		2008	2 280	1 005	355	882		38		38		74
		2009	2 155	931	232	950		42		42		80
	• 25 23 •	2010	2 368	1 091	151	1 090		36		36		88
United Arab Emirates		1990	285									–
		1995										–
		2000	115	73	3	41		0		0		96
		2005	103	62	12	25	0	4	2	6	0	84
		2008	93	50	17	25	0	1	0	1	0	75
		2009	116	71	15	30	0	0	0	0	0	83
	• 16 2 •	2010	131	56	28	47	0	0	1	1	0	67
West Bank and Gaza Strip		1990	64									–
		1995	77	9	58	10						13
		2000	82	37								–
		2005	28	7	6	15						54
		2008	40	16	3	21	0	0	1	1	0	84
		2009	35	10	9	15	0	1	1	2	0	53
	• 3 1 •	2010	31	13	6	12	0	0	0	0	0	68
Yemen		1990	4 650	0								–
		1995	14 428	3 681	7 390	3 082		275		275		33
		2000	13 651	5 565	4 176	3 470		440		440		57
		2005	9 063	3 379	2 780	2 553		351		351		55
		2008	8 290	3 540	2 032	2 307	0	411		411		64
		2009	8 562	3 576	2 108	2 564	0	314	0	314	0	63
	• 39 37 •	2010	8 916	3 584	2 313	2 715	0	304	134	438	0	61

[a] Rates are per 100 000 population. Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (*in italics*).

Data can be downloaded from www.who.int/tb/data

TABLE A3.4 **Treatment outcomes, new smear-positive cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Afghanistan		1995			–						
		2000	2 892	3 136	108	76	9	3	3	6	2
		2005	9 949	10 013	101	83	7	2	1	2	5
		2007	13 213	13 213	100	82	5	2	1	2	8
		2008	13 136	13 136	100	83	5	2	1	2	7
	– 86 •	2009	12 497	12 497	100	83	4	2	1	2	9
Bahrain		1995	17		–						
		2000	23	22	96	73	0	27	0	0	0
		2005	101	15	15	93	0	7	0	0	0
		2007	109	160	147	14	0	4	0	0	82
		2008	141	142	101	8	0	1	0	0	90
	– 98 •	2009	131	192	147	98	0	2	0	0	0
Djibouti		1995		1 751	–	60	16	3	1	20	1
		2000	1 391	1 391	100	48	14	2	1	21	14
		2005	1 120	1 120	100	71	9	1	1	16	2
		2007	1 208	1 205	100	72	9	1	1	14	2
		2008	1 375	1 375	100	78	6	1	0	13	2
	• 75 79 •	2009	1 377	1 277	93	72	7	1	1	17	3
Egypt		1995	4 229	2 118	50	38	24	2	3	19	14
		2000	4 606	4 611	100	75	12	3	2	5	3
		2005	5 217	5 154	99	66	13	3	2	3	13
		2007	4 887	4 887	100	72	16	3	2	3	3
		2008	5 102	5 101	100	69	20	3	3	3	3
	• 62 88 •	2009	5 201	5 201	100	72	16	3	2	4	3
Iran (Islamic Republic of)		1995	5 347		–						
		2000	5 361	5 866	109	81	4	6	2	3	3
		2005	4 581	4 581	100	78	5	7	3	3	4
		2007	4 701	4 707	100	76	6	8	2	3	5
		2008	4 722	4 824	102	78	6	8	3	2	3
	– 83 •	2009	5 152	5 201	101	77	6	7	3	2	5
Iraq		1995	3 194	11 553	362	60	20	0	5	10	5
		2000	3 194	3 194	100	86	5	3	2	3	1
		2005	3 096	3 096	100	76	10	3	2	7	3
		2007	2 726	2 726	100	78	8	2	2	8	2
		2008	3 150	3 150	100	79	9	3	2	6	1
	• 80 90 •	2009	3 347	3 347	100	80	10	2	1	6	1
Jordan		1995	187	193	103	91	1	3	1	2	3
		2000	89	89	100	89	1	2	1	4	2
		2005	86	86	100	71	12	5	7	6	0
		2007	109	109	100	66	11	5	0	9	9
		2008	104	104	100	73	11	3	1	4	9
	• 92 75 •	2009	109	109	100	54	21	6	7	11	0
Kuwait		1995	175	175	100	40	31	3	0	1	25
		2000	180	180	100	54	15	1	0	9	21
		2005	187	187	100	53	10	1	0	7	29
		2007	274	274	100	41	38	0	0	7	14
		2008	345	345	100	43	37	0	0	7	12
	• 71 85 •	2009	386	386	100	41	44	0	0	4	11
Lebanon		1995	197	200	102	35	56	0	0	10	0
		2000	202	190	94	89	3	4	1	3	1
		2005	131	131	100	81	11	2	1	6	0
		2007	143	143	100	78	12	1	1	4	4
		2008	158	158	100	63	13	3	1	2	18
	• 91 82 •	2009	179	179	100	65	17	6	1	2	10
Libyan Arab Jamahiriya		1995		626	–	65	0	1	1	33	0
		2000	607		–						
		2005	860	860	100	40	29	2	0	27	2
		2007	772	772	100	43	24	2	0	27	4
		2008	871	872	100	52	17	3	1	24	4
	• 65 –	2009	936		–						
Morocco		1995	14 171	14 171	100	75	14	2	1	7	1
		2000	12 872	12 872	100	82	7	3	1	7	1
		2005	12 757	12 683	99	76	5	2	1	9	7
		2007	11 937	11 937	100	78	8	2	1	10	1
		2008	11 825	11 956	101	79	7	2	1	10	1
	• 90 84 •	2009	11 907	11 935	100	77	8	2	2	9	2
Oman		1995	135	93	69	84	0	9	1	1	5
		2000	164	112	68	93	0	4	3	0	0
		2005	131	104	79	90		10			0
		2007	187	187	100	91	0	9	0	0	0
		2008	171	171	100	96	2	2	0	0	0
	• 84 98 •	2009	164	334	204	49	49	2	0	0	0
Pakistan		1995	2 578	802	31	51	20	4	1	20	4
		2000	3 285	4 074	124	58	16	4	1	17	4
		2005	48 220	48 205	100	71	13	3	1	9	4
		2007	88 747	88 502	100	77	14	2	1	4	2
		2008	100 102	100 103	100	74	16	2	1	5	3
	• 70 91 •	2009	101 887	101 809	100	74	17	2	1	4	2
Qatar		1995	60	43	72	81	0	5	0	0	14
		2000	53	53	100	66	0	8	0	0	26
		2005	96	96	100	74	9	1	0	0	16
		2007	116	116	100	60	7	0	0	1	32
		2008	201	201	100	60	13	1	0	0	26
	• 81 80 •	2009	220	5	2	80	0	0	0	20	0
Saudi Arabia		1995			–						
		2000	1 595	1 285	81	62	11	7	0	13	6
		2005	1 722	1 722	100	60	5	7	1	10	17
		2007	1 984	1 920	97	59	8	6	1	13	12
		2008	2 108	2 104	100	54	6	6	2	8	24
	– 65 •	2009	2 201	2 201	100	54	11	6	1	10	18
Somalia		1995	1 572	1 278	81	82	4	4	5	5	0
		2000	3 776	3 776	100	81	2	4	2	3	9
		2005	7 068	7 059	100	85	4	4	1	4	2
		2007	6 130	6 150	100	82	4	4	2	3	5
		2008	6 520	6 520	100	78	3	3	2	3	11
	• 86 85 •	2009	6 047	6 047	100	83	2	4	2	3	7
Sudan		1995	8 761	8 326	95	44	35	2	7	11	1
		2000	12 311	14 599	119	50	25	4	2	9	11
		2005	12 730	12 730	100	64	18	3	1	9	5
		2007	12 627	12 958	103	60	18	3	1	7	11
		2008	10 800	10 766	100	62	20	3	1	10	5
	• 79 80 •	2009	10 541	10 883	103	62	19	3	1	10	6

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

TABLE A3.4 **Treatment outcomes, new smear-positive cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Syrian Arab Republic		1995	1 295	1 295	100	45	16	2	9	24	5
		2000	1 584	1 562	99	69	10	4	3	11	4
		2005	1 350	1 350	100	76	13	3	2	6	1
		2007	1 155	1 155	100	76	13	3	1	6	2
		2008	1 116	1 115	100	86		3	2	6	2
	• 61 88 •	2009	1 143	1 144	100	76	12	4	1	4	3
Tunisia		1995	1 243		–						
		2000	1 099	1 099	100	87	4	3	2	2	2
		2005	915	910	99	83	7	2	1	2	4
		2007	941	941	100	74	15	3	1	2	4
		2008	1 005	967	96	76	10	3	1	2	8
	– 83 •	2009	931	931	100	72	11	3	2	3	9
United Arab Emirates		1995			–						
		2000	73	73	100	56	18	7	4	5	10
		2005	62	62	100	42	31	6	0	15	6
		2007	56	59	105	20	44	12	3	20	0
		2008	50	53	106	25	43	9	0	23	0
	– 73 •	2009	71	71	100	21	52	11	1	14	0
West Bank and Gaza Strip		1995	9	13	144	100					0
		2000	37		–						
		2005	7	12	171	58	42	0	0	0	0
		2007	13	14	108	50	43	0	7	0	0
		2008	16	16	100	38	56	0	0	6	0
	• 100 82 •	2009	10	11	110	18	64	9	0	9	0
Yemen		1995	3 681	3 681	100	43	9	1	1	35	11
		2000	5 565	5 565	100	59	13	3	1	14	10
		2005	3 379	3 566	106	69	11	3	1	6	10
		2007	3 537	3 523	100	75	9	3	1	5	6
		2008	3 540	3 540	100	75	9	3	1	5	7
	• 52 88 •	2009	3 576	3 557	99	79	9	3	1	4	4

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

Data can be downloaded from www.who.int/tb/data

TABLE A3.5 **Treatment outcomes, retreatment cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Afghanistan		1995			–						
		2000	237	304	128	73	5	4	4	11	3
		2005	856	856	100	87	2	3	1	2	5
		2007	1 078	1 078	100	80	3	4	2	2	9
		2008	1 135		–						
	– –	2009	1 290		–						
Bahrain		1995	0		–						
		2000			–						
		2005	0		–						
		2007	2	0	0	–	–	–	–	–	–
		2008	0	0	–	–	–	–	–	–	–
	– –	2009	0	0	–	–	–	–	–	–	–
Djibouti		1995			–						
		2000	184	268	146	27	9	0	3	22	37
		2005	253	253	100	58	10	3	2	24	2
		2007	228	192	84	56	11	2	3	23	5
		2008	196	196	100	66	9	3	2	14	6
	– 75 •	2009	210	194	92	67	8	3	2	18	3
Egypt		1995	753		–						
		2000	620	956	154	52	11	7	12	13	5
		2005	738	738	100	41	17	10	12	8	12
		2007	585	585	100	49	16	8	10	8	9
		2008	792	779	98	39	32	8	8	9	4
	– 78 •	2009	748	748	100	39	39	6	5	7	4
Iran (Islamic Republic of)		1995	477		–						
		2000	405	606	150	63	13	6	5	6	7
		2005	428	448	105	68	8	9	3	4	8
		2007	444	447	101	68	9	8	3	5	8
		2008	423	692	164	57	15	8	4	5	11
	– 73 •	2009	773	708	92	48	25	8	3	5	11
Iraq		1995	68		–						
		2000	562		–						
		2005	768	953	124	60	12	4	8	12	4
		2007	554	797	144	58	14	4	4	17	2
		2008	685	685	100	62	18	2	4	11	2
	– 84 •	2009	751	751	100	57	27	3	3	9	1
Jordan		1995	6		–						
		2000	3	6	200	83	17	0	0	0	0
		2005	10		–						
		2007	11	3	27	0	67	33	0	0	0
		2008	1	12	1 200	8	67	0	8	17	0
	– 79 •	2009	20	24	120	17	63	4	0	17	0
Kuwait		1995	4		–						
		2000	0		–						
		2005	1	1	100	0	100	0	0	0	0
		2007	1	1	100	0	100	0	0	0	0
		2008	1	1	100	0	100	0	0	0	0
	– 100 •	2009	1	1	100	0	100	0	0	0	0
Lebanon		1995	3		–						
		2000	6	5	83	80					20
		2005	4	4	100	75	25	0	0	0	0
		2007	3	3	100	67	33	0	0	0	0
		2008	11	11	100	55	9	27	0	0	9
	– 80 •	2009	10	10	100	60	20	0	0	0	20
Libyan Arab Jamahiriya		1995			–						
		2000			–						
		2005	271		–						
		2007	0	0	–	–	–	–	–	–	–
		2008		32	–	6	31	0	0	63	0
	– –	2009	23		–						
Morocco		1995		1 469	–	65	12	4	4	10	7
		2000			–						
		2005		1 650	–	55	17	4	5	14	5
		2007		1 421	–	65	8	4	3	14	6
		2008	1 646	1 535	93	65	8	4	5	18	1
	• 76 69 •	2009	1 605	1 668	104	60	9	4	3	16	8
Oman		1995	0		–						
		2000	8	7	88	86	0	0	14	0	0
		2005	4		–						
		2007	6	6	100	100	0	0	0	0	0
		2008	4	4	100	50	50	0	0	0	0
	– 100 •	2009	7	7	100	57	43	0	0	0	0
Pakistan		1995	184	374	203	48	22	2	5	24	0
		2000	341	907	266	37	17	6	3	29	8
		2005	5 425	5 009	92	61	15	5	3	11	5
		2007	7 738	7 184	93	61	18	4	3	11	3
		2008	7 983	7 685	96	62	17	5	3	10	4
	• 70 82 •	2009	9 200	8 801	96	63	18	4	3	8	3
Qatar		1995	1	3	300	67	0	0	0	0	33
		2000	0		–						
		2005	0		–						
		2007	0	0	–	–	–	–	–	–	–
		2008	0	0	–	–	–	–	–	–	–
	• 67 –	2009	0	0	–	–	–	–	–	–	–
Saudi Arabia		1995			–						
		2000	112	139	124	43	15	7	3	13	19
		2005	205	96	47	40	9	9	5	18	19
		2007	150	133	89	46	16	6	3	27	2
		2008	145	141	97	34	10	5	4	16	31
	– 60 •	2009	144	151	105	45	15	8	1	17	14
Somalia		1995	134		–						
		2000	351	351	100	53	1	5	5	3	34
		2005	512	524	102	76	5	6	2	5	6
		2007	497	0	0	–	–	–	–	–	–
		2008	621	621	100	48	4	5	2	3	38
	– 60 •	2009	655	655	100	50	10	6	4	3	27
Sudan		1995	474		–						
		2000	2 141		–						
		2005	1 802	1 828	101	53	29	3	1	9	6
		2007	2 095	1 914	91	50	30	3	0	6	11
		2008	2 080	1 953	94	39	35	2	1	14	8
	– 70 •	2009	1 993	2 147	108	33	38	3	1	15	10

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

TABLE A3.5 **Treatment outcomes, retreatment cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Syrian Arab Republic		1995	28		–						
		2000	97	189	195	44	10	4	20	15	7
		2005	144	144	100	53	14	5	9	19	0
		2007	148	279	189	25	47	5	8	13	3
		2008	267	266	100	26	51	5	5	12	3
	– 70 •	2009	176	176	100	48	22	9	4	15	3
Tunisia		1995			–						
		2000	61	42	69	74	0	5	2	10	10
		2005	51		–						
		2007	27		–						
		2008	38		–						
	– –	2009	42		–						
United Arab Emirates		1995			–						
		2000	0		–						
		2005	6	5	83	80	0	0	0	20	0
		2007	5	5	100	40	0	0	20	20	20
		2008	1	1	100	100	0	0	0	0	0
	– –	2009	0	0	–	–	–	–	–	–	–
West Bank and Gaza Strip		1995			–						
		2000			–						
		2005		0	–	–	–	–	–	–	–
		2007	1	0	0	–	–	–	–	–	–
		2008	1	0	0	–	–	–	–	–	–
	– –	2009	2	0	0	–	–	–	–	–	–
Yemen		1995	275	14	5	29	14	21	14	14	7
		2000	440	437	99	64	8	7	6	11	4
		2005	351	351	100	48	9	2	3	7	30
		2007	325	324	100	64	7	4	3	7	15
		2008	411	376	91	66	9	3	3	9	10
	• 43 77 •	2009	314	291	93	70	7	3	4	7	9

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

Data can be downloaded from www.who.int/tb/data

TABLE A3.6 **HIV testing and provision of CPT, ART and IPT, 2005–2010**

	% OF TB PATIENTS WITH KNOWN HIV STATUS 2005–2010	YEAR	% OF TB PATIENTS WITH KNOWN HIV STATUS	NUMBER OF TB PATIENTS WITH KNOWN HIV STATUS	PATIENTS NOTIFIED (NEW AND RETREAT)	NUMBER OF HIV-POSITIVE TB PATIENTS	% OF TESTED TB PATIENTS HIV-POSITIVE	% OF HIV-POSITIVE TB PATIENTS ON CPT	% OF HIV-POSITIVE TB PATIENTS ON ART	NUMBER OF HIV-POSITIVE PEOPLE PROVIDED IPT
Afghanistan		2005	–		21 844		–	–	–	
		2008	0	0	28 301	0	–	–	–	
		2009	4	1 175	26 358	5	0	100	100	
	– 18	2010	18	5 170	28 238	0	0	–	–	
Bahrain		2005	46	128	280	6	5	0	0	
		2008	72	218	304	7	3	0	14	0
		2009	79	256	326	8	3	0	13	
	46 65	2010	65	161	246	6	4	0	0	
Djibouti		2005	7	224	3 170	135	60	15	15	0
		2008	44	1 638	3 717	191	12	85	29	0
		2009	55	2 091	3 804	207	10	–	23	
	7 52	2010	52	2 163	4 191	248	11	–	11	
Egypt		2005	–		11 735		–	–	–	
		2008	5	521	9 760	9	2	100	100	0
		2009	32	3 204	10 037	11	0	100	100	1
	– 47	2010	47	4 483	9 588	7	0	0	71	0
Iran (Islamic Republic of)		2005	–		9 366		–	–	–	
		2008	7	670	9 579	213	32	8	13	443
		2009	7	700	10 536	223	32	13	21	418
	– 8	2010	8	864	10 802	232	27	12	19	161
Iraq		2005	–		9 454		–	–	–	
		2008	49	4 513	9 280	1	0	100	0	45
		2009	63	6 121	9 668	1	0	100	0	0
	– 66	2010	66	6 711	10 097	1	0	100	0	0
Jordan		2005	23	86	371	0	0	–	–	
		2008	29	104	356	0	0	–	–	0
		2009	100	387	387	0	0	–	–	2
	23 100	2010	100	354	354	0	0	–	–	0
Kuwait		2005	100	517	517	3	1	100	100	
		2008	100	867	867	2	0	100	100	0
		2009	100	933	933	4	0	100	100	0
	100 100	2010	100	957	957	3	0	100	100	
Lebanon		2005	1	3	391	3	100	–	–	
		2008	28	144	523	10	7	100	100	5
		2009	59	298	501	25	8	100	100	19
	1 46	2010	46	238	515	19	8	100	100	68
Libyan Arab Jamahiriya		2005	–		2 367		–	–	–	
		2008	48	970	2 010	174	18	–	–	144
		2009	45	950	2 110	144	15	–	–	
	– –	2010	–				–	–	–	
Morocco		2005	–		26 269		–	–	–	
		2008	5	1 254	27 119	21	2	–	–	
		2009	3	930	27 664	99	11	23	45	0
	– 0	2010	0	96	28 788	6	6	–	–	
Oman		2005	98	257	261	10	4	100	100	
		2008	100	352	352	8	2	100	100	
		2009	100	334	334	3	1	100	100	0
	98 100	2010	100	313	313	4	1	100	100	0
Pakistan		2005	0	0	144 771	0	–	–	–	
		2008	3	8 450	248 678	17	0	100	100	0
		2009	3	8 208	267 451	31	0	23	39	0
	0 2	2010	2	6 289	269 290	22	0	–	9	
Qatar		2005	100	325	325		–	–	–	
		2008	100	567	567	1	0	100	100	2
		2009	100	619	619	0	0	–	–	0
	100 100	2010	100	580	580	0	0	–	–	
Saudi Arabia		2005	–		3 539		–	–	–	
		2008	–		4 064	31	–	100	100	12
		2009	47	1 929	4 093	63	3	–	–	
	– 72	2010	72	3 278	4 549	77	2	–	–	
Somalia		2005	3	375	13 006	21	6	38	–	
		2008	–		12 481		–	–	–	0
		2009	8	875	11 271	107	12	88	7	0
	3 26	2010	26	2 741	10 469	231	8	68	26	
Sudan		2005	1	180	29 178	150	83	10	10	
		2008	14	3 680	25 444	471	13	32	52	0
		2009	60	16 168	27 037	692	4	43	54	
	1 41	2010	41	11 123	27 241	691	6	58	54	
Syrian Arab Republic		2005	8	345	4 393	0	0	–	–	
		2008	5	203	3 938	0	0	–	–	0
		2009	–		4 151		–	–	–	
	8 2	2010	2	85	3 827	5	6	–	–	0
Tunisia		2005	6	129	2 079	2	2	100	100	
		2008	4	89	2 280	2	2	0	100	51
		2009	4	80	2 155	2	3	0	100	24
	6 8	2010	8	200	2 368	11	6	0	100	24
United Arab Emirates		2005	–		105		–	–	–	
		2008	–		93		–	–	–	
		2009	99	115	116		–	–	–	
	– 100	2010	100	132	132	2	2	–	–	
West Bank and Gaza Strip		2005	46	13	28	0	0	–	–	
		2008	98	40	41	0	0	–	–	0
		2009	97	35	36	0	0	–	–	0
	46 100	2010	100	31	31	0	0	–	–	
Yemen		2005	–		9 063		–	–	–	
		2008	–		8 290		–	–	–	0
		2009	–		8 562		–	–	–	
	– 0	2010	0	0	9 050	0	–	–	–	0

TABLE A3.7 **Testing for MDR-TB and number of confirmed cases of MDR-TB, 2005–2010**

	YEAR	TOTAL CONFIRMED CASES OF MDR-TB[a]	NEW CASES				PREVIOUSLY TREATED CASES			
			NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB	NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB
Afghanistan	2005		20 988		–		856		–	
	2008		27 166		–		1 135		–	
	2009		24 335		–		1 290		–	
	2010	19	26 913	238	1	13	1 325	34	3	6
Bahrain	2005	4	280	2	1	2	0	0	–	2
	2008	0	304	24	8	0	0	0	–	0
	2009	0	326	42	13	0	0	0	–	0
	2010	0	246	162	66	0	0	0	–	0
Djibouti	2005	39	2 917	0	0	0	253	0	0	0
	2008		3 521		–		196		–	
	2009		3 594		–		210		–	
	2010		3 972		–		219		–	
Egypt	2005		10 997		–		738		–	
	2008	96	8 968	42	0	7	792	792	100	89
	2009	204	9 289	60	1	10	748	775	104	190
	2010		8 885		–		703		–	
Iran (Islamic Republic of)	2005	27	8 918	205	2	7	428	41	10	15
	2008	19	9 156	208	2	3	423	90	21	16
	2009		9 763		–		773		–	
	2010	58	10 042	271	3	17	760	169	22	41
Iraq	2005		8 686		–		768		–	
	2008	63	8 595	0	0	0	685	173	25	63
	2009	72	8 917	0	0	0	751	163	22	72
	2010	110	9 320	0	0	0	777	185	24	110
Jordan	2005	19	361	98	27	9	10	33	330	10
	2008	6	337	58	17	5	1	4	400	1
	2009	8	363	95	26	6	20	7	35	2
	2010	10	336	74	22	5	18	7	39	3
Kuwait	2005	6	516	516	100	6	1	1	100	0
	2008	8	866	866	100	8	1	1	100	0
	2009	9	932	427	46	9	1	1	100	0
	2010	5	955	437	46	5	2	0	0	0
Lebanon	2005	3	387	48	12	0	4	4	100	2
	2008	3	512	7	1	0	11	11	100	3
	2009	4	491	14	3	1	10	10	100	3
	2010	7	503	4	1	2	12	14	117	5
Libyan Arab Jamahiriya	2005	8	2 096	4	0	4	271		–	4
	2008	7	2 010	4	0	4		7	–	3
	2009		2 087		–		23		–	
	2010				–				–	
Morocco	2005	180	26 269	180	1				–	
	2008	143	25 473	140	1	9	1 646	305	19	57
	2009		26 059		–		1 605		–	
	2010	54	27 143	47	0	0	1 645	403	24	54
Oman	2005	5	257	125	49	0	4	11	275	5
	2008	4	348	139	40	3	4	12	300	1
	2009	5	327	248	76	4	7	7	100	1
	2010	1	304	185	61	0	9	8	89	1
Pakistan	2005		139 346		–		5 425		–	
	2008	40	240 695	2	0	2	7 983	38	0	38
	2009	49	258 251	5	0	5	9 200	60	1	43
	2010	444	255 329	9	0	9	10 925	306	3	306
Qatar	2005	2	325	264	81	2	0	0	–	0
	2008	5	567	440	78	5	0	0	–	0
	2009	3	619	322	52	3	0	0	–	0
	2010	4	580	324	56	4	0	0	–	0
Saudi Arabia	2005		3 334		–		205		–	
	2008	21	3 919		–		145		–	
	2009		3 949		–		144		–	
	2010	14	4 300		–		206		–	
Somalia	2005		12 494		–		512		–	
	2008		11 860		–		621		–	
	2009		10 616		–		655		–	
	2010	57	9 764	488	5	27	705	79	11	30
Sudan	2005	45	27 376		–		1 802	4	0	4
	2008	70	23 364	93	0	36	2 080	65	3	34
	2009	94	25 044	125	0	35	1 993	207	10	59
	2010	62	25 319		–		1 922		–	
Syrian Arab Republic	2005	7	4 249	0	0	0	144	0	0	0
	2008	31	3 671	0	0	0	267	0	0	0
	2009	14	3 975		–		176	14	8	14
	2010	25	3 614	63	2	13	106	12	11	12
Tunisia	2005		2 028		–		51		–	
	2008	36	2 242		–	8	38		–	28
	2009	21	2 113	380	18	5	42		–	
	2010	12	2 332	6	0	6	36	6	17	6
United Arab Emirates	2005	4	99		–		6		–	4
	2008	1	92		–	1	1	1	100	0
	2009		116		–		0		–	
	2010	0	131		–		1		–	
West Bank and Gaza Strip	2005		28		–				–	
	2008		40		–		1		–	
	2009	0	34	0	0	0	2	0	0	0
	2010	0	31	0	0	0	0	0	–	0
Yemen	2005	1	8 712		–		351		–	
	2008	2	7 879	66	1	1	411	56	14	1
	2009	13	8 248	42	1	2	314	30	10	11
	2010	4	8 612	89	1	3	438	34	8	1

[a] TOTAL CONFIRMED CASES OF MDR-TB includes cases with unknown previous treatment history (i.e. not included under NEW CASES or PREVIOUSLY TREATED CASES).

Data can be downloaded from www.who.int/tb/data

TABLE A3.8 **New smear-positive case notification by age and sex, 1995–2010**

		MALE								FEMALE								
	YEAR	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	MALE/FEMALE RATIO
Afghanistan	1995																	–
	2000	52	228	183	149	129	94	80		93	414	565	339	205	99	36		0.5
	2005	151	606	560	472	453	470	419		320	1 651	1 959	1 302	869	471	246		0.5
	2010	197	986	819	491	490	641	622	0	445	2 107	2 263	1 455	1 112	831	488	0	0.5
Bahrain	1995	0	0	1	2	3	1	3		0	1	1	2	0	1	1		1.7
	2000	0	0	3	2	5	3	4		0	1	2	0	1	1	1		2.8
	2005	0	0	0	2	3	0	4		1	1	0	3	1	0	0		1.5
	2010	0	10	16	11	12	4	4	0	0	8	15	7	1	1	1		1.7
Djibouti	1995																	–
	2000	17	302	347	139	67	60	42		12	147	156	47	31	17	10		2.3
	2005	18	220	252	119	62	47	29		23	123	117	66	23	13	8		2.0
	2010	28	211	243	151	67	49	20	0	20	104	120	89	36	24	19	0	1.9
Egypt	1995	223	542	665	460	408	463	160		134	288	367	274	256	160	75		1.9
	2000	21	641	827	667	476	307	158		55	457	343	257	211	112	48		2.1
	2005	25	524	606	421	414	243	123		48	431	298	205	218	132	42		1.7
	2010	9	358	617	783	725	407	217	0	8	199	352	423	292	192	97	0	2.0
Iran (Islamic Republic of)	1995	118	751	754	636	494	737	921		234	1 039	890	664	613	685	788		0.9
	2000	29	438	467	387	295	344	642		77	593	410	322	320	407	647		0.9
	2005	16	352	531	338	281	260	630		45	394	205	186	260	382	701		1.1
	2010	18	292	487	354	296	310	760	0	54	433	288	208	276	398	1 014	0	0.9
Iraq	1995	1 125	862	1 409	1 085	863	900	271		725	304	1 208	915	800	886	200		1.3
	2000	21	627	317	297	205	135	101		37	338	241	136	134	103	87		1.6
	2005	13	424	644	261	245	189	148		44	305	260	151	197	135	80		1.6
	2010	42	370	482	384	276	286	228		73	394	294	198	205	220	166		1.3
Jordan	1995	0	19	37	17	20	26	11		1	15	4	10	14	12	7		2.1
	2000	0	8	16	13	9	14	2		0	8	9	1	2	2	5		2.3
	2005	0	8	17	9	4	6	5		1	6	6	6	5	8	5		1.3
	2010	2	5	14	10	12	12	6	0	3	14	24	4	3	5	3	0	1.1
Kuwait	1995	0	15	51	32	17	9	0		0	8	24	9	4	4	2		2.4
	2000	0	10	44	32	21	11	5		1	11	24	12	5	3	1		2.2
	2005	0	12	45	29	26	8	3		0	13	31	11	3	1	5		1.9
	2010	1	16	67	50	48	10	11	0	4	41	78	30	10	11	8	0	1.1
Lebanon	1995	3	26	32	30	16	16	10		1	16	18	13	8	5	3		2.1
	2000	5	16	28	20	15	17	14		4	31	26	9	7	4	6		1.3
	2005	0	12	19	15	10	12	8		1	25	14	8	3	3	1		1.4
	2010	1	8	21	15	12	12	10	0	0	36	48	17	7	4	3	0	0.7
Libyan Arab Jamahiriya	1995	2	112	212	78	46	22	21		5	34	31	19	20	13	11		3.7
	2000	5	101	239	86	36	29	32		6	43	35	24	24	16	22		3.1
	2005	2	114	293	168	52	19	35		8	36	36	35	21	21	20		3.9
	2010																	–
Morocco	1995	142	2 508	2 872	1 737	819	573	553		191	1 708	1 288	703	461	317	299		1.9
	2000	99	2 061	2 423	1 705	855	485	595		170	1 530	1 121	672	398	406	352		1.8
	2005	79	2 222	2 515	1 583	1 057	580	591		167	1 330	943	546	403	343	398		2.1
	2010	51	1 982	2 553	1 611	1 273	712	515	0	117	1 098	841	426	386	310	364	0	2.5
Oman	1995	1	7	12	7	7	10	11		2	18	13	5	5	6	3		1.1
	2000	1	8	9	11	12	9	11		2	17	5	7	5	11	6		1.2
	2005	1	21	11	24	15	19	5		2	13	5	3	4	5	3		2.7
	2010	2	12	27	15	16	8	10	0	3	18	22	6	4	4	5	0	1.5
Pakistan	1995	29	274	230	178	140	124	95		85	375	381	267	178	143	79		0.7
	2000	55	498	387	256	232	153	130		130	591	416	274	163	103	56		1.0
	2005	621	5 278	4 759	4 263	3 834	3 332	2 453		1 447	6 463	5 611	3 987	2 866	2 060	1 338		1.0
	2010	1 548	11 860	10 462	8 320	7 969	6 934	6 066		3 212	14 481	10 513	7 749	6 410	4 879	4 338		1.0
Qatar	1995	0	8	12	11	13	4	4		1	2	3	1	0	0	1		6.5
	2000	0	7	19	9	7	2	1		0	0	4	3	1	0	0		5.6
	2005		19	15	17	19	5	1			5	10	2	1	2	0		3.8
	2010	0	59	72	38	22	5	0	0	0	7	16	2	1	1	0	0	7.3
Saudi Arabia	1995																	–
	2000	0	131	268	213	158	86	107		28	172	182	79	51	50	70		1.5
	2005	8	182	276	201	175	70	107		31	205	184	98	73	51	61		1.4
	2010	14	335	458	242	210	116	102	0	33	239	271	105	70	49	58	0	1.8
Somalia	1995	46	334	730	201	127	278	109		38	158	139	97	40	25	16		3.6
	2000	113	740	724	408	254	195	142		85	354	319	219	110	72	41		2.1
	2005	125	1 343	1 114	725	458	330	319		169	752	636	436	292	212	157		1.7
	2010	109	1 036	886	496	355	266	277	0	91	467	444	341	188	137	132	0	1.9
Sudan	1995	250	604	796	634	486	362	337		359	490	613	299	403	342	305		1.2
	2000	785	1 028	1 511	1 351	1 119	638	677		817	925	1 134	905	771	327	323		1.4
	2005	425	1 358	1 990	1 541	1 151	724	493		381	1 102	1 203	978	729	411	244		1.5
	2010	209	1 185	1 781	1 335	863	497	391		195	761	979	772	520	279	191		1.7
Syrian Arab Republic	1995	13	332	255	111	70	59	50		22	158	97	53	44	37	20		2.1
	2000	8	359	289	125	86	76	55		23	195	101	53	46	38	28		2.1
	2005	9	266	237	111	112	62	63		27	182	108	59	59	32	23		1.8
	2010	7	170	212	101	80	65	49	0	16	164	105	47	41	38	27	0	1.6
Tunisia	1995																	–
	2000	16	139	208	156	109	65	101		7	68	59	43	21	21	58		2.9
	2005	5	103	172	133	115	53	81		7	66	61	39	36	16	28		2.6
	2010	9	115	194	170	125	93	88		4	64	64	39	34	40	52		2.7
United Arab Emirates	1995																	–
	2000	2	4	4	6	5	12	10		3	16	1	3	0	0	4		1.6
	2005																	–
	2010	1	7	13	7	3	4	4	0	1	2	4	1	5	1	3	0	2.3
West Bank and Gaza Strip	1995	1	2	0	0	1	0	3		0	1	0	0	1	0	0		3.5
	2000																	–
	2005		1			1	3					1		1				2.5
	2010	0	2	0	2	1	1	3	0	0	0	1	0	1	2	0	0	2.3
Yemen	1995	57	400	605	256	201	148	45		83	420	720	348	200	106	92		0.9
	2000	110	789	689	493	314	255	127		161	799	627	517	345	247	92		1.0
	2005	48	493	553	366	242	149	78		44	426	410	265	181	85	39		1.3
	2010	68	507	569	322	231	164	138	0	98	471	409	264	174	106	63	0	1.3

TABLE A3.9 **Laboratories, NTP services, drug management, human resources and infection control, 2010**

	LABORATORIES					FREE THROUGH NTP		DRUG MANAGEMENT			% OF STAFF TRAINED BY THE NTP (IN 2010)[c]				TB NOTIFICATION RATE PER 100 000 HEALTH-CARE WORKERS
	SMEAR LABS PER 100K POPULATION	CULTURE LABS PER 5M POPULATION	DST LABS PER 5M POPULATION	SECOND-LINE DST AVAILABLE	NRL[a]	TB DIAGNOSIS	FIRST-LINE DRUGS	RIFAMPICIN USED THROUGHOUT TREATMENT	% OF PATIENTS TREATED WITH FDC[b]	PAEDIATRIC FORMULATIONS PROCURED	MEDICAL OFFICERS	NURSES	HEALTH ASSISTANTS	LABORATORY TECHNICIANS	
Afghanistan	1.9	0.2	0	Out of country	Yes	Yes, all suspects	Yes	No	100	Yes	20	18		26	
Bahrain	1.4	7.9	4.0	Out of country	No	Yes, all suspects	Yes	Yes	0	Yes					
Djibouti	1.8	0	0	Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes					
Egypt	0.4	1.1	<0.1	In country	Yes	If TB is confirmed	Yes	Yes	80	Yes	100	100	100	100	
Iran (Islamic Republic of)	0.5	3.2	0.1	In country	Yes	Yes, all suspects	Yes	Yes	0	Yes					
Iraq	0.6	0.6	0.2	In country	Yes	If TB is confirmed	Yes	Yes	100	Yes	18	10	13	25	2
Jordan	2.6	44	0.8	No	Yes	Yes, all suspects	Yes	Yes	95	Yes	100	90	90	100	0
Kuwait	0.4	1.8	1.8	No	Yes	Yes, all suspects	Yes	Yes	65	Yes	70	70	70	70	12
Lebanon	3.9	3.5	1.2	Out of country	Yes	For smear-positive TB	Yes	Yes	100	Yes	0	0	0	0	0
Libyan Arab Jamahiriya															
Morocco	0.5	2.5	0.3	No	Yes	Yes, all suspects	Yes	Yes	100	Yes					
Oman	8.9	18	1.8	In country	Yes	If TB is confirmed	Yes	Yes	98	No	50	50	50	50	12
Pakistan	0.7	0.4	0.3	In country	Yes	Yes, all suspects	Yes	No	100	Yes	100	80	80	100	
Qatar	<0.1	2.8	2.8	In and out of cty	Yes	Yes, all suspects	Yes	Yes	100	Yes	100	100	100	100	66
Saudi Arabia	1.2	1.8	1.8	No	Yes	Yes, all suspects	Yes	Yes	0	No					
Somalia	0.7	0	0	Out of country	No	Yes, all suspects	Yes	Yes	100	Yes	100	100	100	100	0
Sudan	0.9		0.1	Out of country	Yes	Yes, all suspects	Yes	Yes	10	Yes	98	99	98	97	
Syrian Arab Republic	2.7	1.0	0.2	In country	Yes	Yes, all suspects	Yes	Yes	75	No	100	100	100	90	
Tunisia	0.6	5.2	2.4				Yes	Yes	80	Yes					
United Arab Emirates				No	No	Yes, all suspects	Yes	Yes	0	No					
West Bank and Gaza Strip	1.6	1.2	0	No	Yes	Yes, all suspects	Yes	Yes	0	Yes	0	0	0	0	0
Yemen	0.8	0.8	0.4	No	Yes	Yes, all suspects	Yes	Yes	100	Yes	0	0	0	0	0

a NRL = national reference laboratory
b FDC = fixed-dose combination
c NURSES (Registered Nurses, Registered Midwives, Enrolled Nurses, Enrolled Midwives); HEALTH ASSISTANTS (Medical Assistants, Clinical Officers); LABORATORY TECHNICIANS (Microscopists)

Data can be downloaded from www.who.int/tb/data

European Region

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Estimates of mortality, prevalence and incidence

Estimated values are shown as best estimates followed by lower and upper bounds. The lower and upper bounds are defined as the 2.5th and 97.5th centiles of outcome distributions produced in simulations. See **ANNEX 1** for further details.

Estimated numbers are shown rounded to two significant figures. Estimated rates are shown rounded to three significant figures unless the value is under 100, in which case rates are shown rounded to two significant figures.

Estimates for all years are recalculated as new information becomes available and techniques are refined, so they may differ from those published in previous reports in this series. Estimates published in previous global TB control reports should no longer be used.

Data source

Data shown in this annex are taken from the WHO global TB database on 2 September 2011. Data shown in the main part of the report were taken from the database on 21 June 2011. As a result, data in this annex may differ slightly from those in the main part of the report.

Data can be downloaded from **www.who.int/tb/data**.

Country notes

EU/EEA countries

Notification and treatment outcome data for European Union and European Economic Area countries are provisional.

Denmark

Data for Denmark exclude Greenland.

TABLE A3.1 **Estimates of the burden of disease caused by TB, 1990–2010**

	YEAR	POPULATION (MILLIONS)	MORTALITY (EXCLUDING HIV)		PREVALENCE (INCLUDING HIV)		INCIDENCE (INCLUDING HIV)	
			NUMBER (THOUSANDS)	RATE[a]	NUMBER (THOUSANDS)	RATE	NUMBER (THOUSANDS)	RATE
Albania	1990	3	0.038 (0.019–0.074)	1.1 (<1–2.2)	1.1 (0.35–2.1)	34 (11–64)	0.8 (0.57–1.1)	24 (17–33)
	1995	3	0.027 (0.017–0.045)	<1 (<1–1.4)	0.94 (0.27–1.7)	30 (8.7–53)	0.77 (0.64–0.91)	24 (20–29)
	2000	3	0.024 (0.016–0.04)	<1 (<1–1.3)	0.85 (0.25–1.5)	28 (8.1–49)	0.7 (0.59–0.81)	23 (19–26)
	2005	3	0.023 (0.014–0.038)	<1 (<1–1.2)	0.75 (0.25–1.3)	24 (7.8–42)	0.59 (0.5–0.69)	19 (16–22)
	2008	3	0.019 (0.012–0.031)	<1 (<1–<1)	0.63 (0.2–1.1)	20 (6.3–35)	0.5 (0.42–0.58)	16 (13–18)
	2009	3	0.016 (0.01–0.026)	<1 (<1–<1)	0.56 (0.16–0.99)	18 (5–31)	0.47 (0.4–0.55)	15 (12–17)
	2010	3	0.012 (<0.01–0.021)	<1 (<1–<1)	0.51 (0.12–0.89)	16 (3.8–28)	0.45 (0.38–0.52)	14 (12–16)
Andorra	1990	<1	<0.01 (<0.01–<0.01)	3.8 (3.3–4.5)	0.032 (0.01–0.056)	62 (19–106)	0.026 (0.023–0.029)	49 (43–56)
	1995	<1	<0.01 (<0.01–<0.01)	2.5 (2.2–2.9)	0.024 (<0.01–0.042)	38 (9–66)	0.021 (0.018–0.024)	33 (28–38)
	2000	<1	<0.01 (<0.01–<0.01)	1.5 (1.3–1.9)	0.017 (<0.01–0.028)	26 (8.9–44)	0.013 (0.011–0.014)	19 (17–22)
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.011 (<0.01–0.019)	14 (3–24)	<0.01 (<0.01–0.011)	12 (10–14)
	2008	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.011 (<0.01–0.017)	13 (5.5–21)	<0.01 (<0.01–<0.01)	9 (8.3–9.8)
	2009	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–0.015)	9.9 (2.8–17)	<0.01 (<0.01–<0.01)	8.2 (6.9–9.7)
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–0.015)	9.8 (2.2–17)	<0.01 (<0.01–<0.01)	7.4 (6.2–8.7)
Armenia	1990	4	0.2 (0.083–0.38)	5.6 (2.4–11)	2 (0.71–4)	56 (20–114)	1.2 (0.71–1.7)	33 (20–49)
	1995	3	0.23 (0.15–0.33)	7.1 (4.7–10)	2.4 (1–4.1)	75 (32–126)	1.5 (1.2–1.8)	47 (38–56)
	2000	3	0.32 (0.21–0.47)	10 (6.9–15)	3.4 (1.5–5.8)	112 (48–187)	2.2 (1.8–2.6)	71 (57–85)
	2005	3	0.21 (0.12–0.35)	6.8 (4–12)	2.9 (0.92–5)	93 (30–164)	2.2 (1.8–2.7)	72 (58–87)
	2008	3	0.28 (0.17–0.43)	9.2 (5.6–14)	3.3 (1.3–5.6)	106 (42–182)	2.2 (1.8–2.7)	73 (59–87)
	2009	3	0.31 (0.2–0.45)	10 (6.4–15)	3.4 (1.4–5.7)	111 (46–186)	2.2 (1.8–2.7)	73 (60–87)
	2010	3	0.33 (0.22–0.47)	11 (7–15)	3.5 (1.5–5.9)	114 (48–189)	2.3 (1.9–2.7)	73 (60–87)
Austria	1990	8	0.097 (0.084–0.12)	1.3 (1.1–1.5)	2.2 (0.77–3.8)	29 (10–49)	1.7 (1.5–1.9)	22 (20–25)
	1995	8	0.087 (0.075–0.11)	1.1 (<1–1.3)	2 (0.66–3.4)	25 (8.3–43)	1.6 (1.3–1.8)	20 (17–22)
	2000	8	0.096 (0.096–0.096)	1.2 (1.2–1.2)	1.7 (0.6–2.8)	21 (7.5–36)	1.3 (1.1–1.5)	16 (14–18)
	2005	8	0.052 (0.052–0.053)	<1 (<1–<1)	1.3 (0.46–2.2)	16 (5.6–27)	1 (0.91–1.2)	13 (11–14)
	2008	8	0.044 (0.044–0.045)	<1 (<1–<1)	0.99 (0.33–1.7)	12 (3.9–20)	0.79 (0.68–0.91)	9.5 (8.1–11)
	2009	8	0.042 (0.042–0.042)	<1 (<1–<1)	0.76 (0.27–1.3)	9 (3.2–15)	0.61 (0.55–0.68)	7.3 (6.6–8.1)
	2010	8	0.022 (0.02–0.026)	<1 (<1–<1)	0.48 (0.14–0.83)	5.8 (1.7–9.9)	0.42 (0.37–0.48)	5 (4.4–5.7)
Azerbaijan	1990	7	1.3 (0.66–2.1)	17 (9.1–29)	16 (6.5–31)	222 (90–430)	7.9 (4.8–12)	110 (67–163)
	1995	8	1.5 (1.1–1.8)	19 (14–24)	18 (8.3–30)	232 (107–380)	8.5 (6.9–10)	110 (89–132)
	2000	8	1.1 (0.74–1.5)	13 (9.1–18)	15 (6.9–25)	189 (85–313)	8.9 (7.2–11)	110 (89–132)
	2005	9	1 (0.69–1.5)	12 (8.1–17)	15 (6.8–26)	180 (79–301)	9.4 (7.7–11)	110 (89–132)
	2008	9	0.99 (0.64–1.4)	11 (7.2–16)	15 (6.6–26)	173 (74–292)	9.8 (8–12)	110 (89–132)
	2009	9	0.96 (0.62–1.4)	11 (6.8–15)	15 (6.4–26)	169 (70–284)	9.9 (8.1–12)	110 (90–132)
	2010	9	0.94 (0.61–1.4)	10 (6.6–15)	15 (6.3–26)	166 (69–279)	10 (8.3–12)	110 (90–131)
Belarus	1990	10	2.3 (1.1–3.9)	22 (11–38)	16 (6.3–31)	154 (61–301)	8.2 (5–12)	80 (49–119)
	1995	10	1.8 (1.2–2.5)	17 (12–24)	14 (6–23)	134 (59–223)	8.3 (6.7–10)	81 (66–97)
	2000	10	0.85 (0.85–0.85)	8.5 (8.4–8.5)	9.4 (3–16)	94 (30–162)	7.5 (6.4–8.6)	74 (64–85)
	2005	10	1.1 (0.65–1.7)	11 (6.6–18)	10 (3.8–17)	102 (39–177)	7 (5.7–8.5)	72 (58–87)
	2008	10	1.1 (0.63–1.7)	11 (6.6–17)	9.8 (3.7–17)	101 (38–175)	6.9 (5.6–8.4)	72 (58–87)
	2009	10	1.1 (0.63–1.7)	11 (6.6–18)	9.8 (3.8–17)	101 (40–175)	6.9 (5.5–8.4)	71 (57–87)
	2010	10	1 (0.6–1.6)	11 (6.3–17)	9.4 (3.6–16)	98 (38–170)	6.8 (5.5–8.2)	70 (57–85)
Belgium	1990	10	0.11 (0.092–0.13)	1.1 (<1–1.3)	2.4 (0.87–4)	24 (8.7–40)	1.8 (1.6–2.1)	18 (16–21)
	1995	10	0.09 (0.078–0.11)	<1 (<1–1.1)	1.9 (0.62–3.3)	19 (6.2–33)	1.6 (1.4–1.8)	16 (14–18)
	2000	10	0.083 (0.071–0.1)	<1 (<1–<1)	1.9 (0.69–3.1)	18 (6.8–31)	1.5 (1.3–1.7)	14 (13–16)
	2005	10	0.067 (0.067–0.067)	<1 (<1–<1)	1.5 (0.52–2.6)	15 (5–25)	1.2 (1.1–1.4)	12 (10–13)
	2008	11	0.051 (0.045–0.06)	<1 (<1–<1)	1.1 (0.33–1.9)	10 (3.2–17)	0.93 (0.82–1.1)	8.8 (7.7–10)
	2009	11	0.052 (0.044–0.062)	<1 (<1–<1)	1.1 (0.39–1.9)	11 (3.6–18)	0.93 (0.81–1)	8.7 (7.6–9.8)
	2010	11	0.052 (0.045–0.063)	<1 (<1–<1)	1.1 (0.39–1.9)	11 (3.7–18)	0.93 (0.82–1.1)	8.7 (7.6–9.8)
Bosnia and Herzegovina	1990	4	0.21 (0.14–0.57)	5 (3.4–13)	4.7 (0.99–9.1)	108 (23–211)	4 (2.5–6)	94 (57–139)
	1995	3	0.3 (0.19–0.46)	9 (5.6–14)	4.3 (1.7–7.3)	128 (52–219)	2.8 (2.3–3.4)	84 (69–102)
	2000	4	0.12 (0.097–0.14)	3.2 (2.6–3.9)	2.9 (0.64–5.1)	78 (17–139)	2.3 (1.9–2.8)	63 (51–76)
	2005	4	0.094 (0.076–0.11)	2.5 (2–3)	2.3 (0.51–4.1)	60 (14–108)	2 (1.6–2.4)	52 (42–63)
	2008	4	0.088 (0.071–0.11)	2.3 (1.9–2.8)	2.1 (0.48–3.8)	56 (13–100)	1.9 (1.6–2.2)	51 (43–58)
	2009	4	0.12 (0.079–0.19)	3.2 (2.1–5.2)	2.3 (0.69–4)	61 (18–106)	1.9 (1.6–2.2)	50 (43–58)
	2010	4	0.11 (0.076–0.18)	3 (2–4.9)	2.2 (0.64–3.9)	60 (17–104)	1.9 (1.6–2.2)	50 (42–57)
Bulgaria	1990	9	0.68 (0.28–1.3)	7.7 (3.2–15)	6.7 (2.3–14)	76 (26–155)	4.1 (2.5–6)	46 (28–68)
	1995	8	0.23 (0.19–0.28)	2.8 (2.2–3.4)	4.3 (0.96–7.6)	51 (11–91)	3.9 (3.2–4.6)	46 (38–54)
	2000	8	0.33 (0.33–0.34)	4.2 (4.2–4.2)	4.2 (1–7.3)	52 (13–91)	3.7 (3.2–4.2)	46 (40–53)
	2005	8	0.28 (0.28–0.28)	3.6 (3.6–3.6)	4.5 (1.4–7.7)	58 (19–99)	3.5 (3.1–4.1)	46 (40–53)
	2008	8	0.23 (0.23–0.23)	3.1 (3.1–3.1)	4.1 (1.3–7.1)	54 (17–93)	3.2 (2.8–3.7)	43 (37–49)
	2009	8	0.3 (0.2–0.47)	4 (2.6–6.2)	4 (1.4–6.9)	54 (18–91)	3.1 (2.7–3.6)	41 (36–47)
	2010	7	0.31 (0.21–0.47)	4.2 (2.8–6.2)	4 (1.4–6.8)	54 (19–91)	3 (2.6–3.5)	40 (35–46)
Croatia	1990	5	0.32 (0.27–0.38)	7 (6–8.4)	4 (1.5–6.6)	87 (33–146)	2.9 (2.5–3.3)	64 (56–73)
	1995	5	0.27 (0.23–0.32)	5.7 (4.9–6.8)	3.1 (1–5.4)	67 (22–115)	2.5 (2.2–2.8)	53 (47–60)
	2000	5	0.18 (0.18–0.18)	3.9 (3.9–3.9)	2.4 (0.8–4)	52 (18–89)	1.8 (1.6–2.1)	41 (36–46)
	2005	4	0.11 (0.11–0.11)	2.6 (2.6–2.6)	1.5 (0.5–2.7)	35 (11–60)	1.2 (1.1–1.4)	28 (24–31)
	2008	4	0.11 (0.11–0.11)	2.4 (2.4–2.4)	1.4 (0.49–2.4)	32 (11–54)	1.1 (0.94–1.2)	24 (21–28)
	2009	4	0.13 (0.12–0.13)	2.8 (2.8–2.9)	1.2 (0.4–2.1)	28 (9.2–48)	0.99 (0.88–1.1)	23 (20–25)
	2010	4	0.1 (0.087–0.12)	2.3 (2–2.8)	1.2 (0.39–2)	27 (8.8–46)	0.94 (0.83–1.1)	21 (19–24)
Cyprus	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.054 (0.019–0.09)	7 (2.5–12)	0.041 (0.037–0.046)	5.4 (4.9–6)
	1995	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.061 (0.024–0.1)	7.1 (2.8–12)	0.042 (0.037–0.048)	5 (4.4–5.6)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.05 (0.015–0.085)	5.3 (1.6–9)	0.041 (0.036–0.046)	4.3 (3.8–4.9)
	2005	1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.057 (0.022–0.094)	5.5 (2.1–9.1)	0.041 (0.036–0.046)	4 (3.5–4.5)
	2008	1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.055 (0.016–0.095)	5.1 (1.5–8.8)	0.045 (0.039–0.052)	4.2 (3.7–4.8)
	2009	1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.058 (0.017–0.1)	5.3 (1.6–9.1)	0.047 (0.041–0.054)	4.3 (3.7–4.9)
	2010	1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.061 (0.019–0.1)	5.5 (1.7–9.4)	0.049 (0.042–0.055)	4.4 (3.8–5)
Czech Republic	1990	10	0.15 (0.13–0.18)	1.4 (1.2–1.7)	2.9 (0.95–5)	28 (9.3–48)	2.3 (2–2.6)	22 (20–25)
	1995	10	0.14 (0.12–0.17)	1.4 (1.2–1.6)	2.8 (0.94–4.8)	27 (9.1–46)	2.2 (1.9–2.5)	21 (19–24)
	2000	10	0.13 (0.13–0.13)	1.2 (1.2–1.2)	2.1 (0.73–3.6)	21 (7.1–35)	1.7 (1.5–1.9)	16 (14–18)
	2005	10	0.069 (0.069–0.069)	<1 (<1–<1)	1.4 (0.45–2.4)	14 (4.5–23)	1.1 (0.97–1.3)	11 (9.5–12)
	2008	10	0.053 (0.053–0.053)	<1 (<1–<1)	1.1 (0.4–1.9)	11 (3.8–19)	0.88 (0.76–1)	8.4 (7.3–9.6)
	2009	10	0.051 (0.051–0.051)	<1 (<1–<1)	1 (0.33–1.7)	9.6 (3.2–16)	0.79 (0.7–0.89)	7.6 (6.7–8.5)
	2010	10	0.045 (0.04–0.054)	<1 (<1–<1)	0.88 (0.27–1.5)	8.4 (2.6–14)	0.71 (0.62–0.81)	6.8 (5.9–7.7)
Denmark	1990	5	0.019 (0.017–0.023)	<1 (<1–<1)	0.51 (0.17–0.86)	9.9 (3.3–17)	0.39 (0.34–0.45)	7.7 (6.7–8.7)
	1995	5	0.026 (0.023–0.031)	<1 (<1–<1)	0.67 (0.22–1.2)	13 (4.3–22)	0.54 (0.48–0.61)	10 (9.1–12)
	2000	5	0.021 (0.021–0.021)	<1 (<1–<1)	0.84 (0.29–1.4)	16 (5.5–27)	0.65 (0.57–0.74)	12 (11–14)
	2005	5	0.02 (0.02–0.02)	<1 (<1–<1)	0.55 (0.2–0.94)	10 (3.6–17)	0.43 (0.37–0.49)	7.9 (6.8–9)
	2008	5	0.018 (0.015–0.021)	<1 (<1–<1)	0.47 (0.16–0.8)	8.6 (3–15)	0.38 (0.33–0.43)	6.8 (6–7.7)
	2009	6	0.016 (0.014–0.019)	<1 (<1–<1)	0.42 (0.14–0.72)	7.7 (2.5–13)	0.35 (0.31–0.39)	6.3 (5.6–7.1)
	2010	6	0.016 (0.014–0.019)	<1 (<1–<1)	0.41 (0.14–0.7)	7.4 (2.5–13)	0.33 (0.29–0.38)	6 (5.3–6.8)
Estonia	1990	2	0.066 (0.057–0.079)	4.2 (3.6–5)	0.61 (0.2–1)	39 (13–67)	0.47 (0.41–0.54)	30 (26–34)
	1995	1	0.1 (0.087–0.12)	7 (6.1–8.4)	0.94 (0.31–1.6)	65 (22–111)	0.74 (0.65–0.83)	51 (45–58)
	2000	1	0.11 (0.11–0.11)	8.1 (8.1–8.2)	1.1 (0.4–1.9)	82 (29–138)	0.88 (0.77–1)	64 (56–73)
	2005	1	0.051 (0.051–0.051)	3.8 (3.8–3.8)	0.67 (0.23–1.1)	50 (17–84)	0.55 (0.48–0.62)	41 (36–46)
	2008	1	0.048 (0.048–0.048)	3.6 (3.6–3.6)	0.55 (0.19–0.93)	41 (14–70)	0.47 (0.41–0.53)	35 (30–39)
	2009	1	0.044 (0.044–0.044)	3.3 (3.3–3.3)	0.5 (0.18–0.84)	37 (14–62)	0.41 (0.36–0.46)	30 (27–35)
	2010	1	0.039 (0.036–0.046)	2.9 (2.7–3.4)	0.35 (0.096–0.61)	26 (7.1–45)	0.33 (0.29–0.37)	25 (22–28)
Finland	1990	5	0.081 (0.07–0.097)	1.6 (1.4–2)	1.1 (0.39–1.9)	23 (7.7–39)	0.89 (0.78–1)	18 (16–20)
	1995	5	0.071 (0.061–0.084)	1.4 (1.2–1.7)	1 (0.38–1.7)	20 (7.5–33)	0.76 (0.67–0.86)	15 (13–17)
	2000	5	0.084 (0.084–0.085)	1.6 (1.6–1.6)	0.79 (0.28–1.3)	15 (5.3–26)	0.61 (0.53–0.69)	12 (10–13)
	2005	5	0.038 (0.038–0.038)	<1 (<1–<1)	0.53 (0.21–0.88)	10 (3.9–17)	0.39 (0.34–0.44)	7.4 (6.5–8.4)
	2008	5	0.027 (0.027–0.027)	<1 (<1–<1)	0.42 (0.095–0.74)	7.9 (1.8–14)	0.38 (0.33–0.43)	7.2 (6.3–8.1)
	2009	5	0.025 (0.025–0.025)	<1 (<1–<1)	0.94 (0.42–1.5)	18 (7.9–28)	0.6 (0.52–0.68)	11 (9.8–13)
	2010	5	0.036 (0.033–0.039)	<1 (<1–<1)	0.45 (0.1–0.8)	8.5 (1.9–15)	0.36 (0.31–0.41)	6.7 (5.9–7.6)

[a] Rates are per 100 000 population.

TABLE A3.1 **Estimates of the burden of disease caused by TB, 1990–2010**

			MORTALITY (EXCLUDING HIV)		PREVALENCE (INCLUDING HIV)		INCIDENCE (INCLUDING HIV)	
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[a]	NUMBER (THOUSANDS)	RATE	NUMBER (THOUSANDS)	RATE
France	1990	57	0.88 (0.79–0.98)	1.5 (1.4–1.7)	15 (6.4–24)	27 (11–43)	11 (11–12)	20 (19–21)
	1995	58	0.84 (0.76–0.94)	1.5 (1.3–1.6)	15 (6.2–23)	25 (11–40)	11 (10–11)	19 (18–20)
	2000	59	0.69 (0.68–0.69)	1.2 (1.2–1.2)	10 (4.2–16)	17 (7.1–27)	7.6 (7.1–8)	13 (12–14)
	2005	61	0.46 (0.46–0.46)	<1 (<1–<1)	7.9 (3.2–13)	13 (5.3–21)	6.1 (5.7–6.4)	9.9 (9.3–11)
	2008	62	0.38 (0.38–0.38)	<1 (<1–<1)	8.6 (3.6–14)	14 (5.8–22)	6.4 (6–6.8)	10 (9.7–11)
	2009	62	0.46 (0.41–0.51)	<1 (<1–<1)	7.8 (3.2–13)	13 (5.1–20)	6 (5.6–6.4)	9.6 (9–10)
	2010	63	0.45 (0.4–0.5)	<1 (<1–<1)	7.7 (3.2–12)	12 (5.1–20)	5.9 (5.5–6.2)	9.3 (8.8–9.9)
Georgia	1990	5	1.1 (0.6–1.7)	20 (11–32)	12 (5–24)	227 (92–434)	5.8 (3.5–8.7)	107 (65–158)
	1995	5	0.78 (0.56–1)	15 (11–20)	9.9 (4.5–16)	194 (89–318)	5.4 (4.4–6.5)	107 (87–128)
	2000	5	0.3 (0.3–0.3)	6.4 (6.3–6.4)	6.5 (2.1–11)	137 (44–237)	5.1 (4.3–5.9)	107 (90–125)
	2005	4	0.28 (0.19–0.43)	6.3 (4.3–9.7)	5.8 (1.8–9.9)	129 (39–221)	4.8 (4.2–5.4)	107 (94–120)
	2008	4	0.24 (0.17–0.36)	5.4 (3.9–8.1)	5.3 (1.4–9.3)	122 (32–211)	4.7 (4.2–5.2)	107 (94–119)
	2009	4	0.21 (0.16–0.32)	4.8 (3.7–7.2)	5.2 (1.2–9)	118 (28–207)	4.7 (4.1–5.2)	107 (95–119)
	2010	4	0.2 (0.16–0.24)	4.6 (3.7–5.6)	5.1 (1.2–9.1)	118 (27–209)	4.6 (4.1–5.2)	107 (95–119)
Germany	1990	79	0.89 (0.76–1.1)	1.1 (<1–1.3)	22 (8.2–37)	28 (10–47)	17 (15–19)	21 (19–24)
	1995	82	0.73 (0.63–0.88)	<1 (<1–1.1)	18 (5.8–30)	22 (7.1–37)	14 (12–16)	17 (15–19)
	2000	82	0.51 (0.51–0.51)	<1 (<1–<1)	14 (5–23)	17 (6.1–28)	10 (9.1–12)	13 (11–14)
	2005	83	0.33 (0.33–0.33)	<1 (<1–<1)	8.1 (2.7–14)	9.8 (3.3–17)	6.4 (5.6–7.2)	7.7 (6.8–8.7)
	2008	82	0.21 (0.19–0.25)	<1 (<1–<1)	4.9 (1.4–8.5)	5.9 (1.7–10)	4.2 (3.7–4.8)	5.1 (4.5–5.8)
	2009	82	0.22 (0.19–0.26)	<1 (<1–<1)	5.4 (1.9–9.1)	6.6 (2.3–11)	4.2 (3.7–4.8)	5.1 (4.5–5.8)
	2010	82	0.2 (0.18–0.24)	<1 (<1–<1)	4.8 (1.5–8.3)	5.9 (1.9–10)	4 (3.5–4.5)	4.8 (4.2–5.4)
Greece	1990	10	0.15 (0.13–0.18)	1.5 (1.3–1.8)	1.3 (0.45–2.1)	12 (4.4–21)	0.97 (0.85–1.1)	9.6 (8.3–11)
	1995	11	0.17 (0.14–0.2)	1.6 (1.3–1.9)	1.3 (0.45–2.3)	13 (4.2–22)	1.1 (0.94–1.2)	10 (8.8–11)
	2000	11	0.092 (0.091–0.092)	<1 (<1–<1)	1.1 (0.38–1.8)	9.8 (3.5–16)	0.84 (0.74–0.94)	7.6 (6.7–8.6)
	2005	11	0.098 (0.098–0.098)	<1 (<1–<1)	0.91 (0.31–1.5)	8.2 (2.8–14)	0.72 (0.63–0.82)	6.4 (5.6–7.3)
	2008	11	0.086 (0.086–0.086)	<1 (<1–<1)	0.77 (0.26–1.3)	6.9 (2.3–12)	0.61 (0.54–0.69)	5.4 (4.7–6.1)
	2009	11	0.094 (0.094–0.094)	<1 (<1–<1)	0.7 (0.24–1.2)	6.2 (2.1–11)	0.56 (0.49–0.63)	4.9 (4.4–5.6)
	2010	11	0.081 (0.07–0.097)	<1 (<1–<1)	0.65 (0.21–1.1)	5.7 (1.9–9.8)	0.52 (0.46–0.6)	4.6 (4–5.2)
Hungary	1990	10	0.36 (0.31–0.44)	3.5 (3–4.2)	5.2 (1.7–8.9)	50 (16–85)	4.1 (3.6–4.7)	40 (35–45)
	1995	10	0.44 (0.38–0.54)	4.3 (3.7–5.2)	6.4 (2.2–11)	62 (21–105)	5 (4.4–5.6)	48 (42–55)
	2000	10	0.36 (0.36–0.36)	3.5 (3.5–3.6)	4.3 (1.4–7.4)	43 (13–73)	3.5 (3.1–4)	35 (30–39)
	2005	10	0.19 (0.19–0.19)	1.9 (1.9–1.9)	2.5 (0.74–4.3)	25 (7.4–43)	2.1 (1.8–2.4)	21 (18–23)
	2008	10	0.12 (0.12–0.12)	1.2 (1.2–1.2)	2.1 (0.7–3.6)	21 (7–36)	1.6 (1.4–1.9)	16 (14–19)
	2009	10	0.12 (0.12–0.12)	1.2 (1.2–1.2)	1.9 (0.59–3.2)	19 (5.9–32)	1.5 (1.3–1.7)	15 (13–17)
	2010	10	0.13 (0.12–0.16)	1.3 (1.2–1.6)	1.9 (0.64–3.3)	19 (6.4–33)	1.5 (1.3–1.7)	15 (13–17)
Iceland	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.024 (<0.01–0.041)	9.3 (3.1–16)	0.019 (0.016–0.022)	7.4 (6.4–8.5)
	1995	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.018 (<0.01–0.031)	6.6 (2.1–11)	0.015 (0.014–0.017)	5.7 (5.1–6.4)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.014 (<0.01–0.025)	5 (1.4–8.9)	0.012 (0.011–0.014)	4.4 (3.8–5.1)
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.012 (<0.01–0.023)	4 (<1–7.7)	0.012 (0.011–0.014)	4.1 (3.6–4.6)
	2008	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.02 (<0.01–0.038)	6.3 (2.3–12)	0.014 (0.013–0.015)	4.5 (4.2–4.8)
	2009	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.017 (<0.01–0.029)	5.4 (1.9–9.2)	0.015 (0.013–0.017)	4.8 (4.3–5.3)
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.017 (<0.01–0.029)	5.2 (1.4–9.2)	0.016 (0.013–0.02)	5 (4.1–6.1)
Ireland	1990	4	0.046 (0.04–0.055)	1.3 (1.1–1.6)	0.93 (0.31–1.6)	26 (8.8–45)	0.73 (0.64–0.82)	21 (18–23)
	1995	4	0.034 (0.029–0.041)	<1 (<1–1.1)	0.69 (0.23–1.2)	19 (6.4–32)	0.55 (0.48–0.62)	15 (13–17)
	2000	4	0.036 (0.036–0.036)	<1 (<1–<1)	0.58 (0.19–0.99)	15 (5.1–26)	0.47 (0.41–0.53)	12 (11–14)
	2005	4	0.016 (0.016–0.016)	<1 (<1–<1)	0.57 (0.2–0.96)	14 (4.7–23)	0.45 (0.4–0.51)	11 (9.6–12)
	2008	4	0.018 (0.018–0.018)	<1 (<1–<1)	0.52 (0.18–0.88)	12 (4–20)	0.42 (0.37–0.47)	9.6 (8.5–11)
	2009	4	0.024 (0.024–0.024)	<1 (<1–<1)	0.49 (0.17–0.83)	11 (3.9–19)	0.39 (0.34–0.44)	8.8 (7.7–9.9)
	2010	4	0.022 (0.019–0.026)	<1 (<1–<1)	0.43 (0.14–0.74)	9.7 (3–17)	0.36 (0.32–0.41)	8.1 (7.1–9.2)
Israel	1990	4	0.019 (0.017–0.022)	<1 (<1–<1)	0.48 (0.15–0.81)	11 (3.3–18)	0.39 (0.36–0.43)	8.7 (8–9.5)
	1995	5	0.025 (0.021–0.029)	<1 (<1–<1)	0.7 (0.29–1.1)	13 (5.4–21)	0.5 (0.45–0.56)	9.5 (8.4–11)
	2000	6	0.037 (0.037–0.037)	<1 (<1–<1)	0.66 (0.2–1.1)	11 (3.3–19)	0.56 (0.49–0.64)	9.4 (8.1–11)
	2005	7	0.024 (0.024–0.024)	<1 (<1–<1)	0.65 (0.26–1.1)	9.8 (3.9–16)	0.49 (0.43–0.54)	7.4 (6.6–8.2)
	2008	7	0.015 (0.015–0.015)	<1 (<1–<1)	0.53 (0.19–0.88)	7.4 (2.7–12)	0.42 (0.37–0.47)	5.9 (5.2–6.6)
	2009	7	0.019 (0.016–0.023)	<1 (<1–<1)	0.52 (0.2–0.86)	7.1 (2.7–12)	0.39 (0.34–0.45)	5.4 (4.7–6.1)
	2010	7	0.017 (0.015–0.02)	<1 (<1–<1)	0.41 (0.11–0.71)	5.6 (1.5–9.6)	0.37 (0.32–0.42)	4.9 (4.3–5.6)
Italy	1990	57	0.45 (0.38–0.54)	<1 (<1–<1)	6.4 (2.4–11)	11 (4.3–19)	4.9 (4.3–5.5)	8.6 (7.5–9.7)
	1995	57	0.51 (0.44–0.61)	<1 (<1–1.1)	6.7 (2.1–12)	12 (3.6–20)	5.7 (4.9–6.5)	10 (8.6–11)
	2000	57	0.47 (0.47–0.47)	<1 (<1–<1)	6.7 (2.7–11)	12 (4.8–19)	5.1 (4.6–5.6)	8.9 (8–9.8)
	2005	59	0.38 (0.33–0.45)	<1 (<1–<1)	4.9 (1.5–8.5)	8.4 (2.5–14)	4.3 (3.7–4.9)	7.3 (6.4–8.3)
	2008	60	0.34 (0.34–0.34)	<1 (<1–<1)	4.6 (1.8–7.7)	7.7 (2.9–13)	3.5 (3.1–4.1)	5.9 (5.1–6.8)
	2009	60	0.29 (0.25–0.35)	<1 (<1–<1)	4 (1.4–6.7)	6.6 (2.3–11)	3.2 (2.9–3.6)	5.4 (4.8–6)
	2010	61	0.26 (0.23–0.32)	<1 (<1–<1)	3.6 (1.3–6.2)	6 (2.1–10)	2.9 (2.6–3.3)	4.9 (4.3–5.5)
Kazakhstan	1990	17	6.8 (3.2–12)	41 (19–73)	42 (16–83)	255 (98–503)	23 (14–34)	139 (84–206)
	1995	16	6 (4.2–8.2)	38 (26–52)	38 (17–64)	242 (109–399)	22 (18–27)	139 (113–167)
	2000	15	5.4 (5.4–5.4)	36 (36–36)	37 (12–65)	250 (80–433)	29 (25–34)	196 (167–228)
	2005	15	4.6 (4.6–4.6)	30 (30–30)	46 (17–80)	304 (113–527)	33 (27–39)	215 (175–259)
	2008	16	3.5 (3.5–3.5)	22 (22–22)	36 (12–63)	232 (79–404)	27 (23–32)	175 (146–206)
	2009	16	2.8 (2.8–2.8)	18 (18–18)	35 (12–60)	221 (78–378)	26 (22–30)	163 (137–192)
	2010	16	3.6 (2.2–5.8)	23 (14–36)	32 (11–55)	198 (68–341)	24 (20–28)	151 (127–177)
Kyrgyzstan	1990	4	1.6 (0.8–2.7)	36 (18–62)	12 (4.8–24)	280 (110–547)	6.3 (3.8–9.3)	143 (87–212)
	1995	5	1.4 (0.99–1.9)	30 (22–41)	12 (5.3–19)	252 (115–416)	6.5 (5.3–7.9)	143 (116–172)
	2000	5	0.82 (0.5–1.4)	17 (10–28)	9.7 (3.1–17)	195 (63–341)	7.5 (6.2–8.9)	151 (125–179)
	2005	5	1.1 (1.1–1.1)	21 (21–21)	11 (4.2–19)	223 (83–387)	8 (6.5–9.6)	158 (129–191)
	2008	5	0.84 (0.83–0.84)	16 (16–16)	12 (4.7–20)	230 (90–393)	8.3 (6.7–10)	159 (129–192)
	2009	5	0.79 (0.78–0.79)	15 (15–15)	12 (4.9–21)	234 (94–398)	8.4 (6.9–10)	159 (130–191)
	2010	5	1.4 (0.91–2)	26 (17–38)	13 (5.5–22)	243 (103–407)	8.5 (7–10)	159 (131–191)
Latvia	1990	3	0.82 (0.41–1.4)	31 (16–52)	4.8 (1.9–9.4)	182 (73–352)	2.5 (1.5–3.7)	92 (56–137)
	1995	2	0.53 (0.36–0.76)	21 (14–31)	3.7 (1.6–6.2)	149 (65–249)	2.3 (1.9–2.8)	93 (76–112)
	2000	2	0.32 (0.32–0.32)	13 (13–13)	2.7 (0.86–4.6)	113 (36–195)	2.2 (1.9–2.6)	92 (79–107)
	2005	2	0.19 (0.19–0.19)	8.2 (8.2–8.2)	2 (0.63–3.3)	85 (28–145)	1.6 (1.4–1.8)	69 (60–79)
	2008	2	0.12 (0.12–0.12)	5.2 (5.2–5.2)	1.4 (0.44–2.3)	60 (19–103)	1.2 (1–1.3)	51 (45–58)
	2009	2	0.1 (0.1–0.1)	4.4 (4.4–4.5)	1.2 (0.35–2)	51 (15–88)	1 (0.89–1.2)	45 (40–51)
	2010	2	0.074 (0.059–0.089)	3.3 (2.6–4)	0.97 (0.25–1.7)	43 (11–75)	0.89 (0.78–1)	39 (34–45)
Lithuania	1990	4	1.1 (0.51–1.8)	29 (14–50)	6.4 (2.5–13)	173 (67–339)	3.4 (2.1–5.1)	92 (56–137)
	1995	4	0.69 (0.43–1)	19 (12–29)	5.1 (2–8.6)	139 (56–238)	3.4 (2.7–4)	92 (75–111)
	2000	4	0.39 (0.39–0.4)	11 (11–11)	3.8 (1.2–6.5)	107 (34–186)	3 (2.6–3.5)	86 (74–99)
	2005	3	0.38 (0.38–0.38)	11 (11–11)	3.3 (1.1–5.7)	97 (33–166)	2.5 (2.2–2.9)	74 (64–85)
	2008	3	0.36 (0.36–0.36)	11 (11–11)	3.1 (1–5.3)	92 (30–158)	2.4 (2–2.8)	71 (61–82)
	2009	3	0.28 (0.28–0.28)	8.3 (8.3–8.3)	3.1 (1.1–5.3)	93 (33–159)	2.3 (2–2.7)	70 (60–81)
	2010	3	0.37 (0.24–0.56)	11 (7.1–17)	3.1 (1.1–5.3)	94 (34–159)	2.3 (2–2.7)	69 (59–80)
Luxembourg	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.052 (0.012–0.093)	14 (3.1–24)	0.044 (0.037–0.051)	11 (9.7–13)
	1995	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.06 (0.023–0.098)	15 (5.7–24)	0.044 (0.039–0.049)	11 (9.7–12)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.057 (0.02–0.098)	13 (4.7–22)	0.044 (0.038–0.051)	10 (8.7–12)
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.059 (0.024–0.098)	13 (5.2–21)	0.043 (0.038–0.049)	9.5 (8.3–11)
	2008	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.053 (0.017–0.091)	11 (3.5–19)	0.044 (0.039–0.05)	9.1 (7.9–10)
	2009	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.053 (0.016–0.09)	11 (3.2–18)	0.045 (0.039–0.051)	9 (7.8–10)
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.052 (0.015–0.089)	10 (2.9–18)	0.045 (0.039–0.051)	8.8 (7.7–10)
Malta	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.024 (<0.01–0.04)	6.4 (1.8–11)	0.02 (0.018–0.022)	5.5 (5–6.1)
	1995	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.028 (<0.01–0.046)	7.2 (2.4–12)	0.024 (0.022–0.025)	6.1 (5.7–6.5)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.023 (<0.01–0.04)	5.9 (2–10)	0.02 (0.018–0.022)	5 (4.4–5.6)
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.032 (0.011–0.056)	7.9 (2.7–14)	0.027 (0.024–0.03)	6.5 (5.7–7.3)
	2008	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.056 (0.018–0.099)	14 (4.4–24)	0.048 (0.041–0.055)	11 (9.8–13)
	2009	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.058 (0.019–0.1)	14 (4.6–24)	0.05 (0.044–0.056)	12 (11–13)
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.062 (0.022–0.11)	15 (5.2–26)	0.05 (0.044–0.056)	12 (11–13)

[a] Rates are per 100 000 population.

Data can be downloaded from www.who.int/tb/data

TABLE A3.1 **Estimates of the burden of disease caused by TB, 1990–2010**

	YEAR	POPULATION (MILLIONS)	MORTALITY (EXCLUDING HIV) NUMBER (THOUSANDS)	MORTALITY (EXCLUDING HIV) RATE[a]	PREVALENCE (INCLUDING HIV) NUMBER (THOUSANDS)	PREVALENCE (INCLUDING HIV) RATE	INCIDENCE (INCLUDING HIV) NUMBER (THOUSANDS)	INCIDENCE (INCLUDING HIV) RATE
Monaco	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	7 (3.3–11)	<0.01 (<0.01–<0.01)	3.7 (3.2–4.2)
	1995	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	5.9 (2.7–9.3)	<0.01 (<0.01–<0.01)	3.5 (3–3.9)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	3.2 (<1–5.6)	<0.01 (<0.01–<0.01)	<1 (<1–<1)
	2005	<1			<0.01 (<0.01–<0.01)	<1 (<1–<1)		
	2008	<1			<0.01 (<0.01–<0.01)	<1 (<1–<1)		
	2009	<1			<0.01 (<0.01–<0.01)	<1 (<1–<1)		
	2010	<1			<0.01 (<0.01–<0.01)	<1 (<1–<1)		
Montenegro	2005	<1	0.011 (<0.01–0.021)	1.8 (1.3–3.3)	0.19 (0.047–0.35)	31 (7.5–55)	0.17 (0.16–0.2)	27 (25–32)
	2008	<1	0.011 (<0.01–0.019)	1.8 (1.2–3.1)	0.17 (0.048–0.31)	27 (7.7–49)	0.14 (0.13–0.17)	23 (21–27)
	2009	<1	0.012 (<0.01–0.018)	1.9 (1.2–2.9)	0.17 (0.054–0.29)	27 (8.6–46)	0.13 (0.12–0.15)	21 (18–24)
	2010	<1	<0.01 (<0.01–0.014)	1.4 (<1–2.2)	0.14 (0.041–0.25)	23 (6.5–39)	0.12 (0.1–0.14)	19 (17–22)
Netherlands	1990	15	0.041 (0.035–0.049)	<1 (<1–<1)	1.9 (0.63–3.3)	13 (4.2–22)	1.5 (1.3–1.7)	10 (9–12)
	1995	15	0.051 (0.044–0.061)	<1 (<1–<1)	2.4 (0.8–4.1)	16 (5.2–27)	1.9 (1.7–2.2)	13 (11–14)
	2000	16	0.034 (0.034–0.034)	<1 (<1–<1)	1.9 (0.63–3.2)	12 (3.9–20)	1.5 (1.4–1.7)	9.6 (8.5–11)
	2005	16	0.034 (0.034–0.035)	<1 (<1–<1)	1.6 (0.54–2.8)	9.9 (3.3–17)	1.3 (1.1–1.5)	8 (7–9.1)
	2008	17	0.026 (0.026–0.026)	<1 (<1–<1)	1.4 (0.46–2.4)	8.5 (2.8–14)	1.1 (1–1.3)	6.9 (6–7.8)
	2009	17	0.038 (0.038–0.039)	<1 (<1–<1)	1.5 (0.49–2.5)	8.9 (3–15)	1.2 (1–1.4)	7.2 (6.2–8.2)
	2010	17	0.031 (0.027–0.037)	<1 (<1–<1)	1.5 (0.5–2.5)	9 (3–15)	1.2 (1.1–1.4)	7.3 (6.4–8.2)
Norway	1990	4	0.01 (<0.01–0.012)	<1 (<1–<1)	0.44 (0.16–0.74)	10 (3.7–18)	0.34 (0.3–0.38)	8 (7–9)
	1995	4	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.34 (0.12–0.58)	7.9 (2.8–13)	0.27 (0.24–0.3)	6.2 (5.4–7)
	2000	4	0.01 (0.01–0.011)	<1 (<1–<1)	0.36 (0.12–0.6)	7.9 (2.8–13)	0.28 (0.25–0.31)	6.2 (5.5–6.9)
	2005	5	0.01 (0.01–0.011)	<1 (<1–<1)	0.41 (0.14–0.69)	8.9 (3.1–15)	0.32 (0.28–0.36)	6.9 (6.1–7.8)
	2008	5	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.39 (0.14–0.66)	8.2 (2.9–14)	0.31 (0.27–0.35)	6.4 (5.7–7.2)
	2009	5	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.39 (0.14–0.65)	8 (2.8–13)	0.3 (0.26–0.34)	6.2 (5.5–7)
	2010	5	<0.01 (<0.01–0.01)	<1 (<1–<1)	0.37 (0.12–0.63)	7.5 (2.5–13)	0.3 (0.26–0.33)	6 (5.3–6.9)
Poland	1990	38	1.7 (1.4–2)	4.4 (3.8–5.3)	24 (7.8–40)	62 (20–105)	19 (16–21)	49 (43–55)
	1995	38	1.6 (1.4–2)	4.3 (3.7–5.2)	24 (8–40)	61 (21–104)	18 (16–21)	48 (42–54)
	2000	38	1.1 (1.1–1.1)	2.9 (2.9–2.9)	16 (5.2–27)	41 (13–71)	13 (11–14)	33 (29–37)
	2005	38	0.87 (0.86–0.87)	2.3 (2.3–2.3)	12 (4–20)	31 (10–53)	9.5 (8.3–11)	25 (22–28)
	2008	38	0.87 (0.87–0.87)	2.3 (2.3–2.3)	11 (3.6–18)	28 (9.3–48)	8.7 (7.6–9.8)	23 (20–26)
	2009	38	0.79 (0.79–0.8)	2.1 (2.1–2.1)	11 (3.8–19)	29 (9.9–49)	8.7 (7.6–9.9)	23 (20–26)
	2010	38	0.78 (0.67–0.94)	2 (1.8–2.4)	11 (3.7–19)	29 (9.8–49)	8.8 (7.7–10)	23 (20–26)
Portugal	1990	10	0.45 (0.38–0.54)	4.5 (3.8–5.4)	9 (3.2–15)	91 (33–154)	7.1 (6.3–8.1)	72 (63–81)
	1995	10	0.37 (0.31–0.46)	3.7 (3.1–4.5)	7.7 (2.8–13)	76 (28–129)	6.4 (5.6–7.3)	63 (56–72)
	2000	10	0.3 (0.3–0.3)	2.9 (2.9–2.9)	5.4 (1.8–9.2)	52 (18–89)	4.9 (4.3–5.5)	47 (41–53)
	2005	11	0.19 (0.16–0.23)	1.8 (1.6–2.2)	4.1 (1.5–6.7)	39 (14–64)	3.8 (3.3–4.3)	36 (32–41)
	2008	11	0.16 (0.16–0.16)	1.5 (1.5–1.5)	3.7 (1.4–6.3)	35 (13–59)	3.2 (2.8–3.7)	30 (27–34)
	2009	11	0.16 (0.16–0.16)	1.5 (1.5–1.5)	3.4 (1.2–5.9)	32 (11–55)	3.1 (2.7–3.5)	29 (26–33)
	2010	11	0.16 (0.13–0.2)	1.5 (1.2–1.9)	3.4 (1.2–5.9)	32 (12–55)	3.1 (2.7–3.6)	29 (26–33)
Republic of Moldova	1990	4	1 (0.51–1.7)	23 (12–39)	9.8 (3.9–19)	224 (90–435)	5 (3–7.4)	114 (69–169)
	1995	4	0.75 (0.52–1)	17 (12–24)	8.3 (3.7–14)	191 (85–317)	4.9 (4–5.9)	114 (92–137)
	2000	4	0.84 (0.84–0.85)	21 (20–21)	9.4 (4.3–16)	229 (104–378)	5.6 (4.6–6.7)	136 (111–164)
	2005	4	0.8 (0.79–0.8)	21 (21–21)	8.5 (3–15)	226 (81–391)	6.2 (5.1–7.4)	164 (136–195)
	2008	4	0.68 (0.67–0.68)	19 (19–19)	9.1 (3.8–16)	251 (104–427)	6.3 (5.2–7.7)	175 (142–211)
	2009	4	0.7 (0.7–0.7)	19 (19–19)	9.6 (4.1–16)	267 (114–448)	6.4 (5.2–7.7)	178 (146–214)
	2010	4	0.83 (0.55–1.2)	23 (15–33)	9.9 (4.3–16)	277 (121–459)	6.5 (5.3–7.8)	182 (149–218)
Romania	1990	23	3 (1.4–5.5)	13 (6–24)	61 (23–120)	261 (101–517)	33 (20–49)	143 (87–213)
	1995	23	2 (1.3–3.1)	9 (5.6–14)	49 (20–83)	215 (86–365)	33 (26–39)	143 (117–173)
	2000	22	2.2 (2.2–2.2)	9.8 (9.7–9.8)	54 (21–92)	242 (95–413)	37 (30–45)	167 (136–202)
	2005	22	1.8 (1.8–1.8)	8.2 (8.2–8.2)	52 (20–88)	237 (93–405)	36 (29–43)	164 (134–198)
	2008	22	1.6 (1.6–1.7)	7.6 (7.6–7.7)	41 (16–70)	191 (74–326)	29 (24–35)	134 (109–161)
	2009	22	1.5 (1.5–1.5)	7.1 (7.1–7.1)	38 (15–66)	177 (68–304)	27 (22–32)	125 (102–150)
	2010	21	1.5 (1.5–1.5)	7 (7–7)	34 (12–59)	159 (58–275)	25 (20–30)	116 (95–138)
Russian Federation	1990	148	68 (36–110)	46 (24–75)	330 (130–620)	220 (89–420)	160 (97–240)	107 (65–160)
	1995	149	51 (35–70)	34 (24–47)	270 (120–460)	185 (82–306)	160 (130–190)	107 (87–129)
	2000	147	33 (33–33)	22 (22–22)	250 (97–440)	174 (66–300)	180 (140–220)	122 (99–147)
	2005	144	34 (34–34)	23 (23–24)	210 (75–360)	144 (52–250)	150 (130–180)	107 (88–128)
	2008	143	27 (27–27)	19 (19–19)	200 (68–340)	137 (48–239)	150 (130–180)	107 (89–126)
	2009	143	25 (25–25)	17 (17–17)	190 (71–330)	136 (50–232)	150 (130–180)	106 (89–125)
	2010	143	26 (16–42)	18 (11–29)	190 (70–330)	136 (49–233)	150 (130–180)	106 (90–124)
San Marino	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	6.1 (2.1–11)	<0.01 (<0.01–<0.01)	4.8 (4.1–5.4)
	1995	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	15 (6.9–24)	<0.01 (<0.01–<0.01)	9 (7.8–10)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	8.9 (4.2–14)	<0.01 (<0.01–<0.01)	4.3 (3.7–4.8)
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)		
	2008	<1			<0.01 (<0.01–<0.01)	<1 (<1–<1)		
	2009	<1			<0.01 (<0.01–<0.01)	<1 (<1–<1)		
	2010	<1			<0.01 (<0.01–<0.01)	<1 (<1–<1)		
Serbia	2005	10	0.29 (0.29–0.29)	3 (2.9–3)	4 (1.1–6.9)	40 (11–70)	3.4 (3.2–4.1)	34 (33–41)
	2008	10	0.17 (0.17–0.17)	1.8 (1.8–1.8)	4.1 (1.5–6.8)	41 (15–69)	3 (2.7–3.5)	31 (28–36)
	2009	10	0.17 (0.17–0.17)	1.7 (1.7–1.7)	2.4 (0.64–4.2)	25 (6.5–43)	2.1 (1.9–2.4)	21 (19–25)
	2010	10	0.14 (0.094–0.22)	1.4 (<1–2.3)	2.2 (0.67–3.8)	22 (6.8–38)	1.8 (1.6–2.1)	18 (16–21)
Serbia & Montenegro	1990	10	0.49 (0.35–0.75)	4.8 (3.4–7.4)	9 (3–18)	89 (29–176)	6 (4–8.4)	59 (39–83)
	1995	11	0.49 (0.38–0.63)	4.5 (3.5–5.8)	9.6 (4.2–16)	89 (39–149)	5.8 (4.7–7)	53 (43–64)
	2000	11	0.34 (0.27–0.44)	3.2 (2.5–4.1)	6 (2.1–10)	56 (20–97)	4.3 (3.5–5.2)	40 (32–48)
Slovakia	1990	5	0.099 (0.087–0.12)	1.9 (1.7–2.2)	2.1 (0.63–3.6)	39 (12–68)	1.7 (1.5–1.9)	32 (28–36)
	1995	5	0.11 (0.095–0.13)	2 (1.8–2.5)	2.4 (0.78–4)	44 (15–75)	1.8 (1.6–2.1)	34 (30–39)
	2000	5	0.055 (0.055–0.055)	1 (1–1)	1.5 (0.52–2.6)	28 (9.5–48)	1.2 (1–1.3)	22 (19–25)
	2005	5	0.048 (0.048–0.049)	<1 (<1–<1)	1.1 (0.42–1.9)	21 (7.7–34)	0.8 (0.7–0.91)	15 (13–17)
	2008	5	0.043 (0.043–0.043)	<1 (<1–<1)	0.7 (0.2–1.2)	13 (3.7–22)	0.63 (0.55–0.71)	12 (10–13)
	2009	5	0.043 (0.043–0.043)	<1 (<1–<1)	0.63 (0.19–1.1)	11 (3.5–20)	0.53 (0.47–0.6)	9.7 (8.6–11)
	2010	5	0.026 (0.023–0.03)	<1 (<1–<1)	0.52 (0.15–0.91)	9.6 (2.7–17)	0.44 (0.38–0.5)	8 (7–9.1)
Slovenia	1990	2	0.063 (0.054–0.075)	3.3 (2.8–3.9)	0.45 (0.15–0.93)	23 (7.6–48)	0.83 (0.73–0.94)	43 (38–49)
	1995	2	0.044 (0.038–0.053)	2.3 (2–2.7)	0.16 (0.028–0.45)	8.3 (1.4–23)	0.6 (0.53–0.68)	31 (27–35)
	2000	2	0.018 (0.018–0.018)	<1 (<1–<1)	0.1 (0.015–0.29)	5 (<1–15)	0.42 (0.37–0.48)	21 (19–24)
	2005	2	0.017 (0.017–0.018)	<1 (<1–<1)	0.17 (0.056–0.35)	8.5 (2.8–18)	0.31 (0.27–0.35)	15 (14–17)
	2008	2	0.029 (0.029–0.029)	1.5 (1.5–1.5)	0.31 (0.11–0.53)	16 (5.5–26)	0.24 (0.21–0.27)	12 (10–13)
	2009	2	0.024 (0.024–0.024)	1.2 (1.2–1.2)	0.26 (0.08–0.45)	13 (4–22)	0.21 (0.19–0.24)	11 (9.3–12)
	2010	2	0.016 (0.014–0.019)	<1 (<1–<1)	0.28 (0.091–0.47)	14 (4.5–23)	0.21 (0.19–0.24)	11 (9.3–12)
Spain	1990	39	0.39 (0.34–0.45)	<1 (<1–1.2)	9.6 (2.9–17)	25 (7.3–43)	8.7 (7.7–9.9)	22 (20–25)
	1995	39	0.45 (0.38–0.55)	1.1 (<1–1.4)	12 (4.5–20)	31 (11–52)	10 (8.8–11)	26 (22–29)
	2000	40	0.41 (0.41–0.41)	1 (1–1)	11 (4.1–19)	28 (10–46)	9.2 (8.1–10)	23 (20–26)
	2005	43	0.36 (0.36–0.36)	<1 (<1–<1)	10 (3.8–17)	23 (8.9–39)	8.4 (7.3–9.5)	19 (17–22)
	2008	45	0.26 (0.26–0.27)	<1 (<1–<1)	9 (3.1–15)	20 (6.9–33)	7.8 (6.8–8.8)	17 (15–20)
	2009	46	0.34 (0.29–0.42)	<1 (<1–<1)	9.1 (3.3–15)	20 (7.2–34)	7.7 (6.7–8.7)	17 (15–19)
	2010	46	0.32 (0.27–0.39)	<1 (<1–<1)	8.4 (2.8–14)	18 (6.2–31)	7.3 (6.4–8.3)	16 (14–18)
Sweden	1990	9	0.027 (0.023–0.032)	<1 (<1–<1)	0.82 (0.29–1.4)	9.6 (3.4–16)	0.63 (0.55–0.71)	7.3 (6.4–8.3)
	1995	9	0.026 (0.023–0.032)	<1 (<1–<1)	0.82 (0.29–1.4)	9.3 (3.3–16)	0.62 (0.54–0.71)	7.1 (6.2–8)
	2000	9	0.019 (0.019–0.019)	<1 (<1–<1)	0.61 (0.2–1)	6.9 (2.3–12)	0.49 (0.43–0.55)	5.5 (4.9–6.2)
	2005	9	0.015 (0.015–0.016)	<1 (<1–<1)	0.8 (0.3–1.3)	8.8 (3.3–15)	0.57 (0.5–0.65)	6.3 (5.5–7.3)
	2008	9	0.018 (0.018–0.018)	<1 (<1–<1)	0.65 (0.2–1.1)	7 (2.2–12)	0.54 (0.47–0.61)	5.8 (5.1–6.6)
	2009	9	0.019 (0.019–0.019)	<1 (<1–<1)	0.74 (0.25–1.3)	8 (2.7–14)	0.58 (0.51–0.66)	6.2 (5.5–7.1)
	2010	9	0.026 (0.023–0.032)	<1 (<1–<1)	0.83 (0.3–1.4)	8.8 (3.2–15)	0.63 (0.56–0.72)	6.8 (5.9–7.7)
Switzerland	1990	7	0.057 (0.048–0.068)	<1 (<1–1)	2 (0.74–3.2)	29 (11–49)	1.5 (1.3–1.7)	22 (19–25)
	1995	7	0.036 (0.031–0.043)	<1 (<1–<1)	1.2 (0.43–2)	17 (6.1–29)	0.95 (0.84–1.1)	14 (12–15)
	2000	7	0.034 (0.034–0.034)	<1 (<1–<1)	0.76 (0.22–1.3)	11 (3.1–18)	0.66 (0.58–0.74)	9.2 (8–10)
	2005	7	0.022 (0.022–0.022)	<1 (<1–<1)	0.74 (0.26–1.2)	9.9 (3.4–17)	0.59 (0.52–0.67)	8 (7–9)
	2008	8	0.02 (0.017–0.024)	<1 (<1–<1)	0.66 (0.23–1.1)	8.7 (3–15)	0.53 (0.47–0.6)	7 (6.1–7.9)
	2009	8	0.021 (0.018–0.026)	<1 (<1–<1)	0.73 (0.26–1.2)	9.5 (3.4–16)	0.58 (0.51–0.65)	7.6 (6.6–8.6)
	2010	8	0.021 (0.018–0.026)	<1 (<1–<1)	0.72 (0.25–1.2)	9.4 (3.3–16)	0.58 (0.51–0.66)	7.6 (6.7–8.6)

[a] Rates are per 100 000 population.

TABLE A3.1 **Estimates of the burden of disease caused by TB, 1990–2010**

			MORTALITY (EXCLUDING HIV)		PREVALENCE (INCLUDING HIV)		INCIDENCE (INCLUDING HIV)	
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[a]	NUMBER (THOUSANDS)	RATE	NUMBER (THOUSANDS)	RATE
Tajikistan	1990	5	0.97 (0.46–1.7)	18 (8.6–33)	9.1 (3.6–18)	172 (67–340)	4.9 (3–7.3)	93 (56–138)
	1995	6	1.3 (0.98–1.6)	22 (17–28)	11 (5.1–18)	191 (88–312)	5.3 (4.3–6.4)	91 (74–110)
	2000	6	1.7 (1.3–2.1)	27 (21–34)	15 (7–24)	243 (113–394)	7.7 (6.4–9.2)	125 (103–149)
	2005	6	2.4 (1.8–3.2)	38 (27–50)	23 (10–37)	349 (162–575)	12 (9.7–15)	187 (150–227)
	2008	7	2.6 (1.8–3.6)	39 (27–53)	25 (11–41)	367 (168–610)	13 (11–16)	202 (165–243)
	2009	7	2.7 (2–3.6)	40 (29–52)	25 (12–41)	370 (171–606)	14 (11–17)	204 (167–245)
	2010	7	2.8 (2.1–3.7)	41 (31–53)	26 (12–43)	382 (177–619)	14 (12–17)	206 (169–247)
The Former Yugoslav Republic of Macedonia	1990	2	0.13 (0.11–0.16)	6.9 (5.5–8.3)	1.7 (0.39–3.1)	91 (20–162)	1.5 (0.94–2.3)	81 (49–120)
	1995	2	0.24 (0.15–0.35)	12 (7.8–18)	1.8 (0.76–3)	92 (39–155)	1.1 (0.92–1.4)	58 (47–70)
	2000	2	0.12 (0.12–0.12)	5.9 (5.8–5.9)	1.2 (0.47–2.1)	60 (23–104)	0.83 (0.68–1)	41 (34–50)
	2005	2	0.051 (0.04–0.065)	2.5 (2–3.2)	0.67 (0.15–1.2)	33 (7.3–58)	0.6 (0.54–0.67)	30 (27–33)
	2008	2	0.049 (0.035–0.079)	2.4 (1.7–3.8)	0.58 (0.15–1)	28 (7.2–49)	0.5 (0.43–0.57)	24 (21–28)
	2009	2	0.052 (0.035–0.084)	2.5 (1.7–4.1)	0.56 (0.16–0.97)	27 (7.8–47)	0.46 (0.4–0.53)	23 (19–26)
	2010	2	0.042 (0.03–0.069)	2 (1.4–3.4)	0.5 (0.12–0.88)	24 (6–42)	0.43 (0.37–0.5)	21 (18–24)
Turkey	1990	54	3.6 (1.7–7.1)	6.6 (3.2–13)	27 (10–52)	51 (18–96)	31 (22–43)	58 (40–79)
	1995	59	5.2 (3.5–7.5)	8.9 (5.9–13)	34 (15–57)	58 (25–97)	34 (28–41)	58 (47–70)
	2000	64	4.3 (2.9–6.3)	6.8 (4.5–9.9)	29 (13–48)	45 (20–76)	29 (24–35)	46 (38–56)
	2005	68	2.3 (1.4–3.8)	3.3 (2–5.5)	19 (7.4–32)	28 (11–47)	23 (19–27)	33 (28–40)
	2008	71	2.2 (1.3–3.7)	3.1 (1.8–5.2)	18 (7–31)	25 (9.9–43)	21 (17–26)	30 (25–36)
	2009	72	2.3 (1.3–3.7)	3.2 (1.9–5.2)	18 (7.2–31)	25 (10–43)	21 (17–25)	29 (24–35)
	2010	73	2.2 (1.3–3.6)	3.1 (1.8–5)	18 (7.2–30)	24 (9.9–41)	21 (17–25)	28 (23–34)
Turkmenistan	1990	4	0.65 (0.48–1.2)	18 (13–34)	2.7 (0.6–4.6)	73 (16–126)	2.4 (1.9–2.9)	64 (50–80)
	1995	4	0.8 (0.52–1.3)	19 (12–31)	2.7 (0.81–4.7)	65 (19–113)	2.2 (1.9–2.5)	52 (45–61)
	2000	5	1.2 (0.89–1.8)	27 (20–40)	4.7 (1.2–8.3)	105 (26–184)	4.2 (3.7–4.6)	92 (82–103)
	2005	5	0.9 (0.68–1.4)	19 (14–29)	3.7 (0.86–6.5)	78 (18–137)	3.3 (2.9–3.7)	70 (61–79)
	2008	5	0.88 (0.71–1.1)	18 (14–22)	3.8 (0.85–6.7)	77 (17–137)	3.3 (2.7–4)	68 (55–82)
	2009	5	0.86 (0.69–1)	17 (14–21)	3.7 (0.82–6.6)	75 (17–132)	3.3 (2.7–4)	67 (54–81)
	2010	5	1 (0.7–1.9)	20 (14–37)	3.9 (0.96–6.9)	77 (19–137)	3.3 (2.7–4)	66 (54–80)
Ukraine	1990	52	6.1 (2.9–12)	12 (5.7–23)	29 (9.1–55)	56 (18–107)	21 (15–29)	41 (28–56)
	1995	51	7 (4.1–12)	14 (8.1–23)	35 (12–61)	69 (24–120)	27 (22–32)	52 (43–62)
	2000	49	12 (12–12)	24 (24–24)	52 (18–90)	106 (37–185)	41 (33–49)	84 (68–101)
	2005	47	12 (12–12)	26 (26–27)	58 (20–100)	124 (44–215)	47 (39–56)	101 (83–120)
	2008	46	11 (11–11)	23 (23–23)	61 (23–100)	132 (50–227)	47 (38–56)	102 (83–122)
	2009	46	8.7 (8.7–8.7)	19 (19–19)	61 (24–100)	133 (52–225)	46 (38–55)	101 (83–121)
	2010	45	8.6 (5.2–12)	19 (11–27)	60 (25–100)	132 (54–223)	46 (38–55)	101 (84–121)
United Kingdom of Great Britain and Northern Ireland	1990	57	0.34 (0.31–0.38)	<1 (<1–<1)	8.1 (2.7–14)	14 (4.8–24)	6.6 (6.2–7.1)	12 (11–12)
	1995	58	0.36 (0.33–0.4)	<1 (<1–<1)	8.7 (3–14)	15 (5.2–25)	7 (6.5–7.4)	12 (11–13)
	2000	59	0.36 (0.32–0.4)	<1 (<1–<1)	8.6 (3–14)	15 (5.1–24)	6.9 (6.5–7.4)	12 (11–13)
	2005	60	0.39 (0.39–0.39)	<1 (<1–<1)	11 (4.1–18)	19 (6.8–30)	8.9 (8.3–9.5)	15 (14–16)
	2008	61	0.38 (0.38–0.39)	<1 (<1–<1)	9.4 (3.2–16)	15 (5.2–26)	7.9 (7.4–8.4)	13 (12–14)
	2009	62	0.35 (0.35–0.35)	<1 (<1–<1)	9.5 (3.3–16)	15 (5.4–25)	7.7 (7.2–8.3)	13 (12–13)
	2010	62	0.4 (0.36–0.45)	<1 (<1–<1)	9.6 (3.3–16)	15 (5.4–26)	7.9 (7.4–8.4)	13 (12–14)
Uzbekistan	1990	21	4.9 (2.5–8.1)	24 (12–40)	52 (21–100)	256 (103–496)	26 (16–39)	128 (78–190)
	1995	23	5.1 (3.8–6.6)	22 (16–29)	56 (26–92)	244 (112–401)	29 (24–35)	128 (104–154)
	2000	25	4.5 (4.5–4.5)	18 (18–18)	57 (26–93)	229 (104–376)	32 (26–38)	128 (104–154)
	2005	26	3.9 (3.9–3.9)	15 (15–15)	52 (22–87)	201 (85–337)	33 (27–40)	128 (104–154)
	2008	27	5 (3.6–6.8)	19 (13–26)	60 (27–98)	223 (101–367)	34 (28–41)	128 (104–154)
	2009	27	5.3 (3.9–7.1)	20 (14–26)	62 (28–100)	228 (105–373)	35 (28–42)	128 (105–153)
	2010	27	5.4 (3.9–7.1)	20 (14–26)	62 (29–100)	227 (104–371)	35 (29–42)	128 (105–153)

[a] Rates are per 100 000 population.

Data can be downloaded from www.who.int/tb/data

TABLE A3.2 **Incidence, notification and case detection rates, all forms, 1990–2010**

			INCIDENCE (INCLUDING HIV)		INCIDENCE HIV-POSITIVE		NOTIFIED NEW AND RELAPSE[a]		CASE DETECTION RATE[a]
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[b]	NUMBER (THOUSANDS)	RATE[b]	NUMBER	RATE[b]	PERCENT
Albania	1990	3	0.8 (0.57–1.1)	24 (17–33)			653	20	81 (61–114)
	1995	3	0.77 (0.64–0.91)	24 (20–29)			641	20	84 (71–101)
	2000	3	0.7 (0.59–0.81)	23 (19–26)			604	20	87 (74–103)
	2005	3	0.59 (0.5–0.69)	19 (16–22)			506	16	86 (74–102)
	2008	3	0.5 (0.42–0.58)	16 (13–18)			427	13	86 (74–102)
	2009	3	0.47 (0.4–0.55)	15 (12–17)			435	14	93 (80–110)
	2010	3	0.45 (0.38–0.52)	14 (12–16)			431	13	97 (83–114)
Andorra	1990	<1	0.026 (0.023–0.029)	49 (43–56)			23	44	89 (78–102)
	1995	<1	0.021 (0.018–0.024)	33 (28–38)					–
	2000	<1	0.013 (0.011–0.014)	19 (17–22)			12	19	95 (83–110)
	2005	<1	<0.01 (<0.01–0.011)	12 (10–14)			10	13	108 (93–127)
	2008	<1	<0.01 (<0.01–<0.01)	9 (8.3–9.8)			4	5	54 (50–58)
	2009	<1	<0.01 (<0.01–<0.01)	8.2 (6.9–9.7)			8	10	117 (99–139)
	2010	<1	<0.01 (<0.01–<0.01)	7.4 (6.2–8.7)			7	8	112 (95–132)
Armenia	1990	4	1.2 (0.71–1.7)	33 (20–49)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	590	17	50 (34–83)
	1995	3	1.5 (1.2–1.8)	47 (38–56)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	1 157	36	77 (64–95)
	2000	3	2.2 (1.8–2.6)	71 (57–85)	0.02 (0.012–0.031)	<1 (<1–1)	1 333	43	61 (51–75)
	2005	3	2.2 (1.8–2.7)	72 (58–87)	0.024 (0.014–0.036)	<1 (<1–1.2)	2 206	72	100 (83–123)
	2008	3	2.2 (1.8–2.7)	73 (59–87)	0.028 (0.016–0.043)	<1 (<1–1.4)	1 655	54	74 (61–91)
	2009	3	2.2 (1.8–2.7)	73 (60–87)	0.029 (0.017–0.045)	<1 (<1–1.5)	1 560	51	69 (58–85)
	2010	3	2.3 (1.9–2.7)	73 (60–87)	0.031 (0.017–0.049)	1 (<1–1.6)	1 410	46	62 (52–76)
Austria	1990	8	1.7 (1.5–1.9)	22 (20–25)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	1 521	20	89 (78–101)
	1995	8	1.6 (1.3–1.8)	20 (17–22)	0.012 (<0.01–0.023)	<1 (<1–<1)	1 481	19	95 (83–110)
	2000	8	1.3 (1.1–1.5)	16 (14–18)	0.022 (0.012–0.035)	<1 (<1–<1)	1 185	15	92 (81–106)
	2005	8	1 (0.91–1.2)	13 (11–14)	0.035 (0.021–0.052)	<1 (<1–<1)	928	11	89 (78–102)
	2008	8	0.79 (0.68–0.91)	9.5 (8.1–11)	0.035 (0.02–0.055)	<1 (<1–<1)			–
	2009	8	0.61 (0.55–0.68)	7.3 (6.6–8.1)	0.029 (0.019–0.04)	<1 (<1–<1)	441	5	72 (65–80)
	2010	8	0.42 (0.37–0.48)	5 (4.4–5.7)	0.021 (0.013–0.031)	<1 (<1–<1)	358	4	84 (75–96)
Azerbaijan	1990	7	7.9 (4.8–12)	110 (67–163)	0.011 (<0.01–0.024)	<1 (<1–<1)	2 620	36	33 (22–54)
	1995	8	8.5 (6.9–10)	110 (89–132)	0.018 (<0.01–0.034)	<1 (<1–<1)	1 630	21	19 (16–24)
	2000	8	8.9 (7.2–11)	110 (89–132)	0.038 (0.015–0.073)	<1 (<1–<1)	5 187	64	58 (48–72)
	2005	9	9.4 (7.7–11)	110 (89–132)	0.079 (0.042–0.13)	<1 (<1–1.5)	6 034	70	64 (53–79)
	2008	9	9.8 (8–12)	110 (89–132)	0.11 (0.059–0.18)	1.2 (<1–2)	6 417	72	65 (54–80)
	2009	9	9.9 (8.1–12)	110 (90–132)	0.12 (0.066–0.2)	1.4 (<1–2.2)	7 301	81	73 (61–90)
	2010	9	10 (8.3–12)	110 (90–131)	0.14 (0.074–0.22)	1.5 (<1–2.4)	6 390	70	63 (53–77)
Belarus	1990	10	8.2 (5–12)	80 (49–119)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	3 039	30	37 (25–61)
	1995	10	8.3 (6.7–10)	81 (66–97)	0.019 (<0.01–0.039)	<1 (<1–<1)	4 854	47	59 (49–72)
	2000	10	7.5 (6.4–8.6)	74 (64–85)	0.069 (0.039–0.11)	<1 (<1–1.1)	6 799	68	91 (79–106)
	2005	10	7 (5.7–8.5)	72 (58–87)	0.15 (0.087–0.22)	1.5 (<1–2.3)	5 308	54	76 (62–94)
	2008	10	6.9 (5.6–8.4)	72 (58–87)	0.21 (0.17–0.25)	2.2 (1.8–2.6)	5 126	53	74 (61–91)
	2009	10	6.9 (5.5–8.4)	71 (57–87)	0.23 (0.17–0.3)	2.4 (1.8–3.1)	5 250	54	76 (63–95)
	2010	10	6.8 (5.5–8.2)	70 (57–85)	0.25 (0.2–0.31)	2.6 (2–3.3)	5 003	52	74 (61–92)
Belgium	1990	10	1.8 (1.6–2.1)	18 (16–21)	0.027 (0.012–0.047)	<1 (<1–<1)	1 577	16	87 (77–99)
	1995	10	1.6 (1.4–1.8)	16 (14–18)	0.059 (0.032–0.093)	<1 (<1–<1)	1 380	14	87 (77–99)
	2000	10	1.5 (1.3–1.7)	14 (13–16)	0.077 (0.045–0.12)	<1 (<1–1.2)	1 278	13	87 (77–99)
	2005	10	1.2 (1.1–1.4)	12 (10–13)	0.074 (0.055–0.095)	<1 (<1–<1)	1 076	10	87 (77–99)
	2008	11	0.93 (0.82–1.1)	8.8 (7.7–10)	0.063 (0.048–0.08)	<1 (<1–<1)	811	8	87 (77–99)
	2009	11	0.93 (0.81–1)	8.7 (7.6–9.8)	0.059 (0.037–0.085)	<1 (<1–<1)	806	8	87 (77–99)
	2010	11	0.93 (0.82–1.1)	8.7 (7.6–9.8)	0.055 (0.033–0.081)	<1 (<1–<1)	*810*	*8*	*87 (77–99)*
Bosnia and Herzegovina	1990	4	4 (2.5–6)	94 (57–139)			4 073	95	101 (68–166)
	1995	3	2.8 (2.3–3.4)	84 (69–102)			2 132	64	76 (63–93)
	2000	4	2.3 (1.9–2.8)	63 (51–76)			2 476	67	107 (89–131)
	2005	4	2 (1.6–2.4)	52 (42–63)			2 111	56	107 (89–132)
	2008	4	1.9 (1.6–2.2)	51 (43–58)			1 713	45	90 (78–105)
	2009	4	1.9 (1.6–2.2)	50 (43–58)			1 725	46	91 (79–107)
	2010	4	1.9 (1.6–2.2)	50 (42–57)			1 321	35	71 (61–83)
Bulgaria	1990	9	4.1 (2.5–6)	46 (28–68)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	2 256	26	56 (37–91)
	1995	8	3.9 (3.2–4.6)	46 (38–54)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	3 245	39	84 (71–101)
	2000	8	3.7 (3.2–4.2)	46 (40–53)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	3 349	42	91 (79–105)
	2005	8	3.5 (3.1–4.1)	46 (40–53)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	3 225	42	91 (79–105)
	2008	8	3.2 (2.8–3.7)	43 (37–49)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	2 944	39	91 (79–105)
	2009	8	3.1 (2.7–3.6)	41 (36–47)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	2 683	36	86 (75–99)
	2010	7	3 (2.6–3.5)	40 (35–46)	<0.01 (<0.01–0.011)	<1 (<1–<1)	2 412	32	79 (70–92)
Croatia	1990	5	2.9 (2.5–3.3)	64 (56–73)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	2 576	57	89 (78–101)
	1995	5	2.5 (2.2–2.8)	53 (47–60)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	2 114	45	85 (76–97)
	2000	5	1.8 (1.6–2.1)	41 (36–46)	<0.01 (<0.01–0.012)	<1 (<1–<1)	1 630	36	89 (78–101)
	2005	4	1.2 (1.1–1.4)	28 (24–31)	<0.01 (<0.01–0.01)	<1 (<1–<1)	1 050	24	85 (76–97)
	2008	4	1.1 (0.94–1.2)	24 (21–28)	<0.01 (<0.01–0.011)	<1 (<1–<1)	980	22	91 (80–104)
	2009	4	0.99 (0.88–1.1)	23 (20–25)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	832	19	84 (74–95)
	2010	4	0.94 (0.83–1.1)	21 (19–24)	<0.01 (<0.01–0.011)	<1 (<1–<1)	688	16	73 (64–83)
Cyprus	1990	<1	0.041 (0.037–0.046)	5.4 (4.9–6)			29	4	70 (63–78)
	1995	<1	0.042 (0.037–0.048)	5 (4.4–5.6)			36	4	85 (75–97)
	2000	<1	0.041 (0.036–0.046)	4.3 (3.8–4.9)			33	3	81 (72–92)
	2005	1	0.041 (0.036–0.046)	4 (3.5–4.5)			34	3	82 (73–93)
	2008	1	0.045 (0.039–0.052)	4.2 (3.7–4.8)			42	4	93 (81–107)
	2009	1	0.047 (0.041–0.054)	4.3 (3.7–4.9)			43	4	92 (80–105)
	2010	1	0.049 (0.042–0.055)	4.4 (3.8–5)			*44*	*4*	*89 (79–102)*
Czech Republic	1990	10	2.3 (2–2.6)	22 (20–25)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	1 937	19	85 (75–96)
	1995	10	2.2 (1.9–2.5)	21 (19–24)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	1 834	18	83 (74–95)
	2000	10	1.7 (1.5–1.9)	16 (14–18)	<0.01 (<0.01–0.011)	<1 (<1–<1)	1 414	14	85 (75–97)
	2005	10	1.1 (0.97–1.3)	11 (9.5–12)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	973	10	88 (77–100)
	2008	10	0.88 (0.76–1)	8.4 (7.3–9.6)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	807	8	92 (81–106)
	2009	10	0.79 (0.7–0.89)	7.6 (6.7–8.5)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	638	6	81 (72–91)
	2010	10	0.71 (0.62–0.81)	6.8 (5.9–7.7)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	*641*	*6*	*90 (79–103)*
Denmark	1990	5	0.39 (0.34–0.45)	7.7 (6.7–8.7)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	350	7	89 (78–102)
	1995	5	0.54 (0.48–0.61)	10 (9.1–12)	<0.01 (<0.01–0.014)	<1 (<1–<1)	448	9	83 (74–94)
	2000	5	0.65 (0.57–0.74)	12 (11–14)	0.016 (<0.01–0.025)	<1 (<1–<1)	587	11	90 (79–104)
	2005	5	0.43 (0.37–0.49)	7.9 (6.8–9)	0.014 (<0.01–0.022)	<1 (<1–<1)	395	7	93 (81–107)
	2008	5	0.38 (0.33–0.43)	6.8 (6–7.7)	0.018 (<0.01–0.034)	<1 (<1–<1)	330	6	88 (78–100)
	2009	6	0.35 (0.31–0.39)	6.3 (5.6–7.1)	0.017 (<0.01–0.028)	<1 (<1–<1)	294	5	84 (75–96)
	2010	6	0.33 (0.29–0.38)	6 (5.3–6.8)	0.015 (<0.01–0.022)	<1 (<1–<1)	*295*	*5*	*88 (78–101)*
Estonia	1990	2	0.47 (0.41–0.54)	30 (26–34)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	423	27	89 (79–102)
	1995	1	0.74 (0.65–0.83)	51 (45–58)	<0.01 (<0.01–0.013)	<1 (<1–<1)	624	43	85 (75–96)
	2000	1	0.88 (0.77–1)	64 (56–73)	0.038 (0.024–0.054)	2.7 (1.7–4)	791	58	90 (79–103)
	2005	1	0.55 (0.48–0.62)	41 (36–46)	0.038 (0.026–0.053)	2.9 (2–3.9)	479	36	87 (77–99)
	2008	1	0.47 (0.41–0.53)	35 (30–39)	0.049 (0.037–0.064)	3.7 (2.7–4.8)	401	30	86 (76–98)
	2009	1	0.41 (0.36–0.46)	30 (27–35)	0.042 (0.03–0.057)	3.2 (2.2–4.3)	361	27	88 (78–101)
	2010	1	0.33 (0.29–0.37)	25 (22–28)	0.034 (0.025–0.044)	2.5 (1.9–3.3)	283	21	85 (76–97)

[a] Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (in *italics*).
[b] Rates are per 100 000 population.

TABLE A3.2 **Incidence, notification and case detection rates, all forms, 1990–2010**

			INCIDENCE (INCLUDING HIV)		INCIDENCE HIV-POSITIVE		NOTIFIED NEW AND RELAPSE[a]		CASE DETECTION RATE[a]
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[b]	NUMBER (THOUSANDS)	RATE[b]	NUMBER	RATE[b]	PERCENT
Finland	1990	5	0.89 (0.78–1)	18 (16–20)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	772	15	87 (77–99)
	1995	5	0.76 (0.67–0.86)	15 (13–17)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	661	13	87 (77–99)
	2000	5	0.61 (0.53–0.69)	12 (10–13)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	527	10	87 (77–99)
	2005	5	0.39 (0.34–0.44)	7.4 (6.5–8.4)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	339	6	87 (77–99)
	2008	5	0.38 (0.33–0.43)	7.2 (6.3–8.1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	331	6	87 (77–99)
	2009	5	0.6 (0.52–0.68)	11 (9.8–13)	<0.01 (<0.01–0.011)	<1 (<1–<1)	519	10	87 (77–99)
	2010	5	0.36 (0.31–0.41)	6.7 (5.9–7.6)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	312	6	87 (77–99)
France	1990	57	11 (11–12)	20 (19–21)	0.5 (0.32–0.74)	<1 (<1–1.3)	9 030	16	80 (76–86)
	1995	58	11 (10–11)	19 (18–20)	0.46 (0.3–0.66)	<1 (<1–1.1)	8 723	15	81 (76–86)
	2000	59	7.6 (7.1–8)	13 (12–14)	0.37 (0.24–0.53)	<1 (<1–<1)	6 122	10	81 (76–86)
	2005	61	6.1 (5.7–6.4)	9.9 (9.3–11)	0.35 (0.23–0.49)	<1 (<1–<1)	4 887	8	81 (76–86)
	2008	62	6.4 (6–6.8)	10 (9.7–11)	0.38 (0.25–0.54)	<1 (<1–<1)	3 355	5	52 (49–55)
	2009	62	6 (5.6–6.4)	9.6 (9–10)	0.37 (0.24–0.51)	<1 (<1–<1)	2 890	5	48 (45–51)
	2010	63	5.9 (5.5–6.2)	9.3 (8.8–9.9)	0.36 (0.24–0.51)	<1 (<1–<1)	*2 906*	*5*	*50 (47–53)*
Georgia	1990	5	5.8 (3.5–8.7)	107 (65–158)	<0.01 (<0.01–0.025)	<1 (<1–<1)	1 537	28	26 (18–43)
	1995	5	5.4 (4.4–6.5)	107 (87–128)	0.013 (<0.01–0.034)	<1 (<1–<1)	1 625	32	30 (25–37)
	2000	5	5.1 (4.3–5.9)	107 (90–125)	0.024 (<0.01–0.05)	<1 (<1–1)	4 397	93	87 (74–103)
	2005	4	4.8 (4.2–5.4)	107 (94–120)	0.053 (0.032–0.08)	1.2 (<1–1.8)	4 501	101	94 (84–107)
	2008	4	4.7 (4.2–5.2)	107 (94–119)	0.07 (0.045–0.1)	1.6 (1–2.3)	4 412	100	94 (84–106)
	2009	4	4.7 (4.1–5.2)	107 (95–119)	0.07 (0.037–0.11)	1.6 (<1–2.6)	4 732	108	102 (91–114)
	2010	4	4.6 (4.1–5.2)	107 (95–119)	0.069 (0.058–0.08)	1.6 (1.3–1.8)	4 674	107	101 (90–113)
Germany	1990	79	17 (15–19)	21 (19–24)	0.25 (0.15–0.37)	<1 (<1–<1)	14 653	19	87 (77–99)
	1995	82	14 (12–16)	17 (15–19)	0.21 (0.12–0.31)	<1 (<1–<1)	12 198	15	87 (77–99)
	2000	82	10 (9.1–12)	13 (11–14)	0.18 (0.11–0.26)	<1 (<1–<1)	9 064	11	87 (77–99)
	2005	83	6.4 (5.6–7.2)	7.7 (6.8–8.7)	0.13 (0.08–0.19)	<1 (<1–<1)	5 539	7	87 (77–99)
	2008	82	4.2 (3.7–4.8)	5.1 (4.5–5.8)	0.099 (0.062–0.14)	<1 (<1–<1)	3 664	4	87 (77–99)
	2009	82	4.2 (3.7–4.8)	5.1 (4.5–5.8)	0.097 (0.06–0.14)	<1 (<1–<1)	3 659	4	87 (77–99)
	2010	82	4 (3.5–4.5)	4.8 (4.2–5.4)	0.097 (0.061–0.14)	<1 (<1–<1)	3 436	4	87 (77–99)
Greece	1990	10	0.97 (0.85–1.1)	9.6 (8.3–11)	0.019 (0.011–0.029)	<1 (<1–<1)	877	9	90 (79–104)
	1995	11	1.1 (0.94–1.2)	10 (8.8–11)	0.022 (0.013–0.033)	<1 (<1–<1)	939	9	88 (77–100)
	2000	11	0.84 (0.74–0.94)	7.6 (6.7–8.6)	0.018 (0.011–0.026)	<1 (<1–<1)	703	6	84 (75–95)
	2005	11	0.72 (0.63–0.82)	6.4 (5.6–7.3)	0.016 (<0.01–0.023)	<1 (<1–<1)	626	6	87 (77–99)
	2008	11	0.61 (0.54–0.69)	5.4 (4.7–6.1)	0.014 (<0.01–0.02)	<1 (<1–<1)	535	5	88 (77–100)
	2009	11	0.56 (0.49–0.63)	4.9 (4.4–5.6)	0.013 (<0.01–0.019)	<1 (<1–<1)	465	4	83 (74–94)
	2010	11	0.52 (0.46–0.6)	4.6 (4–5.2)	0.012 (<0.01–0.018)	<1 (<1–<1)	*466*	*4*	*89 (78–102)*
Hungary	1990	10	4.1 (3.6–4.7)	40 (35–45)	0.063 (0.035–0.099)	<1 (<1–<1)	3 588	35	87 (77–99)
	1995	10	5 (4.4–5.6)	48 (42–55)	0.058 (0.031–0.092)	<1 (<1–<1)	4 339	42	87 (77–99)
	2000	10	3.5 (3.1–4)	35 (30–39)	0.033 (0.018–0.052)	<1 (<1–<1)	3 073	30	87 (77–99)
	2005	10	2.1 (1.8–2.4)	21 (18–23)	0.018 (0.01–0.029)	<1 (<1–<1)	1 808	18	87 (77–99)
	2008	10	1.6 (1.4–1.9)	16 (14–19)	0.015 (<0.01–0.024)	<1 (<1–<1)	1 428	14	87 (77–99)
	2009	10	1.5 (1.3–1.7)	15 (13–17)	0.015 (<0.01–0.023)	<1 (<1–<1)	1 315	13	87 (77–99)
	2010	10	1.5 (1.3–1.7)	15 (13–17)	0.015 (<0.01–0.024)	<1 (<1–<1)	*1 313*	*13*	*87 (77–99)*
Iceland	1990	<1	0.019 (0.016–0.022)	7.4 (6.4–8.5)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	18	7	95 (83–110)
	1995	<1	0.015 (0.014–0.017)	5.7 (5.1–6.4)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	12	4	79 (70–89)
	2000	<1	0.012 (0.011–0.014)	4.4 (3.8–5.1)	<0.01 (<0.01–<0.01)	<1 (<1–1.2)	13	5	104 (90–122)
	2005	<1	0.012 (0.011–0.014)	4.1 (3.6–4.6)	<0.01 (<0.01–<0.01)	<1 (<1–1.6)	10	3	83 (74–94)
	2008	<1	0.014 (0.013–0.015)	4.5 (4.2–4.8)	<0.01 (<0.01–<0.01)	<1 (<1–1.5)	6	2	43 (40–46)
	2009	<1	0.015 (0.013–0.017)	4.8 (4.3–5.3)	<0.01 (<0.01–<0.01)	<1 (<1–1)	11	3	73 (66–82)
	2010	<1	0.016 (0.013–0.02)	5 (4.1–6.1)	<0.01 (<0.01–<0.01)	1.1 (<1–1.7)	22	7	136 (113–168)
Ireland	1990	4	0.73 (0.64–0.82)	21 (18–23)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	624	18	86 (76–98)
	1995	4	0.55 (0.48–0.62)	15 (13–17)	<0.01 (<0.01–0.015)	<1 (<1–<1)	458	13	84 (74–95)
	2000	4	0.47 (0.41–0.53)	12 (11–14)	0.014 (<0.01–0.021)	<1 (<1–<1)	386	10	83 (73–94)
	2005	4	0.45 (0.4–0.51)	11 (9.6–12)	0.017 (0.011–0.025)	<1 (<1–<1)	387	9	85 (76–97)
	2008	4	0.42 (0.37–0.47)	9.6 (8.5–11)	0.017 (0.011–0.024)	<1 (<1–<1)	337	8	80 (72–91)
	2009	4	0.39 (0.34–0.44)	8.8 (7.7–9.9)	0.016 (0.01–0.024)	<1 (<1–<1)	340	8	88 (77–100)
	2010	4	0.36 (0.32–0.41)	8.1 (7.1–9.2)	0.016 (<0.01–0.023)	<1 (<1–<1)	319	7	88 (77–100)
Israel	1990	4	0.39 (0.36–0.43)	8.7 (8–9.5)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	234	5	60 (55–65)
	1995	5	0.5 (0.45–0.56)	9.5 (8.4–11)	0.017 (<0.01–0.025)	<1 (<1–<1)	398	7	79 (70–89)
	2000	6	0.56 (0.49–0.64)	9.4 (8.1–11)	0.027 (0.015–0.044)	<1 (<1–<1)	537	9	95 (83–110)
	2005	7	0.49 (0.43–0.54)	7.4 (6.6–8.2)	0.026 (0.016–0.039)	<1 (<1–<1)	371	6	76 (68–85)
	2008	7	0.42 (0.37–0.47)	5.9 (5.2–6.6)	0.021 (0.013–0.031)	<1 (<1–<1)	322	5	77 (69–87)
	2009	7	0.39 (0.34–0.45)	5.4 (4.7–6.1)	0.02 (<0.01–0.035)	<1 (<1–<1)	347	5	88 (78–101)
	2010	7	0.37 (0.32–0.42)	4.9 (4.3–5.6)	0.018 (0.016–0.02)	<1 (<1–<1)	340	5	93 (81–107)
Italy	1990	57	4.9 (4.3–5.5)	8.6 (7.5–9.7)	0.25 (0.13–0.41)	<1 (<1–<1)	4 246	7	87 (77–99)
	1995	57	5.7 (4.9–6.5)	10 (8.6–11)	0.3 (0.15–0.48)	<1 (<1–<1)	5 627	10	99 (86–115)
	2000	57	5.1 (4.6–5.6)	8.9 (8–9.8)	0.29 (0.2–0.39)	<1 (<1–<1)	3 501	6	69 (62–76)
	2005	59	4.3 (3.7–4.9)	7.3 (6.4–8.3)	0.25 (0.16–0.36)	<1 (<1–<1)	3 828	7	89 (79–102)
	2008	60	3.5 (3.1–4.1)	5.9 (5.1–6.8)	0.21 (0.12–0.31)	<1 (<1–<1)	3 414	6	96 (84–112)
	2009	60	3.2 (2.9–3.6)	5.4 (4.8–6)	0.19 (0.13–0.27)	<1 (<1–<1)	2 541	4	78 (70–88)
	2010	61	2.9 (2.6–3.3)	4.9 (4.3–5.5)	0.18 (0.11–0.25)	<1 (<1–<1)	1 721	3	58 (52–67)
Kazakhstan	1990	17	23 (14–34)	139 (84–206)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	10 969	66	48 (32–79)
	1995	16	22 (18–27)	139 (113–167)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	11 310	71	51 (42–63)
	2000	15	29 (25–34)	196 (167–228)	0.028 (<0.01–0.058)	<1 (<1–<1)	25 843	173	88 (76–104)
	2005	15	33 (27–39)	215 (175–259)	0.19 (0.15–0.24)	1.3 (<1–1.6)	25 512	168	78 (65–96)
	2008	16	27 (23–32)	175 (146–206)	0.25 (0.2–0.3)	1.6 (1.3–1.9)	23 140	148	84 (72–101)
	2009	16	26 (22–30)	163 (137–192)	0.29 (0.23–0.34)	1.8 (1.5–2.2)	20 508	129	79 (68–95)
	2010	16	24 (20–28)	151 (127–177)	0.33 (0.27–0.4)	2.1 (1.7–2.5)	19 703	123	82 (70–97)
Kyrgyzstan	1990	4	6.3 (3.8–9.3)	143 (87–212)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	2 306	52	37 (25–60)
	1995	5	6.5 (5.3–7.9)	143 (116–172)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	3 393	74	52 (43–64)
	2000	5	7.5 (6.2–8.9)	151 (125–179)	0.011 (<0.01–0.017)	<1 (<1–<1)	6 205	125	83 (70–100)
	2005	5	8 (6.5–9.6)	158 (129–191)	0.059 (0.021–0.11)	1.2 (<1–2.3)	6 329	126	79 (66–97)
	2008	5	8.3 (6.7–10)	159 (129–192)	0.15 (0.11–0.19)	2.9 (2.2–3.6)	6 628	127	80 (66–98)
	2009	5	8.4 (6.9–10)	159 (130–191)	0.11 (0.083–0.14)	2.1 (1.6–2.7)	5 765	109	69 (57–84)
	2010	5	8.5 (7–10)	159 (131–191)	0.24 (0.19–0.29)	4.4 (3.5–5.5)	5 652	106	66 (56–81)
Latvia	1990	3	2.5 (1.5–3.7)	92 (56–137)	<0.01 (<0.01–0.026)	<1 (<1–<1)	906	34	37 (25–61)
	1995	2	2.3 (1.9–2.8)	93 (76–112)	0.025 (<0.01–0.054)	1 (<1–2.2)	1 541	62	66 (55–81)
	2000	2	2.2 (1.9–2.6)	92 (79–107)	0.071 (0.044–0.11)	3 (1.8–4.4)	1 982	83	90 (78–105)
	2005	2	1.6 (1.4–1.8)	69 (60–79)	0.062 (0.044–0.083)	2.7 (1.9–3.6)	1 409	61	88 (77–102)
	2008	2	1.2 (1–1.3)	51 (45–58)	0.082 (0.061–0.11)	3.6 (2.7–4.7)	1 046	46	90 (79–103)
	2009	2	1 (0.89–1.2)	45 (40–51)	0.087 (0.066–0.11)	3.9 (2.9–4.9)	951	42	93 (82–106)
	2010	2	0.89 (0.78–1)	39 (34–45)	0.089 (0.069–0.11)	3.9 (3–4.9)	913	41	103 (91–118)
Lithuania	1990	4	3.4 (2.1–5.1)	92 (56–137)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	1 471	40	43 (29–71)
	1995	4	3.4 (2.7–4)	92 (75–111)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	2 362	65	70 (58–86)
	2000	4	3 (2.6–3.5)	86 (74–99)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	2 657	76	88 (76–103)
	2005	3	2.5 (2.2–2.9)	74 (64–85)	<0.01 (<0.01–0.014)	<1 (<1–<1)	2 114	62	83 (73–96)
	2008	3	2.4 (2–2.8)	71 (61–82)	0.01 (<0.01–0.017)	<1 (<1–<1)	2 095	62	87 (76–102)
	2009	3	2.3 (2–2.7)	70 (60–81)	0.01 (<0.01–0.017)	<1 (<1–<1)	1 895	57	81 (70–94)
	2010	3	2.3 (2–2.7)	69 (59–80)	<0.01 (<0.01–0.016)	<1 (<1–<1)	1 750	53	76 (66–89)

[a] Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (in *italics*).
[b] Rates are per 100 000 population.

Data can be downloaded from www.who.int/tb/data

TABLE A3.2 **Incidence, notification and case detection rates, all forms, 1990–2010**

			INCIDENCE (INCLUDING HIV)		INCIDENCE HIV-POSITIVE		NOTIFIED NEW AND RELAPSE[a]		CASE DETECTION RATE[a]
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[b]	NUMBER (THOUSANDS)	RATE[b]	NUMBER	RATE[b]	PERCENT
Luxembourg	1990	<1	0.044 (0.037–0.051)	11 (9.7–13)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	48	13	110 (94–130)
	1995	<1	0.044 (0.039–0.049)	11 (9.7–12)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	32	8	73 (65–81)
	2000	<1	0.044 (0.038–0.051)	10 (8.7–12)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	44	10	100 (86–116)
	2005	<1	0.043 (0.038–0.049)	9.5 (8.3–11)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	37	8	85 (76–97)
	2008	<1	0.044 (0.039–0.05)	9.1 (7.9–10)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0	0	0
	2009	<1	0.045 (0.039–0.051)	9 (7.8–10)	<0.01 (<0.01–<0.01)	<1 (<1–<1)			–
	2010	<1	0.045 (0.039–0.051)	8.8 (7.7–10)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	24	5	54 (47–62)
Malta	1990	<1	0.02 (0.018–0.022)	5.5 (5–6.1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	13	4	64 (58–70)
	1995	<1	0.024 (0.022–0.025)	6.1 (5.7–6.5)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	11	3	47 (44–50)
	2000	<1	0.02 (0.018–0.022)	5 (4.4–5.6)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	16	4	81 (72–91)
	2005	<1	0.027 (0.024–0.03)	6.5 (5.7–7.3)	<0.01 (<0.01–<0.01)	<1 (<1–1.2)	21	5	79 (71–89)
	2008	<1	0.048 (0.041–0.055)	11 (9.8–13)	<0.01 (<0.01–0.012)	1.2 (<1–2.8)	48	12	101 (88–118)
	2009	<1	0.05 (0.044–0.056)	12 (11–13)	<0.01 (<0.01–0.011)	1.3 (<1–2.7)	41	10	83 (74–94)
	2010	<1	0.05 (0.044–0.056)	12 (11–13)	<0.01 (<0.01–0.013)	1.4 (<1–3.2)	20	5	40 (36–45)
Monaco	1990	<1	<0.01 (<0.01–<0.01)	3.7 (3.2–4.2)			1	3	87 (77–100)
	1995	<1	<0.01 (<0.01–<0.01)	3.5 (3–3.9)			1	3	87 (77–100)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)			0	0	–
	2005	<1							–
	2008	<1							–
	2009	<1							–
	2010	<1					1	3	–
Montenegro	2005	<1	0.17 (0.16–0.2)	27 (25–32)			156	25	93 (77–100)
	2008	<1	0.14 (0.13–0.17)	23 (21–27)			131	21	92 (77–99)
	2009	<1	0.13 (0.12–0.15)	21 (18–24)			113	18	85 (74–97)
	2010	<1	0.12 (0.1–0.14)	19 (17–22)	<0.01 (<0.01–<0.01)	<1 (<1–1.1)	110	17	92 (81–105)
Netherlands	1990	15	1.5 (1.3–1.7)	10 (9–12)	0.023 (0.011–0.038)	<1 (<1–<1)	1 369	9	89 (79–102)
	1995	15	1.9 (1.7–2.2)	13 (11–14)	0.052 (0.029–0.081)	<1 (<1–<1)	1 619	10	84 (74–95)
	2000	16	1.5 (1.4–1.7)	9.6 (8.5–11)	0.052 (0.032–0.076)	<1 (<1–<1)	1 244	8	81 (72–92)
	2005	16	1.3 (1.1–1.5)	8 (7–9.1)	0.048 (0.028–0.072)	<1 (<1–<1)	1 127	7	86 (76–98)
	2008	17	1.1 (1–1.3)	6.9 (6–7.8)	0.045 (0.027–0.069)	<1 (<1–<1)	964	6	85 (75–97)
	2009	17	1.2 (1–1.4)	7.2 (6.2–8.2)	0.049 (0.036–0.063)	<1 (<1–<1)	1 111	7	94 (82–108)
	2010	17	1.2 (1.1–1.4)	7.3 (6.4–8.2)	0.052 (0.037–0.07)	<1 (<1–<1)	1 029	6	85 (75–96)
Norway	1990	4	0.34 (0.3–0.38)	8 (7–9)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	285	7	84 (75–96)
	1995	4	0.27 (0.24–0.3)	6.2 (5.4–7)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	236	5	88 (78–100)
	2000	4	0.28 (0.25–0.31)	6.2 (5.5–6.9)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	221	5	80 (71–90)
	2005	5	0.32 (0.28–0.36)	6.9 (6.1–7.8)	<0.01 (<0.01–0.011)	<1 (<1–<1)	269	6	84 (75–95)
	2008	5	0.31 (0.27–0.35)	6.4 (5.7–7.2)	<0.01 (<0.01–0.011)	<1 (<1–<1)	252	5	82 (73–93)
	2009	5	0.3 (0.26–0.34)	6.2 (5.5–7)	<0.01 (<0.01–0.011)	<1 (<1–<1)	258	5	86 (76–98)
	2010	5	0.3 (0.26–0.33)	6 (5.3–6.9)	<0.01 (<0.01–0.011)	<1 (<1–<1)	*261*	*5*	*88 (78–101)*
Poland	1990	38	19 (16–21)	49 (43–55)	0.1 (0.049–0.17)	<1 (<1–<1)	16 136	42	87 (77–99)
	1995	38	18 (16–21)	48 (42–54)	0.21 (0.12–0.34)	<1 (<1–<1)	15 958	42	87 (77–99)
	2000	38	13 (11–14)	33 (29–37)	0.2 (0.12–0.31)	<1 (<1–<1)	10 931	29	87 (77–99)
	2005	38	9.5 (8.3–11)	25 (22–28)	0.18 (0.1–0.27)	<1 (<1–<1)	8 203	21	87 (77–99)
	2008	38	8.7 (7.6–9.8)	23 (20–26)	0.17 (0.1–0.26)	<1 (<1–<1)	7 421	19	85 (76–97)
	2009	38	8.7 (7.6–9.9)	23 (20–26)	0.18 (0.11–0.27)	<1 (<1–<1)	7 645	20	88 (77–100)
	2010	38	8.8 (7.7–10)	23 (20–26)	0.19 (0.11–0.28)	<1 (<1–<1)	7 002	18	80 (70–91)
Portugal	1990	10	7.1 (6.3–8.1)	72 (63–81)	0.32 (0.15–0.56)	3.3 (1.5–5.6)	6 214	63	87 (77–99)
	1995	10	6.4 (5.6–7.3)	63 (56–72)	0.71 (0.42–1.1)	7 (4.1–11)	5 577	55	87 (77–99)
	2000	10	4.9 (4.3–5.5)	47 (41–53)	0.83 (0.53–1.2)	8 (5.2–11)	4 227	41	87 (77–99)
	2005	11	3.8 (3.3–4.3)	36 (32–41)	0.86 (0.73–0.99)	8.1 (7–9.3)	3 303	31	87 (77–99)
	2008	11	3.2 (2.8–3.7)	30 (27–34)	0.56 (0.49–0.63)	5.3 (4.6–5.9)	2 817	26	87 (77–99)
	2009	11	3.1 (2.7–3.5)	29 (26–33)	0.61 (0.38–0.89)	5.7 (3.6–8.3)	2 723	26	87 (77–99)
	2010	11	3.1 (2.7–3.6)	29 (26–33)	0.69 (0.45–0.97)	6.4 (4.2–9.1)	*2 728*	*26*	*87 (77–99)*
Republic of Moldova	1990	4	5 (3–7.4)	114 (69–169)	0.02 (<0.01–0.068)	<1 (<1–1.6)	1 728	40	35 (23–57)
	1995	4	4.9 (4–5.9)	114 (92–137)	0.049 (0.017–0.097)	1.1 (<1–2.2)	2 925	67	59 (49–73)
	2000	4	5.6 (4.6–6.7)	136 (111–164)	0.17 (0.11–0.26)	4.2 (2.6–6.3)	2 935	71	52 (44–64)
	2005	4	6.2 (5.1–7.4)	164 (136–195)	<0.01 (<0.01–0.016)	<1 (<1–<1)	5 141	136	83 (70–100)
	2008	4	6.3 (5.2–7.7)	175 (142–211)	0.32 (0.25–0.39)	8.8 (6.9–11)	4 442	122	70 (58–86)
	2009	4	6.4 (5.2–7.7)	178 (146–214)	0.33 (0.26–0.4)	9.1 (7.2–11)	4 347	121	68 (56–83)
	2010	4	6.5 (5.3–7.8)	182 (149–218)	0.38 (0.31–0.47)	11 (8.6–13)	4 122	115	63 (53–77)
Romania	1990	23	33 (20–49)	143 (87–213)	0.15 (0.048–0.31)	<1 (<1–1.3)	16 256	70	49 (33–80)
	1995	23	33 (26–39)	143 (117–173)	0.41 (0.22–0.67)	1.8 (<1–3)	23 271	103	72 (59–88)
	2000	22	37 (30–45)	167 (136–202)	0.74 (0.43–1.1)	3.4 (1.9–5.2)	27 470	124	74 (61–91)
	2005	22	36 (29–43)	164 (134–198)	0.82 (0.47–1.2)	3.7 (2.2–5.7)	26 104	120	73 (61–90)
	2008	22	29 (24–35)	134 (109–161)	0.63 (0.36–0.96)	2.9 (1.7–4.4)	21 724	101	75 (62–92)
	2009	22	27 (22–32)	125 (102–150)	0.58 (0.34–0.89)	2.7 (1.6–4.1)	20 868	97	78 (65–95)
	2010	21	25 (20–30)	116 (95–138)	0.53 (0.31–0.81)	2.5 (1.4–3.8)	18 379	86	74 (62–90)
Russian Federation	1990	148	160 (97–240)	107 (65–160)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	50 641	34	32 (21–52)
	1995	149	160 (130–190)	107 (87–129)	0.095 (0.045–0.16)	<1 (<1–<1)	84 980	57	53 (44–65)
	2000	147	180 (140–220)	122 (99–147)	2.7 (1.6–4)	1.8 (1.1–2.7)	140 677	96	79 (65–97)
	2005	144	150 (130–180)	107 (88–128)	6.6 (4.4–9.2)	4.6 (3.1–6.4)	127 930	89	83 (69–101)
	2008	143	150 (130–180)	107 (89–126)	9.2 (3.3–18)	6.4 (2.3–13)	128 263	90	84 (71–101)
	2009	143	150 (130–180)	106 (89–125)	12 (9.8–15)	8.5 (6.8–10)	126 227	88	83 (71–99)
	2010	143	150 (130–180)	106 (90–124)	8.1 (6.8–9.4)	5.7 (4.8–6.6)	118 641	83	78 (67–93)
San Marino	1990	<1	<0.01 (<0.01–<0.01)	4.8 (4.1–5.4)			1	4	87 (77–100)
	1995	<1	<0.01 (<0.01–<0.01)	9 (7.8–10)			2	8	87 (77–100)
	2000	<1	<0.01 (<0.01–<0.01)	4.3 (3.7–4.8)			1	4	87 (77–100)
	2005	<1							–
	2008	<1							–
	2009	<1							–
	2010	<1							–
Serbia	2005	10	3.4 (3.2–4.1)	34 (33–41)	0.043 (0.024–0.067)	<1 (<1–<1)	3 208	33	95 (79–100)
	2008	10	3 (2.7–3.5)	31 (28–36)	0.045 (0.024–0.071)	<1 (<1–<1)	2 714	28	89 (77–100)
	2009	10	2.1 (1.9–2.4)	21 (19–25)	0.032 (0.017–0.051)	<1 (<1–<1)	1 879	19	89 (77–100)
	2010	10	1.8 (1.6–2.1)	18 (16–21)	0.029 (0.015–0.046)	<1 (<1–<1)	2 326	24	128 (112–149)
Serbia & Montenegro	1990	10	6 (4–8.4)	59 (39–83)			4 194	41	70 (50–105)
	1995	11	5.8 (4.7–7)	53 (43–64)			2 798	26	48 (40–59)
	2000	11	4.3 (3.5–5.2)	40 (32–48)			2 864	27	67 (56–82)
Slovakia	1990	5	1.7 (1.5–1.9)	32 (28–36)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	1 448	27	86 (76–98)
	1995	5	1.8 (1.6–2.1)	34 (30–39)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	1 540	29	84 (74–95)
	2000	5	1.2 (1–1.3)	22 (19–25)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	1 010	19	85 (75–96)
	2005	5	0.8 (0.7–0.91)	15 (13–17)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	710	13	89 (78–102)
	2008	5	0.63 (0.55–0.71)	12 (10–13)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	559	10	89 (78–102)
	2009	5	0.53 (0.47–0.6)	9.7 (8.6–11)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	438	8	83 (74–94)
	2010	5	0.44 (0.38–0.5)	8 (7–9.1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	386	7	88 (78–101)
Slovenia	1990	2	0.83 (0.73–0.94)	43 (38–49)			722	37	87 (77–99)
	1995	2	0.6 (0.53–0.68)	31 (27–35)			525	27	87 (77–99)
	2000	2	0.42 (0.37–0.48)	21 (19–24)			368	19	87 (77–99)
	2005	2	0.31 (0.27–0.35)	15 (14–17)			269	13	87 (77–99)
	2008	2	0.24 (0.21–0.27)	12 (10–13)			208	10	87 (77–99)
	2009	2	0.21 (0.19–0.24)	11 (9.3–12)			186	9	87 (77–99)
	2010	2	0.21 (0.19–0.24)	11 (9.3–12)			169	8	79 (70–90)

[a] Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (in *italics*).
[b] Rates are per 100 000 population.

TABLE A3.2 **Incidence, notification and case detection rates, all forms, 1990–2010**

			INCIDENCE (INCLUDING HIV)		INCIDENCE HIV-POSITIVE		NOTIFIED NEW AND RELAPSE[a]		CASE DETECTION RATE[a]
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[b]	NUMBER (THOUSANDS)	RATE[b]	NUMBER	RATE[b]	PERCENT
Spain	1990	39	8.7 (7.7–9.9)	22 (20–25)	0.87 (0.57–1.2)	2.2 (1.5–3.2)	7 600	20	87 (77–99)
	1995	39	10 (8.8–11)	26 (22–29)	1.3 (0.87–1.8)	3.3 (2.2–4.6)	8 764	22	87 (77–99)
	2000	40	9.2 (8.1–10)	23 (20–26)	1.2 (0.77–1.6)	2.9 (1.9–4)	7 993	20	87 (77–99)
	2005	43	8.4 (7.3–9.5)	19 (17–22)	1.1 (0.72–1.5)	2.5 (1.7–3.4)	7 281	17	87 (77–99)
	2008	45	7.8 (6.8–8.8)	17 (15–20)	0.99 (0.85–1.1)	2.2 (1.9–2.5)	6 769	15	87 (77–99)
	2009	46	7.7 (6.7–8.7)	17 (15–19)	1 (0.68–1.4)	2.2 (1.5–3.1)	6 687	15	87 (77–99)
	2010	46	7.3 (6.4–8.3)	16 (14–18)	0.95 (0.64–1.3)	2.1 (1.4–2.9)	6 377	14	87 (77–99)
Sweden	1990	9	0.63 (0.55–0.71)	7.3 (6.4–8.3)	<0.01 (<0.01–0.011)	<1 (<1–<1)	557	7	89 (78–102)
	1995	9	0.62 (0.54–0.71)	7.1 (6.2–8)	0.011 (<0.01–0.017)	<1 (<1–<1)	564	6	90 (80–104)
	2000	9	0.49 (0.43–0.55)	5.5 (4.9–6.2)	<0.01 (<0.01–0.015)	<1 (<1–<1)	417	5	85 (75–97)
	2005	9	0.57 (0.5–0.65)	6.3 (5.5–7.3)	0.014 (<0.01–0.021)	<1 (<1–<1)	539	6	94 (82–109)
	2008	9	0.54 (0.47–0.61)	5.8 (5.1–6.6)	0.013 (<0.01–0.02)	<1 (<1–<1)	457	5	85 (75–96)
	2009	9	0.58 (0.51–0.66)	6.2 (5.5–7.1)	0.015 (<0.01–0.022)	<1 (<1–<1)	515	6	89 (78–101)
	2010	9	0.63 (0.56–0.72)	6.8 (5.9–7.7)	0.016 (<0.01–0.025)	<1 (<1–<1)	552	6	87 (77–99)
Switzerland	1990	7	1.5 (1.3–1.7)	22 (19–25)	0.047 (0.026–0.074)	<1 (<1–1.1)	1 278	19	87 (77–99)
	1995	7	0.95 (0.84–1.1)	14 (12–15)	0.04 (0.024–0.059)	<1 (<1–<1)	830	12	87 (77–99)
	2000	7	0.66 (0.58–0.74)	9.2 (8–10)	0.031 (0.019–0.046)	<1 (<1–<1)	544	8	83 (73–95)
	2005	7	0.59 (0.52–0.67)	8 (7–9)	0.032 (0.02–0.048)	<1 (<1–<1)	508	7	86 (76–98)
	2008	8	0.53 (0.47–0.6)	7 (6.1–7.9)	0.032 (0.02–0.046)	<1 (<1–<1)	319	4	60 (53–69)
	2009	8	0.58 (0.51–0.65)	7.6 (6.6–8.6)	0.034 (0.021–0.05)	<1 (<1–<1)	333	4	58 (51–66)
	2010	8	0.58 (0.51–0.66)	7.6 (6.7–8.6)	0.036 (0.022–0.053)	<1 (<1–<1)	323	4	55 (49–63)
Tajikistan	1990	5	4.9 (3–7.3)	93 (56–138)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	2 460	46	50 (34–82)
	1995	6	5.3 (4.3–6.4)	91 (74–110)	0.041 (0.021–0.068)	<1 (<1–1.2)	2 029	35	38 (32–47)
	2000	6	7.7 (6.4–9.2)	125 (103–149)	0.12 (0.078–0.17)	1.9 (1.3–2.7)	2 779	45	36 (30–44)
	2005	6	12 (9.7–15)	187 (150–227)	0.23 (0.13–0.37)	3.6 (2–5.7)	5 460	85	45 (37–56)
	2008	7	13 (11–16)	202 (165–243)	0.31 (<0.01–1.9)	4.7 (<1–28)	6 396	96	47 (39–58)
	2009	7	14 (11–17)	204 (167–245)	0.34 (0.28–0.4)	5 (4.2–5.9)	6 125	90	44 (37–54)
	2010	7	14 (12–17)	206 (169–247)	0.37 (0.28–0.47)	5.3 (4.1–6.8)	6 297	92	44 (37–54)
The Former Yugoslav Republic of Macedonia	1990	2	1.5 (0.94–2.3)	81 (49–120)					–
	1995	2	1.1 (0.92–1.4)	58 (47–70)			786	40	69 (57–85)
	2000	2	0.83 (0.68–1)	41 (34–50)			641	32	77 (64–95)
	2005	2	0.6 (0.54–0.67)	30 (27–33)			598	29	99 (90–110)
	2008	2	0.5 (0.43–0.57)	24 (21–28)			450	22	91 (79–105)
	2009	2	0.46 (0.4–0.53)	23 (19–26)			450	22	97 (84–112)
	2010	2	0.43 (0.37–0.5)	21 (18–24)			384	19	89 (77–104)
Turkey	1990	54	31 (22–43)	58 (40–79)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	24 468	45	78 (57–113)
	1995	59	34 (28–41)	58 (47–70)	0.013 (<0.01–0.024)	<1 (<1–<1)	22 981	39	67 (56–83)
	2000	64	29 (24–35)	46 (38–56)	0.029 (0.014–0.05)	<1 (<1–<1)	18 038	28	61 (51–76)
	2005	68	23 (19–27)	33 (28–40)	0.039 (0.019–0.066)	<1 (<1–<1)	19 744	29	87 (73–105)
	2008	71	21 (17–26)	30 (25–36)	0.049 (0.025–0.082)	<1 (<1–<1)	17 600	25	82 (68–101)
	2009	72	21 (17–25)	29 (24–35)	0.051 (0.026–0.084)	<1 (<1–<1)	16 757	23	80 (67–98)
	2010	73	21 (17–25)	28 (23–34)	0.054 (0.027–0.09)	<1 (<1–<1)	15 879	22	77 (65–94)
Turkmenistan	1990	4	2.4 (1.9–2.9)	64 (50–80)			2 325	63	99 (80–126)
	1995	4	2.2 (1.9–2.5)	52 (45–61)			1 939	46	88 (76–104)
	2000	5	4.2 (3.7–4.6)	92 (82–103)			4 038	90	97 (87–109)
	2005	5	3.3 (2.9–3.7)	70 (61–79)			3 191	67	96 (85–110)
	2008	5	3.3 (2.7–4)	68 (55–82)			3 757	76	113 (93–138)
	2009	5	3.3 (2.7–4)	67 (54–81)			3 157	63	94 (78–117)
	2010	5	3.3 (2.7–4)	66 (54–80)			3 230	64	96 (80–119)
Ukraine	1990	52	21 (15–29)	41 (28–56)	0.3 (0.083–0.65)	<1 (<1–1.3)	16 465	32	78 (57–113)
	1995	51	27 (22–32)	52 (43–62)	0.94 (0.52–1.5)	1.8 (1–2.9)	21 459	42	81 (68–98)
	2000	49	41 (33–49)	84 (68–101)	3.2 (2.1–4.5)	6.6 (4.4–9.2)	32 945	67	80 (67–99)
	2005	47	47 (39–56)	101 (83–120)	4.6 (3.1–6.3)	9.7 (6.6–13)	39 608	84	84 (70–102)
	2008	46	47 (38–56)	102 (83–122)	4.3 (3.5–5.2)	9.4 (7.7–11)	37 832	82	81 (68–99)
	2009	46	46 (38–55)	101 (83–121)	5.1 (4.2–6.1)	11 (9.2–13)	36 075	79	78 (65–95)
	2010	45	46 (38–55)	101 (84–121)	6 (5–7.1)	13 (11–16)	33 857	74	73 (62–89)
United Kingdom of Great Britain and Northern Ireland	1990	57	6.6 (6.2–7.1)	12 (11–12)	0.077 (0.042–0.12)	<1 (<1–<1)	5 908	10	89 (83–95)
	1995	58	7 (6.5–7.4)	12 (11–13)	0.093 (0.053–0.14)	<1 (<1–<1)	6 176	11	89 (83–95)
	2000	59	6.9 (6.5–7.4)	12 (11–13)	0.14 (0.082–0.2)	<1 (<1–<1)	6 220	11	90 (84–96)
	2005	60	8.9 (8.3–9.5)	15 (14–16)	0.27 (0.17–0.4)	<1 (<1–<1)	8 173	14	92 (86–98)
	2008	61	7.9 (7.4–8.4)	13 (12–14)	0.28 (0.19–0.4)	<1 (<1–<1)	6 586	11	84 (79–89)
	2009	62	7.7 (7.2–8.3)	13 (12–13)	0.29 (0.18–0.43)	<1 (<1–<1)	7 008	11	91 (85–97)
	2010	62	7.9 (7.4–8.4)	13 (12–14)	0.31 (0.19–0.45)	<1 (<1–<1)	7 219	12	91 (86–98)
Uzbekistan	1990	21	26 (16–39)	128 (78–190)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	9 414	46	36 (24–59)
	1995	23	29 (24–35)	128 (104–154)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	9 866	43	34 (28–41)
	2000	25	32 (26–38)	128 (104–154)	<0.01 (<0.01–0.014)	<1 (<1–<1)	15 750	64	50 (41–61)
	2005	26	33 (27–40)	128 (104–154)	0.17 (0.14–0.21)	<1 (<1–<1)	21 513	83	65 (54–80)
	2008	27	34 (28–41)	128 (104–154)	0.45 (0.37–0.55)	1.7 (1.4–2.1)	17 040	64	50 (41–61)
	2009	27	35 (28–42)	128 (105–153)	0.58 (0.46–0.71)	2.1 (1.7–2.6)	17 540	65	51 (42–62)
	2010	27	35 (29–42)	128 (105–153)	0.71 (0.56–0.87)	2.6 (2.1–3.2)	16 883	62	48 (40–58)

[a] Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (in *italics*).
[b] Rates are per 100 000 population.

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TABLE A3.3 **Case notifications, 1990–2010**

	NEW AND RELAPSE NOTIFICATION RATE[a] 1990–2010	YEAR	NEW AND RELAPSE[a]	NEW CASES: SMEAR-POSITIVE	NEW CASES: SMEAR-NEGATIVE/ UNKNOWN	NEW CASES: EXTRA-PULMONARY	NEW CASES: OTHER	RELAPSE	RE-TREAT EXCL. RELAPSE	TOTAL RETREAT	HISTORY UNKNOWN	% SMEAR-POS AMONG NEW PULM
Albania		1990	653									–
		1995	641	139	223	226		53		53		38
		2000	604	171	188	234		11	8	19		48
		2005	506	196	134	167		9	34	43		59
		2008	427	170	87	145	0	25	7	32	0	66
		2009	435	171	109	136		19	2	21	10	61
	• 20 13 •	2010	431	145	105	165	0	16	9	25	0	58
Andorra		1990	23									–
		1995										–
		2000	12	1	9	2		0	0	0		10
		2005	10	5	1	4		0	0	0		83
		2008	4	3	1	0	0	0	0	0	0	75
		2009	8	2	4	1	0	1	1	2	0	33
	• 44 8 •	2010	7	0	4	3	0	0	0	0	0	0
Armenia		1990	590									–
		1995	1 157	436	451	75		38		38		49
		2000	1 333	621	505	153		54	22	76		55
		2005	2 206	581	1 049	365		211	116	327		36
		2008	1 655	487	724	296	0	148	470	618	0	40
		2009	1 560	440	725	299	0	96	446	542	0	38
	• 17 46 •	2010	1 410	339	639	351	0	81	370	451	0	35
Austria		1990	1 521									–
		1995	1 481	467	765	249						38
		2000	1 185	324	652	209		0	30	30		33
		2005	928	234	519	175		0	26	26		31
		2008										–
		2009	441	90	268	34	45	4	21	25	245	25
	• 20 4 •	2010	358	76	213	69	0	0	29	29	301	26
Azerbaijan		1990	2 620									–
		1995	1 630	669	620	93		47		47		52
		2000	5 187	890	3 978	245		74	0	74		18
		2005	6 034	1 561	2 508	651		1 314	1 886	3 200		38
		2008	6 417	1 409	2 728	993		1 287	2 446	3 733	1 215	34
		2009	7 301	1 487	3 124	1 261		1 429	955	2 384	2 161	32
	• 36 70 •	2010	6 390	1 997	2 275	965	0	1 153	844	1 997	1 160	47
Belarus		1990	3 039									–
		1995	4 854	1 845	2 148	518		343		343		46
		2000	6 799	2 547	2 985	442		825	0	825		46
		2005	5 308	1 235	3 710	363			1 049	1 049		25
		2008	5 126	1 060	3 074	500		492	357	849		26
		2009	5 250	1 201	3 002	430		617	261	878		29
	• 30 52 •	2010	5 003	1 269	2 647	429	0	658	456	1 114	95	32
Belgium		1990	1 577									–
		1995	1 380	400	534	366		80		80		43
		2000	1 278	409	454	326		89	0	89		47
		2005	1 076	380	406	290			68	68		48
		2008	811	311	287	213	0	0	67	67	128	52
		2009	806	280	294	107	125				214	49
	• 16 *8* •	2010	*810*									–
Bosnia and Herzegovina		1990	4 073									–
		1995	2 132	865	997	140		130		130		46
		2000	2 476	759	1 287	261		169	24	193		37
		2005	2 111	640	1 106	258		107	49	156	0	37
		2008	1 713	509	919	235	0	50	17	67	6	36
		2009	1 725	609	862	188	0	66	47	113	0	41
	• 95 35 •	2010	1 321	441	529	161	158	32	69	101	0	45
Bulgaria		1990	2 256									–
		1995	3 245	1 087	1 709	449						39
		2000	3 349	2 524	0	442		383	0	383		100
		2005	3 225	1 214	1 511	376		124	77	201		45
		2008	2 944	1 020	1 121	687	10	106	207	313	0	48
		2009	2 683	894	892	443	297	157	215	372	13	50
	• 26 32 •	2010	2 412	806	748	747	0	111	237	348	0	52
Croatia		1990	2 576									–
		1995	2 114	1 204	703	165		42		42		63
		2000	1 630	0								–
		2005	1 050	372	575	103		0	94	94		39
		2008	980	328	515	101		36		36		39
		2009	832	302	410	81	0	39	23	62		42
	• 57 16 •	2010	688	183	382	87		36	7	43		32
Cyprus		1990	29									–
		1995	36	6	11	13		0		0		35
		2000	33	4	10	17		0		0		29
		2005	34	9	13	12		0	3	3		41
		2008	42	6	28	7	0	1	2	3	6	18
		2009	43	14	15	3	9	2	1	3	11	48
	• 4 *4* •	2010	*44*									–
Czech Republic		1990	1 937									–
		1995	1 834	487	1 026	300		21		21		32
		2000	1 414	420	679	290		25	0	25		38
		2005	973	308	461	204		0	34	34		40
		2008	807	249	432	126	0	0	61	61	0	37
		2009	638	218	322	54	44				64	40
	• 19 *6* •	2010	*641*									–
Denmark		1990	350									–
		1995	448	128	186	128		6		6		41
		2000	587	171	244	144		28	0	28		41
		2005	395	129	145	121		0	29	29		47
		2008	330	106	140	83	1	0	37	37	0	43
		2009	294	101	125	25	37	6	4	10	41	45
	• 7 *5* •	2010	*295*									–
Estonia		1990	423									–
		1995	624	369	124	60		71		71		75
		2000	791	255	320	67		116	0	116		44
		2005	479	162	217	46		54	40	94		43
		2008	401	144	180	30	0	47	43	90	0	44
		2009	361	135	175	18	3	30	50	80		44
	• 27 21 •	2010	283	99	134	17	0	33	46	79	0	42

[a] Rates are per 100 000 population. Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (*in italics*).

TABLE A3.3 **Case notifications, 1990–2010**

	NEW AND RELAPSE NOTIFICATION RATE[a] 1990–2010	YEAR	NEW AND RELAPSE[a]	NEW CASES: SMEAR-POSITIVE	NEW CASES: SMEAR-NEGATIVE/ UNKNOWN	NEW CASES: EXTRA-PULMONARY	NEW CASES: OTHER	RELAPSE	RE-TREAT EXCL. RELAPSE	TOTAL RETREAT	HISTORY UNKNOWN	% SMEAR-POS AMONG NEW PULM
Finland		1990	772									–
		1995	661	244	193	224						56
		2000	527	205	136	157		29	0	29		60
		2005	339	130	114	95		0	22	22	0	53
		2008	331	104	104	123	0	0	19	19	0	50
		2009	519	93	198	114	114				14	32
	• 15 6 •	2010	312	82	146	84	0	0	15	15	0	36
France		1990	9 030									–
		1995	8 723	3 449	2 969	2 305						54
		2000	6 122	1 815	1 364	1 665		0		0		57
		2005	4 887	1 941	1 557	1 389		0	371	371	116	55
		2008	3 355	1 222	1 115	967	51	0	379	379	2 078	52
		2009	2 890	1 019	1 038	439	394					50
	• 16 *5* •	2010	*2 906*									–
Georgia		1990	1 537									–
		1995	1 625	221	1 087	121		196		196		17
		2000	4 397	601	2 213	1 324		259	422	681		21
		2005	4 501	1 509	1 524	1 261		207	1 945	2 152	2	50
		2008	4 412	1 868	1 063	1 217	0	264	1 413	1 677	11	64
		2009	4 732	2 055	1 119	1 283	0	275	291	566	955	65
	• 28 107 •	2010	4 674	2 140	1 088	1 155	0	291	1 118	1 409	4	66
Germany		1990	14 653									–
		1995	12 198	3 852	6 473	1 873						37
		2000	9 064	0								–
		2005	5 539	1 379	2 801	1 211		148	345	493	161	33
		2008	3 664	954	1 797	801	9	103	338	441	472	35
		2009	3 659	1 025	1 765	353	402	114	138	252	635	37
	• 19 4 •	2010	3 436	946	1 614	773	17	86	195	281	671	37
Greece		1990	877									–
		1995	939									–
		2000	703	235	339	81		48		48		41
		2005	626	197	322	107		0	74	74	67	38
		2008	535	80	374	80	0	1	83	84	51	18
		2009	465	198	196	44	26	1	2	3	121	50
	• 9 *4* •	2010	*466*									–
Hungary		1990	3 588									–
		1995	4 339	796	3 292	251						19
		2000	3 073	412	2 361	221		79	292	371		15
		2005	1 808	423	1 137	117		131	216	347		27
		2008	1 428	346	896	79	0	107	178	285	0	28
		2009	1 315	363	800	51	16	85	126	211	7	31
	• 35 *13* •	2010	*1 313*									–
Iceland		1990	18									–
		1995	12	2	3	7		0		0		40
		2000	13	1	7	4		1	0	1		13
		2005	10	2	3	5		0	1	1		40
		2008	6	2	1	3	0	0	0	0	0	67
		2009	11	3	3	2	2	1	0	1	1	50
	• 7 7 •	2010	22	6	12	4	0	0	0	0	0	33
Ireland		1990	624									–
		1995	458									–
		2000	386	138	150	96		2	20	22		48
		2005	387	130	156	99		2	38	40	36	45
		2008	337	123	124	81	8	1	40	41	93	50
		2009	340	95	119	60	59	7	9	16	139	44
	• 18 7 •	2010	319	84	122	112	1		31	31	78	41
Israel		1990	234									–
		1995	398									–
		2000	537	216	213	100	0	8	0	8	0	50
		2005	371	142	168	55	0	6	1	7	0	46
		2008	322	95	147	76	0	4	0	4	0	39
		2009	347	119	130	89	0	9	0	9	0	48
	• 5 5 •	2010	340	103	162	74	0	1	3	4	0	39
Italy		1990	4 246									–
		1995	5 627	1 413	2 700	1 514						34
		2000	3 501	687	891	522		269	356	625		44
		2005	3 828	1 275	1 506	1 047		0	293	293	16	46
		2008	3 414	938	1 576	900	0	0	292	292	712	37
		2009	2 541	885	863	408	385				1 336	51
	• 7 3 •	2010	1 721	578	759	384	0	0	71	71	703	43
Kazakhstan		1990	10 969									–
		1995	11 310	3 022	5 966	1 002		1 320		1 320		34
		2000	25 843	8 903	11 324	2 555		3 061	2 032	5 093		44
		2005	25 512	6 911	14 472	920		3 209	11 800	15 009	3 117	32
		2008	23 140	6 193	10 737	2 754	0	3 456	5 773	9 229	0	37
		2009	20 508	5 213	9 319	2 278	0	3 698	5 673	9 371	4 397	36
	• 66 123 •	2010	19 703	4 769	8 745	2 127	0	4 062	5 151	9 213	3 696	35
Kyrgyzstan		1990	2 306									–
		1995	3 393	832	1 685	749		127		127		33
		2000	6 205	1 296	2 929	1 683		297	258	555		31
		2005	6 329	1 972	2 141	1 805		411	436	847	0	48
		2008	6 628	1 712	2 036	1 585	897	398	358	756	141	46
		2009	5 765	1 609	2 267	1 558		331	427	758	166	42
	• 52 106 •	2010	5 652	1 645	2 028	1 635	0	344	643	987		45
Latvia		1990	906									–
		1995	1 541	504	693	226		118		118		42
		2000	1 982	637	793	285		267	108	375		45
		2005	1 409	536	554	148		171	34	205		49
		2008	1 046	400	400	118	0	128	24	152	0	50
		2009	951	367	377	47	39	121	26	147		49
	• 34 41 •	2010	913	339	400	86	0	88	21	109	0	46
Lithuania		1990	1 471									–
		1995	2 362	979	1 049	206		128		128		48
		2000	2 657	776	1 051	503		327	182	509		42
		2005	2 114	964	793	357		0	460	460		55
		2008	2 095	884	744	264	0	203	154	357	1	54
		2009	1 895	742	702	158	75	218	186	404		51
	• 40 53 •	2010	1 750	719	633	221	0	177	187	364	1	53

[a] Rates are per 100 000 population. Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (*in italics*).

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TABLE A3.3 **Case notifications, 1990–2010**

	NEW AND RELAPSE NOTIFICATION RATE[a] 1990–2010	YEAR	NEW AND RELAPSE[a]	NEW CASES: SMEAR-POSITIVE	NEW CASES: SMEAR-NEGATIVE/ UNKNOWN	NEW CASES: EXTRA-PULMONARY	NEW CASES: OTHER	RELAPSE	RE-TREAT EXCL. RELAPSE	TOTAL RETREAT	HISTORY UNKNOWN	% SMEAR-POS AMONG NEW PULM
Luxembourg		1990	48									–
		1995	32									–
		2000	44	21	19	0		4		4		53
		2005	37	14	20	3		0	0	0		41
		2008	0	0	0	0	0	0	0	0	28	–
		2009									27	–
	• 13 5 •	2010	24	0	18	6	0	0	0	0	5	0
Malta		1990	13									–
		1995	11	5	4	2		0		0		56
		2000	16	5	9	2		0	0	0		36
		2005	21	5	10	6		0	1	1	1	33
		2008	48	15	19	12	0	2	5	7	0	44
		2009	41	12	11	6	12		2	2	1	52
	• 4 5 •	2010	20	4	6	10	0	0	3	3	9	40
Monaco		1990	1									–
		1995	1									–
		2000	0	0	0	0		0	0	0		–
		2005										–
		2008										–
		2009										–
	• 3 3 •	2010	1			1						–
Montenegro		2005	156	64	66	13		13	14	27		49
		2008	131	65	38	20	0	8	2	10	0	63
		2009	113	53	43	12	0	5	6	11	1	55
	• 25 17 •	2010	110	39	49	14	0	8	4	12	0	44
Netherlands		1990	1 369									–
		1995	1 619	575	1 522	513						27
		2000	1 244	289	528	427		0	70	70		35
		2005	1 127	237	491	385		14	30	44		33
		2008	964	189	371	388	0	16	33	49	0	34
		2009	1 111	203	392	499		17	29	46	20	34
	• 9 6 •	2010	1 029	176	370	463	4	16	27	43	17	32
Norway		1990	285									–
		1995	236	62	57	89		28		28		52
		2000	221	37	103	79		2	10	12		26
		2005	269	48	119	102		0	14	14	7	29
		2008	252	53	91	108	0	0	27	27	45	37
		2009	258	42	125	37	54				105	25
	• 7 *5* •	2010	*261*									–
Poland		1990	16 136									–
		1995	15 958	6 955	7 285	647		1 071		1 071		49
		2000	10 931	3 180	6 392	477		882	0	882		33
		2005	8 203	2 823	4 591	789		0	1 077	1 077		38
		2008	7 421	2 650	3 835	576	0	360	660	1 020	0	41
		2009	7 645	2 658	4 047	408	155	377	311	688	280	40
	• 42 18 •	2010	7 002	2 484	3 625	501	0	392	507	899	0	41
Portugal		1990	6 214									–
		1995	5 577	2 019	1 531	1 759		268		268		57
		2000	4 227	1 863	1 005	1 178		177	304	481		65
		2005	3 303	1 302	974	905		122	228	350	5	57
		2008	2 817	1 053	953	631	66	114	178	292	0	52
		2009	2 723	1 043	826	405	326	123	148	271		56
	• 63 *26* •	2010	*2 728*									–
Republic of Moldova		1990	1 728									–
		1995	2 925	665	1 958	154		148		148		25
		2000	2 935	651	1 788	122		374	0	374		27
		2005	5 141	1 696	2 237	568		640	1 137	1 777		43
		2008	4 442	1 533	1 942	476	0	491	1 374	1 865	22	44
		2009	4 347	1 318	2 015	471	0	543	1 120	1 663	124	40
	• 40 115 •	2010	4 122	1 267	2 073	405	0	377	1 311	1 688	11	38
Romania		1990	16 256									–
		1995	23 271	10 469	8 303	3 422		1 077		1 077		56
		2000	27 470	10 202	10 180	3 474		3 614	156	3 770		50
		2005	26 104	10 801	8 038	3 568		3 697	3 241	6 938	2	57
		2008	21 724	9 511	6 093	3 170	0	2 950	3 062	6 012	0	61
		2009	20 868	8 987	5 681	2 486	712	3 002	2 399	5 401		61
	• 70 86 •	2010	18 379	7 951	5 113	2 899	0	2 416	2 699	5 115	0	61
Russian Federation		1990	50 641									–
		1995	84 980	37 512	42 241	5 227						47
		2000	140 677	27 467	102 228	5 313		5 669	12 478	18 147		21
		2005	127 930	32 605	74 301	12 320		8 704	26 449	35 153		30
		2008	128 263	33 949	75 775	3 769	7 342	7 428	86 642	94 070	0	31
		2009	126 227	33 351	72 931	10 945	0	9 000	23 569	32 569	6 426	31
	• 34 83 •	2010	118 641	31 416	67 894	3 513	7 081	8 737	37 243	45 980	6 669	32
San Marino		1990	1									–
		1995	2									–
		2000	1	1	0	0		0	0	0		100
		2005										–
		2008										–
		2009										–
	• 4 –	2010										–
Serbia		2005	3 208	1 105	1 584	479		40	260	300	0	41
		2008	2 714	1 172	920	434	0	188	92	280	7	56
		2009	1 879	1 055	488	197	0	139	64	203	652	68
	• 33 24 •	2010	2 326	977	700	501	0	148	52	200	7	58
	Serbia (without Kosovo)	2005	2 146	873	988	245		40	260	300	0	47
		2008	1 722	848	519	211	0	144	92	236	7	62
		2009	1 625	801	488	197	0	139	64	203	652	62
		2010	1 442	690	431	202	0	119	52	171	7	62
	Kosovo	2005	1 062	232	596	234						28
		2008	992	324	401	223		44		44		45
		2009	254	254								–
		2010	884	287	269	299		29		29		52
Serbia & Montenegro		1990	4 194									–
		1995	2 798	1 497	930	173		198		198		62
	• 41 34 •	2000	2 864	0	2 486	175		203	0	203		0
Slovakia		1990	1 448									–
		1995	1 540	788	555	177		20		20		59
		2000	1 010	236	469	203		102	18	120		33
		2005	710	162	356	134		58	50	108		31
		2008	559	126	285	99	0	49	49	98	25	31
		2009	438	121	202	61	22	32	47	79	21	37
	• 27 7 •	2010	386	112	190	59	0	25	30	55	23	37

[a] Rates are per 100 000 population. Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (*in italics*).

TABLE A3.3 **Case notifications, 1990–2010**

	NEW AND RELAPSE NOTIFICATION RATE[a] 1990–2010	YEAR	NEW AND RELAPSE[a]	NEW CASES: SMEAR-POSITIVE	SMEAR-NEGATIVE/ UNKNOWN	EXTRA-PULMONARY	OTHER	RELAPSE	RE-TREAT EXCL. RELAPSE	TOTAL RETREAT	HISTORY UNKNOWN	% SMEAR-POS AMONG NEW PULM
Slovenia		1990	722									–
		1995	525	303	83	109		30		30		78
		2000	368	145	133	59		31	16	47		52
		2005	269	109	110	30		20	9	29		50
		2008	208	81	83	33	0	11	5	16	0	49
		2009	186	85	70	13	12	6	2	8		55
	• 37 8 •	2010	169	64	67	30	0	8	3	11	0	49
Spain		1990	7 600									–
		1995	8 764	2 605	6 159							30
		2000	7 993	3 423	4 446	124		0	0	0		43
		2005	7 281	2 511	3 880	890		0	1 078	1 078		39
		2008	6 769	2 333	2 855	1 581	0	0	461	461	984	45
		2009	6 687	2 236	2 879	1 572					905	44
	• 20 14 •	2010	6 377	2 076	2 621	1 680	0	0	324	324	388	44
Sweden		1990	557									–
		1995	564	102	235	216		11		11		30
		2000	417	118	147	152		0	40	40		45
		2005	539	134	208	197		0	30	30		39
		2008	457	97	161	199	0	0	37	37	58	38
		2009	515	107	180	228					112	37
	• 7 6 •	2010	552	117	226	209	0	0	52	52	71	34
Switzerland		1990	1 278									–
		1995	830	185	515	126		5		5		26
		2000	544	118	287	139		0	102	102		29
		2005	508	108	249	151		0	118	118		30
		2008	319	64	156	99	0	0	54	54	143	29
		2009	333	73	163	97					221	31
	• 19 4 •	2010	323	82	150	91	0		41	41	185	35
Tajikistan		1990	2 460									–
		1995	2 029	1 042	617			370		370		63
		2000	2 779	434	1 918	427						18
		2005	5 460	1 745	2 175	1 417		123	2 066	2 189		45
		2008	6 396	2 057	2 284	1 774	35	246	1 600	1 846		47
		2009	6 125	1 972	2 208	1 684		261	272	533	1 085	47
	• 46 92 •	2010	6 297	2 290	2 038	1 631	0	338	647	985	697	53
The Former Yugoslav Republic of Macedonia		1990										–
		1995	786	319	376	66		25		25		46
		2000	641	167	308	150		16	0	16		35
		2005	598	178	236	141		43	60	103		43
		2008	450	188	133	106	0	23	33	56	0	59
		2009	450	198	103	116	0	33	23	56	0	66
	– 19 •	2010	384	141	135	92	0	16	36	52	0	51
Turkey		1990	24 468									–
		1995	22 981	4 383	17 534	1 064						20
		2000	18 038	4 315	8 544	4 371		808		808		34
		2005	19 744	7 450	5 944	5 359		991	1 559	2 550		56
		2008	17 600	6 993	4 325	5 442	0	840	849	1 689	3	62
		2009	16 757	6 007	4 289	5 647	0	814	631	1 445	14	58
	• 45 22 •	2010	15 879	5 375	4 191	5 617	0	696	643	1 339	29	56
Turkmenistan		1990	2 325									–
		1995	1 939	544	1 327	1		67		67		29
		2000	4 038	1 017	2 709	241		71	1 894	1 965		27
		2005	3 191	995	1 498	656		42	100	142		40
		2008	3 757	1 331	1 293	611	393	129	152	281		51
		2009	3 157	1 370	1 223	564						53
	• 63 64 •	2010	3 230	1 153	1 248	473	274	82		82		48
Ukraine		1990	16 465									–
		1995	21 459	8 263	9 793	1 514		1 889		1 889		46
		2000	32 945	10 738	17 258	1 739		3 210	0	3 210		38
		2005	39 608									–
		2008	37 832	14 574	17 505	3 660		2 093		2 093		45
		2009	36 075	13 632	15 934	3 858		2 651	2 826	5 477		46
	• 32 74 •	2010	33 857	9 976	17 599	3 355	365	2 562	2 552	5 114		36
United Kingdom of Great Britain and Northern Ireland		1990	5 908									–
		1995	6 176		4 162	2 014						–
		2000	6 220	1 204	2 037	2 478		0	0	0		37
		2005	8 173	1 821	2 752	3 600		0	460	460		40
		2008	6 586	1 286	2 221	3 033	46	0	413	413	1 656	37
		2009	7 008	1 256	2 462	3 262	28				2 032	34
	• 10 12 •	2010	7 219	1 201	2 551	3 443	24		576	576	688	32
Uzbekistan		1990	9 414									–
		1995	9 866	2 735	5 798	1 333						32
		2000	15 750	3 825	10 142	1 760		23	324	347		27
		2005	21 513	5 695	7 857	6 324		1 637	7 378	9 015		42
		2008	17 040	5 117	6 640	4 214	0	1 069	4 018	5 087	136	44
		2009	17 540	4 959	6 943	4 667		971	1 480	2 451	2 433	42
	• 46 62 •	2010	16 883	4 711	6 735	4 288	0	1 149	3 447	4 596	0	41

[a] Rates are per 100 000 population. Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (*in italics*).

Data can be downloaded from www.who.int/tb/data

TABLE A3.4 **Treatment outcomes, new smear-positive cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Albania		1995	139		–						
		2000	171		–						
		2005	196	196	100	43	35	4	2	5	11
		2007	165	181	110	50	35	4	2	4	5
		2008	170	170	100	52	39	4	1	2	4
	– 89 •	2009	171	171	100	64	25	2	1	4	4
Andorra		1995			–						
		2000	1	2	200		50			50	0
		2005	5	5	100	80	0	0	0	0	20
		2007	2	2	100	100	0	0	0	0	0
		2008	3	3	100	33	67	0	0	0	0
	– 100 •	2009	2	3	150	33	67	0	0	0	0
Armenia		1995	436	507	116	52	2	8	36	1	0
		2000	621	447	72	81	6	4	3	7	0
		2005	581	581	100	59	13	3	5	14	4
		2007	497	490	99	55	15	6	11	12	1
		2008	487	487	100	62	11	5	6	10	7
	• 55 73 •	2009	440	440	100	60	12	7	3	8	10
Austria		1995	467	383	82	2	81	10	0	7	1
		2000	324	298	92	0	73	9	0	6	11
		2005	234	230	98	17	58	7	0	7	11
		2007	189		–						
		2008		380	–	7	40	10	13	9	21
	• 82 66 •	2009	90	226	251	8	59	9	0	8	16
Azerbaijan		1995	669	538	80	58	7		12	19	4
		2000	890	890	100	89	0	1	2	3	4
		2005	1 561	1 561	100	48	11	4	4	12	22
		2007	1 356	1 356	100	49	8	3	2	11	27
		2008	1 409	1 392	99	48	8	3	2	10	29
	• 65 62 •	2009	1 487	1 480	100	47	15	3	7	16	12
Belarus		1995	1 845		–						
		2000	2 547		–						
		2005	1 235		–						
		2007	1 051	1 987	189	67	7	9	10	2	6
		2008	1 060	1 902	179	68	3	9	7	3	10
	– 64 •	2009	1 201	2 160	180	64	0	10	4	1	20
Belgium		1995	400		–						
		2000	409	358	88	25	41	10	1	17	6
		2005	380	304	80	21	45	10	0	0	24
		2007	322	503	156	16	52	8		9	15
		2008	311	502	161	20	55	7	4	9	4
	– –	2009	280		–						
Bosnia and Herzegovina		1995	865	865	100	97	1	0	1	1	1
		2000	759	756	100	77	18	1	1	2	1
		2005	640	1 035	162	93	3	1	0	0	2
		2007	737	1 267	172	93	4	1	1	1	1
		2008	509	757	149	87	5	4	1	1	1
	• 97 99 •	2009	609	852	140	97	2	0	0	0	0
Bulgaria		1995	1 087		–						
		2000	2 524		–						
		2005	1 214	1 342	111	82	3	4	2	7	1
		2007	1 080	1 233	114	77	2	7	0	8	6
		2008	1 020	1 193	117	79	5	6	2	6	1
	– 85 •	2009	894	1 055	118	78	7	9	2	4	1
Croatia		1995	1 204		–						
		2000	0		–						
		2005	372	391	105	40	7	7	0	1	45
		2007	382	637	167	49	12	13	0	1	24
		2008	328	602	184	46	11	18	3	2	19
	– 63 •	2009	302	234	77	48	15	26	0	3	7
Cyprus		1995	6	6	100	100	0	0	0	0	0
		2000	4		–						
		2005	9	8	89	38	25	13	0	0	25
		2007	8		–						
		2008	6	12	200	33	25	8		17	17
	• 100 –	2009	14		–						
Czech Republic		1995	487	487	100	57	3	0	3	2	35
		2000	420	396	94	59	11	17	1	1	11
		2005	308	315	102	62	10	6	0	2	20
		2007	267	459	172	69	3	19	1	7	1
		2008	249	470	189	67	1	21	3	6	2
	• 60 –	2009	218		–						
Denmark		1995	128		–						
		2000	171	110	64	37	49	5	0	0	9
		2005	129	128	99	44	39	6	1	2	8
		2007	135	213	158	26	53	5	1	1	13
		2008	106	200	189	16	25	1	1	1	57
	– –	2009	101		–						
Estonia		1995	369		–						
		2000	255	257	101	67	2	11	1	6	12
		2005	162	162	100	70	2	8	1	10	10
		2007	168	302	180	60	2	14	1	10	15
		2008	144	259	180	59	1	15	18	6	1
	– 59 •	2009	135	240	178	58	1	15	2	6	18
Finland		1995	244		–						
		2000	205		–						
		2005	130		–						
		2007	85	181	213	43	27	19	1	1	9
		2008	104	170	163	46	26	16	6	1	5
	– 68 •	2009	93	227	244	33	34	17	0	1	14
France		1995	3 449		–						
		2000	1 815		–						
		2005	1 941		–						
		2007	1 921		–						
		2008	1 222		–						
	– –	2009	1 019		–						
Georgia		1995	221	221	100	41	18	8	3	29	2
		2000	601	807	134	38	25	3	9	25	0
		2005	1 509	1 489	99	60	13	3	5	13	7
		2007	1 867	1 975	106	60	17	2	6	9	6
		2008	1 868	2 196	118	53	20	3	12	8	4
	• 58 75 •	2009	2 055	2 352	114	57	19	3	12	7	3

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

TABLE A3.4 **Treatment outcomes, new smear-positive cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Germany		1995	3 852		–						
		2000	0	454	–	61	16	16	1	2	4
		2005	1 379	1 199	87	39	32	9	0	2	18
		2007	1 183	2 416	204	37	40	11	0	1	10
		2008	954	2 126	223	33	34	12	7	2	11
	– 69 •	2009	1 025	2 227	217	29	40	11	0	1	18
Greece		1995			–						
		2000	235		–						
		2005	197		–						
		2007	257	0	0	–	–	–	–	–	–
		2008	80		–						
	– –	2009	198		–						
Hungary		1995	796		–						
		2000	412	651	158	28	36	10	3	12	11
		2005	423	412	97	32	13	13	12	9	20
		2007	381	612	161	31	20	12	14	6	17
		2008	346	602	174	32	21	11	20	7	9
	– –	2009	363		–						
Iceland		1995	2	2	100	0	100	0	0	0	0
		2000	1	2	200	0	100	0	0	0	0
		2005	2	2	100	0	100	0	0	0	0
		2007	2	7	350	14	71	0	0	0	14
		2008	2	5	250		80				20
	• 100 75 •	2009	3	4	133	0	75	0	0	0	25
Ireland		1995			–						
		2000	138	73	53	33	51	12	0	4	0
		2005	130	107	82	3	62	9	3	1	22
		2007	135	185	137	0	70	5	0	2	23
		2008	123	188	153	7	69	7		2	15
	– 66 •	2009	95	186	196	0	66	9	0	1	24
Israel		1995			–						
		2000	216	336	156	65	18	15	0	0	1
		2005	142	227	160	69	15	11	0	3	2
		2007	126	242	192	64	16	12	0	2	5
		2008	95	178	187	78	11	10	0	1	1
	– 86 •	2009	119	202	170	72	14	10	0	1	3
Italy		1995	1 413	295	21	73	6	3	2	11	4
		2000	687	223	32	37	36	1	0	9	16
		2005	1 275		–						
		2007	979	0	0	–	–	–	–	–	–
		2008	938		–						
	• 80 –	2009	885		–						
Kazakhstan		1995	3 022		–						
		2000	8 903	8 781	99	76	3	5	10	3	3
		2005	6 911	6 884	100	70	1	5	12	5	8
		2007	6 195	6 140	99	69	0	4	20	5	3
		2008	6 193	6 167	100	64	0	4	26	4	2
	– 62 •	2009	5 213	5 355	103	62	0	4	30	3	2
Kyrgyzstan		1995	832		–						
		2000	1 296	1 233	95	73	9	3	4	5	6
		2005	1 972	1 897	96	81	4	3	5	5	2
		2007	1 720	1 718	100	81	4	3	4	6	2
		2008	1 712	1 640	96	80	5	3	6	5	2
	– 82 •	2009	1 609	1 543	96	79	4	3	4	6	4
Latvia		1995	504	475	94	61	0	9	3	21	7
		2000	637	637	100	68	4	12	3	7	7
		2005	536	536	100	72	1	11	1	7	8
		2007	478	772	162	80	2	7	0	4	7
		2008	400	1 471	368	32	0	4	5	2	57
	• 61 75 •	2009	367	592	161	72	3	9	1	5	11
Lithuania		1995	979		–						
		2000	776	776	100	73		10	4	12	2
		2005	964	958	99	70	0	11	3	11	6
		2007	925	1 209	131	70	0	12	1	7	10
		2008	884	1 764	200	51	31	7	3	7	0
	– 76 •	2009	742	1 033	139	76	0	10	2	9	4
Luxembourg		1995		37	–	100	0	0	0	0	0
		2000	21		–						
		2005	14	0	0	–	–	–	–	–	–
		2007	0		–						
		2008	0		–						
	• 100 –	2009			–						
Malta		1995	5	5	100	80	20	0	0	0	0
		2000	5	4	80	0	100	0	0	0	0
		2005	5	5	100	0	100	0	0	0	0
		2007	8	12	150	0	75	0	0	8	17
		2008	15	20	133		60	15			25
	• 100 80 •	2009	12	10	83	0	80	0	0	0	20
Monaco		1995			–						
		2000	0		–						
		2005			–						
		2007			–						
		2008			–						
	– –	2009			–						
Montenegro		2005	64	63	98	10	21				70
		2007	41	76	185	17	62	3	0	0	18
		2008	65	65	100	52	32	5	0	2	9
	• 30 86 •	2009	53	78	147	49	37	8	0	4	3
Netherlands		1995	575	715	124	17	55	8		5	15
		2000	289	301	104	23	53	6	0	3	15
		2005	237	208	88	9	75	7	0	1	8
		2007	187	411	220	17	62	5	0	2	14
		2008	189	467	247	14	71	7		1	7
	• 72 80 •	2009	203	454	224	11	69	9	0	3	8
Norway		1995	62	87	140	43	34	14	1	8	0
		2000	37	37	100	49	22	14	3	3	11
		2005	48	47	98	62	30	2	0	4	2
		2007	38	122	321	54	25	2	0	0	19
		2008	53	105	198	62	22	6	4		7
	• 77 –	2009	42		–						
Poland		1995	6 955		–						
		2000	3 180	214	7	50	22	11	6	6	5
		2005	2 823	2 823	100	65	12	5	1	9	8
		2007	2 827	4 510	160	62	14	6	0	10	7
		2008	2 650	4 228	160	54	20	7	0	10	9
	– 67 •	2009	2 658	4 391	165	48	19	5	0	10	17

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

Data can be downloaded from www.who.int/tb/data

TABLE A3.4 **Treatment outcomes, new smear-positive cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Portugal		1995	2 019	1 240	61	45	23	4	4	4	19
		2000	1 863	1 924	103	9	71	6	0	5	9
		2005	1 302	1 393	107	13	76	6	0	4	2
		2007	1 173	1 694	144	12	75	5	0	3	5
		2008	1 053	1 683	160	11	77		3	2	7
	• 69 –	2009	1 043		–						
Republic of Moldova		1995	665		–						
		2000	651	651	100	1	62	0	0	0	37
		2005	1 696	1 690	100	60	2	9	11	11	7
		2007	1 610	1 599	99	54	8	10	16	11	0
		2008	1 533	1 533	100	54	7	11	8	12	8
	– 53 •	2009	1 318	1 318	100	49	5	10	17	14	6
Romania		1995	10 469	11 597	111	38	13	6	7	6	31
		2000	10 202	10 158	100	28	42	4	8	8	9
		2005	10 801	10 929	101	71	11	5	4	6	4
		2007	9 425	11 245	119	72	13	4	4	5	3
		2008	9 511	10 082	106	72	13	5	4	5	2
	• 51 85 •	2009	8 987	10 737	119	72	14	4	4	6	1
Russian Federation		1995	37 512	54	0	54	11	15	6	11	4
		2000	27 467	3 616	13	64	4	6	13	9	4
		2005	32 605	25 692	79	55	3	13	14	11	4
		2007	33 103	31 857	96	55	3	12	16	10	5
		2008	33 949	32 356	95	54	3	12	18	9	4
	• 65 55 •	2009	33 351	32 316	97	52	3	11	20	8	5
San Marino		1995			–						
		2000	1	1	100	0	0	100	0	0	0
		2005			–						
		2007			–						
		2008			–						
	– –	2009			–						
Serbia		2005	1 105	1 154	104	72	13	5	1	5	4
		2007	1 146	1 145	100	77	7	6	2	4	3
		2008	1 172	1 391	119	80	6	7	2	4	2
	• 85 85 •	2009	1 055	1 137	108	81	4	7	1	5	2
Serbia & Montenegro		1995	1 497	1 956	131	34	18	2	3	10	33
		2000	0	267	–	82	7	4	0	6	1
Slovakia		1995	788	807	102	64		16		4	16
		2000	236	238	101	81	0	14	1	2	1
		2005	162	158	98	66	26	6	0	1	1
		2007	176	304	173	86	0	12	0	2	1
		2008	126	498	395	47	46	5	1	1	0
	• 64 82 •	2009	121	174	144	82	0	14	0	2	2
Slovenia		1995	303	270	89	64	26	4	2	1	3
		2000	145	145	100	33	51	8	0	5	3
		2005	109	109	100	47	38	12	0	1	3
		2007	90	148	164	27	55	11	0	3	5
		2008	81	159	196	38	42	15	1	2	2
	• 90 87 •	2009	85	149	175	24	63	9	1	1	3
Spain		1995	2 605		–						
		2000	3 423		–						
		2005	2 511		–						
		2007	2 317	0	0	–	–	–	–	–	–
		2008	2 333		–						
	– –	2009	2 236		–						
Sweden		1995	102		–						
		2000	118	112	95	0	79	11	0	2	8
		2005	134	133	99	0	74	6	1	1	18
		2007	96	237	247	0	66	7	0	1	26
		2008	97	221	228		87	6	1	1	4
	– 85 •	2009	107	255	238	0	85	6	0	1	8
Switzerland		1995	185		–						
		2000	118		–						
		2005	108		–						
		2007	95		–						
		2008	64		–						
	– –	2009	73		–						
Tajikistan		1995	1 042	348	33	69	18	7	3	2	0
		2000	434	665	153	74	3	15	8	0	0
		2005	1 745	1 729	99	74	9	4	6	7	0
		2007	2 228	2 073	93	78	5	5	6	5	2
		2008	2 057	2 044	99	76	7	4	7	5	1
	• 88 81 •	2009	1 972	1 972	100	75	6	4	8	5	1
The Former Yugoslav Republic of Macedonia		1995	319	222	70	61	9	13	9	9	0
		2000	167	152	91	51	35	4	2	7	1
		2005	178	179	101	62	22	2	0	14	0
		2007	200	197	99	74	13	10	2	1	0
		2008	188	188	100	81	7	7	1	2	1
	• 70 90 •	2009	198	199	101	85	5	4	2	5	0
Turkey		1995	4 383		–						
		2000	4 315	3 461	80	0	73	3	0	6	19
		2005	7 450	7 450	100	45	44	2	0	5	3
		2007	7 527	7 510	100	60	32	3	1	3	2
		2008	6 993	6 993	100	59	33	3	1	3	2
	– 91 •	2009	6 007	6 007	100	61	30	3	1	2	3
Turkmenistan		1995	544	544	100	55	18	11	7	2	7
		2000	1 017	1 017	100	79	2	9	6	3	1
		2005	995	995	100	70	14	6	4	5	1
		2007	1 378	1 288	93	79	5	5	6	5	1
		2008	1 331	1 331	100	83	1	6	6	5	1
	• 73 84 •	2009	1 370	1 375	100	83	1	5	6	5	1
Ukraine		1995	8 263	9 564	116	83		6	7		4
		2000	10 738		–						
		2005			–						
		2007	11 028	11 068	100	54	5	14	12	10	5
		2008	14 574	14 407	99	56	6	12	12	9	5
	• 83 60 •	2009	13 632	13 111	96	52	7	13	16	8	3
United Kingdom of Great Britain and Northern Ireland		1995			–						
		2000	1 204		–						
		2005	1 821	1 348	74	0	68	7	0	1	24
		2007	1 639	2 266	138	0	77	7	0	1	16
		2008	1 286	6 510	506		78	4		1	16
	– –	2009	1 256		–						
Uzbekistan		1995	2 735	2 598	95	78	0	9	7	4	3
		2000	3 825	1 030	27	27	53	3	6	5	6
		2005	5 695	5 336	94	72	9	6	6	7	1
		2007	6 326	6 326	100	72	7	7	6	6	2
		2008	5 117	5 117	100	75	6	6	6	4	3
	• 78 81 •	2009	4 959	4 959	100	77	5	6	5	5	3

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

TABLE A3.5 **Treatment outcomes, retreatment cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Albania		1995	53		–						
		2000	19		–						
		2005	43	30	70	37	37	3	0	10	13
		2007	25	25	100	24	60	4	8	4	0
		2008	32	28	88	39	36	14	4	4	4
	– 76 •	2009	21	21	100	38	38	10	0	10	5
Andorra		1995			–						
		2000	0		–						
		2005	0		–						
		2007	1	1	100	0	100	0	0	0	0
		2008	0	0	–	–	–	–	–	–	–
	– 100 •	2009	2	2	100	0	100	0	0	0	0
Armenia		1995	38	6	16	50	0	0	17	33	0
		2000	76	54	71	52	15	7	7	19	0
		2005	327	327	100	13	28	7	12	37	4
		2007	596	590	99	12	34	11	12	30	2
		2008	618	534	86	15	36	8	15	21	5
	• 50 63 •	2009	542	542	100	9	54	8	4	15	10
Austria		1995			–						
		2000	30	10	33	0	80	0	0	0	20
		2005	26	27	104	11	56	11	0	11	11
		2007	63		–						
		2008		11	–	9	27	9	36		18
	– 41 •	2009	25	37	148	3	38	5	0	30	24
Azerbaijan		1995	47		–						
		2000	74	74	100	59	7	5	11	14	4
		2005	3 200	1 314	41	28	9	6	6	13	38
		2007	2 903	1 081	37	32	12	5	6	15	29
		2008	3 733	3 084	83	18	32	4	6	23	17
	– 53 •	2009	2 384	1 687	71	39	14	6	9	19	13
Belarus		1995	343		–						
		2000	825		–						
		2005	1 049		–						
		2007	884	862	98	30	32	9	18	5	6
		2008	849	815	96	29	30	9	8	3	20
	– 42 •	2009	878	616	70	38	4	13	7	1	37
Belgium		1995	80		–						
		2000	89	55	62	16	45	13	0	15	11
		2005	68	47	69	17	21	19	0	0	43
		2007	73	72	99	15	19	8		6	51
		2008	67	42	63	7	48	10	14	19	2
	– –	2009			–						
Bosnia and Herzegovina		1995	130		–						
		2000	193	122	63	79	15	3	1	2	0
		2005	156	106	68	85	8	4	1	2	1
		2007	183	156	85	85	7	3	2	2	1
		2008	67	77	115	70	5	22	1	1	0
	– 84 •	2009	113	116	103	52	32	5	3	3	5
Bulgaria		1995			–						
		2000	383		–						
		2005	201	198	99	57	10	7	11	14	2
		2007	309	301	97	22	37	16	1	12	12
		2008	313	500	160	16	7	4	3	5	65
	– 70 •	2009	372	384	103	32	38	12	5	8	5
Croatia		1995	42		–						
		2000			–						
		2005	94	92	98	20	13	9	1	1	57
		2007	98		–						
		2008	36		–						
	– 50 •	2009	62	22	35	27	23	36	5	5	5
Cyprus		1995	0		–						
		2000	0		–						
		2005	3	2	67	0	100	0	0	0	0
		2007	1		–						
		2008	3	5	167	40	20				40
	– –	2009	3		–						
Czech Republic		1995	21		–						
		2000	25	38	152	53	11	8	3	0	26
		2005	34	31	91	16	39	3	0	3	39
		2007	81	76	94	39	37	12		7	5
		2008	61	56	92	46	16	21	5	5	5
	– –	2009			–						
Denmark		1995	6		–						
		2000	28	15	54	27	60	7	0	0	7
		2005	29	22	76	27	64	5	0	5	0
		2007	36	36	100	11	39	17		3	31
		2008	37	32	86	16	44			3	38
	– –	2009	10		–						
Estonia		1995	71		–						
		2000	116	59	51	54	2	3	0	3	37
		2005	94	89	95	21	20	3	4	26	25
		2007	78	79	101	37	15	8	4	18	19
		2008	90	88	98	36	10	9	23	20	1
	– 51 •	2009	80	82	103	34	17	15	6	9	20
Finland		1995			–						
		2000	29		–						
		2005	22		–						
		2007	14	15	107	33	13	7	0	0	47
		2008	19	14	74	36	21	21			21
	– 36 •	2009		14	–	29	7	0	0	0	64
France		1995			–						
		2000	0		–						
		2005	371		–						
		2007	385		–						
		2008	379		–						
	– –	2009			–						
Georgia		1995	196	298	152	8	24	12	9	45	2
		2000	681	470	69	23	31	10	8	29	0
		2005	2 152	2 037	95	19	35	7	10	23	6
		2007	1 845	1 847	100	23	33	9	11	15	9
		2008	1 677	1 542	92	20	29	6	23	14	7
	• 32 60 •	2009	566	1 521	269	26	34	5	17	15	3

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

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TABLE A3.5 **Treatment outcomes, retreatment cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Germany		1995			–						
		2000		63	–	51	21	16	3	5	5
		2005	493	432	88	30	36	9	0	7	18
		2007	533	489	92	27	41	13	1	5	13
		2008	441	190	43	30	29	8	9	5	18
	– 59 •	2009	252	316	125	19	40	13	0	5	22
Greece		1995			–						
		2000	48		–						
		2005	74		–						
		2007	70	0	0	–	–	–	–	–	–
		2008	84		–						
	– –	2009	3		–						
Hungary		1995			–						
		2000	371	122	33	16	20	15	9	11	30
		2005	347	333	96	12	37	13	8	11	18
		2007	328	319	97	11	39	15	10	8	17
		2008	285	126	44	29	14	10	28	9	10
	– –	2009	211		–						
Iceland		1995	0		–						
		2000	1	1	100	0	100	0	0	0	0
		2005	1		–						
		2007	2	2	100	0	50	0	0	0	50
		2008	0	1	–		100				0
	– 100 •	2009	1	1	100	0	100	0	0	0	0
Ireland		1995			–						
		2000	22	10	45	40	0	10	10	40	0
		2005	40	14	35	7	57	7	0	0	29
		2007	51	50	98	0	62	16	0	2	20
		2008	41	51	124	6	45	6		2	41
	– 60 •	2009	16	52	325	0	60	8	0	0	33
Israel		1995			–						
		2000	8	8	100	13	25	63	0	0	0
		2005	7	7	100	71	14	14	0	0	0
		2007	8	8	100	75	25	0	0	0	0
		2008	4	4	100	0	75	0	0	25	0
	– 67 •	2009	9	9	100	56	11	11	0	0	22
Italy		1995		31	–	42	6	26	10	13	3
		2000	625	26	4	31	15	4	12	8	31
		2005	293		–						
		2007	1 772	0	0	–	–	–	–	–	–
		2008	292		–						
	• 48 –	2009			–						
Kazakhstan		1995	1 320		–						
		2000	5 093	2 901	57	62	4	10	14	5	5
		2005	15 009	4 085	27	46	1	13	14	6	19
		2007	14 143	18 722	132	24	29	9	25	9	4
		2008	9 229	8 662	94	24	18	10	32	7	8
	– 48 •	2009	9 371	9 392	100	22	27	9	34	6	3
Kyrgyzstan		1995	127		–						
		2000	555	278	50	59	15	8	8	6	4
		2005	847	845	100	40	31	8	9	11	1
		2007	1 040	1 035	100	34	34	8	8	13	4
		2008	756	897	119	36	34	6	10	9	4
	– 71 •	2009	758	924	122	28	43	7	6	7	9
Latvia		1995	118		–						
		2000	375	205	55	39	2	19	3	8	29
		2005	205	205	100	50	1	10	1	9	29
		2007	176	176	100	54	4	9	1	11	22
		2008	152	293	193	28	0	7	13	2	50
	– 45 •	2009	147	148	101	43	1	14	0	14	28
Lithuania		1995	128		–						
		2000	509	282	55	45	0	21	8	22	5
		2005	460	455	99	27	2	25	4	22	19
		2007	426	426	100	30	0	28	5	21	17
		2008	357	354	99	40		22	18	19	1
	– 35 •	2009	404	404	100	35	0	24	4	22	15
Luxembourg		1995			–						
		2000	4		–						
		2005	0		–						
		2007	0		–						
		2008	0		–						
	– –	2009			–						
Malta		1995	0		–						
		2000	0	1	–	0	100	0	0	0	0
		2005	1	1	100	0	100	0	0	0	0
		2007	1	0	0	–	–	–	–	–	–
		2008	7	4	57		50				50
	– 50 •	2009	2	2	100	0	50	0	0	0	50
Monaco		1995			–						
		2000	0		–						
		2005			–						
		2007			–						
		2008			–						
	– –	2009			–						
Montenegro		2005	27	10	37		20	20			60
		2007	22	23	105	4	52	13	0	0	30
		2008	10	10	100	70	10	10	0	10	0
	• 20 73 •	2009	11	11	100	45	27	9	0	0	18
Netherlands		1995			–						
		2000	70	18	26	28	22	6	0	6	39
		2005	44	28	64	11	68	4	0	7	11
		2007	44	55	125	5	67	4	4	0	20
		2008	49	47	96	6	32	6		2	53
	– 71 •	2009	46	49	107	4	67	2	0	4	22
Norway		1995	28		–						
		2000	12	3	25	33	0	67	0	0	0
		2005	14	9	64	44	33	22	0	0	0
		2007	24	25	104	28	28	8	0	0	36
		2008	27	28	104	29	43	7	14		7
	– –	2009			–						
Poland		1995	1 071		–						
		2000	882	56	6	64	13	14	0	4	5
		2005	1 077	985	91	22	31	6	0	32	9
		2007	1 047	1 038	99	35	31	7	0	18	8
		2008	1 020	720	71	43	21	7	1	16	12
	– 62 •	2009	688	942	137	30	32	5	0	14	18

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

TABLE A3.5 **Treatment outcomes, retreatment cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Portugal		1995	268	133	50	38	17	6	6	9	24
		2000	481	209	43	10	66	4	0	7	14
		2005	350	293	84	8	66	10	1	9	6
		2007	307	305	99	8	64	7	0	9	12
		2008	292	178	61	7	69		5	7	12
	• 55 –	2009	271		–						
Republic of Moldova		1995	148		–						
		2000	374	1	0	0	0	0	100	0	0
		2005	1 777	1 713	96	22	19	13	16	17	13
		2007	2 201	2 167	98	18	18	14	29	20	1
		2008	1 865	1 865	100	16	18	18	12	20	16
	– 33 •	2009	1 663	1 663	100	29	4	15	26	19	8
Romania		1995	1 077		–						
		2000	3 770	2 605	69	24	20	9	20	17	11
		2005	6 938	6 737	97	39	13	10	10	14	14
		2007	6 239	5 930	95	36	16	11	12	15	11
		2008	6 012	4 656	77	40	10	10	14	17	8
	– 57 •	2009	5 401	5 391	100	38	19	10	12	16	4
Russian Federation		1995		12	–	42	17	25	8	8	0
		2000	18 147	1 694	9	25	24	10	21	9	11
		2005	35 153	10 855	31	33	4	16	26	16	5
		2007	96 557	18 527	19	33	3	14	28	15	7
		2008	94 070	18 070	19	33	3	13	29	14	7
	• 58 34 •	2009	32 569	16 726	51	31	3	13	32	12	9
San Marino		1995			–						
		2000	0		–						
		2005			–						
		2007			–						
		2008			–						
	– –	2009			–						
Serbia		2005	300	284	95	46	26	10	2	12	3
		2007	314	355	113	46	27	8	2	15	3
		2008	280	309	110	49	27	10	1	7	6
	• 73 74 •	2009	203	205	101	60	14	9	0	12	4
Serbia & Montenegro		1995	198		–						
		2000	203	21	10	67	10	10	0	14	0
Slovakia		1995	20		–						
		2000	120	46	38	78	0	11	2	4	4
		2005	108	101	94	50	38	7	0	3	3
		2007	97	96	99	40	47	4	1	3	5
		2008	98	170	173	28	20	5	1	1	46
	– 82 •	2009	79	79	100	34	48	14	1	0	3
Slovenia		1995	30		–						
		2000	47	24	51	29	46	4	0	13	8
		2005	29	27	93	44	41	4	0	4	7
		2007	18	18	100	44	39	17	0	0	0
		2008	16	22	138	5	32	9	14		41
	– 88 •	2009	8	8	100	13	75	0	0	0	13
Spain		1995			–						
		2000	0		–						
		2005	1 078		–						
		2007	420	0	0	–	–	–	–	–	–
		2008	461		–						
	– –	2009			–						
Sweden		1995	11		–						
		2000	40	9	23	0	78	0	0	11	11
		2005	30	16	53	0	75	0	0	0	25
		2007	32	36	113	0	67	6	0	3	25
		2008	37	28	76		75	4	7		14
	– 69 •	2009		45	–	0	69	13	0	7	11
Switzerland		1995	5		–						
		2000	102		–						
		2005	118		–						
		2007	53		–						
		2008	54		–						
	– –	2009			–						
Tajikistan		1995	370		–						
		2000			–						
		2005	2 189	1 762	80	29	47	9	8	6	1
		2007	2 003	1 995	100	33	42	9	7	8	1
		2008	1 846	1 881	102	32	43	9	8	6	2
	– 72 •	2009	533	1 618	304	29	43	11	10	6	1
The Former Yugoslav Republic of Macedonia		1995	25		–						
		2000	16		–						
		2005	103	97	94	24	33	7	2	32	2
		2007	69	71	103	27	38	17	4	7	7
		2008	56	56	100	34	38	11	2	13	4
	– 79 •	2009	56	56	100	39	39	7	2	11	2
Turkey		1995			–						
		2000	808		–						
		2005	2 550	1 593	62	24	46	5	2	12	11
		2007	1 885	1 885	100	34	42	6	2	10	6
		2008	1 689	1 692	100	30	44	4	2	9	10
	– 73 •	2009	1 445	1 459	101	29	44	3	2	9	13
Turkmenistan		1995	67		–						
		2000	1 965	495	25	66	9	7	11	6	1
		2005	142	142	100	42	26	13	10	9	0
		2007	351	116	33	41	1	17	16	23	3
		2008	281	737	262	63	18	7	7	5	0
	– –	2009			–						
Ukraine		1995	1 889		–						
		2000	3 210		–						
		2005			–						
		2007	5 752	5 240	91	20	35	13	14	11	7
		2008	2 093	7 152	342	31	10	16	21	13	8
	– 47 •	2009	5 477	10 424	190	18	29	14	22	12	5
United Kingdom of Great Britain and Northern Ireland		1995			–						
		2000	0		–						
		2005	460	147	32	0	57	4	0	3	36
		2007	436	433	99	0	71	8	0	2	19
		2008	413		–						
	– –	2009			–						
Uzbekistan		1995			–						
		2000	347	764	220	20	55	8	8	9	0
		2005	9 015	3 999	44	28	41	9	7	14	1
		2007	4 617	4 617	100	18	57	8	4	9	3
		2008	5 087	5 046	99	24	48	10	7	9	3
	– 69 •	2009	2 451	2 451	100	30	39	11	7	9	5

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

Data can be downloaded from www.who.int/tb/data

TABLE A3.6 **HIV testing and provision of CPT, ART and IPT, 2005–2010**

	% OF TB PATIENTS WITH KNOWN HIV STATUS 2005–2010	YEAR	% OF TB PATIENTS WITH KNOWN HIV STATUS	NUMBER OF TB PATIENTS WITH KNOWN HIV STATUS	PATIENTS NOTIFIED (NEW AND RETREAT)	NUMBER OF HIV-POSITIVE TB PATIENTS	% OF TESTED TB PATIENTS HIV-POSITIVE	% OF HIV-POSITIVE TB PATIENTS ON CPT	% OF HIV-POSITIVE TB PATIENTS ON ART	NUMBER OF HIV-POSITIVE PEOPLE PROVIDED IPT
Albania		2005	15	81	540	1	1	–	–	
		2008	41	177	434	4	2	100	100	2
		2009	47	211	447	6	3	67	100	3
	• 15 42 •	2010	42	186	440	0	0	–	–	5
Andorra		2005	–		10		–	–	–	
		2008	0	0	4	0	–	–	–	0
		2009	0	0	9	0	–	–	–	0
	– 0 •	2010	0	0	7	0	–	–	–	
Armenia		2005	12	270	2 322	6	2	83	33	
		2008	16	335	2 125	12	4	67	8	1
		2009	26	521	2 006	17	3	53	35	0
	• 12 70 •	2010	70	1 242	1 780	17	1	47	41	
Austria		2005	–		954		–	–	–	
		2008	–				–	–	–	
		2009	–		707		–	–	–	
	– –	2010	–		688		–	–	–	
Azerbaijan		2005	–		7 920		–	–	–	
		2008	59	5 945	10 078		–	–	–	
		2009	–		10 417		–	–	–	
	– –	2010	–		8 394		–	–	–	62
Belarus		2005	–		6 357	139	–	–	–	
		2008	95	5 227	5 483	156	3	–	–	
		2009	95	5 227	5 511	190	4	–	–	
	– 93 •	2010	93	5 153	5 554	187	4	–	–	257
Belgium		2005	82	937	1 144	52	6	–	–	
		2008	91	913	1 006	56	6	–	–	
		2009	91	930	1 020	43	5	–	–	
	• 82 –	2010	–				–	–	–	
Bosnia and Herzegovina		2005	–		2 160		–	–	–	
		2008	–		1 736	1	–	0	100	0
		2009	0	0	1 772	0	–	–	–	0
	– –	2010	–		1 390	0	–	–	–	
Bulgaria		2005	1	23	3 302		–	–	–	
		2008	23	732	3 151	0	0	–	–	
		2009	40	1 155	2 911	1	0	0	0	9
	• 1 67 •	2010	67	1 773	2 649	2	0	0	100	
Croatia		2005	–		1 144		–	–	–	
		2008	–		980	0	–	–	–	
		2009	–		855		–	–	–	
	– –	2010	–		695	1	–	–	–	1
Cyprus		2005	0	0	37		–	–	–	
		2008	72	36	50	2	6	50	50	0
		2009	–		55		–	–	–	
	• 0 –	2010	–				–	–	–	
Czech Republic		2005	19	189	1 007	2	1	–	–	
		2008	20	174	868	7	4	–	–	
		2009	23	161	702	5	3	–	–	
	• 19 –	2010	–				–	–	–	
Denmark		2005	–		424	8	–	–	–	
		2008	48	177	367	11	6	–	–	
		2009	61	207	339	9	4	–	–	
	– –	2010	–	0		0	–	–	–	
Estonia		2005	94	490	519	33	7	–	–	
		2008	90	401	444	42	10	–	33	0
		2009	92	380	411	40	11	–	58	0
	• 94 90 •	2010	90	295	329	34	12	–	47	
Finland		2005	1	3	361	3	100	–	–	
		2008	1	5	350	6	120	–	–	
		2009	–		533	6	–	–	–	
	• 1 –	2010	–		327	4	–	–	–	
France		2005	–		5 374		–	–	–	
		2008	–		5 812		–	–	–	
		2009	–		2 890		–	–	–	
	– –	2010	–				–	–	–	
Georgia		2005	10	674	6 448	13	2	54	100	
		2008	25	1 482	5 836	20	1	85	85	301
		2009	22	1 289	5 978	33	3	55	55	
	• 10 30 •	2010	30	1 723	5 796	30	2	73	73	
Germany		2005	–		6 045		–	–	–	
		2008	–		4 474		–	–	–	
		2009	–		4 432		–	–	–	
	– –	2010	–		4 302		–	–	–	
Greece		2005	–		767		–	–	–	
		2008	–		669		–	–	–	
		2009	–		588		–	–	–	
	– –	2010	–				–	–	–	
Hungary		2005	–		2 024		–	–	–	
		2008	–		1 606	2	–	–	–	0
		2009	0	0	1 448	2	–	–	–	
	– –	2010	–			1	–	–	–	
Iceland		2005	91	10	11	1	10	100	100	
		2008	83	5	6	1	20	–	–	
		2009	58	7	12	0	0	–	–	0
	• 91 –	2010	–		22		–	–	–	
Ireland		2005	6	28	461	11	39	–	–	
		2008	19	89	470	18	20	–	–	
		2009	26	125	488	11	9	–	–	
	• 6 16 •	2010	16	68	428	12	18	–	–	
Israel		2005	85	316	372	17	5	–	–	
		2008	88	283	322	12	4	–	100	
		2009	83	288	347	22	8	–	36	
	• 85 90 •	2010	90	308	343	13	4	–	–	
Italy		2005	–		4 137		–	–	–	
		2008	–		4 418		–	–	–	
		2009	–		3 877		–	–	–	
	– –	2010	–		2 495		–	–	–	
Kazakhstan		2005	77	31 187	40 429	183	1	41	8	
		2008	98	28 237	28 913	238	1	15	12	656
		2009	97	29 597	30 578	325	1	11	7	1 027
	• 77 84 •	2010	84	23 854	28 550	333	1	26	8	1 063
Kyrgyzstan		2005	–		6 765		–	–	–	
		2008	91	6 508	7 127	117	2	–	–	
		2009	104	6 617	6 358	88	1	100	22	58
	– 104 •	2010	104	6 569	6 295	183	3	70	37	
Latvia		2005	85	1 226	1 443	53	4	–	55	
		2008	85	910	1 070	72	8	–	29	0
		2009	85	830	977	73	9	–	60	0
	• 85 80 •	2010	80	748	934	71	9	–	76	

European Region

TABLE A3.6 **HIV testing and provision of CPT, ART and IPT, 2005–2010**

	% OF TB PATIENTS WITH KNOWN HIV STATUS 2005–2010	YEAR	% OF TB PATIENTS WITH KNOWN HIV STATUS	NUMBER OF TB PATIENTS WITH KNOWN HIV STATUS	PATIENTS NOTIFIED (NEW AND RETREAT)	NUMBER OF HIV-POSITIVE TB PATIENTS	% OF TESTED TB PATIENTS HIV-POSITIVE	% OF HIV-POSITIVE TB PATIENTS ON CPT	% OF HIV-POSITIVE TB PATIENTS ON ART	NUMBER OF HIV-POSITIVE PEOPLE PROVIDED IPT
Lithuania		2005	–		2 574	7	–	–	–	
		2008	–		2 250	21	–	–	–	
		2009	–		2 081	14	–	–	–	
	–	2010	–		1 938	19	–	–	–	
Luxembourg		2005	–		37		–	–	–	
		2008	–		28		–	–	–	
		2009	–		27		–	–	–	
	–	2010	–		29		–	–	–	
Malta		2005	4	1	23		–	–	–	
		2008	85	45	53	5	11	60	100	0
		2009	86	38	44	4	11	–	–	
	• 4	2010	81	26	32	3	12	–	–	0
Monaco		2005	–				–	–	–	
		2008	–				–	–	–	
		2009	–				–	–	–	
	–	2010	–		1		–	–	–	
Montenegro		2005	5	8	170	0	0	–	–	
		2008	55	73	133	0	0	–	–	0
		2009	76	91	120	0	0	–	–	0
	• 5	2010	74	84	114	1	1	0	100	
Netherlands		2005	22	252	1 157	61	24	–	–	
		2008	29	285	997	39	14	54	249	90
		2009	33	380	1 160	42	11	–	–	54
	• 22	2010	34	370	1 073	47	13	–	–	21
Norway		2005	–		290		–	–	–	
		2008	–		324		–	–	–	
		2009	–		363		–	–	–	
	–	2010	–				–	–	–	
Poland		2005	–		9 280		–	–	–	
		2008	0	35	8 081	35	100	–	–	
		2009	0	27	8 236	27	100	–	–	
	–	2010	0	22	7 509	22	100	–	–	
Portugal		2005	70	2 485	3 536	571	23	–	–	
		2008	88	2 648	2 995	442	17	99	100	
		2009	53	1 520	2 871	349	23	–	100	
	• 70	2010	–				–	–	–	
Republic of Moldova		2005	103	6 469	6 278	9	0	–	–	
		2008	89	5 171	5 838	260	5	–	28	
		2009	91	5 107	5 591	260	5	–	–	
	• 103	2010	93	5 068	5 444	300	6	10	32	0
Romania		2005	37	10 860	29 347	160	1	–	–	
		2008	25	6 123	24 786	202	3	–	80	188
		2009	28	6 443	23 267	214	3	38	82	188
	• 37	2010	34	7 121	21 078	229	3	43	88	133
Russian Federation		2005	55	85 537	154 379	3 533	4	–	–	
		2008	103	221 889	214 905	6 083	3	–	23	6 933
		2009	131	204 624	156 222	9 253	5	–	77	10 451
	• 55	2010	123	199 445	162 553	10 617	5	–	82	
San Marino		2005	–				–	–	–	
		2008	–				–	–	–	
		2009	–				–	–	–	
	–	2010	–				–	–	–	
Serbia		2005	0	3	3 468	3	100	433	400	
		2008	0	5	2 813	5	100	–	100	0
		2009	0	5	2 595	5	100	–	–	
	• 0	2010	1	12	2 385	12	100	–	–	4
Slovakia		2005	95	720	760	1	0	0	100	
		2008	85	537	633	0	0	–	–	0
		2009	99	500	506	1	0	0	100	0
	• 95	2010	96	420	439	1	0	0	100	0
Slovenia		2005	38	107	278	0	0	–	–	
		2008	62	131	213	0	0	–	–	
		2009	71	134	188	0	0	–	–	
	• 38	2010	76	130	172	1	1	–	–	
Spain		2005	–		8 359		–	–	–	
		2008	49	3 991	8 214	508	13	–	–	
		2009	47	3 599	7 592	425	12	–	–	
	–	2010	–		7 089		–	–	–	
Sweden		2005	–		569		–	–	–	
		2008	–		552		–	–	–	
		2009	–		627		–	–	–	
	–	2010	–		675		–	–	–	
Switzerland		2005	–		626		–	–	–	
		2008	–		516		–	–	–	
		2009	–		554		–	–	–	
	–	2010	–		549		–	–	–	
Tajikistan		2005	9	670	7 526	1	0	0	0	
		2008	49	3 949	7 996	48	1	–	35	23
		2009	50	3 714	7 482	49	1	0	45	0
	• 9	2010	53	4 049	7 641	100	2	23	42	0
The Former Yugoslav Republic of Macedonia		2005	0	2	658	2	100	0	100	
		2008	20	99	483	2	2	0	100	0
		2009	9	43	473	0	0	–	–	0
	• 0	2010	9	38	420	0	0	–	–	0
Turkey		2005	–		21 303		–	–	–	
		2008	0	0	18 452		–	–	–	
		2009	0	1	17 402	1	100	–	–	
	–	2010	4	581	16 551	14	2	36	64	
Turkmenistan		2005	–		3 291		–	–	–	
		2008	–		3 909	0	–	–	–	
		2009	–		3 157		–	–	–	
	–	2010	100	3 230	3 230	0	0	–	–	
Ukraine		2005	–		39 608	1 526	–	–	–	
		2008	94	35 739	37 832	3 375	9	63	36	2 763
		2009	86	33 424	38 901	3 771	11	57	32	4 980
	–	2010	95	34 621	36 409	4 501	13	–	50	5 029
United Kingdom of Great Britain and Northern Ireland		2005	–		8 633		–	–	–	
		2008	–		8 655	553	–	–	–	
		2009	–		9 040		–	–	–	
	–	2010	0	0	8 483	0	–	–	–	
Uzbekistan		2005	124	35 801	28 891	147	0	0	0	
		2008	100	21 194	21 194	256	1	35	30	1 046
		2009	100	21 453	21 453	357	2	25	10	1 056
	• 124	2010	100	20 330	20 330	427	2	92	37	

Data can be downloaded from www.who.int/tb/data

TABLE A3.7 **Testing for MDR-TB and number of confirmed cases of MDR-TB, 2005–2010**

	YEAR	TOTAL CONFIRMED CASES OF MDR-TB[a]	NEW CASES				PREVIOUSLY TREATED CASES			
			NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB	NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB
Albania	2005	1	497	161	32	0	43	12	28	1
	2008	2	402	192	48	1	32	22	69	1
	2009	0	416	119	29	0	21	9	43	0
	2010	2	415	186	45	1	25	19	76	1
Andorra	2005	0	10	9	90	0	0		–	
	2008	0	4	3	75	0	0	0	–	0
	2009	0	7	2	29	0	2	1	50	0
	2010	0	7	4	57	0	0	0	–	0
Armenia	2005	162	1 995	576	29	86	327	182	56	76
	2008	128	1 507	417	28	60	618	190	31	68
	2009	156	1 464	480	33	80	542	200	37	76
	2010	177	1 329	471	35	59	451	220	49	118
Austria	2005	13	928	570	61	11	26	16	62	2
	2008				–				–	
	2009	22	437	265	61	5	25	23	92	8
	2010	15	358	240	67	5	29	16	55	3
Azerbaijan	2005	800	4 720	453	10	270	3 200	366	11	58
	2008		5 130		–		3 733		–	
	2009		5 872		–		2 384		–	
	2010	552	5 237	801	15	93	1 997	960	48	459
Belarus	2005		5 308		–		1 049		–	
	2008	923	4 634	1 802	39	301	849	1 230	145	516
	2009	1 342	4 633	2 071	45	464	878	1 754	200	840
	2010	1 576	4 345	1 972	45	507	1 114	1 697	152	1 021
Belgium	2005	11	1 076	588	55	7	68	41	60	3
	2008	22	811	630	78	15	67	48	72	6
	2009	10	806	621	77	4		56	–	3
	2010				–				–	
Bosnia and Herzegovina	2005	11	2 004	1 035	52	4	156	106	68	7
	2008	12	1 663	757	46	3	67	77	115	9
	2009	2	1 659	854	51	0	113	66	58	2
	2010	2	1 289	600	47	1	101	47	47	1
Bulgaria	2005	47	3 101	482	16	22	201	691	344	25
	2008	32	2 838	833	29	14	313	105	34	18
	2009	43	2 526	716	28	12	372	128	34	31
	2010	56	2 301	801	35	16	348	165	47	40
Croatia	2005	6	1 050	586	56	3	94	61	65	3
	2008	4	944		–	4	36		–	
	2009	7	793	476	60	7	62	41	66	0
	2010	0	652		–		43		–	
Cyprus	2005	1	34	16	47	1	3	0	0	0
	2008	1	41	29	71	0	3	3	100	1
	2009	4	41	27	66	4	3	4	133	0
	2010				–				–	
Czech Republic	2005	13	973	562	58	7	34	20	59	6
	2008	11	807	483	60	10	61	37	61	1
	2009	8	638	413	65	5		39	–	3
	2010				–				–	
Denmark	2005	5	395	307	78	5	29	18	62	0
	2008	2	330	253	77	0	37	28	76	0
	2009	2	288	209	73	1	10	33	330	1
	2010				–				–	
Estonia	2005	79	425	316	74	42	94	71	76	37
	2008	74	354	272	77	42	90	75	83	32
	2009	86	331	245	74	54	80	62	78	32
	2010	63	250	197	79	36	79	61	77	27
Finland	2005	3	339	198	58	2	22	22	100	1
	2008	1	331	238	72	1	19	9	47	0
	2009	6	519	295	57	6		7	–	
	2010	6	312	239	77	5	15	8	53	1
France	2005	24	4 887	1 291	26	14	371	112	30	8
	2008	27	3 355	1 313	39	16	379	104	27	10
	2009	30	2 890	2 890	100	13		106	–	14
	2010				–				–	
Georgia	2005	195	4 294	799	19	54	2 152	515	24	141
	2008	481	4 148	1 685	41	190	1 677	720	43	290
	2009	369	4 457	1 777	40	183	566	594	105	185
	2010	359	4 383	1 987	45	188	1 409	558	40	171
Germany	2005	105	5 391	3 094	57	57	493	251	51	31
	2008	45	3 561	2 360	66	16	441	219	50	24
	2009	61	3 545	2 343	66	39	252	151	60	16
	2010	43	3 350	2 138	64	27	281	130	46	8
Greece	2005	12	626	497	79	12	74	0	0	0
	2008		534		–		84		–	
	2009	14	464	140	30	9	3	14	467	4
	2010				–				–	
Hungary	2005	26	1 677	442	26	13	347	88	25	13
	2008	16	1 321	509	39	8	285	102	36	8
	2009	20	1 230	486	40	16	211	55	26	4
	2010				–				–	
Iceland	2005	0	10	7	70	0	1	1	100	0
	2008	1	6	5	83	1	0	0	–	0
	2009	0	10	6	60	0	1	1	100	
	2010	0	22	19	86	0	0	0	–	0
Ireland	2005	3	385	200	52	1	40	10	25	1
	2008	3	336	114	34	2	41	8	20	0
	2009	0	333	162	49	0	16	12	75	
	2010	2	319	176	55	2	31	21	68	0
Israel	2005	16	365	259	71	14	7	6	86	2
	2008	13	318	226	71	12	4	3	75	1
	2009	6	338	258	76	4	9	8	89	2
	2010	12	339	245	72	12	4	2	50	0
Italy	2005		3 828		–		293		–	
	2008		3 414		–		292		–	
	2009		2 541		–				–	
	2010		1 721		–		71		–	
Kazakhstan	2005		22 303		–		15 009		–	
	2008	3 676	19 684	5 605	28	1 384	9 229	4 474	48	1 950
	2009	3 644	16 810	4 140	25	981	9 371	4 413	47	2 329
	2010	7 387	15 641	5 214	33	1 408	9 213	4 655	51	2 099
Kyrgyzstan	2005	989	5 918	837	14	169	847	152	18	96
	2008	269	6 230	484	8	97	756	325	43	172
	2009	785	5 434	677	12	225	758	263	35	161
	2010	566	5 308	225	4	225	987	264	27	264

[a] TOTAL CONFIRMED CASES OF MDR-TB includes cases with unknown previous treatment history (i.e. not included under NEW CASES or PREVIOUSLY TREATED CASES).

TABLE A3.7 **Testing for MDR-TB and number of confirmed cases of MDR-TB, 2005–2010**

	YEAR	TOTAL CONFIRMED CASES OF MDR-TB[a]	NEW CASES				PREVIOUSLY TREATED CASES			
			NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB	NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB
Latvia	2005	160	1 238	873	71	94	205	182	89	66
	2008	129	918	684	75	83	152	144	95	46
	2009	131	830	618	74	83	147	134	91	48
	2010	87	825	613	74	63	109	102	94	24
Lithuania	2005	338	2 114	1 293	61	127	460	440	96	209
	2008	276	1 892	1 259	67	113	357	356	100	162
	2009	322	1 677	1 074	64	114	404	404	100	208
	2010	310	1 573	998	63	128	364	364	100	181
Luxembourg	2005	0	37	36	97	0	0		–	
	2008		0		–		0		–	
	2009	0			–				–	
	2010	0	24	17	71	0	0	0	–	0
Malta	2005	0	21	11	52	0	1		–	
	2008	1	46	22	48	0	7	3	43	0
	2009	0	41	17	41	0	2	0	0	0
	2010	1	20	11	55	0	3	2	67	1
Monaco	2005				–				–	
	2008				–				–	
	2009				–				–	
	2010		1	1	100				–	
Montenegro	2005	2	143	82	57	0	27	14	52	2
	2008	0	123	75	61	0	10	9	90	0
	2009	1	108	80	74	0	11	9	82	1
	2010	0	102	61	60	0	12	12	100	0
Netherlands	2005	7	1 113	709	64	5	44	30	68	1
	2008	13	948	696	73	11	49	32	65	2
	2009	20	1 094	720	66	16	46	30	65	3
	2010	11	1 013	741	73	10	43	29	67	1
Norway	2005	3	269	193	72	3	14	8	57	0
	2008	4	252	180	71	1	27	14	52	2
	2009	8	258	210	81	8		20	–	0
	2010				–				–	
Poland	2005	72	8 203	5 409	66		1 077		–	
	2008	52	7 061	3 758	53	18	1 020	607	60	34
	2009	0	7 268		–	0	688		–	0
	2010	30	6 610	3 229	49	13	899	468	52	17
Portugal	2005	28	3 181	1 407	44	12	350	172	49	16
	2008	28	2 703	1 496	55	19	292	145	50	9
	2009	22	2 600	1 391	54	13	271	148	55	9
	2010				–				–	
Republic of Moldova	2005	338	4 501	536	12	68	1 777	652	37	270
	2008	1 048	3 951	1 212	31	300	1 865	1 227	66	748
	2009	1 069	3 804	1 284	34	289	1 663	1 129	68	780
	2010	1 015	3 745	1 234	33	314	1 688	1 077	64	701
Romania	2005	530	22 407	1 594	7	95	6 938	1 300	19	435
	2008	816	18 774	3 025	16	130	6 012	2 522	42	686
	2009	435	17 866	2 226	12	91	5 401	1 641	30	344
	2010	501	15 963	3 336	21	96	5 115	2 004	39	405
Russian Federation	2005		119 226		–		35 153		–	
	2008	6 960	120 835	36 249	30	5 061	94 070	6 404	7	1 899
	2009	14 686	117 227	36 888	31	5 816	32 569	6 798	21	2 314
	2010	13 692	109 904	35 862	33	6 218	45 980	13 405	29	6 169
San Marino	2005				–				–	
	2008				–				–	
	2009				–				–	
	2010				–				–	
Serbia	2005	9	3 168	1 112	35	4	300	121	40	5
	2008	16	2 526	923	37	6	280	130	46	10
	2009		1 740		–		203		–	
	2010	9	2 178		–		200		–	
Slovakia	2005	8	652	248	38	4	108	56	52	4
	2008	4	510	300	59	1	98	62	63	2
	2009	1	406	191	47		79	36	46	1
	2010	1	361	185	51	0	55	32	58	1
Slovenia	2005	1	249	217	87	0	29	28	97	1
	2008	2	197	182	92	1	16	13	81	1
	2009	1	180	167	93	1	8	8	100	0
	2010	0	161	146	91	0	11	9	82	0
Spain	2005		7 281		–		1 078		–	
	2008	76	6 769	1 080	16	31	461	174	38	23
	2009	56	6 687	1 147	17	6		383	–	45
	2010	49	6 377	1 009	16	20	324	110	34	13
Sweden	2005	4	539	425	79	2	30	17	57	2
	2008	12	457	349	76	7	37	30	81	4
	2009	13	515	424	82	8		35	–	4
	2010	18	552	440	80	11	52	30	58	7
Switzerland	2005	5	508	326	64	2	118	30	25	2
	2008	5	319	258	81	3	54	34	63	1
	2009		333	269	81			41	–	
	2010	9	323	270	84	1	41	33	80	3
Tajikistan	2005		5 337		–		2 189		–	
	2008		6 150		–		1 846		–	
	2009	319	5 864	833	14	62	533	580	109	257
	2010	333	5 959	160	3	92	985	223	23	174
The Former Yugoslav Republic of Macedonia	2005	4	555	106	19	0	103	19	18	4
	2008	2	427	130	30	0	56	17	30	2
	2009	1	417	191	46	0	56	28	50	1
	2010	7	368	153	42	2	52	28	54	5
Turkey	2005	191	18 753	3 237	17	101	2 550	508	20	90
	2008	263	16 760	4 212	25	125	1 689	740	44	138
	2009	222	15 943	3 714	23	99	1 445	599	41	123
	2010	250	15 183	4 342	29	110	1 339	615	46	140
Turkmenistan	2005		3 149		–		142		–	
	2008		3 628		–		281		–	
	2009	39	3 157	164	5	21		111	–	18
	2010	38	3 148	81	3	19	82	63	77	19
Ukraine	2005				–				–	
	2008		35 739		–		2 093		–	
	2009	3 482	33 424	12 007	36	1 437	5 477	6 348	116	2 045
	2010	5 336	31 295	9 194	29	1 492	5 114	4 840	95	3 844
United Kingdom of Great Britain and Northern Ireland	2005	39	8 173	3 428	42	23	460	271	59	7
	2008	53	6 586	3 749	57	38	413	186	45	7
	2009	58	7 008	3 957	56	37		364	–	12
	2010	60	7 219	3 970	55	42	576	247	43	11
Uzbekistan	2005	86	19 876	0	0	0	9 015	435	5	86
	2008	342	15 971	274	2	52	5 087	470	9	290
	2009	654	16 569	571	3	115	2 451	732	30	539
	2010	1 023	15 734	2 845	18	430	4 596	1 180	26	593

[a] TOTAL CONFIRMED CASES OF MDR-TB includes cases with unknown previous treatment history (i.e. not included under NEW CASES or PREVIOUSLY TREATED CASES).

Data can be downloaded from www.who.int/tb/data

TABLE A3.8 **New smear-positive case notification by age and sex, 1995–2010**

		MALE								FEMALE								
	YEAR	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	MALE/FEMALE RATIO
Albania	1995	0	0	0	0	19	40	30		0	1	0	0	13	20	16		1.8
	2000	2	19	21	14	24	19	16		3	11	10	8	8	5	11		2.1
	2005	0	26	21	16	31	20	37	0	0	3	9	5	5	5	18	0	3.4
	2010	0	28	17	14	16	16	15	0	2	11	7	6	3	2	8	0	2.7
Andorra	1995																	–
	2000	0	0	1	0	0	0	0										–
	2005	0	0	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0.7
	2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	–
Armenia	1995	1	18	16	11	10	8	1		1	1	7	2	1	1			5.0
	2000	2	152	130	131	63	26	21		1	24	27	24	8	8	4		5.5
	2005	3	170	104	83	84	30	24	0	3	27	21	10	11	4	7	0	6.0
	2010	0	36	75	49	68	27	15	0	1	24	17	4	7	8	8	0	3.9
Austria	1995	4	37	95	82	89	71	73		6	22	52	32	21	18	59		2.1
	2000	1	17	30	59	42	23	41		1	11	22	12	11	6	22		2.5
	2005	1	32	23	22	41	24	30	0	0	13	11	8	3	5	10	0	3.5
	2010	0	4	4	12	13	8	10	0	1	5	4	2	2	5	6	0	2.0
Azerbaijan	1995	0	13	29	14	6	4	1		0	5	18	0	0	0	0		2.9
	2000	0	9	24	33	42	30	0		0	3	3	6	3	0	0		9.2
	2005	77	109	297	215	209	187	88	0	90	64	98	47	32	24	24	0	3.1
	2010	0	328	371	267	280	30	27		3	141	100	57	73	9	18		3.2
Belarus	1995																	–
	2000																	–
	2005		71	180	273	287	118	62			25	53	50	43	11	62		4.1
	2010	0	65	173	224	293	163	58	0	1	28	52	56	37	28	91	0	3.3
Belgium	1995	3	23	49	63	52	54	102		3	12	24	32	17	10	34		2.6
	2000	3	20	57	39	55	32	56		6	15	15	19	4	13	27		2.6
	2005	1	26	50	32	27	15	47	0	2	27	31	15	12	4	23	0	1.7
	2010																	–
Bosnia and Herzegovina	1995	0	15	61	90	140	139	100		0	40	67	64	49	77	23		1.7
	2000	4	56	82	99	66	58	77		4	30	46	29	29	48	124		1.4
	2005	1	22	58	61	78	44	80	1	2	35	39	33	28	28	130	0	1.2
	2010	1	27	37	34	61	46	51	0	0	27	19	16	10	18	94	0	1.4
Bulgaria	1995																	–
	2000	0	13	16	20	3	9	10		0	11	14	7	3	4	6		1.6
	2005	9	98	150	195	195	150	136	0	9	90	111	59	29	37	70	0	2.3
	2010	1	40	115	143	133	90	65	0	3	42	59	43	23	15	34	0	2.7
Croatia	1995	6	38	97	210	132	178	141		10	50	57	57	38	60	130		2.0
	2000																	–
	2005	1	24	27	48	72	47	34	0	1	12	18	15	11	6	56	0	2.1
	2010	0	10	19	18	38	25	24		1	3	8	4	2	1	30		2.7
Cyprus	1995	0	1	1	0	1	1	2		0	1	1	1	2	0	1		1.0
	2000																	–
	2005	0	3	1	1	1	0	1	0	0	1	0	0	0	0	0	0	7.0
	2010																	–
Czech Republic	1995	2	10	22	83	88	53	90		0	9	11	20	13	19	88		2.2
	2000	0	7	31	52	89	61	59		0	15	13	9	10	7	57		2.7
	2005	0	8	24	57	55	45	46	0	0	3	14	16	7	5	28	0	3.2
	2010																	–
Denmark	1995	0	7	16	28	18	9	11		2	7	13	8	4	3	2		2.3
	2000	5	10	20	24	16	11	14		5	16	15	14	6	7	8		1.4
	2005	0	12	12	18	23	9	7	0	2	11	5	13	9	3	5	0	1.7
	2010																	–
Estonia	1995																	–
	2000	0	6	31	53	56	35	15		0	9	11	14	11	4	10		3.3
	2005	0	9	25	19	40	12	7	0	0	6	11	8	11	6	8	0	2.2
	2010	0	3	7	21	25	12	8	0	0	3	5	3	3	6	3	0	3.3
Finland	1995	1	1	10	25	28	24	61		1	1	6	7	4	10	65		1.6
	2000	0	3	8	22	19	28	53		0	1	5	3	4	6	49		2.0
	2005	1	5	4	3	14	11	25	0	0	3	4	1	0	6	20	0	1.9
	2010	0	10	6	8	9	8	18	0	0	3	2	4	1	2	11	0	2.6
France	1995	30	156	431	502	414	297	496		36	138	226	176	90	92	365		2.1
	2000	10	136	248	247	211	125	244		18	108	127	89	46	43	155		2.1
	2005	12	127	212	222	196	134	205	0	16	104	134	82	56	38	180	0	1.8
	2010																	–
Georgia	1995	2	20	30	25	40	18	12		2	8	17	17	18	7	5		2.0
	2000	4	76	111	113	63	45	28		1	49	37	33	17	10	5		2.9
	2005	0	226	272	268	207	76	60		4	109	105	58	46	17	47		2.9
	2010	5	340	529	341	264	143	77	0	5	135	118	62	52	28	41	0	3.9
Germany	1995	14	179	453	539	460	442	625		17	115	251	167	89	104	397		2.4
	2000																	–
	2005	6	59	113	171	167	92	167	0	4	51	104	73	43	37	103	0	1.9
	2010	1	49	94	99	147	89	146	0	3	45	69	61	36	30	75	0	2.0
Greece	1995																	–
	2000	1	10	22	32	24	19	46		0	2	9	10	5	6	25		2.7
	2005	1	14	25	22	14	12	23	5	0	13	18	8	7	2	17	0	1.8
	2010																	–
Hungary	1995																	–
	2000	0	8	24	85	104	58	27		1	7	17	19	22	10	30		2.9
	2005	0	6	24	67	117	67	39	0	1	5	13	11	22	15	33	0	3.2
	2010																	–
Iceland	1995	0	0	0	0	0	0	1		0	0	0	0	0	0	1		1.0
	2000									0		1						0.0
	2005	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	–
	2010	0	0	1	0	3	0	0	0	0	0	1	1	0	0	0	0	2.0
Ireland	1995																	–
	2000	0	10	7	7	6	4	12		0	13	8	13	6	7	15		0.7
	2005	1	6	10	21	10	7	6	0	0	9	10	3	3	0	8	0	1.8
	2010	0	8	18	4	12	5	11	0	0	7	7	2	3	2	5	0	2.2
Israel	1995																	–
	2000	0	20	26	23	23	13	38	0	3	10	16	6	3	3	32	0	2.0
	2005	1	4	15	18	15	5	26	0	0	6	14	7	7	5	19	0	1.4
	2010	1	13	28	12	8	4	6	0	0	1	8	10	2	0	10	0	2.3
Italy	1995	9	59	202	157	94	124	289		7	52	93	57	40	51	168		2.0
	2000	12	63	96	75	58	54	112		6	38	58	33	13	19	39		2.3
	2005	8	93	191	137	101	61	115	24	3	80	145	56	25	19	70	9	1.8
	2010	15	38	70	69	39	30	71	5	16	27	47	45	29	17	58	2	1.4
Kazakhstan	1995																	–
	2000	36	1 057	1 409	1 379	923	439	218		84	999	1 079	599	275	202	204		1.6
	2005	31	917	1 142	983	795	274	175	0	46	751	767	436	286	121	187	0	1.7
	2010	15	675	754	595	511	251	127	0	33	566	520	263	205	122	132	0	1.6
Kyrgyzstan	1995	3	109	171	165	65	38	30		1	70	94	34	18	15	19		2.3
	2000	4	128	227	205	115	52	46		6	128	146	100	41	30	29		1.6
	2005	1	247	303	269	194	66	84	0	15	215	236	141	70	33	98	0	1.4
	2010	5	261	260	188	141	64	48	0	5	223	199	98	71	40	42	0	1.4

TABLE A3.8 **New smear-positive case notification by age and sex, 1995–2010**

		MALE								FEMALE								
	YEAR	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	MALE/FEMALE RATIO
Latvia	1995	0	20	44	71	70	40	30		0	22	49	55	47	27	29		1.2
	2000	0	53	106	124	111	64	34		2	25	41	27	28	7	15		3.4
	2005	1	22	71	104	117	55	34	0	0	17	31	31	23	18	12	0	3.1
	2010	0	20	44	65	71	39	15	0	0	6	19	25	12	10	13	0	3.0
Lithuania	1995	4	46	132	225	176	90	77		5	6	53	45	32	16	42		3.8
	2000	1	38	97	145	155	74	68		0	20	37	39	32	22	48		2.9
	2005	0	42	118	186	187	108	67	0	1	25	41	57	49	23	54	0	2.8
	2010	1	34	75	128	157	89	54	0	1	20	36	31	43	18	32	0	3.0
Luxembourg	1995																	–
	2000																	–
	2005	0	0	2	2	1	1	2	0	0	0	2	1	1	1	0	0	1.6
	2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	–
Malta	1995	0	0	0	1	0	0	0		0	0	1	0	0	1	2		0.3
	2000	0	1	0	1	1	0	1										–
	2005	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	–
	2010	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	3.0
Monaco	1995																	–
	2000																	–
	2005																	–
	2010																	–
Montenegro	2005	0	3	5	7	15	4	8	0	0	0	7	3	4	0	8	0	1.9
	2010	0	1	1	4	4	7	1	0	1	3	3	2	3	1	8	0	0.9
Netherlands	1995	22	79	119	75	28	9	10		24	56	50	13	10	8	7		2.0
	2000	0	34	63	41	25	10	21		4	29	22	16	9	5	10		2.0
	2005	0	23	42	23	26	14	19	0	3	14	19	11	9	1	4	0	2.4
	2010	0	22	29	22	20	9	17	0	1	9	14	13	5	4	11	0	2.1
Norway	1995	0	4	8	6	3	5	12		0	4	7	2	0	3	8		1.6
	2000	0	1	9	3	6	2	4		1	3	1			2	5		2.1
	2005	0	9	4	6	4	4	3	0	0	4	7	2	1	0	3	0	1.8
	2010																	–
Poland	1995	3	122	295	795	565	369	377		4	129	163	225	111	107	414		2.2
	2000	1	99	303	812	782	361	434		1	99	158	211	170	82	421		2.4
	2005	3	109	199	389	639	292	310	0	3	95	142	112	151	63	316	0	2.2
	2010	3	70	205	310	574	393	237	0	2	59	118	82	104	82	245	0	2.6
Portugal	1995	11	215	363	328	200	173	164		7	139	172	87	33	42	85		2.6
	2000	8	147	375	349	208	140	140		5	114	154	87	41	25	64		2.8
	2005	5	85	227	284	181	90	93	5	7	67	109	66	29	11	42	1	2.9
	2010																	–
Republic of Moldova	1995	0	55	115	166	95	65	15		2	42	38	31	19	10	12		3.3
	2000	2	52	31	36	13	13	6		1	16	32	45	23	14	6		1.1
	2005	2	211	337	345	313	106	31	0	3	97	92	57	61	23	18	0	3.8
	2010	0	119	243	244	248	113	21	0	6	47	90	46	47	23	20	0	3.5
Romania	1995	387	1 662	2 322	3 608	2 587	1 751	784		355	1 352	1 240	871	479	396	417		2.6
	2000	46	832	1 508	1 799	1 684	916	533		53	701	766	484	341	207	321		2.5
	2005	36	752	1 511	1 786	1 999	952	638	4	55	758	780	493	374	219	442	2	2.5
	2010	21	669	865	1 336	1 293	895	567	0	40	503	477	400	275	172	438	0	2.4
Russian Federation	1995																	–
	2000	1	295	526	596	402	151	54		1	43	73	74	38	31	44		6.7
	2005																	–
	2010	8	2 228	6 276	5 571	5 361	2 787	920	0	28	1 247	2 554	1 719	1 182	745	790	0	2.8
San Marino	1995																	–
	2000							1										–
	2005																	–
	2010																	–
Serbia	2005	3	62	96	118	156	112	132	0	6	69	76	55	49	22	149	0	1.6
	2010	2	76	70	93	116	83	109	0	5	66	74	46	39	34	164	0	1.3
Serbia & Montenegro	1995	10	108	204	317	296	350	386		11	127	167	133	83	158	275		1.8
	2000																	–
Slovakia	1995	4	18	44	123	108	63	152		5	16	17	22	24	33	159		1.9
	2000	2	6	15	31	50	16	32		0	5	9	7	5	4	54		1.8
	2005	0	3	13	16	25	25	20	0	0	1	8	9	5	6	27	0	1.8
	2010	1	7	7	18	17	17	15	0	0	1	6	7	2	3	11	0	2.7
Slovenia	1995	1	13	39	63	36	26	27		0	7	24	11	9	5	42		2.1
	2000	0	3	11	36	22	14	17		0	3	9	3	4	3	20		2.5
	2005	0	4	10	16	15	11	14	0	0	4	4	6	5	4	16	0	1.8
	2010	0	4	7	10	9	6	12	0	0	1	5	2	4	1	3	0	3.0
Spain	1995	22	132	337	242	150	112	228		23	90	129	64	39	34	98		2.6
	2000																	–
	2005	13	166	394	367	230	140	230	2	10	142	252	151	63	24	108	2	2.1
	2010	6	139	306	291	286	146	184	1	14	130	251	151	54	23	76	0	1.9
Sweden	1995	1	5	12	8	5	4	27		0	10	13	5	5	4	14		1.2
	2000	0	9	10	12	11	4	25		1	9	8	10	2	2	15		1.5
	2005	0	7	21	16	10	5	16	0	1	10	15	12	5	3	13	0	1.3
	2010	1	10	28	8	5	5	13	0	2	9	16	11	4	2	3	0	1.5
Switzerland	1995	0	12	23	26	23	13	27		1	13	20	9	1	2	15		2.0
	2000	0	5	18	10	7	5	8		1	9	12	8	2	1	6		1.4
	2005	1	10	9	13	12	2	7	0	0	6	11	8	3	2	4	0	1.6
	2010	0	6	12	9	6	5	8	0	0	7	15	6	4	1	3	0	1.3
Tajikistan	1995																	–
	2000																	–
	2005	8	308	279	164	104	54	48	0	26	225	185	151	89	43	53	0	1.3
	2010	12	398	366	214	129	93	74	0	23	320	272	111	109	87	82	0	1.3
The Former Yugoslav Republic of Macedonia	1995	2	15	42	45	33	29	24		2	32	30	20	11	17	17		1.5
	2000	5	8	14	20	19	20	14		1	15	14	17	5	5	10		1.5
	2005	2	14	20	23	20	18	13	1	2	17	13	10	7	5	13	0	1.7
	2010	0	6	19	24	24	12	11	0	0	9	12	7	7	4	6	0	2.1
Turkey	1995																	–
	2000																	–
	2005	33	1 148	1 295	1 028	963	534	429	0	50	699	474	243	175	166	213	0	2.7
	2010	23	631	779	703	778	514	407	0	33	485	384	193	141	101	203	0	2.5
Turkmenistan	1995	1	11	188	0	79	30	0		2	15	146	0	47	25	0		1.3
	2000	16	103	185	144	127	31	21		19	73	140	76	31	34	17		1.6
	2005	2	148	181	146	97	51	13	0	3	100	101	72	46	27	8	0	1.8
	2010	1	130	212	183	141	51	26		2	112	112	74	46	38	25		1.8
Ukraine	1995	10	385	1 076	2 064	1 515	1 087	437		21	314	380	327	182	185	280		3.9
	2000	21	693	1 552	2 385	2 007	1 062	532		41	487	590	447	298	218	405		3.3
	2005																	–
	2010								7 417								2 559	2.9
United Kingdom of Great Britain and Northern Ireland	1995																	–
	2000	8	86	130	96	87	75	138		9	95	114	60	31	31	67		1.5
	2005	9	135	200	166	95	95	124	0	14	115	163	80	39	28	83	1	1.6
	2010	7	132	169	135	108	60	108	0	15	110	131	81	42	40	58	0	1.5
Uzbekistan	1995																	–
	2000	6	351	749	510	346	213	107		11	261	547	288	213	112	111		1.5
	2005	25	596	831	723	522	263	313		40	538	597	375	288	217	367		1.4
	2010	8	487	574	529	479	293	297	0	22	365	512	308	248	239	350	0	1.3

Data can be downloaded from www.who.int/tb/data

TABLE A3.9 **Laboratories, NTP services, drug management, human resources and infection control, 2010**

	LABORATORIES					FREE THROUGH NTP		DRUG MANAGEMENT			% OF STAFF TRAINED BY THE NTP (IN 2010)[c]				TB NOTIFICATION RATE PER 100 000 HEALTH-CARE WORKERS
	SMEAR LABS PER 100K POPULATION	CULTURE LABS PER 5M POPULATION	DST LABS PER 5M POPULATION	SECOND-LINE DST AVAILABLE	NRL[a]	TB DIAGNOSIS	FIRST-LINE DRUGS	RIFAMPICIN USED THROUGHOUT TREATMENT	% OF PATIENTS TREATED WITH FDC[b]	PAEDIATRIC FORMULATIONS PROCURED	MEDICAL OFFICERS	NURSES	HEALTH ASSISTANTS	LABORATORY TECHNICIANS	
Albania	0.5	1.6	1.6	No	Yes	If TB is confirmed	Yes	Yes	100	No					
Andorra	9.4	471	471	In country	Yes	Yes, all suspects	Yes	Yes	100	Yes					
Armenia	1.4	1.6	1.6	In country	Yes	Yes, all suspects	Yes	Yes	85	No	18	5		12	0
Austria															
Azerbaijan						Yes, all suspects	Yes	Yes	80	No					
Belarus						Yes, all suspects	Yes	Yes	60	No					
Belgium	1.1	53	6.5	In country	Yes	Yes, all suspects	Yes	Yes	0	No					
Bosnia and Herzegovina	0.1	15	5.3	Out of country	Yes	Yes, all suspects	Yes	Yes	92	No					
Bulgaria	0.5	20	14	Out of country	Yes	Yes, all suspects	Yes	Yes	0	No					
Croatia															
Cyprus															
Czech Republic															
Denmark	0.2	0.9	0.9	In and out of cty	Yes	Yes, all suspects	Yes	Yes		Yes					
Estonia	0.4	7.5	7.5	In country	Yes	Yes, all suspects	Yes	Yes	60	No	70	80	70	70	15
Finland	0.2	10	1.9	In country	Yes	Yes, all suspects	Yes	Yes		Yes					
France					Yes	Yes, all suspects	Yes	Yes		No					
Georgia	0.7	2.3	1.1	In country	Yes	Yes, all suspects	Yes	Yes	100	Yes	100	30	0	100	
Germany	0.3	12	4.4	In country	Yes	Yes, all suspects	Yes	Yes		No					
Greece				In country	Yes	Yes, all suspects	Yes								
Hungary	0.1	6.0	3.5	In country	Yes	Yes, all suspects	Yes	Yes		No					
Iceland	0.3	16	0	Out of country	Yes	If TB is confirmed	Yes	Yes	0	No					
Ireland	0.3	15	3.4	Out of country	Yes	Yes, all suspects	Yes	Yes	95	Yes					
Israel	0.3	13	1.3	In country	Yes	Yes, all suspects	Yes	Yes	90	Yes					
Italy															
Kazakhstan	2.9	31	6.9	No	No	Yes, all suspects	Yes	Yes	50	Yes	100	100	100	100	2038
Kyrgyzstan	2.3	7.5	2.8	In and out of cty	Yes	Yes, all suspects	Yes	Yes	98	Yes					
Latvia	0.7	8.9	2.2	In country	Yes	Yes, all suspects	Yes	Yes	0	No					
Lithuania	0.4	9.0	9.0	In and out of cty	Yes	Yes, all suspects	Yes	Yes	99	No	70	65	0		
Luxembourg	0.2	10	10	Out of country	Yes	Yes, all suspects	Yes	Yes		Yes					
Malta	0.2	12	0	Out of country	No	Yes, all suspects	Yes	Yes		Yes					
Monaco	8.5	424		Out of country	No	Yes, all suspects	Yes	Yes		Yes					
Montenegro	0.2	7.9	7.9	Out of country	No	If TB is confirmed	Yes	Yes	0	Yes	95	95	0	0	
Netherlands	0.3	11	0.3	In country	Yes	No	No	Yes	0	No					
Norway	0.4	10	3.1	In and out of cty	Yes	Yes, all suspects	Yes	Yes	90	Yes					
Poland	0.2	11	6.1	In country	Yes	Yes, all suspects	Yes	Yes		Yes					
Portugal															
Republic of Moldova	1.7	5.6	5.6	In and out of cty	Yes	Yes, all suspects	Yes	Yes		No					125
Romania	0.6	23	10	In country	Yes	Yes, all suspects	Yes	Yes	80	No	14	6	0	51	53
Russian Federation				In country	No	Yes, all suspects	Yes	Yes		No					497
San Marino															
Serbia															
Slovakia	0.1	6.4	1.8	In and out of cty	Yes	Yes, all suspects	Yes	Yes	0	Yes					
Slovenia	0.1	7.4	2.5	In and out of cty	Yes	Yes, all suspects	Yes	Yes	95	No					
Spain				In country	Yes	Yes, all suspects	Yes	Yes							
Sweden	<0.1	2.7	2.7	In country	Yes	Yes, all suspects	Yes	Yes	10	Yes					
Switzerland	0.5	16	6.5	In country	Yes	No	No	Yes	100	Yes					
Tajikistan	1.4	2.2	0.7	Out of country	Yes	If TB is confirmed	Yes	Yes	100	Yes	2	1	0	2	
The Former Yugoslav Republic of Macedonia	0.5	7.3	2.4	Out of country	Yes	If TB is confirmed	Yes	Yes	96	Yes	0	0	0	0	
Turkey	0.6	12	4.7	In country	Yes	Yes, all suspects	Yes	Yes	0	Yes	62	0	0	0	
Turkmenistan	1.2	2.0	1.0	No	Yes	If TB is confirmed	Yes	Yes	100	Yes					
Ukraine	2.2	11	5.1	In country	Yes	Yes, all suspects	Yes	Yes	70	Yes	22			15	64
United Kingdom of Great Britain and Northern Ireland			0.6	In country	Yes	Yes, all suspects	Yes	Yes		Yes					
Uzbekistan	1.1	0.7	0.4	In country	Yes	Yes, all suspects	Yes	Yes	100	No	7	3	0	18	37

a NRL = national reference laboratory
b FDC = fixed-dose combination
c NURSES (Registered Nurses, Registered Midwives, Enrolled Nurses, Enrolled Midwives); HEALTH ASSISTANTS (Medical Assistants, Clinical Officers); LABORATORY TECHNICIANS (Microscopists)

Data can be downloaded from www.who.int/tb/data

South-East Asia Region

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Estimates of mortality, prevalence and incidence

Estimated values are shown as best estimates followed by lower and upper bounds. The lower and upper bounds are defined as the 2.5th and 97.5th centiles of outcome distributions produced in simulations. See **ANNEX 1** for further details.

Estimated numbers are shown rounded to two significant figures. Estimated rates are shown rounded to three significant figures unless the value is under 100, in which case rates are shown rounded to two significant figures.

Estimates for all years are recalculated as new information becomes available and techniques are refined, so they may differ from those published in previous reports in this series. Estimates published in previous global TB control reports should no longer be used.

Data source

Data shown in this annex are taken from the WHO global TB database on 2 September 2011. Data shown in the main part of the report were taken from the database on 21 June 2011. As a result, data in this annex may differ slightly from those in the main part of the report.

Data can be downloaded from **www.who.int/tb/data**.

South-East Asia

India

Estimates for India have not yet been officially approved by the Ministry of Health and Family Welfare, Government of India and should therefore be considered provisional.

TABLE A3.1 **Estimates of the burden of disease caused by TB, 1990–2010**

	YEAR	POPULATION (MILLIONS)	MORTALITY (EXCLUDING HIV)		PREVALENCE (INCLUDING HIV)		INCIDENCE (INCLUDING HIV)	
			NUMBER (THOUSANDS)	RATE[a]	NUMBER (THOUSANDS)	RATE	NUMBER (THOUSANDS)	RATE
Bangladesh	1990	105	62 (35–96)	58 (33–91)	520 (210–990)	493 (199–937)	240 (140–350)	225 (137–334)
	1995	117	69 (54–86)	59 (46–73)	580 (260–950)	494 (225–810)	260 (210–320)	225 (183–271)
	2000	130	72 (56–91)	56 (43–70)	620 (290–1000)	479 (221–783)	290 (240–350)	225 (183–271)
	2005	141	69 (51–89)	49 (37–63)	620 (290–1000)	440 (206–718)	320 (260–380)	225 (183–271)
	2008	145	64 (46–85)	44 (32–58)	600 (270–990)	414 (189–681)	330 (270–390)	225 (183–271)
	2009	147	64 (47–85)	44 (32–58)	610 (280–1000)	412 (188–677)	330 (270–400)	225 (184–270)
	2010	149	64 (47–85)	43 (32–57)	610 (280–1000)	411 (188–671)	330 (270–400)	225 (184–269)
Bhutan	1990	<1	0.26 (0.12–0.5)	47 (22–89)	2.8 (1–5.4)	500 (180–972)	1.7 (1.1–2.4)	308 (203–433)
	1995	<1	0.18 (0.11–0.29)	35 (22–55)	2.2 (0.84–3.8)	432 (161–740)	1.6 (1.3–1.9)	308 (254–366)
	2000	<1	0.17 (0.1–0.27)	29 (18–47)	2 (0.77–3.5)	357 (135–616)	1.4 (1.2–1.7)	253 (206–305)
	2005	<1	0.14 (0.084–0.22)	21 (13–33)	1.7 (0.64–3)	260 (97–449)	1.2 (1–1.5)	187 (155–223)
	2008	<1	0.096 (0.061–0.16)	14 (8.7–23)	1.4 (0.44–2.5)	202 (63–351)	1.2 (0.97–1.4)	165 (138–194)
	2009	<1	0.063 (0.05–0.076)	8.8 (7.1–11)	1.2 (0.29–2.1)	171 (41–301)	1.1 (0.94–1.3)	158 (132–185)
	2010	<1	0.067 (0.054–0.081)	9.2 (7.4–11)	1.3 (0.32–2.3)	181 (44–318)	1.1 (0.92–1.3)	151 (127–177)
Democratic People's Republic of Korea	1990	20	19 (11–30)	96 (55–150)	160 (62–310)	792 (307–1519)	69 (42–100)	344 (210–512)
	1995	22	21 (17–26)	97 (76–120)	170 (77–290)	793 (354–1313)	75 (61–90)	344 (280–415)
	2000	23	19 (14–24)	81 (61–104)	160 (74–260)	706 (325–1157)	79 (64–95)	344 (280–415)
	2005	24	15 (10–20)	61 (42–85)	140 (64–240)	603 (271–999)	82 (67–99)	344 (280–415)
	2008	24	8.4 (5.2–13)	35 (22–55)	110 (38–190)	459 (158–790)	83 (71–96)	344 (293–400)
	2009	24	6.3 (4.3–10)	26 (18–42)	100 (28–170)	412 (115–718)	84 (71–97)	345 (295–399)
	2010	24	5.7 (4.1–9.4)	23 (17–39)	97 (24–170)	399 (100–698)	84 (72–97)	345 (295–398)
India	1990	874	340 (210–480)	38 (24–55)	4000 (3600–4500)	459 (407–515)	1900 (1600–2200)	216 (181–255)
	1995	964	370 (230–540)	38 (24–55)	4500 (3900–5000)	462 (409–519)	2100 (1800–2400)	216 (189–246)
	2000	1 054	410 (250–580)	38 (24–55)	4900 (4300–5500)	466 (412–522)	2300 (2000–2500)	216 (194–240)
	2005	1 140	410 (290–550)	36 (25–48)	4100 (3300–5000)	358 (288–436)	2400 (2100–2600)	209 (188–231)
	2008	1 191	360 (230–530)	31 (19–44)	3500 (2500–4700)	294 (209–393)	2300 (2100–2600)	196 (176–217)
	2009	1 208	340 (220–500)	29 (18–42)	3300 (2200–4600)	275 (185–382)	2300 (2100–2500)	190 (171–211)
	2010	1 225	320 (210–470)	26 (17–39)	3100 (2000–4600)	256 (161–373)	2300 (2000–2500)	185 (167–205)
Indonesia	1990	184	93 (54–140)	51 (29–78)	780 (310–1500)	423 (168–804)	350 (210–520)	189 (115–281)
	1995	199	110 (88–130)	55 (44–68)	890 (390–1500)	445 (196–738)	380 (310–450)	189 (154–228)
	2000	213	110 (84–130)	50 (39–62)	890 (410–1500)	418 (190–687)	400 (330–490)	189 (154–228)
	2005	227	71 (49–99)	31 (21–43)	720 (320–1200)	315 (141–523)	430 (350–520)	189 (154–228)
	2008	235	64 (42–93)	27 (18–40)	690 (300–1200)	294 (127–493)	440 (360–540)	189 (154–228)
	2009	237	63 (41–92)	27 (17–39)	690 (290–1100)	289 (123–484)	450 (370–540)	189 (154–227)
	2010	240	64 (42–91)	27 (18–38)	690 (300–1200)	289 (123–484)	450 (370–540)	189 (155–226)
Maldives	1990	<1	0.069 (0.033–0.12)	31 (15–55)	0.48 (0.14–1.1)	220 (62–500)	0.33 (0.2–0.49)	150 (91–223)
	1995	<1	0.023 (0.015–0.037)	9.2 (5.9–15)	0.077 (0.012–0.22)	31 (4.6–88)	0.26 (0.22–0.3)	105 (90–122)
	2000	<1	0.027 (0.017–0.041)	9.9 (6.1–15)	0.15 (0.046–0.32)	55 (17–118)	0.2 (0.16–0.24)	74 (60–89)
	2005	<1	0.019 (0.011–0.03)	6.5 (3.9–10)	0.098 (0.028–0.22)	33 (9.5–75)	0.15 (0.12–0.18)	52 (42–62)
	2008	<1	0.011 (<0.01–0.017)	3.5 (2.3–5.4)	0.033 (<0.01–0.091)	11 (1.7–30)	0.13 (0.11–0.15)	42 (37–47)
	2009	<1	0.011 (<0.01–0.018)	3.6 (2.3–5.7)	0.04 (<0.01–0.11)	13 (2.5–34)	0.12 (0.1–0.14)	39 (34–45)
	2010	<1	0.011 (<0.01–0.017)	3.4 (2.1–5.4)	0.04 (<0.01–0.11)	13 (2.4–34)	0.11 (0.098–0.13)	36 (31–42)
Myanmar	1990	39	43 (31–57)	110 (80–145)	350 (150–610)	894 (381–1555)	150 (110–200)	393 (288–515)
	1995	42	44 (33–56)	104 (79–133)	370 (160–630)	881 (380–1496)	170 (130–210)	404 (312–508)
	2000	45	43 (34–54)	96 (75–121)	370 (170–620)	831 (376–1377)	190 (150–220)	412 (332–500)
	2005	46	27 (19–36)	57 (40–78)	300 (140–490)	647 (301–1052)	190 (160–220)	403 (338–474)
	2008	47	23 (16–32)	49 (33–69)	270 (120–430)	564 (253–913)	190 (160–210)	393 (336–453)
	2009	48	22 (15–30)	46 (32–64)	260 (190–320)	544 (396–667)	180 (160–210)	388 (334–446)
	2010	48	20 (12–31)	41 (24–65)	250 (180–310)	525 (381–643)	180 (160–210)	384 (328–445)
Nepal	1990	19	7.3 (3.9–12)	38 (21–63)	64 (26–120)	335 (136–644)	31 (19–46)	163 (99–243)
	1995	22	6 (4.2–8.3)	28 (19–38)	60 (27–99)	278 (126–458)	35 (29–42)	163 (133–197)
	2000	24	5.1 (3.1–7.7)	21 (13–32)	58 (23–99)	238 (96–405)	40 (32–48)	163 (133–197)
	2005	27	5.5 (3.4–8.5)	20 (12–31)	64 (25–110)	235 (93–403)	45 (36–54)	163 (133–197)
	2008	29	6.1 (3.8–9.3)	21 (13–32)	70 (29–120)	242 (99–409)	47 (38–57)	163 (133–197)
	2009	29	6.2 (3.9–9.3)	21 (13–32)	71 (29–120)	241 (98–409)	48 (39–58)	163 (133–196)
	2010	30	6.2 (3.9–9.3)	21 (13–31)	71 (29–120)	238 (96–405)	49 (40–58)	163 (134–195)
Sri Lanka	1990	17	2 (0.87–3.7)	11 (5–21)	20 (7.3–39)	114 (42–227)	11 (7.1–17)	66 (41–97)
	1995	18	2.3 (1.7–3.1)	13 (9.1–17)	22 (10–36)	121 (56–198)	12 (9.8–15)	66 (54–80)
	2000	19	1.9 (1.3–2.8)	10 (6.9–15)	20 (8.7–34)	108 (47–180)	12 (10–15)	66 (54–80)
	2005	20	1.9 (1.2–2.8)	9.5 (6.1–14)	20 (8.6–34)	103 (43–173)	13 (11–16)	66 (54–80)
	2008	20	1.9 (1.2–2.8)	9.4 (6.1–14)	21 (8.8–35)	103 (43–172)	14 (11–16)	66 (54–80)
	2009	21	1.9 (1.2–2.8)	9.1 (5.9–13)	21 (8.7–35)	101 (42–171)	14 (11–16)	66 (54–79)
	2010	21	1.9 (1.2–2.8)	9.1 (5.9–13)	21 (8.8–35)	101 (42–170)	14 (11–17)	66 (54–79)
Thailand	1990	57	11 (4.9–22)	20 (8.5–38)	120 (44–230)	204 (77–404)	78 (49–110)	137 (86–199)
	1995	60	11 (7.4–16)	19 (12–27)	110 (54–190)	193 (90–317)	82 (66–98)	137 (111–165)
	2000	63	14 (10–19)	22 (16–30)	130 (63–220)	212 (100–349)	86 (70–100)	137 (111–165)
	2005	67	12 (7.7–17)	18 (12–26)	130 (58–210)	193 (87–321)	91 (74–110)	137 (111–165)
	2008	68	12 (8.5–18)	18 (12–26)	130 (61–220)	196 (89–320)	93 (76–110)	137 (111–165)
	2009	69	11 (7.5–17)	17 (11–24)	130 (57–210)	188 (83–310)	94 (77–110)	137 (112–164)
	2010	69	11 (7–16)	16 (10–23)	130 (55–210)	182 (80–300)	94 (78–110)	137 (112–163)
Timor-Leste	2005	1	0.64 (0.38–1)	63 (38–100)	7.4 (2.8–13)	733 (281–1266)	5 (4–6)	498 (399–598)
	2008	1	0.74 (0.45–1.1)	68 (42–104)	8.2 (3.3–14)	760 (305–1302)	5.4 (4.3–6.5)	498 (399–598)
	2009	1	0.63 (0.36–1)	57 (33–94)	7.7 (2.8–14)	703 (251–1233)	5.5 (4.5–6.6)	498 (406–601)
	2010	1	0.52 (0.31–0.89)	46 (28–79)	7.2 (2.3–13)	643 (202–1138)	5.6 (4.6–6.7)	498 (407–598)

[a] Rates are per 100 000 population.

TABLE A3.2 **Incidence, notification and case detection rates, all forms, 1990–2010**

			INCIDENCE (INCLUDING HIV)		INCIDENCE HIV-POSITIVE		NOTIFIED NEW AND RELAPSE[a]		CASE DETECTION RATE[a]
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[b]	NUMBER (THOUSANDS)	RATE[b]	NUMBER	RATE[b]	PERCENT
Bangladesh	1990	105	240 (140–350)	225 (137–334)	<0.01 (<0.01–0.017)	<1 (<1–<1)	48 673	46	21 (14–34)
	1995	117	260 (210–320)	225 (183–271)	0.03 (0.013–0.053)	<1 (<1–<1)	56 437	48	21 (18–26)
	2000	130	290 (240–350)	225 (183–271)	0.055 (<0.01–0.18)	<1 (<1–<1)	75 557	58	26 (22–32)
	2005	141	320 (260–380)	225 (183–271)	0.26 (0.11–0.47)	<1 (<1–<1)	123 118	88	39 (32–48)
	2008	145	330 (270–390)	225 (183–271)	0.46 (0.23–0.76)	<1 (<1–<1)	151 062	104	46 (38–57)
	2009	147	330 (270–400)	225 (184–270)	0.56 (0.28–0.92)	<1 (<1–<1)	160 875	109	49 (41–60)
	2010	149	330 (270–400)	225 (184–269)	0.66 (0.33–1.1)	<1 (<1–<1)	153 892	103	46 (38–56)
Bhutan	1990	<1	1.7 (1.1–2.4)	308 (203–433)	<0.01 (<0.01–0.012)	<1 (<1–2.2)	1 154	207	67 (48–102)
	1995	<1	1.6 (1.3–1.9)	308 (254–366)	<0.01 (<0.01–0.013)	1.3 (<1–2.5)	1 299	250	81 (69–98)
	2000	<1	1.4 (1.2–1.7)	253 (206–305)	0.014 (<0.01–0.025)	2.5 (1.1–4.4)	1 140	200	79 (65–97)
	2005	<1	1.2 (1–1.5)	187 (155–223)	0.015 (<0.01–0.03)	2.3 (<1–4.6)	1 007	153	81 (68–99)
	2008	<1	1.2 (0.97–1.4)	165 (138–194)	0.034 (0.018–0.055)	4.9 (2.6–7.9)	961	137	83 (71–100)
	2009	<1	1.1 (0.94–1.3)	158 (132–185)	0.043 (0.022–0.071)	6.1 (3.1–9.9)	1 125	158	100 (85–119)
	2010	<1	1.1 (0.92–1.3)	151 (127–177)	0.053 (0.026–0.09)	7.3 (3.6–12)	1 311	181	120 (102–142)
Democratic People's Republic of Korea	1990	20	69 (42–100)	344 (210–512)					–
	1995	22	75 (61–90)	344 (280–415)					–
	2000	23	79 (64–95)	344 (280–415)			34 131	149	43 (36–53)
	2005	24	82 (67–99)	344 (280–415)			42 722	180	52 (43–64)
	2008	24	83 (71–96)	344 (293–400)			72 541	301	87 (75–103)
	2009	24	84 (71–97)	345 (295–399)			76 336	315	91 (79–107)
	2010	24	84 (72–97)	345 (295–398)			84 648	348	101 (87–118)
India	1990	874	1900 (1600–2200)	216 (181–255)	17 (9–27)	1.9 (1–3.1)	1 519 182	174	80 (68–96)
	1995	964	2100 (1800–2400)	216 (189–246)	76 (48–110)	7.9 (5–11)	1 218 183	126	58 (51–67)
	2000	1 054	2300 (2000–2500)	216 (194–240)	130 (89–180)	13 (8.4–17)	1 115 718	106	49 (44–54)
	2005	1 140	2400 (2100–2600)	209 (188–231)	140 (91–190)	12 (8–17)	1 156 248	101	49 (44–54)
	2008	1 191	2300 (2100–2600)	196 (176–217)	120 (81–170)	10 (6.8–14)	1 332 267	112	57 (52–64)
	2009	1 208	2300 (2100–2500)	190 (171–211)	120 (78–170)	9.8 (6.5–14)	1 351 913	112	59 (53–65)
	2010	1 225	2300 (2000–2500)	185 (167–205)	110 (75–160)	9.2 (6.1–13)	1 339 866	109	59 (53–65)
Indonesia	1990	184	350 (210–520)	189 (115–281)	<0.01 (<0.01–0.015)	<1 (<1–<1)	74 470	40	21 (14–35)
	1995	199	380 (310–450)	189 (154–228)	0.019 (<0.01–0.042)	<1 (<1–<1)	35 529	18	9 (8–12)
	2000	213	400 (330–490)	189 (154–228)	0.4 (0.19–0.69)	<1 (<1–<1)	84 591	40	21 (17–26)
	2005	227	430 (350–520)	189 (154–228)	7.9 (4–13)	3.5 (1.8–5.8)	254 601	112	59 (49–73)
	2008	235	440 (360–540)	189 (154–228)	14 (7.6–22)	6 (3.2–9.5)	296 514	126	67 (55–82)
	2009	237	450 (370–540)	189 (154–227)	16 (8.8–25)	6.8 (3.7–11)	292 754	123	65 (54–80)
	2010	240	450 (370–540)	189 (155–226)	18 (9.9–29)	7.6 (4.1–12)	300 659	125	66 (55–81)
Maldives	1990	<1	0.33 (0.2–0.49)	150 (91–223)			152	69	46 (31–76)
	1995	<1	0.26 (0.22–0.3)	105 (90–122)			231	93	88 (76–104)
	2000	<1	0.2 (0.16–0.24)	74 (60–89)			132	48	65 (54–80)
	2005	<1	0.15 (0.12–0.18)	52 (42–62)			122	41	80 (66–98)
	2008	<1	0.13 (0.11–0.15)	42 (37–47)			120	39	93 (82–106)
	2009	<1	0.12 (0.1–0.14)	39 (34–45)			100	32	82 (72–95)
	2010	<1	0.11 (0.098–0.13)	36 (31–42)			95	30	83 (72–97)
Myanmar	1990	39	150 (110–200)	393 (288–515)	7.7 (4.4–12)	20 (11–30)	12 416	32	8 (6–11)
	1995	42	170 (130–210)	404 (312–508)	19 (12–28)	45 (27–66)	18 229	43	11 (9–14)
	2000	45	190 (150–220)	412 (332–500)	27 (18–39)	60 (39–86)	30 840	69	17 (14–21)
	2005	46	190 (160–220)	403 (338–474)	28 (18–39)	60 (40–83)	107 009	231	57 (49–68)
	2008	47	190 (160–210)	393 (336–453)	20 (11–32)	43 (24–67)	124 037	263	67 (58–78)
	2009	48	180 (160–210)	388 (334–446)	26 (17–36)	54 (37–75)	128 343	270	69 (60–81)
	2010	48	180 (160–210)	384 (328–445)	37 (21–57)	77 (43–120)	131 590	274	71 (62–84)
Nepal	1990	19	31 (19–46)	163 (99–243)	0.34 (0.16–0.58)	1.8 (<1–3)	10 142	53	33 (22–54)
	1995	22	35 (29–42)	163 (133–197)	0.62 (0.38–0.92)	2.9 (1.8–4.3)	19 804	92	56 (47–69)
	2000	24	40 (32–48)	163 (133–197)	0.87 (0.54–1.3)	3.6 (2.2–5.2)	29 519	121	74 (62–91)
	2005	27	45 (36–54)	163 (133–197)	0.98 (0.62–1.4)	3.6 (2.3–5.2)	33 448	123	75 (62–92)
	2008	29	47 (38–57)	163 (133–197)	1 (0.63–1.5)	3.5 (2.2–5)	32 909	114	70 (58–86)
	2009	29	48 (39–58)	163 (133–196)	0.94 (0.57–1.4)	3.2 (1.9–4.8)	34 888	119	73 (61–89)
	2010	30	49 (40–58)	163 (134–195)	0.87 (0.49–1.3)	2.9 (1.6–4.5)	35 114	117	72 (60–87)
Sri Lanka	1990	17	11 (7.1–17)	66 (41–97)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	6 666	38	58 (40–94)
	1995	18	12 (9.8–15)	66 (54–80)	<0.01 (<0.01–0.01)	<1 (<1–<1)	5 956	33	49 (41–61)
	2000	19	12 (10–15)	66 (54–80)	0.034 (0.015–0.061)	<1 (<1–<1)	8 413	45	68 (56–83)
	2005	20	13 (11–16)	66 (54–80)	0.057 (0.028–0.098)	<1 (<1–<1)	9 249	47	70 (58–87)
	2008	20	14 (11–16)	66 (54–80)	0.066 (0.031–0.11)	<1 (<1–<1)	9 290	45	69 (57–84)
	2009	21	14 (11–16)	66 (54–79)	0.092 (0.052–0.14)	<1 (<1–<1)	9 314	45	68 (57–83)
	2010	21	14 (11–17)	66 (54–79)	0.13 (0.067–0.21)	<1 (<1–1)	9 547	46	69 (58–84)
Thailand	1990	57	78 (49–110)	137 (86–199)	10 (6–16)	18 (10–28)	46 510	81	60 (41–95)
	1995	60	82 (66–98)	137 (111–165)	18 (12–25)	31 (21–42)	45 428	76	56 (46–68)
	2000	63	86 (70–100)	137 (111–165)	17 (12–24)	28 (19–38)	34 187	54	40 (33–49)
	2005	67	91 (74–110)	137 (111–165)	16 (10–22)	23 (16–33)	57 895	87	64 (53–78)
	2008	68	93 (76–110)	137 (111–165)	15 (12–19)	22 (18–27)	55 252	81	59 (49–73)
	2009	69	94 (77–110)	137 (112–164)	15 (13–18)	22 (18–27)	63 975	93	68 (57–83)
	2010	69	94 (78–110)	137 (112–163)	15 (13–18)	22 (18–27)	66 397	96	70 (59–85)
Timor-Leste	2005	1	5 (4–6)	498 (399–598)			3 767	373	75 (62–93)
	2008	1	5.4 (4.3–6.5)	498 (399–598)			3 285	304	61 (51–76)
	2009	1	5.5 (4.5–6.6)	498 (406–601)			4 748	432	87 (72–106)
	2010	1	5.6 (4.6–6.7)	498 (407–598)			*4 854*	*432*	*87 (72–106)*

[a] Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (in *italics*).
[b] Rates are per 100 000 population.

Data can be downloaded from www.who.int/tb/data

TABLE A3.3 **Case notifications, 1990–2010**

	NEW AND RELAPSE NOTIFICATION RATE[a] 1990–2010	YEAR	NEW AND RELAPSE[a]	NEW CASES: SMEAR-POSITIVE	NEW CASES: SMEAR-NEGATIVE/ UNKNOWN	NEW CASES: EXTRA-PULMONARY	NEW CASES: OTHER	RELAPSE	RE-TREAT EXCL. RELAPSE	TOTAL RETREAT	HISTORY UNKNOWN	% SMEAR-POS AMONG NEW PULM
Bangladesh		1990	48 673									–
		1995	56 437	20 524	19 297	2 060		729		729		52
		2000	75 557	38 484	29 396	5 914		1 763		1 763		57
		2005	123 118	84 848	23 076	11 318		3 876		3 876		79
		2008	151 062	106 373	22 192	18 359	0	4 138	2 853	6 991	0	83
		2009	160 875	109 402	25 375	21 999		4 099		4 099		81
	• 46 103 •	2010	153 892	105 772	21 625	23 506	0	2 989	4 806	7 795	0	83
Bhutan		1990	1 154									–
		1995	1 299	367	657	265		10		10		36
		2000	1 140	347	430	363		36		36		45
		2005	1 007	308	272	387		40	11	51		53
		2008	961	351	146	418	0	46	24	70	0	71
		2009	1 125	434	285	355	0	51	25	76	0	60
	• 207 181 •	2010	1 311	457	275	518	0	61	21	82	0	62
Democratic People's Republic of Korea		1990										–
		1995										–
		2000	34 131	16 440	13 801	3 787		103		103		54
		2005	42 722	17 796	18 123	5 381	58	1 364	7 752	9 116		50
		2008	72 541	28 026	31 444	10 914	0	2 157	12 013	14 170	0	47
		2009	76 336	29 366	32 491	12 232	0	2 247	12 329	14 576		47
	– 348 •	2010	84 648	31 240	36 285	13 715		3 408	11 650	15 058		46
India		1990	1 519 182									–
		1995	1 218 183	264 515	880 589	68 979		690		690		23
		2000	1 115 718	349 374	650 345	98 006		17 993	80 072	98 065		35
		2005	1 156 248	508 890	399 066	171 838	1 381	75 073	148 580	223 653	0	56
		2008	1 332 267	615 977	390 356	219 946	1 774	104 214	185 071	289 285	0	61
		2009	1 351 913	624 617	384 113	233 026	1 796	108 361	181 395	289 756		62
	• 174 109 •	2010	1 339 866	630 165	366 381	231 121	1 508	110 691	182 281	292 972		63
Indonesia		1990	74 470									–
		1995	35 529	31 768	34	0		106		106		100
		2000	84 591	52 338	15 035	833		1 448		1 448		78
		2005	254 601	158 640	85 373	6 142		4 446		4 446		65
		2008	296 514	166 376	116 850	9 673		3 615	1 815	5 430		59
		2009	292 754	169 213	108 616	11 215		3 710	1 978	5 688		61
	• 40 125 •	2010	300 659	183 366	101 247	11 659	0	4 387	2 202	6 589	0	64
Maldives		1990	152									–
		1995	231	114	89	18		10		10		56
		2000	132	65	31	32		4	0	4		68
		2005	122	66	23	29	0	4	1	5	0	74
		2008	120	53	32	35	0	0	2	2	0	62
		2009	100	45	13	41	0	1	4	5	0	78
	• 69 30 •	2010	95	41	20	33	0	1	2	3	0	67
Myanmar		1990	12 416									–
		1995	18 229	8 681	7 058	653		1 837		1 837		55
		2000	30 840	17 254	8 659	2 304		2 623		2 623		67
		2005	107 009	36 541	35 601	30 252		4 615	982	5 597		51
		2008	124 037	41 248	44 034	34 447		4 308	4 701	9 009		48
		2009	128 343	41 357	50 919	31 509		4 558	5 159	9 717		45
	• 32 274 •	2010	131 590	42 318	56 840	27 976		4 456	5 813	10 269		43
Nepal		1990	10 142									–
		1995	19 804	8 591	7 938	2 489		786		786		52
		2000	29 519	13 683	9 074	4 955		1 807		1 807		60
		2005	33 448	14 617	9 474	7 013	0	2 344	629	2 973		61
		2008	32 909	14 640	9 298	6 527		2 444	510	2 954		61
		2009	34 888	15 442	9 794	7 054		2 598	519	3 117		61
	• 53 117 •	2010	35 114	15 569	9 718	7 210	0	2 617	495	3 112	0	62
Sri Lanka		1990	6 666	2 769	3 241	656						46
		1995	5 956	3 049	1 677	982		248		248		65
		2000	8 413	4 314	2 261	1 561		277	372	649		66
		2005	9 249	4 868	2 198	1 917	0	266	244	510	202	69
		2008	9 290	4 683	2 146	2 167	92	202	192	394	132	69
		2009	9 314	4 764	1 996	2 358		196	213	409	261	70
	• 38 46 •	2010	9 547	4 635	2 145	2 548	0	219	161	380	387	68
Thailand		1990	46 510									–
		1995	45 428	20 273	22 606	1 419		1 130		1 130		47
		2000	34 187	17 754	12 439	2 953		1 041		1 041		59
		2005	57 895	29 762	18 837	7 501		1 795		1 795		61
		2008	55 252	28 788	16 933	7 815		1 716	2 240	3 956		63
		2009	63 975	32 810	20 058	9 143		1 964	1 965	3 929		62
	• 81 96 •	2010	66 397	33 450	20 927	10 135	0	1 885	1 111	2 996	731	62
Timor-Leste		2005	3 767	1 035	2 142	554		36	16	52		33
		2008	3 285	867	1 996	399	0	23	12	35	0	30
		2009	4 748	1 206	3 095	406	0	41	11	52	0	28
	• 311 *432* •	2010	*4 854*									–

[a] Rates are per 100 000 population. Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (*in italics*).

TABLE A3.4 **Treatment outcomes, new smear-positive cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Bangladesh		1995	20 524	10 867	53	66	5	5	2	10	12
		2000	38 484	38 484	100	77	4	4	1	9	5
		2005	84 848	84 848	100	91	1	4	1	2	2
		2007	104 296	104 296	100	91	1	3	1	2	3
		2008	106 373	106 089	100	90	2	4	1	2	2
	• 71 92 •	2009	109 402	109 075	100	91	1	4	1	2	2
Bhutan		1995	367	433	118	78	20	0	0	1	1
		2000	347	347	100	75	15	4	3	3	0
		2005	308	340	110	84	7	5	3	1	0
		2007	328	331	101	91	2	3	3	0	1
		2008	351	354	101	89	2	3	3	0	3
	• 97 92 •	2009	434	434	100	86	6	3	3	2	0
Democratic People's Republic of Korea		1995			–						
		2000	16 440	14 571	89	73	9	3	7	5	3
		2005	17 796	17 796	100	84	5	2	4	2	2
		2007	23 575	23 575	100	82	5	3	4	3	3
		2008	28 026	28 026	100	83	6	2	4	2	2
	– 89 •	2009	29 366	29 366	100	85	5	2	4	2	2
India		1995	264 515	264 722	100	1	25	0	0	0	75
		2000	349 374	349 328	100	31	4	1	1	7	57
		2005	508 890	507 204	100	83	2	5	2	7	1
		2007	592 587	592 414	100	84	2	5	2	6	1
		2008	615 977	615 977	100	85	2	4	2	6	1
	• 25 88 •	2009	624 617	624 617	100	85	2	4	2	6	1
Indonesia		1995	31 768	3 018	10	73	18	2	0	6	1
		2000	52 338	52 338	100	70	17	2	1	4	5
		2005	158 640	158 640	100	83	8	2	1	4	2
		2007	160 617	160 617	100	82	9	2	1	4	2
		2008	166 376	166 376	100	83	8	2	1	4	2
	• 91 91 •	2009	169 213	169 213	100	84	7	2	1	4	2
Maldives		1995	114	114	100	96	2	3	0	0	0
		2000	65	59	91	97	0	2	0	0	2
		2005	66	70	106	86	0	6	0	3	6
		2007	59	60	102	68	0	3	0	10	18
		2008	53	53	100	45		4		11	40
	• 97 47 •	2009	45	45	100	47	0	2	2	4	44
Myanmar		1995	8 681	7 872	91	53	14	4	4	18	7
		2000	17 254	16 792	97	73	9	5	2	9	2
		2005	36 541	36 652	100	77	7	6	3	5	2
		2007	42 588	42 773	100	77	8	5	3	5	2
		2008	41 248	41 247	100	78	8	6	3	5	2
	• 67 85 •	2009	41 357	41 811	101	77	8	6	3	5	2
Nepal		1995	8 591	8 053	94	56	17	3	2	18	6
		2000	13 683	12 992	95	79	5	5	1	7	2
		2005	14 617	14 617	100	87	1	5	1	3	2
		2007	14 355	14 355	100	86	2	5	1	3	3
		2008	14 640	14 640	100	86	3	4	1	3	3
	• 73 90 •	2009	15 442	15 468	100	87	3	4	1	3	2
Sri Lanka		1995	3 049	3 058	100	75	4	3	0	13	4
		2000	4 314	4 314	100	75	4	4	1	15	2
		2005	4 868	4 841	99	83	3	5	1	6	1
		2007	4 528	4 477	99	84	3	5	1	7	1
		2008	4 683	4 646	99	81	4	6	2	7	1
	• 79 86 •	2009	4 764	4 754	100	83	3	6	2	4	3
Thailand		1995	20 273	20 273	100	36	28	2	0	9	24
		2000	17 754	23 061	130	65	3	8	2	7	15
		2005	29 762	29 919	101	70	5	8	2	7	9
		2007	28 487	29 588	104	77	6	9	2	5	2
		2008	28 788	33 078	115	76	7	7	2	4	4
	• 64 86 •	2009	32 810	27 597	84	81	5	7	1	3	2
Timor-Leste		2005	1 035	1 035	100	61	21	5	1	11	2
		2007	1 021	1 021	100	69	15	4	0	8	4
		2008	867	867	100	73	12	5	0	7	3
	• 81 –	2009	1 206		–						

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

Data can be downloaded from www.who.int/tb/data

TABLE A3.5 **Treatment outcomes, retreatment cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Bangladesh		1995	729	1 179	162	71	3	5	8	11	2
		2000	1 763	1 815	103	70	2	4	2	7	14
		2005	3 876	3 876	100	73	6	4	2	5	9
		2007	3 788	3 788	100	74	5	4	2	5	10
		2008	6 991		–						
	• 75 81 •	2009	4 099	6 637	162	66	16	6	2	5	6
Bhutan		1995	10	22	220	50	9	0	23	14	5
		2000	36		–						
		2005	51	52	102	65	10	6	8	2	10
		2007	54	46	85	80	11	4	2	0	2
		2008	70	70	100	76	3	3	16	1	1
	• 59 82 •	2009	76	76	100	70	12	8	7	3	1
Democratic People's Republic of Korea		1995			–						
		2000	103	1 285	1 248	75	11	2	4	2	5
		2005	9 116	9 116	100	70	6	3	12	5	4
		2007	11 234	11 234	100	69	8	4	13	3	3
		2008	14 170	14 170	100	75	8	3	10	3	2
	– 83 •	2009	14 576	14 576	100	74	9	2	11	2	2
India		1995	690	551	80	64	6	4	3	13	9
		2000	98 065	48 133	49	55	15	7	5	16	2
		2005	223 653	224 143	100	47	24	7	4	16	1
		2007	276 542	193 364	70	63	2	8	5	15	7
		2008	289 285	289 285	100	45	29	7	4	13	2
	• 70 75 •	2009	289 756	289 756	100	45	29	7	4	13	1
Indonesia		1995	106	76	72	22	9	0	0	1	67
		2000	1 448	2 530	175	50	22	3	3	7	15
		2005	4 446	4 812	108	63	15	3	4	8	7
		2007	4 382	4 382	100	60	17	4	3	11	5
		2008	5 430	5 430	100	50	21	4	3	14	7
	• 32 72 •	2009	5 688	5 687	100	53	20	4	3	12	8
Maldives		1995	10		–						
		2000	4	5	125	100					0
		2005	5	5	100	80	20	0	0	0	0
		2007	3	0	0	–	–	–	–	–	–
		2008	2	0	0	–	–	–	–	–	–
	– 0 •	2009	5	1	20	0	0	0	0	0	100
Myanmar		1995	1 837	1 443	79	55	8	4	4	19	9
		2000	2 623	3 001	114	65	9	7	4	12	3
		2005	5 597	6 556	117	58	14	10	6	7	5
		2007	9 131	9 167	100	44	9	8	4	5	30
		2008	9 009	8 631	96	46	27	12	5	7	3
	• 64 73 •	2009	9 717	9 540	98	44	28	11	5	7	4
Nepal		1995	786		–						
		2000	1 807	2 047	113	73	3	4	8	7	4
		2005	2 973	2 973	100	81	2	4	6	4	3
		2007	2 748	2 748	100	80	2	5	3	3	7
		2008	2 954	1 954	66	71	4	10	5	5	5
	– 85 •	2009	3 117	3 063	98	82	3	6	3	4	3
Sri Lanka		1995	248		–						
		2000	649	521	80	44	20	6	1	26	3
		2005	510	504	99	67	5	5	2	18	3
		2007	438	432	99	68	5	7	2	16	2
		2008	394	393	100	64	7	8	2	15	5
	– 73 •	2009	409	408	100	66	7	8	1	13	5
Thailand		1995	1 130		–						
		2000	1 041		–						
		2005	1 795	2 285	127	52	6	12	5	7	18
		2007	1 665	2 562	154	61	9	11	6	9	3
		2008	3 956	3 468	88	54	12	9	4	7	14
	– 68 •	2009	3 929	2 542	65	58	10	11	5	7	9
Timor-Leste		2005	52	56	108	96	0	2	0	2	0
		2007	44	44	100	59	16	2	7	9	7
		2008	35	35	100	57	14	11	6	11	0
	– –	2009	52		–						

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

TABLE A3.6 **HIV testing and provision of CPT, ART and IPT, 2005–2010**

	% OF TB PATIENTS WITH KNOWN HIV STATUS 2005–2010	YEAR	% OF TB PATIENTS WITH KNOWN HIV STATUS	NUMBER OF TB PATIENTS WITH KNOWN HIV STATUS	PATIENTS NOTIFIED (NEW AND RETREAT)	NUMBER OF HIV-POSITIVE TB PATIENTS	% OF TESTED TB PATIENTS HIV-POSITIVE	% OF HIV-POSITIVE TB PATIENTS ON CPT	% OF HIV-POSITIVE TB PATIENTS ON ART	NUMBER OF HIV-POSITIVE PEOPLE PROVIDED IPT
Bangladesh		2005	0	0	123 118		–	–	–	
		2008	0	37	153 915	37	100	57	59	
		2009	1	1 446	160 875	1	0	100	100	
	• 0 1 •	2010	1	1 778	158 698	4	0	100	0	64
Bhutan		2005	25	250	1 018	1	0	0	0	
		2008	7	68	985	2	3	0	100	0
		2009	12	136	1 150	2	1	0	100	
	• 25 –	2010	–		1 332		–	–	–	
Democratic People's Republic of Korea		2005	–		50 474		–	–	–	
		2008	0	0	84 554	0	–	–	–	0
		2009	0	0	88 665	0	–	–	–	0
	– –	2010	–		96 298		–	–	–	
India		2005	2	29 488	1 304 828	6 411	22	–	–	
		2008	2	34 225	1 517 338	6 039	18	68	41	0
		2009	17	258 037	1 533 308	36 483	14	89	50	
	• 2 32 •	2010	32	480 752	1 522 147	41 476	9	90	57	
Indonesia		2005	–		254 601		–	–	–	
		2008	0	367	298 329	107	29	–	–	
		2009	1	2 782	294 732	479	17	–	42	0
	– –	2010	–		302 861		–	–	–	
Maldives		2005	–		123		–	–	–	
		2008	–		122		–	–	–	
		2009	0	0	104	0	–	–	–	0
	– 0 •	2010	0	0	97	0	–	–	–	0
Myanmar		2005	2	2 109	107 991	611	29	50	31	0
		2008	3	4 292	128 738	4 200	98	26	28	
		2009	3	4 174	133 502	1 015	24	97	67	333
	• 2 3 •	2010	3	4 362	137 403	961	22	100	94	514
Nepal		2005	–		34 077		–	–	–	
		2008	–		33 419		–	–	–	
		2009	–		35 407		–	–	–	
	– –	2010	–		35 609		–	–	–	
Sri Lanka		2005	–		9 695	2	–	0	0	
		2008	1	123	9 614		–	–	–	2
		2009	19	1 897	9 788	0	0	–	–	5
	– 10 •	2010	10	1 015	10 095		–	–	–	3
Thailand		2005	–		57 895		–	–	–	
		2008	78	45 000	57 492	8 215	18	69	39	206
		2009	75	49 657	65 940	8 109	16	72	50	127
	– 77 •	2010	77	52 753	68 239	8 544	16	71	53	
Timor-Leste		2005	0	0	3 783		–	–	–	
		2008	0	1	3 297	1	100	100	100	0
		2009	2	108	4 759	0	0	–	–	2
	• 0 –	2010	–				–	–	–	

Data can be downloaded from www.who.int/tb/data

TABLE A3.7 **Testing for MDR-TB and number of confirmed cases of MDR-TB, 2005–2010**

	YEAR	TOTAL CONFIRMED CASES OF MDR-TB[a]	NEW CASES				PREVIOUSLY TREATED CASES			
			NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB	NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB
Bangladesh	2005		119 242		–		3 876		–	
	2008		146 924		–		6 991		–	
	2009		156 776		–		4 099		–	
	2010	339	150 903		–		7 795	339	4	339
Bhutan	2005	2	967	2	0	2	51	3	6	0
	2008	7	915	7	1	7	70	0	0	0
	2009	8	1 074	7	1	3	76	8	11	4
	2010	17	1 250	108	9	5	82	30	37	10
Democratic People's Republic of Korea	2005		41 358		–		9 116		–	
	2008		70 384		–		14 170		–	
	2009		74 089		–		14 576		–	
	2010		81 240		–		15 058		–	
India	2005	34	1 081 175		–		223 653		–	
	2008	308	1 228 053	0	0	0	289 285	1 511	1	308
	2009	1 660	1 243 552		–		289 756	3 454	1	1 660
	2010	2 967	1 229 175		–		292 972		–	
Indonesia	2005		250 155		–		4 446		–	
	2008	446	292 899		–		5 430		–	
	2009		289 044		–		5 688		–	
	2010	182	296 272	0	0	0	6 589	324	5	182
Maldives	2005		118		–		5		–	
	2008	3	120		–		2		–	
	2009		99		–		5		–	
	2010	0	94	0	0	0	3	0	0	0
Myanmar	2005		102 394		–		5 597		–	
	2008	508	119 729		–		9 009	680	8	508
	2009	815	123 785		–		9 717	962	10	815
	2010	192	127 134		–		10 269		–	
Nepal	2005		31 104		–		2 973		–	
	2008	76	30 465	136	0	12	2 954	300	10	54
	2009	69	32 290	130	0	7	3 117	220	7	51
	2010	229	32 497	126	0	9	3 112	193	6	168
Sri Lanka	2005	32	8 983	659	7	7	510	417	82	25
	2008	8	9 088	759	8	3	394	323	82	5
	2009	4	9 118	813	9	0	409	419	102	4
	2010	11	9 328	839	9	5	380	378	99	6
Thailand	2005		56 100		–		1 795		–	
	2008	358	53 536		–		3 956		–	
	2009		62 011		–		3 929		–	
	2010		64 512		–		2 996		–	
Timor-Leste	2005		3 731		–		52		–	
	2008	3	3 262	0	0	0	35	9	26	0
	2009	4	4 707	0	0	0	52	6	12	4
	2010				–				–	

[a] TOTAL CONFIRMED CASES OF MDR-TB includes cases with unknown previous treatment history (i.e. not included under NEW CASES or PREVIOUSLY TREATED CASES).

TABLE A3.8 **New smear-positive case notification by age and sex, 1995–2010**

		MALE								FEMALE								
	YEAR	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	MALE/FEMALE RATIO
Bangladesh	1995	29	505	983	1 001	748	648	424		64	309	546	360	236	132	38		2.6
	2000	256	3 640	5 643	5 750	4 718	3 667	2 837		495	3 029	3 238	2 247	1 315	778	370		2.3
	2005	524	8 170	10 443	11 423	11 038	8 476	7 453		751	6 776	6 785	5 538	3 960	2 281	1 230		2.1
	2010	365	10 460	12 535	11 409	12 758	11 176	11 536	0	653	9 221	8 279	6 185	5 458	3 484	2 250	0	2.0
Bhutan	1995	2	42	65	36	35	24	11		12	43	44	25	12	9	8		1.4
	2000	6	65	41	30	24	12	2		7	57	34	31	23	3	2		1.1
	2005	1	47	58	26	23	14	12		9	45	38	13	11	9	2		1.4
	2010		108	50	25	12	26	13	0	17	104	45	18	18	10	9	0	1.1
Democratic People's Republic of Korea	1995																	–
	2000	293	928	1 508	2 927	2 519	1 167	651		167	683	1 121	2 004	1 524	591	357		1.6
	2005	167	1 409	2 422	2 688	2 040	1 185	485		166	1 127	1 756	1 890	1 381	764	336		1.4
	2010	447	2 524	4 046	4 849	4 061	2 629	1 153		407	1 493	2 461	2 910	2 276	1 347	637		1.7
India	1995	16	334	391	287	216	123	68		32	179	169	80	49	30	11		2.6
	2000	1 588	20 963	31 090	30 829	24 230	15 308	8 534		2 250	14 495	17 287	11 768	7 516	4 594	2 697		2.2
	2005	3 185	62 620	74 678	76 870	64 843	43 038	24 726		6 292	45 136	45 629	28 577	17 042	10 513	5 408		2.2
	2010	4 871	78 278	82 757	90 440	81 210	60 766	38 442		8 544	53 415	49 425	34 035	22 719	15 527	9 735		2.3
Indonesia	1995	6	203	297	306	302	228	109		16	160	244	282	192	90	33		1.4
	2000																	–
	2005	846	15 215	20 906	18 401	17 847	13 509	6 390		946	13 916	16 393	13 022	10 927	7 539	2 783		1.4
	2010	714	16 501	24 645	21 090	20 977	17 329	7 910	0	816	14 800	17 838	14 629	13 142	9 524	3 451	0	1.5
Maldives	1995	1	28	11	10	8	10	6		1	13	8	4	6	6	2		1.9
	2000	0	9	10	2	5	5	3		0	11	4	5	4	5	2		1.1
	2005	0	9	8	5	6	6	5		1	10	7	1	2	2	4		1.4
	2010	0	8	6	0	4	5	6	0	1	2	3	4	1	0	1	0	2.4
Myanmar	1995	42	713	1 423	1 401	977	677	298		58	535	729	729	450	343	154		1.8
	2000	88	1 459	2 636	2 781	2 161	1 235	836		72	1 040	1 592	1 397	987	592	378		1.8
	2005	132	3 401	5 877	5 888	4 585	2 557	1 764		147	2 376	3 047	2 563	2 101	1 218	885		2.0
	2010	106	3 043	6 578	6 688	5 607	3 632	2 308		196	2 452	3 454	2 752	2 525	1 838	1 139		1.9
Nepal	1995																	–
	2000	170	1 904	1 763	1 713	1 491	1 294	772		176	1 267	1 078	833	575	419	228		2.0
	2005	148	1 946	1 685	1 722	1 806	1 759	820		195	1 208	1 111	797	658	532	230		2.1
	2010	165	2 110	1 832	1 724	1 856	1 857	1 126	0	192	1 177	1 036	819	681	642	352	0	2.2
Sri Lanka	1995	10	163	361	519	521	365	261		15	207	206	142	122	81	56		2.7
	2000	25	266	459	695	793	484	360		23	312	264	176	202	144	113		2.5
	2005	9	341	520	724	918	657	424		19	295	261	189	200	154	130		2.9
	2010	14	268	539	602	884	683	448		15	255	233	171	183	186	154		2.9
Thailand	1995	59	1 191	2 936	2 948	2 434	2 607	2 346		52	741	888	782	936	1 175	1 178		2.5
	2000	27	859	2 570	2 380	2 117	1 908	2 213		32	624	1 035	780	873	1 016	1 321		2.1
	2005	44	1 344	3 814	4 393	4 003	2 831	3 407		57	907	1 662	1 334	1 367	1 259	1 938		2.3
	2010	55	1 506	3 695	5 253	5 042	3 625	4 189		82	1 087	1 930	1 749	1 467	1 494	2 276		2.3
Timor-Leste	2005	8	136	149	116	119	52	47		8	127	90	76	60	18	29		1.5
	2010																	–

Data can be downloaded from www.who.int/tb/data

TABLE A3.9 **Laboratories, NTP services, drug management, human resources and infection control, 2010**

	LABORATORIES					FREE THROUGH NTP		DRUG MANAGEMENT			% OF STAFF TRAINED BY THE NTP (IN 2010)[c]				TB NOTIFICATION RATE PER 100 000 HEALTH-CARE WORKERS
	SMEAR LABS PER 100K POPULATION	CULTURE LABS PER 5M POPULATION	DST LABS PER 5M POPULATION	SECOND-LINE DST AVAILABLE	NRL[a]	TB DIAGNOSIS	FIRST-LINE DRUGS	RIFAMPICIN USED THROUGHOUT TREATMENT	% OF PATIENTS TREATED WITH FDC[b]	PAEDIATRIC FORMULATIONS PROCURED	MEDICAL OFFICERS	NURSES	HEALTH ASSISTANTS	LABORATORY TECHNICIANS	
Bangladesh	0.7	0.1	<0.1	Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes	29	25	25	62	
Bhutan	4.4	6.9	6.9	Out of country	Yes	If TB is confirmed	Yes	Yes	100	No	25	0	0	100	
Democratic People's Republic of Korea	1.2			No	Yes	Yes, all suspects	Yes	Yes	100	Yes	100	100		100	
India	1.1	<0.1	<0.1	In country	Yes	Yes, all suspects	Yes	Yes	0	Yes					
Indonesia	2.1	0.9	0.1	In country	Yes	Yes (other criteria)	Yes	Yes	100	Yes	85	71		85	
Maldives	22	16	0	Out of country	No	If TB is confirmed	Yes	Yes	95	No	0	0	0	0	0
Myanmar	0.9	0.2	0.2	Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes	70	88	84	72	
Nepal	1.6	0.5	0.3	In country	Yes	Yes, all suspects	Yes	Yes	100	Yes	20	6	24	26	
Sri Lanka	0.9	0.5	0.2	No	Yes	Yes, all suspects	Yes	Yes	90	Yes	97	85			
Thailand	1.6	4.7	1.1	In country	Yes	Yes, all suspects	Yes	Yes	25	No					
Timor-Leste															

a NRL = national reference laboratory
b FDC = fixed-dose combination
c NURSES (Registered Nurses, Registered Midwives, Enrolled Nurses, Enrolled Midwives); HEALTH ASSISTANTS (Medical Assistants, Clinical Officers); LABORATORY TECHNICIANS (Microscopists)

Data can be downloaded from www.who.int/tb/data

Western Pacific Region

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Estimates of mortality, prevalence and incidence

Estimated values are shown as best estimates followed by lower and upper bounds. The lower and upper bounds are defined as the 2.5th and 97.5th centiles of outcome distributions produced in simulations. See **ANNEX 1** for further details.

Estimated numbers are shown rounded to two significant figures. Estimated rates are shown rounded to three significant figures unless the value is under 100, in which case rates are shown rounded to two significant figures.

Estimates for all years are recalculated as new information becomes available and techniques are refined, so they may differ from those published in previous reports in this series. Estimates published in previous global TB control reports should no longer be used.

Data source

Data shown in this annex are taken from the WHO global TB database on 2 September 2011. Data shown in the main part of the report were taken from the database on 21 June 2011. As a result, data in this annex may differ slightly from those in the main part of the report.

Data can be downloaded from **www.who.int/tb/data**.

TABLE A3.1 **Estimates of the burden of disease caused by TB, 1990–2010**

			MORTALITY (EXCLUDING HIV)		PREVALENCE (INCLUDING HIV)		INCIDENCE (INCLUDING HIV)	
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[a]	NUMBER (THOUSANDS)	RATE	NUMBER (THOUSANDS)	RATE
American Samoa	1990	<1	<0.01 (<0.01–<0.01)	4.8 (3.3–6.6)	0.022 (<0.01–0.036)	46 (21–77)	0.012 (<0.01–0.015)	26 (21–31)
	1995	<1	<0.01 (<0.01–<0.01)	2.7 (2–3.5)	0.012 (<0.01–0.021)	24 (11–39)	<0.01 (<0.01–<0.01)	12 (9.3–14)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–1.2)	<0.01 (<0.01–<0.01)	9.2 (3–16)	<0.01 (<0.01–<0.01)	6.9 (5.6–8.4)
	2005	<1	<0.01 (<0.01–<0.01)	2 (1.3–2.9)	0.013 (<0.01–0.022)	21 (8.9–35)	<0.01 (<0.01–<0.01)	13 (10–15)
	2008	<1	<0.01 (<0.01–<0.01)	<1 (<1–1.1)	<0.01 (<0.01–0.01)	8.1 (2.6–15)	<0.01 (<0.01–<0.01)	6 (4.9–7.3)
	2009	<1	<0.01 (<0.01–<0.01)	1.1 (<1–1.7)	<0.01 (<0.01–0.014)	12 (4.9–21)	<0.01 (<0.01–<0.01)	7.9 (6.4–9.6)
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–1.5)	<0.01 (<0.01–0.014)	11 (4.1–20)	<0.01 (<0.01–<0.01)	7.8 (6.3–9.5)
Australia	1990	17	0.036 (0.031–0.044)	<1 (<1–<1)	1.4 (0.5–2.5)	8.4 (2.9–14)	1.1 (0.99–1.3)	6.6 (5.8–7.5)
	1995	18	0.039 (0.033–0.046)	<1 (<1–<1)	1.5 (0.49–2.6)	8.3 (2.7–14)	1.2 (1.1–1.4)	6.7 (5.8–7.6)
	2000	19	0.035 (0.035–0.035)	<1 (<1–<1)	1.5 (0.48–2.5)	7.7 (2.5–13)	1.2 (1–1.3)	6.1 (5.4–7)
	2005	20	0.039 (0.034–0.047)	<1 (<1–<1)	1.5 (0.5–2.6)	7.4 (2.4–13)	1.2 (1.1–1.4)	6 (5.3–6.8)
	2008	22	0.042 (0.037–0.051)	<1 (<1–<1)	1.7 (0.55–2.8)	7.7 (2.6–13)	1.3 (1.2–1.5)	6.2 (5.4–7.1)
	2009	22	0.043 (0.038–0.053)	<1 (<1–<1)	1.7 (0.58–2.9)	7.8 (2.6–13)	1.4 (1.2–1.6)	6.3 (5.5–7.1)
	2010	22	0.045 (0.039–0.053)	<1 (<1–<1)	1.8 (0.62–3)	8 (2.8–14)	1.4 (1.2–1.6)	6.3 (5.6–7.1)
Brunei Darussalam	1990	<1	<0.01 (<0.01–<0.01)	2.5 (2.2–3)	0.2 (0.063–0.35)	81 (25–139)	0.17 (0.15–0.19)	66 (58–74)
	1995	<1	<0.01 (<0.01–<0.01)	2.5 (2.1–3)	0.23 (0.075–0.4)	80 (26–137)	0.18 (0.16–0.21)	63 (55–71)
	2000	<1	0.016 (0.016–0.017)	4.9 (4.9–5.2)	0.44 (0.16–0.75)	136 (50–230)	0.33 (0.28–0.37)	100 (87–114)
	2005	<1	<0.01 (<0.01–<0.01)	1.9 (1.7–2.3)	0.21 (0.055–0.37)	59 (15–103)	0.2 (0.17–0.22)	55 (48–61)
	2008	<1	<0.01 (<0.01–<0.01)	2.2 (2.2–2.3)	0.33 (0.11–0.56)	85 (29–145)	0.25 (0.22–0.28)	65 (57–74)
	2009	<1	0.012 (0.012–0.013)	3.1 (3.1–3.2)	0.3 (0.087–0.51)	76 (22–130)	0.25 (0.22–0.29)	65 (57–73)
	2010	<1	0.011 (<0.01–0.013)	2.7 (2.3–3.2)	0.36 (0.13–0.61)	91 (33–153)	0.27 (0.24–0.31)	68 (59–77)
Cambodia	1990	10	15 (9.8–20)	153 (103–214)	120 (51–210)	1258 (532–2238)	55 (38–74)	574 (398–781)
	1995	11	13 (9.8–18)	120 (88–158)	120 (52–190)	1032 (469–1735)	59 (46–74)	529 (411–662)
	2000	12	13 (10–16)	105 (82–130)	110 (54–190)	923 (433–1488)	61 (51–72)	492 (411–579)
	2005	13	10 (7.6–13)	75 (57–95)	100 (46–160)	746 (348–1191)	62 (53–71)	461 (397–529)
	2008	14	9.1 (6.7–12)	66 (48–86)	96 (43–150)	692 (314–1110)	62 (53–71)	446 (384–513)
	2009	14	8.8 (6.3–12)	63 (45–84)	94 (42–150)	673 (301–1088)	62 (53–71)	442 (378–510)
	2010	14	8.6 (6.2–12)	61 (44–82)	93 (42–150)	660 (296–1070)	62 (53–72)	437 (373–506)
China	1990	1 145	220 (190–240)	19 (17–21)	2500 (2300–2600)	215 (201–230)	1700 (1400–2200)	153 (120–189)
	1995	1 214	160 (130–200)	13 (11–16)	2400 (2100–2600)	195 (175–215)	1600 (1300–1900)	129 (105–155)
	2000	1 269	110 (80–140)	8.7 (6.3–11)	2200 (1800–2500)	170 (145–196)	1400 (1200–1600)	109 (92–127)
	2005	1 308	86 (84–89)	6.6 (6.4–6.8)	1800 (1600–2100)	140 (120–160)	1200 (1000–1400)	92 (80–105)
	2008	1 328	56 (54–58)	4.2 (4.1–4.4)	1600 (1400–1800)	119 (103–136)	1100 (970–1300)	83 (73–94)
	2009	1 335	55 (53–57)	4.1 (4–4.3)	1500 (1300–1700)	112 (97–127)	1100 (940–1200)	80 (70–91)
	2010	1 341	54 (52–56)	4.1 (3.9–4.2)	1500 (1300–1700)	108 (93–123)	1000 (910–1200)	78 (68–88)
China, Hong Kong SAR	1990	6	0.58 (0.5–0.7)	10 (8.6–12)	9.8 (3.4–17)	169 (59–286)	7.5 (6.6–8.5)	129 (113–146)
	1995	6	0.55 (0.48–0.66)	8.9 (7.7–11)	9 (2.8–15)	146 (46–250)	7.1 (6.3–8.1)	116 (102–132)
	2000	7	0.53 (0.46–0.64)	7.8 (6.8–9.4)	8.7 (2.8–15)	128 (41–219)	6.9 (6.1–7.8)	102 (89–115)
	2005	7	0.5 (0.43–0.6)	7.3 (6.3–8.8)	8.3 (2.8–14)	122 (41–208)	6.5 (5.7–7.4)	96 (84–108)
	2008	7	0.49 (0.42–0.59)	7.1 (6.1–8.6)	8.4 (3–14)	121 (43–205)	6.4 (5.6–7.2)	92 (81–104)
	2009	7	0.45 (0.39–0.55)	6.5 (5.6–7.8)	7.5 (2.4–13)	107 (35–183)	5.9 (5.2–6.7)	85 (74–96)
	2010	7	0.43 (0.38–0.52)	6.1 (5.3–7.3)	7.1 (2.2–12)	100 (31–172)	5.7 (5–6.4)	80 (71–91)
China, Macao SAR	1990	<1	0.031 (0.026–0.037)	8.6 (7.4–10)	0.52 (0.19–0.88)	146 (52–246)	0.4 (0.35–0.45)	110 (96–125)
	1995	<1	0.036 (0.033–0.041)	9.1 (8.3–10)	0.55 (0.13–0.96)	137 (31–241)	0.49 (0.43–0.55)	123 (108–138)
	2000	<1	0.04 (0.035–0.049)	9.3 (8–11)	0.67 (0.22–1.1)	155 (52–266)	0.52 (0.46–0.59)	121 (106–137)
	2005	<1	0.032 (0.027–0.038)	6.6 (5.6–7.9)	0.53 (0.19–0.9)	111 (39–188)	0.4 (0.35–0.45)	83 (73–94)
	2008	<1	0.032 (0.028–0.039)	6.2 (5.3–7.5)	0.56 (0.21–0.93)	108 (40–180)	0.4 (0.34–0.45)	76 (66–87)
	2009	<1	0.026 (0.024–0.03)	4.9 (4.5–5.7)	0.4 (0.098–0.7)	76 (18–132)	0.37 (0.33–0.42)	70 (62–79)
	2010	<1	0.033 (0.028–0.04)	6.1 (5.2–7.3)	0.58 (0.22–0.96)	106 (40–176)	0.41 (0.36–0.47)	76 (67–87)
Cook Islands	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	3.1 (<1–5.5)	<0.01 (<0.01–<0.01)	<1 (<1–1.2)
	1995	<1	<0.01 (<0.01–<0.01)	2.7 (1.8–3.7)	<0.01 (<0.01–<0.01)	29 (12–48)	<0.01 (<0.01–<0.01)	19 (16–22)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–1.5)	<0.01 (<0.01–<0.01)	15 (4.4–25)	<0.01 (<0.01–<0.01)	12 (11–14)
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–1.2)	<0.01 (<0.01–<0.01)	8.7 (2.9–16)	<0.01 (<0.01–<0.01)	6.4 (5–7.8)
	2008	<1	<0.01 (<0.01–<0.01)	1.1 (<1–2)	<0.01 (<0.01–<0.01)	15 (4.5–27)	<0.01 (<0.01–<0.01)	12 (9–14)
	2009	<1	<0.01 (<0.01–<0.01)	1.2 (<1–2.2)	<0.01 (<0.01–<0.01)	14 (4.9–26)	<0.01 (<0.01–<0.01)	9.3 (6.8–12)
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	5.5 (1.2–9.7)	<0.01 (<0.01–<0.01)	3.5 (<1–7)
Fiji	1990	<1	0.039 (0.024–0.06)	5.3 (3.2–8.3)	0.46 (0.18–0.78)	63 (24–107)	0.32 (0.26–0.38)	43 (35–52)
	1995	<1	0.031 (0.018–0.051)	4 (2.3–6.5)	0.38 (0.14–0.66)	49 (18–85)	0.27 (0.22–0.33)	35 (28–42)
	2000	<1	0.026 (0.016–0.04)	3.2 (2–4.9)	0.32 (0.12–0.54)	39 (15–67)	0.22 (0.19–0.27)	28 (23–33)
	2005	<1	0.022 (0.013–0.035)	2.7 (1.6–4.2)	0.26 (0.1–0.44)	31 (12–54)	0.17 (0.13–0.21)	21 (16–25)
	2008	<1	0.022 (0.014–0.033)	2.6 (1.6–3.9)	0.25 (0.099–0.42)	29 (12–49)	0.16 (0.13–0.19)	19 (16–23)
	2009	<1	0.023 (0.014–0.037)	2.7 (1.6–4.3)	0.28 (0.1–0.48)	32 (12–56)	0.19 (0.15–0.23)	22 (18–27)
	2010	<1	0.031 (0.018–0.049)	3.6 (2.1–5.7)	0.35 (0.14–0.6)	40 (16–70)	0.23 (0.18–0.28)	27 (21–33)
French Polynesia	1990	<1	<0.01 (<0.01–<0.01)	2.5 (2.1–3.1)	0.083 (0.029–0.14)	43 (15–72)	0.063 (0.055–0.072)	32 (28–37)
	1995	<1	<0.01 (<0.01–<0.01)	3.7 (3.2–4.4)	0.13 (0.046–0.23)	62 (21–106)	0.1 (0.09–0.12)	48 (42–54)
	2000	<1	<0.01 (<0.01–<0.01)	2.8 (2.5–3.3)	0.11 (0.041–0.19)	48 (17–79)	0.086 (0.077–0.095)	36 (32–40)
	2005	<1	<0.01 (<0.01–<0.01)	2.1 (1.9–2.5)	0.087 (0.027–0.15)	34 (11–59)	0.071 (0.062–0.08)	28 (24–31)
	2008	<1	<0.01 (<0.01–<0.01)	1.9 (1.6–2.2)	0.082 (0.028–0.14)	31 (11–53)	0.064 (0.057–0.072)	24 (22–27)
	2009	<1	<0.01 (<0.01–<0.01)	1.7 (1.4–2)	0.077 (0.027–0.13)	29 (10–49)	0.058 (0.05–0.066)	22 (19–25)
	2010	<1	<0.01 (<0.01–<0.01)	1.4 (1.2–1.6)	0.059 (0.016–0.1)	22 (5.8–37)	0.05 (0.044–0.056)	18 (16–21)
Guam	1990	<1	<0.01 (<0.01–<0.01)	3.8 (3.3–4.6)	0.085 (0.028–0.15)	64 (21–109)	0.066 (0.058–0.075)	50 (44–56)
	1995	<1	<0.01 (<0.01–<0.01)	5.6 (4.7–6.7)	0.15 (0.068–0.25)	106 (47–172)	0.099 (0.086–0.11)	68 (59–77)
	2000	<1	<0.01 (<0.01–<0.01)	3 (2.7–3.6)	0.076 (0.023–0.13)	49 (15–84)	0.062 (0.054–0.07)	40 (35–45)
	2005	<1	<0.01 (<0.01–<0.01)	3.5 (2.9–4.2)	0.11 (0.046–0.18)	64 (27–104)	0.072 (0.063–0.082)	43 (38–49)
	2008	<1	<0.01 (<0.01–<0.01)	4.5 (3.7–5.5)	0.14 (0.053–0.23)	79 (30–133)	0.1 (0.09–0.12)	58 (51–66)
	2009	<1	<0.01 (<0.01–0.011)	5.2 (4.4–6.2)	0.16 (0.056–0.27)	88 (32–149)	0.12 (0.1–0.13)	66 (58–75)
	2010	<1	<0.01 (<0.01–0.011)	4.9 (4.2–6)	0.15 (0.047–0.25)	81 (26–140)	0.12 (0.1–0.13)	65 (57–73)
Japan	1990	122	4.3 (3.7–5.2)	3.5 (3.1–4.3)	77 (27–130)	63 (22–107)	60 (52–67)	49 (43–55)
	1995	124	3.6 (3.1–4.3)	2.9 (2.5–3.5)	64 (21–110)	51 (17–87)	50 (43–56)	40 (35–45)
	2000	126	2.8 (2.8–2.8)	2.3 (2.3–2.3)	58 (20–98)	46 (16–78)	45 (39–51)	36 (31–40)
	2005	126	2.4 (2.4–2.4)	1.9 (1.9–1.9)	40 (13–68)	32 (11–54)	31 (28–36)	25 (22–28)
	2008	127	2.3 (2.3–2.3)	1.8 (1.8–1.8)	35 (12–60)	28 (9.3–47)	28 (24–31)	22 (19–25)
	2009	127	2.3 (2.3–2.3)	1.8 (1.8–1.8)	35 (12–59)	27 (9.1–47)	27 (24–31)	22 (19–24)
	2010	127	2 (1.7–2.4)	1.5 (1.3–1.9)	35 (11–59)	27 (9.1–47)	27 (24–31)	21 (19–24)
Kiribati	1990	<1	<0.01 (<0.01–0.011)	8.5 (5.6–16)	0.099 (0.025–0.18)	138 (35–248)	0.084 (0.066–0.1)	116 (92–144)
	1995	<1	0.049 (0.029–0.078)	63 (37–101)	0.57 (0.22–0.99)	741 (284–1284)	0.39 (0.32–0.47)	505 (409–611)
	2000	<1	0.039 (0.022–0.065)	46 (26–77)	0.45 (0.17–0.8)	541 (201–951)	0.31 (0.25–0.38)	372 (295–458)
	2005	<1	0.054 (0.031–0.088)	59 (34–95)	0.65 (0.24–1.1)	703 (264–1225)	0.45 (0.36–0.54)	488 (394–591)
	2008	<1	0.056 (0.033–0.089)	58 (34–93)	0.64 (0.25–1.1)	666 (255–1162)	0.43 (0.35–0.53)	450 (360–549)
	2009	<1	0.039 (0.022–0.068)	40 (23–69)	0.51 (0.17–0.89)	515 (177–912)	0.4 (0.33–0.48)	408 (334–488)
	2010	<1	0.046 (0.027–0.074)	47 (27–74)	0.55 (0.21–0.95)	550 (208–952)	0.37 (0.3–0.45)	370 (297–452)
Lao People's Democratic Republic	1990	4	0.68 (0.39–1.1)	16 (9.4–26)	6.6 (2.8–12)	157 (66–282)	3.7 (2.6–4.9)	88 (62–118)
	1995	5	1 (0.71–1.4)	21 (15–29)	8.7 (3.9–15)	182 (81–311)	4.1 (3.1–5.3)	86 (64–111)
	2000	5	0.83 (0.55–1.2)	16 (10–22)	8.1 (3.6–14)	152 (67–257)	4.5 (3.5–5.7)	85 (67–106)
	2005	6	0.64 (0.38–0.99)	11 (6.7–17)	7.3 (2.9–13)	128 (50–219)	5 (4–6.1)	87 (70–105)
	2008	6	0.64 (0.39–1)	11 (6.5–17)	7.6 (3–13)	126 (50–216)	5.3 (4.3–6.4)	88 (72–106)
	2009	6	0.67 (0.42–1)	11 (6.8–17)	7.8 (3.1–13)	128 (51–217)	5.4 (4.5–6.5)	89 (73–107)
	2010	6	0.71 (0.44–1.1)	11 (7.1–17)	8.1 (3.3–14)	130 (53–221)	5.6 (4.6–6.7)	90 (74–107)
Malaysia	1990	18	4.3 (3.6–5.2)	24 (20–29)	41 (19–65)	227 (107–356)	23 (20–26)	127 (112–142)
	1995	21	3.7 (3–4.5)	18 (15–22)	37 (17–58)	178 (84–278)	22 (20–25)	108 (97–120)
	2000	23	2.9 (2.3–3.6)	12 (9.6–15)	32 (15–50)	136 (62–215)	22 (20–24)	95 (86–104)
	2005	26	2.8 (2.3–3.4)	11 (8.6–13)	32 (14–49)	121 (55–189)	22 (20–24)	86 (79–94)
	2008	28	2.5 (2–3.1)	9.1 (7.2–11)	30 (13–48)	110 (49–174)	23 (21–25)	83 (76–91)
	2009	28	2.4 (1.9–3)	8.6 (6.7–11)	30 (13–48)	108 (46–171)	23 (21–25)	83 (75–90)
	2010	28	2.4 (1.9–3.1)	8.5 (6.6–11)	30 (13–49)	107 (46–171)	23 (21–25)	82 (75–89)

[a] Rates are per 100 000 population.

TABLE A3.1 **Estimates of the burden of disease caused by TB, 1990–2010**

			MORTALITY (EXCLUDING HIV)		PREVALENCE (INCLUDING HIV)		INCIDENCE (INCLUDING HIV)	
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[a]	NUMBER (THOUSANDS)	RATE	NUMBER (THOUSANDS)	RATE
Marshall Islands	1990	<1	0.014 (<0.01–0.052)	30 (3.5–109)	0.13 (0.017–0.46)	269 (37–980)	0.065 (<0.01–0.2)	137 (11–417)
	1995	<1	0.015 (<0.01–0.053)	30 (6.8–103)	0.16 (0.031–0.49)	314 (60–957)	0.097 (0.022–0.23)	190 (42–445)
	2000	<1	0.032 (0.016–0.054)	62 (31–103)	0.28 (0.11–0.55)	540 (212–1058)	0.14 (0.083–0.2)	263 (158–393)
	2005	<1	0.028 (<0.01–0.095)	54 (13–183)	0.3 (0.059–0.91)	581 (113–1743)	0.19 (0.046–0.43)	363 (89–826)
	2008	<1	0.038 (<0.01–0.11)	71 (17–215)	0.39 (0.084–1.1)	739 (159–2086)	0.23 (0.067–0.5)	441 (126–949)
	2009	<1	0.041 (<0.01–0.12)	76 (18–225)	0.41 (0.092–1.1)	773 (173–2120)	0.25 (0.071–0.54)	471 (134–1014)
	2010	<1	0.044 (<0.01–0.16)	81 (17–295)	0.45 (0.078–1.5)	831 (145–2724)	0.27 (0.046–0.69)	502 (85–1279)
Micronesia (Federated States of)	1990	<1	0.024 (0.016–0.031)	25 (17–32)	0.42 (0.088–0.7)	433 (91–730)	0.36 (0.093–0.82)	379 (96–850)
	1995	<1	0.07 (0.028–0.14)	65 (26–127)	0.65 (0.23–1.4)	606 (213–1280)	0.35 (0.19–0.55)	325 (181–510)
	2000	<1	0.07 (0.044–0.1)	65 (41–95)	0.61 (0.27–1.1)	570 (250–1015)	0.3 (0.21–0.4)	279 (198–374)
	2005	<1	0.056 (0.029–0.092)	51 (27–84)	0.51 (0.21–0.97)	463 (189–883)	0.26 (0.17–0.37)	240 (156–341)
	2008	<1	0.038 (0.011–0.097)	34 (10–88)	0.39 (0.1–0.95)	358 (95–861)	0.24 (0.1–0.44)	219 (94–395)
	2009	<1	0.034 (0.011–0.086)	31 (9.8–78)	0.37 (0.098–0.87)	333 (88–786)	0.23 (0.11–0.41)	212 (98–370)
	2010	<1	0.033 (<0.01–0.088)	29 (8.9–79)	0.36 (0.088–0.88)	320 (80–796)	0.23 (0.095–0.42)	206 (86–377)
Mongolia	1990	2	0.42 (0.35–0.5)	19 (16–23)	20 (9.1–32)	910 (417–1466)	8.9 (7.5–10)	405 (344–471)
	1995	2	0.27 (0.22–0.33)	12 (9.6–14)	14 (6.7–22)	611 (292–964)	7.2 (6.3–8.2)	314 (273–357)
	2000	2	0.19 (0.16–0.23)	7.8 (6.4–9.4)	11 (5–17)	442 (207–692)	6.1 (5.5–6.8)	254 (227–281)
	2005	3	0.1 (0.079–0.13)	4 (3.1–5.2)	7.7 (2.9–12)	301 (115–490)	5.7 (5.3–6.2)	225 (206–244)
	2008	3	0.12 (0.099–0.15)	4.6 (3.7–5.6)	8.4 (3.5–13)	316 (132–506)	5.9 (5.5–6.4)	222 (206–239)
	2009	3	0.13 (0.11–0.16)	4.9 (4–5.9)	8.8 (3.8–14)	326 (139–517)	6.1 (5.6–6.5)	224 (208–240)
	2010	3	0.14 (0.11–0.17)	5 (4.2–6)	9.1 (3.9–14)	331 (142–522)	6.2 (5.7–6.6)	224 (208–240)
Nauru	1990	<1	<0.01 (<0.01–<0.01)	14 (8.4–21)	0.014 (<0.01–0.024)	155 (62–267)	<0.01 (<0.01–0.011)	102 (82–124)
	1995	<1	<0.01 (<0.01–<0.01)	5.7 (3.3–9.2)	<0.01 (<0.01–0.012)	68 (25–118)	<0.01 (<0.01–<0.01)	47 (38–57)
	2000	<1	<0.01 (<0.01–<0.01)	6.6 (3.8–11)	<0.01 (<0.01–0.013)	71 (29–126)	<0.01 (<0.01–<0.01)	45 (35–57)
	2005	<1	<0.01 (<0.01–<0.01)	19 (12–30)	0.022 (<0.01–0.037)	214 (86–370)	0.014 (0.011–0.017)	139 (111–170)
	2008	<1	<0.01 (<0.01–<0.01)	7.3 (4–12)	<0.01 (<0.01–0.015)	83 (31–148)	<0.01 (<0.01–<0.01)	55 (42–69)
	2009	<1	<0.01 (<0.01–<0.01)	6.1 (3.5–10)	<0.01 (<0.01–0.013)	74 (27–129)	<0.01 (<0.01–<0.01)	51 (41–63)
	2010	<1	<0.01 (<0.01–<0.01)	3.8 (2.2–6.5)	<0.01 (<0.01–<0.01)	52 (16–92)	<0.01 (<0.01–<0.01)	40 (32–48)
New Caledonia	1990	<1	0.013 (0.011–0.016)	7.7 (6.6–9.2)	0.22 (0.079–0.37)	131 (47–220)	0.17 (0.15–0.19)	99 (87–111)
	1995	<1	<0.01 (<0.01–0.01)	4.6 (4–5.5)	0.15 (0.053–0.25)	78 (28–131)	0.11 (0.1–0.13)	59 (53–66)
	2000	<1	<0.01 (<0.01–<0.01)	3.1 (2.7–3.9)	0.11 (0.033–0.19)	51 (15–89)	0.087 (0.074–0.1)	41 (35–48)
	2005	<1	<0.01 (<0.01–<0.01)	1.9 (1.6–2.2)	0.068 (0.02–0.12)	30 (8.6–51)	0.056 (0.05–0.064)	24 (22–28)
	2008	<1	<0.01 (<0.01–<0.01)	1.7 (1.5–2.1)	0.069 (0.022–0.12)	28 (9.1–48)	0.055 (0.048–0.061)	22 (20–25)
	2009	<1	<0.01 (<0.01–<0.01)	1.7 (1.5–2.1)	0.071 (0.022–0.12)	29 (9.1–50)	0.056 (0.048–0.064)	23 (19–26)
	2010	<1	<0.01 (<0.01–<0.01)	1.7 (1.5–2)	0.069 (0.021–0.12)	28 (8.2–48)	0.057 (0.05–0.064)	23 (20–26)
New Zealand	1990	3	<0.01 (<0.01–0.01)	<1 (<1–<1)	0.46 (0.14–0.79)	14 (4.2–23)	0.37 (0.33–0.43)	11 (9.6–13)
	1995	4	<0.01 (<0.01–0.011)	<1 (<1–<1)	0.5 (0.15–0.86)	14 (4.2–23)	0.41 (0.35–0.47)	11 (9.5–13)
	2000	4	0.012 (0.012–0.012)	<1 (<1–<1)	0.49 (0.14–0.85)	13 (3.6–22)	0.42 (0.37–0.47)	11 (9.5–12)
	2005	4	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.49 (0.16–0.83)	12 (3.8–20)	0.39 (0.34–0.44)	9.5 (8.3–11)
	2008	4	<0.01 (<0.01–0.01)	<1 (<1–<1)	0.49 (0.19–0.8)	11 (4.4–19)	0.36 (0.32–0.4)	8.4 (7.4–9.4)
	2009	4	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.44 (0.15–0.75)	10 (3.5–17)	0.35 (0.3–0.39)	8 (7–9)
	2010	4	<0.01 (<0.01–<0.01)	<1 (<1–<1)	0.41 (0.13–0.7)	9.3 (2.9–16)	0.33 (0.29–0.38)	7.6 (6.6–8.7)
Niue	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	74 (<1–148)
	1995	<1	<0.01 (<0.01–<0.01)	3.6 (2.9–4.3)	<0.01 (<0.01–<0.01)	68 (15–120)	<0.01 (<0.01–<0.01)	57 (<1–114)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–1.2)	<0.01 (<0.01–<0.01)	19 (4.2–33)	<0.01 (<0.01–<0.01)	40 (<1–81)
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	23 (<1–47)
	2008	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	13 (<1–27)
	2009	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	9.9 (<1–20)
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	6.5 (<1–13)
Northern Mariana Islands	1990	<1	<0.01 (<0.01–<0.01)	6.9 (5.5–9)	0.055 (0.021–0.096)	125 (48–217)	0.038 (0.03–0.046)	86 (69–104)
	1995	<1	<0.01 (<0.01–<0.01)	8.7 (6.9–11)	0.088 (0.032–0.16)	154 (55–272)	0.062 (0.05–0.076)	109 (87–133)
	2000	<1	<0.01 (<0.01–0.01)	11 (8.5–15)	0.14 (0.052–0.24)	201 (76–353)	0.092 (0.073–0.11)	135 (107–166)
	2005	<1	<0.01 (<0.01–<0.01)	8.9 (7–12)	0.11 (0.043–0.19)	163 (63–284)	0.074 (0.059–0.09)	110 (88–134)
	2008	<1	<0.01 (<0.01–<0.01)	5.6 (4.6–7.1)	0.061 (0.021–0.11)	97 (34–168)	0.045 (0.037–0.053)	71 (60–84)
	2009	<1	<0.01 (<0.01–<0.01)	6 (4.6–8)	0.068 (0.026–0.12)	110 (42–195)	0.045 (0.036–0.056)	74 (58–92)
	2010	<1	<0.01 (<0.01–<0.01)	5.7 (4.6–7.5)	0.061 (0.022–0.11)	100 (35–176)	0.044 (0.036–0.053)	72 (58–87)
Palau	1990	<1	<0.01 (<0.01–<0.01)	4.2 (2.4–7.3)	<0.01 (<0.01–0.015)	58 (18–102)	<0.01 (<0.01–<0.01)	45 (36–55)
	1995	<1	<0.01 (<0.01–<0.01)	14 (8–24)	0.033 (0.01–0.058)	188 (59–335)	0.025 (0.02–0.031)	147 (118–178)
	2000	<1	<0.01 (<0.01–<0.01)	25 (16–37)	0.05 (0.022–0.084)	259 (113–437)	0.03 (0.024–0.036)	156 (126–190)
	2005	<1	<0.01 (<0.01–<0.01)	9.5 (5.9–14)	0.021 (<0.01–0.036)	104 (43–180)	0.013 (0.011–0.016)	67 (54–81)
	2008	<1	<0.01 (<0.01–<0.01)	9.3 (5.4–16)	0.025 (<0.01–0.045)	126 (40–224)	0.019 (0.016–0.023)	95 (77–116)
	2009	<1	<0.01 (<0.01–<0.01)	15 (8.9–25)	0.037 (0.014–0.065)	180 (68–318)	0.025 (0.02–0.031)	125 (100–151)
	2010	<1	<0.01 (<0.01–<0.01)	15 (8.7–24)	0.037 (0.014–0.064)	179 (67–314)	0.025 (0.02–0.031)	124 (100–150)
Papua New Guinea	1990	4	3.2 (2–4.9)	78 (47–117)	27 (11–50)	659 (274–1214)	13 (8.2–18)	303 (197–430)
	1995	5	3.1 (1.7–5)	65 (36–106)	28 (11–52)	588 (243–1103)	14 (9.3–20)	303 (197–430)
	2000	5	2 (0.88–4.1)	37 (16–76)	23 (7.5–47)	437 (140–866)	16 (11–23)	303 (197–430)
	2005	6	2.5 (1.1–5)	41 (18–82)	28 (9.5–55)	454 (155–900)	18 (12–26)	303 (197–430)
	2008	7	2.6 (1.1–5.2)	40 (17–79)	29 (9.9–58)	449 (151–882)	20 (13–28)	303 (197–430)
	2009	7	2.8 (1.2–5.5)	42 (18–82)	31 (11–61)	460 (160–913)	20 (13–29)	303 (197–430)
	2010	7	2.9 (1.3–5.8)	43 (19–84)	32 (11–63)	465 (161–925)	21 (14–29)	303 (197–430)
Philippines	1990	62	29 (15–44)	47 (24–71)	620 (470–790)	1003 (765–1277)	240 (150–360)	393 (239–585)
	1995	69	33 (21–44)	47 (30–64)	630 (480–800)	904 (687–1149)	250 (200–300)	360 (293–434)
	2000	77	34 (34–34)	44 (44–44)	600 (470–740)	775 (614–957)	250 (210–310)	329 (268–396)
	2005	86	35 (24–47)	40 (28–55)	540 (460–630)	633 (542–731)	260 (210–310)	301 (245–362)
	2008	90	34 (23–46)	37 (26–51)	490 (440–550)	548 (484–612)	260 (210–310)	285 (232–343)
	2009	92	32 (22–44)	35 (24–49)	480 (420–540)	520 (456–584)	260 (210–310)	280 (229–336)
	2010	93	31 (21–43)	33 (22–46)	470 (410–530)	502 (438–566)	260 (210–310)	275 (226–329)
Republic of Korea	1990	43	5.4 (5.2–5.6)	13 (12–13)	96 (77–110)	223 (179–267)	70 (61–80)	163 (142–186)
	1995	45	5 (4.8–5.2)	11 (11–12)	90 (73–110)	203 (163–242)	46 (40–52)	102 (89–117)
	2000	46	4.5 (4.4–4.5)	9.7 (9.7–9.7)	85 (68–100)	184 (148–220)	36 (33–40)	79 (72–86)
	2005	47	3.7 (3.6–3.7)	7.8 (7.7–7.8)	79 (63–94)	167 (134–200)	41 (36–47)	88 (76–100)
	2008	48	3 (3–3)	6.3 (6.3–6.3)	75 (60–90)	157 (126–189)	44 (39–50)	93 (82–105)
	2009	48	2.8 (2.8–2.8)	5.8 (5.8–5.9)	74 (59–89)	154 (124–185)	46 (40–51)	95 (83–107)
	2010	48	2.6 (2.5–2.7)	5.4 (5.1–5.6)	73 (58–88)	151 (121–182)	47 (41–53)	97 (85–110)
Samoa	1990	<1	<0.01 (<0.01–0.011)	4.4 (2.5–7.1)	0.084 (0.031–0.15)	52 (19–91)	0.058 (0.047–0.071)	36 (29–44)
	1995	<1	<0.01 (<0.01–<0.01)	3.2 (1.7–5.8)	0.068 (0.023–0.12)	41 (13–74)	0.05 (0.038–0.063)	30 (23–37)
	2000	<1	<0.01 (<0.01–<0.01)	2.7 (1.4–5.1)	0.059 (0.019–0.11)	33 (11–62)	0.041 (0.03–0.054)	23 (17–30)
	2005	<1	<0.01 (<0.01–<0.01)	1.4 (<1–2.6)	0.038 (0.011–0.068)	21 (6.1–38)	0.031 (0.025–0.038)	17 (14–21)
	2008	<1	<0.01 (<0.01–<0.01)	2.2 (1.7–2.9)	0.041 (0.019–0.066)	23 (10–36)	0.024 (0.021–0.028)	13 (12–15)
	2009	<1	<0.01 (<0.01–<0.01)	1.8 (1.2–2.7)	0.036 (0.015–0.06)	20 (8.3–33)	0.022 (0.018–0.027)	12 (9.8–15)
	2010	<1	<0.01 (<0.01–<0.01)	1.3 (<1–2.1)	0.029 (0.011–0.05)	16 (5.9–27)	0.02 (0.016–0.024)	11 (8.9–13)
Singapore	1990	3	0.13 (0.11–0.15)	4.1 (3.6–4.9)	2.3 (0.73–3.9)	77 (24–131)	1.9 (1.7–2.1)	62 (55–70)
	1995	3	0.14 (0.12–0.17)	4 (3.4–4.9)	2.7 (0.93–4.6)	77 (27–131)	2.1 (1.9–2.4)	61 (53–69)
	2000	4	0.13 (0.13–0.13)	3.2 (3.2–3.3)	2.5 (0.87–4.2)	63 (22–107)	2 (1.7–2.2)	50 (44–57)
	2005	4	0.084 (0.083–0.084)	2 (1.9–2)	1.9 (0.66–3.3)	46 (16–77)	1.6 (1.4–1.8)	37 (32–41)
	2008	5	0.11 (0.095–0.14)	2.3 (2–2.8)	2.1 (0.73–3.6)	45 (15–76)	1.7 (1.5–1.9)	36 (31–41)
	2009	5	0.11 (0.099–0.14)	2.3 (2–2.8)	2.2 (0.74–3.7)	44 (15–75)	1.8 (1.6–2)	36 (31–40)
	2010	5	0.12 (0.1–0.14)	2.3 (2–2.8)	2.2 (0.77–3.8)	44 (15–75)	1.8 (1.6–2)	35 (31–40)
Solomon Islands	1990	<1	0.22 (0.11–0.37)	71 (35–120)	1.9 (0.75–3.8)	625 (244–1234)	0.97 (0.59–1.4)	312 (190–464)
	1995	<1	0.19 (0.14–0.24)	52 (39–68)	1.7 (0.78–2.8)	472 (218–777)	0.86 (0.7–1)	240 (195–290)
	2000	<1	0.16 (0.12–0.21)	40 (29–52)	1.5 (0.68–2.4)	360 (166–592)	0.75 (0.61–0.91)	185 (150–223)
	2005	<1	0.12 (0.079–0.16)	25 (17–34)	1.1 (0.51–1.9)	245 (110–407)	0.67 (0.54–0.8)	142 (116–171)
	2008	<1	0.096 (0.064–0.14)	19 (12–27)	1 (0.44–1.7)	198 (86–332)	0.62 (0.5–0.74)	121 (99–146)
	2009	<1	0.096 (0.064–0.14)	18 (12–26)	0.99 (0.43–1.7)	189 (83–318)	0.6 (0.49–0.72)	115 (94–138)
	2010	<1	0.092 (0.062–0.13)	17 (11–24)	0.96 (0.42–1.6)	178 (78–298)	0.58 (0.48–0.7)	108 (89–130)

[a] Rates are per 100 000 population.

Data can be downloaded from www.who.int/tb/data

TABLE A3.1 **Estimates of the burden of disease caused by TB, 1990–2010**

	YEAR	POPULATION (MILLIONS)	MORTALITY (EXCLUDING HIV)		PREVALENCE (INCLUDING HIV)		INCIDENCE (INCLUDING HIV)	
			NUMBER (THOUSANDS)	RATE[a]	NUMBER (THOUSANDS)	RATE	NUMBER (THOUSANDS)	RATE
Tokelau	1990	<1	<0.01 (<0.01–<0.01)	6.6 (3.8–12)	<0.01 (<0.01–<0.01)	93 (27–168)	<0.01 (<0.01–<0.01)	72 (56–90)
	1995	<1	<0.01 (<0.01–<0.01)	2.5 (2–3.1)	<0.01 (<0.01–<0.01)	49 (11–86)	<0.01 (<0.01–<0.01)	39 (12–82)
	2000	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	13 (<1–26)
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)
	2008	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)
	2009	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	<0.01 (<0.01–<0.01)	<1 (<1–<1)
Tonga	1990	<1	<0.01 (<0.01–<0.01)	6.1 (4.3–8.4)	0.06 (0.027–0.098)	63 (28–103)	0.036 (0.03–0.042)	38 (32–45)
	1995	<1	<0.01 (<0.01–<0.01)	4.6 (3.1–6.7)	0.049 (0.02–0.081)	51 (21–85)	0.032 (0.026–0.037)	33 (28–39)
	2000	<1	<0.01 (<0.01–<0.01)	3.7 (2.1–6.2)	0.041 (0.016–0.074)	42 (16–75)	0.027 (0.021–0.034)	28 (22–35)
	2005	<1	<0.01 (<0.01–<0.01)	3 (1.8–4.8)	0.034 (0.013–0.06)	34 (13–59)	0.023 (0.018–0.028)	22 (18–28)
	2008	<1	<0.01 (<0.01–<0.01)	2.3 (1.4–3.6)	0.028 (0.011–0.049)	28 (11–47)	0.02 (0.016–0.023)	19 (16–23)
	2009	<1	<0.01 (<0.01–<0.01)	3 (2.4–3.7)	0.031 (0.015–0.05)	30 (14–48)	0.019 (0.016–0.021)	18 (16–20)
	2010	<1	<0.01 (<0.01–<0.01)	2.9 (2.1–3.9)	0.03 (0.014–0.049)	29 (13–48)	0.017 (0.015–0.021)	17 (14–20)
Tuvalu	1990	<1	<0.01 (<0.01–0.016)	94 (42–174)	0.084 (0.031–0.17)	930 (347–1847)	0.048 (0.031–0.07)	536 (343–772)
	1995	<1	<0.01 (<0.01–0.016)	60 (19–169)	0.062 (0.015–0.16)	674 (161–1684)	0.04 (0.016–0.076)	437 (174–819)
	2000	<1	<0.01 (<0.01–0.012)	71 (35–123)	0.063 (0.025–0.12)	666 (261–1296)	0.034 (0.021–0.048)	357 (228–514)
	2005	<1	<0.01 (<0.01–<0.01)	57 (30–94)	0.052 (0.021–0.097)	534 (219–1003)	0.028 (0.019–0.039)	291 (196–404)
	2008	<1	<0.01 (<0.01–<0.01)	35 (12–84)	0.038 (0.011–0.086)	391 (110–874)	0.025 (0.013–0.041)	258 (133–423)
	2009	<1	<0.01 (<0.01–<0.01)	35 (12–88)	0.038 (0.01–0.088)	385 (105–901)	0.024 (0.012–0.042)	247 (118–423)
	2010	<1	<0.01 (<0.01–<0.01)	33 (12–75)	0.036 (0.011–0.078)	366 (109–795)	0.023 (0.013–0.037)	237 (133–371)
Vanuatu	1990	<1	0.012 (<0.01–0.023)	8.2 (5.9–15)	0.21 (0.049–0.38)	145 (33–256)	0.19 (0.15–0.23)	127 (103–155)
	1995	<1	<0.01 (<0.01–<0.01)	4.1 (3.3–5)	0.13 (0.029–0.23)	78 (17–139)	0.11 (0.085–0.13)	63 (50–76)
	2000	<1	0.026 (0.015–0.041)	14 (8.2–22)	0.3 (0.12–0.52)	161 (62–279)	0.2 (0.16–0.25)	110 (88–133)
	2005	<1	0.028 (0.018–0.04)	13 (8.8–19)	0.29 (0.13–0.48)	136 (60–228)	0.17 (0.14–0.21)	83 (67–100)
	2008	<1	0.023 (0.014–0.035)	10 (6.2–15)	0.26 (0.1–0.44)	113 (45–193)	0.17 (0.14–0.2)	74 (61–90)
	2009	<1	0.023 (0.014–0.035)	9.7 (6–15)	0.26 (0.1–0.44)	109 (44–186)	0.17 (0.14–0.2)	72 (59–86)
	2010	<1	0.014 (<0.01–0.027)	5.8 (2.8–11)	0.19 (0.071–0.34)	78 (30–142)	0.17 (0.14–0.2)	69 (57–83)
Viet Nam	1990	67	29 (20–41)	44 (29–62)	270 (120–460)	396 (179–682)	140 (100–180)	204 (153–262)
	1995	74	32 (21–45)	43 (29–61)	290 (130–500)	393 (176–675)	150 (110–190)	204 (154–262)
	2000	79	27 (16–41)	35 (21–52)	270 (120–470)	345 (148–601)	160 (120–210)	205 (154–263)
	2005	83	28 (17–42)	33 (20–51)	280 (120–490)	336 (143–587)	170 (130–220)	204 (154–261)
	2008	86	29 (17–44)	33 (20–51)	290 (120–500)	333 (144–579)	170 (130–220)	201 (152–258)
	2009	87	29 (18–44)	34 (21–51)	290 (130–500)	334 (145–580)	170 (130–220)	200 (152–255)
	2010	88	29 (19–43)	34 (21–49)	290 (130–510)	334 (147–576)	180 (130–220)	199 (152–253)
Wallis and Futuna Islands	1990	<1	<0.01 (<0.01–<0.01)	12 (11–12)	0.024 (<0.01–0.043)	175 (39–309)	0.012 (0.011–0.013)	85 (78–93)
	1995	<1	<0.01 (<0.01–<0.01)	6.1 (5.4–7)	0.015 (<0.01–0.025)	109 (45–175)	0.011 (0.01–0.012)	77 (71–83)
	2000	<1	<0.01 (<0.01–<0.01)	6.6 (5.5–7.9)	0.023 (0.011–0.036)	161 (73–249)	<0.01 (<0.01–0.01)	68 (66–70)
	2005	<1	<0.01 (<0.01–<0.01)	5 (4.2–5.9)	0.014 (<0.01–0.022)	96 (43–154)	<0.01 (<0.01–<0.01)	60 (53–67)
	2008	<1	<0.01 (<0.01–<0.01)	4.2 (3.7–4.7)	<0.01 (<0.01–0.016)	68 (23–114)	<0.01 (<0.01–<0.01)	54 (50–59)
	2009	<1	<0.01 (<0.01–<0.01)	4.8 (4.5–5.2)	<0.01 (<0.01–0.018)	72 (16–128)	<0.01 (<0.01–<0.01)	53 (43–63)
	2010	<1	<0.01 (<0.01–<0.01)	4.8 (4.5–5.2)	<0.01 (<0.01–0.017)	72 (16–128)	<0.01 (<0.01–<0.01)	51 (42–61)

[a] Rates are per 100 000 population.

TABLE A3.2 **Incidence, notification and case detection rates, all forms, 1990–2010**

			INCIDENCE (INCLUDING HIV)		INCIDENCE HIV-POSITIVE		NOTIFIED NEW AND RELAPSE[a]		CASE DETECTION RATE[a]
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[b]	NUMBER (THOUSANDS)	RATE[b]	NUMBER	RATE[b]	PERCENT
American Samoa	1990	<1	0.012 (<0.01–0.015)	26 (21–31)			9	19	75 (62–93)
	1995	<1	<0.01 (<0.01–<0.01)	12 (9.3–14)					–
	2000	<1	<0.01 (<0.01–<0.01)	6.9 (5.6–8.4)			3	5	75 (62–93)
	2005	<1	<0.01 (<0.01–<0.01)	13 (10–15)			6	10	75 (62–93)
	2008	<1	<0.01 (<0.01–<0.01)	6 (4.9–7.3)			3	5	75 (62–93)
	2009	<1	<0.01 (<0.01–<0.01)	7.9 (6.4–9.6)			4	6	75 (62–93)
	2010	<1	<0.01 (<0.01–<0.01)	7.8 (6.3–9.5)			4	6	75 (62–93)
Australia	1990	17	1.1 (0.99–1.3)	6.6 (5.8–7.5)	0.03 (0.017–0.048)	<1 (<1–<1)	1 016	6	90 (79–103)
	1995	18	1.2 (1.1–1.4)	6.7 (5.8–7.6)	0.029 (0.017–0.045)	<1 (<1–<1)	1 073	6	89 (78–102)
	2000	19	1.2 (1–1.3)	6.1 (5.4–7)	0.03 (0.017–0.046)	<1 (<1–<1)	1 043	5	89 (78–102)
	2005	20	1.2 (1.1–1.4)	6 (5.3–6.8)	0.039 (0.024–0.058)	<1 (<1–<1)	1 046	5	85 (75–97)
	2008	22	1.3 (1.2–1.5)	6.2 (5.4–7.1)	0.047 (0.028–0.072)	<1 (<1–<1)	1 213	6	90 (80–104)
	2009	22	1.4 (1.2–1.6)	6.3 (5.5–7.1)	0.05 (0.031–0.073)	<1 (<1–<1)	1 217	6	88 (78–101)
	2010	22	1.4 (1.2–1.6)	6.3 (5.6–7.1)	0.052 (0.032–0.077)	<1 (<1–<1)	1 187	5	84 (75–96)
Brunei Darussalam	1990	<1	0.17 (0.15–0.19)	66 (58–74)			143	57	86 (76–99)
	1995	<1	0.18 (0.16–0.21)	63 (55–71)					–
	2000	<1	0.33 (0.28–0.37)	100 (87–114)			307	94	94 (82–108)
	2005	<1	0.2 (0.17–0.22)	55 (48–61)	<0.01 (<0.01–<0.01)	<1 (<1–2.1)	163	45	82 (73–93)
	2008	<1	0.25 (0.22–0.28)	65 (57–74)			223	58	89 (78–102)
	2009	<1	0.25 (0.22–0.29)	65 (57–73)	<0.01 (<0.01–<0.01)	<1 (<1–1.9)	213	54	84 (75–96)
	2010	<1	0.27 (0.24–0.31)	68 (59–77)	<0.01 (<0.01–<0.01)	<1 (<1–1.4)	237	59	88 (78–101)
Cambodia	1990	10	55 (38–74)	574 (398–781)	2.1 (0.79–4.1)	22 (8.3–43)	6 501	68	12 (9–17)
	1995	11	59 (46–74)	529 (411–662)	5.7 (3.4–8.6)	51 (30–77)	14 603	131	25 (20–32)
	2000	12	61 (51–72)	492 (411–579)	6.1 (3.9–8.8)	49 (32–71)	18 891	152	31 (26–37)
	2005	13	62 (53–71)	461 (397–529)	4.8 (3.1–6.9)	36 (23–52)	35 535	266	58 (50–67)
	2008	14	62 (53–71)	446 (384–513)	4.2 (2.6–6.2)	30 (19–45)	38 927	282	63 (55–73)
	2009	14	62 (53–71)	442 (378–510)	4 (2.2–6.2)	28 (16–44)	39 202	280	64 (55–74)
	2010	14	62 (53–72)	437 (373–506)	4 (3.4–4.7)	29 (24–33)	40 460	286	65 (57–77)
China	1990	1 145	1700 (1400–2200)	153 (120–189)	0.79 (0.23–1.7)	<1 (<1–<1)	375 481	33	21 (17–27)
	1995	1 214	1600 (1300–1900)	129 (105–155)	10 (4.2–18)	<1 (<1–1.5)	515 764	42	33 (27–40)
	2000	1 269	1400 (1200–1600)	109 (92–127)	12 (6–19)	<1 (<1–1.5)	454 372	36	33 (28–39)
	2005	1 308	1200 (1000–1400)	92 (80–105)	16 (9.4–25)	1.3 (<1–1.9)	894 428	68	74 (65–86)
	2008	1 328	1100 (970–1300)	83 (73–94)	18 (11–28)	1.4 (<1–2.1)	975 821	73	88 (78–101)
	2009	1 335	1100 (940–1200)	80 (70–91)	18 (10–28)	1.3 (<1–2.1)	965 257	72	90 (79–103)
	2010	1 341	1000 (910–1200)	78 (68–88)	18 (10–28)	1.4 (<1–2.1)	908 399	68	87 (77–100)
China, Hong Kong SAR	1990	6	7.5 (6.6–8.5)	129 (113–146)			6 510	112	87 (77–99)
	1995	6	7.1 (6.3–8.1)	116 (102–132)			6 212	101	87 (77–99)
	2000	7	6.9 (6.1–7.8)	102 (89–115)			6 015	89	87 (77–99)
	2005	7	6.5 (5.7–7.4)	96 (84–108)	0.054 (0.036–0.076)	<1 (<1–1.1)	5 660	83	87 (77–99)
	2008	7	6.4 (5.6–7.2)	92 (81–104)	0.032 (<0.01–0.078)	<1 (<1–1.1)	5 544	80	87 (77–99)
	2009	7	5.9 (5.2–6.7)	85 (74–96)	0.057 (0.039–0.079)	<1 (<1–1.1)	5 160	74	87 (77–99)
	2010	7	5.7 (5–6.4)	80 (71–91)	0.042 (0.027–0.06)	<1 (<1–<1)	4 935	70	87 (77–99)
China, Macao SAR	1990	<1	0.4 (0.35–0.45)	110 (96–125)			343	95	87 (77–99)
	1995	<1	0.49 (0.43–0.55)	123 (108–138)			402	101	82 (73–93)
	2000	<1	0.52 (0.46–0.59)	121 (106–137)			449	104	86 (76–98)
	2005	<1	0.4 (0.35–0.45)	83 (73–94)	<0.01 (<0.01–<0.01)	<1 (<1–1.1)	355	74	89 (78–101)
	2008	<1	0.4 (0.34–0.45)	76 (66–87)	<0.01 (<0.01–<0.01)	<1 (<1–1)	359	69	91 (80–104)
	2009	<1	0.37 (0.33–0.42)	70 (62–79)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	308	58	82 (73–93)
	2010	<1	0.41 (0.36–0.47)	76 (67–87)	<0.01 (<0.01–<0.01)	<1 (<1–1.6)	368	68	89 (78–102)
Cook Islands	1990	<1	<0.01 (<0.01–<0.01)	<1 (<1–1.2)			0	0	0
	1995	<1	<0.01 (<0.01–<0.01)	19 (16–22)			2	11	58 (50–68)
	2000	<1	<0.01 (<0.01–<0.01)	12 (11–14)			1	6	46 (41–53)
	2005	<1	<0.01 (<0.01–<0.01)	6.4 (5–7.8)			1	5	81 (66–102)
	2008	<1	<0.01 (<0.01–<0.01)	12 (9–14)			2	10	87 (69–111)
	2009	<1	<0.01 (<0.01–<0.01)	9.3 (6.8–12)			2	10	107 (82–147)
	2010	<1	<0.01 (<0.01–<0.01)	3.5 (<1–7)			0	0	0
Fiji	1990	<1	0.32 (0.26–0.38)	43 (35–52)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	226	31	72 (59–88)
	1995	<1	0.27 (0.22–0.33)	35 (28–42)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	203	26	76 (62–94)
	2000	<1	0.22 (0.19–0.27)	28 (23–33)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	144	18	64 (54–77)
	2005	<1	0.17 (0.13–0.21)	21 (16–25)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	132	16	78 (64–98)
	2008	<1	0.16 (0.13–0.19)	19 (16–23)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	106	13	66 (56–80)
	2009	<1	0.19 (0.15–0.23)	22 (18–27)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	144	17	76 (62–94)
	2010	<1	0.23 (0.18–0.28)	27 (21–33)	<0.01 (<0.01–0.012)	<1 (<1–1.3)	189	22	82 (66–104)
French Polynesia	1990	<1	0.063 (0.055–0.072)	32 (28–37)			59	30	93 (82–108)
	1995	<1	0.1 (0.09–0.12)	48 (42–54)					–
	2000	<1	0.086 (0.077–0.095)	36 (32–40)			62	26	72 (65–80)
	2005	<1	0.071 (0.062–0.08)	28 (24–31)			63	25	89 (78–102)
	2008	<1	0.064 (0.057–0.072)	24 (22–27)			50	19	78 (70–88)
	2009	<1	0.058 (0.05–0.066)	22 (19–25)			53	20	92 (81–106)
	2010	<1	0.05 (0.044–0.056)	18 (16–21)			41	15	82 (73–93)
Guam	1990	<1	0.066 (0.058–0.075)	50 (44–56)					–
	1995	<1	0.099 (0.086–0.11)	68 (59–77)					–
	2000	<1	0.062 (0.054–0.07)	40 (35–45)			54	35	87 (77–99)
	2005	<1	0.072 (0.063–0.082)	43 (38–49)			63	37	87 (77–99)
	2008	<1	0.1 (0.09–0.12)	58 (51–66)	<0.01 (<0.01–0.011)	2 (<1–6.3)	89	51	87 (77–99)
	2009	<1	0.12 (0.1–0.13)	66 (58–75)			102	57	87 (77–99)
	2010	<1	0.12 (0.1–0.13)	65 (57–73)	<0.01 (<0.01–<0.01)	1 (<1–5)	101	56	87 (77–99)
Japan	1990	122	60 (52–67)	49 (43–55)	0.17 (0.086–0.27)	<1 (<1–<1)	51 821	42	87 (77–99)
	1995	124	50 (43–56)	40 (35–45)	0.14 (0.074–0.24)	<1 (<1–<1)	43 078	35	87 (77–99)
	2000	126	45 (39–51)	36 (31–40)	0.14 (0.069–0.22)	<1 (<1–<1)	39 384	31	88 (78–101)
	2005	126	31 (28–36)	25 (22–28)	0.11 (0.057–0.17)	<1 (<1–<1)	27 194	22	87 (77–99)
	2008	127	28 (24–31)	22 (19–25)	0.1 (0.053–0.17)	<1 (<1–<1)	24 181	19	87 (77–100)
	2009	127	27 (24–31)	22 (19–24)	0.1 (0.055–0.16)	<1 (<1–<1)	23 631	19	87 (77–99)
	2010	127	27 (24–31)	21 (19–24)	0.1 (0.055–0.17)	<1 (<1–<1)	22 693	18	84 (74–96)
Kiribati	1990	<1	0.084 (0.066–0.1)	116 (92–144)			68	95	81 (66–103)
	1995	<1	0.39 (0.32–0.47)	505 (409–611)					–
	2000	<1	0.31 (0.25–0.38)	372 (295–458)			252	300	81 (65–102)
	2005	<1	0.45 (0.36–0.54)	488 (394–591)			332	361	74 (61–92)
	2008	<1	0.43 (0.35–0.53)	450 (360–549)			335	347	77 (63–96)
	2009	<1	0.4 (0.33–0.48)	408 (334–488)	<0.01 (<0.01–0.016)	5 (<1–16)	278	284	70 (58–85)
	2010	<1	0.37 (0.3–0.45)	370 (297–452)	<0.01 (<0.01–<0.01)	2.6 (1.8–3.5)	286	287	78 (64–97)
Lao People's Democratic Republic	1990	4	3.7 (2.6–4.9)	88 (62–118)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	1 826	44	50 (37–70)
	1995	5	4.1 (3.1–5.3)	86 (64–111)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	830	17	20 (16–27)
	2000	5	4.5 (3.5–5.7)	85 (67–106)	0.014 (<0.01–0.037)	<1 (<1–<1)	2 227	42	49 (39–63)
	2005	6	5 (4–6.1)	87 (70–105)	0.088 (0.042–0.15)	1.5 (<1–2.6)	3 699	64	74 (61–92)
	2008	6	5.3 (4.3–6.4)	88 (72–106)	0.17 (0.097–0.27)	2.9 (1.6–4.5)	4 045	67	76 (63–93)
	2009	6	5.4 (4.5–6.5)	89 (73–107)	0.21 (0.11–0.33)	3.4 (1.9–5.4)	3 848	63	71 (59–86)
	2010	6	5.6 (4.6–6.7)	90 (74–107)	0.24 (0.13–0.38)	3.9 (2.2–6.2)	3 999	64	72 (60–88)

[a] Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (in *italics*).
[b] Rates are per 100 000 population.

Data can be downloaded from www.who.int/tb/data

TABLE A3.2 **Incidence, notification and case detection rates, all forms, 1990–2010**

			INCIDENCE (INCLUDING HIV)		INCIDENCE HIV-POSITIVE		NOTIFIED NEW AND RELAPSE[a]		CASE DETECTION RATE[a]
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[b]	NUMBER (THOUSANDS)	RATE[b]	NUMBER	RATE[b]	PERCENT
Malaysia	1990	18	23 (20–26)	127 (112–142)	0.36 (0.15–0.66)	2 (<1–3.6)	11 702	64	51 (45–57)
	1995	21	22 (20–25)	108 (97–120)	1.5 (0.97–2.2)	7.4 (4.7–11)	11 778	57	53 (47–59)
	2000	23	22 (20–24)	95 (86–104)	2.1 (1.4–2.9)	8.8 (5.8–12)	15 057	64	68 (62–75)
	2005	26	22 (20–24)	86 (79–94)	2.6 (2.4–2.9)	10 (9.1–11)	15 342	59	68 (63–75)
	2008	28	23 (21–25)	83 (76–91)	2.8 (2.6–3.1)	10 (9.4–11)	17 144	62	75 (69–82)
	2009	28	23 (21–25)	83 (75–90)	2.6 (2.3–2.8)	9.2 (8.4–10)	17 341	62	75 (69–82)
	2010	28	23 (21–25)	82 (75–89)	2.3 (2.1–2.5)	8 (7.3–8.7)	18 517	65	80 (73–87)
Marshall Islands	1990	<1	0.065 (<0.01–0.2)	137 (11–417)					–
	1995	<1	0.097 (0.022–0.23)	190 (42–445)					–
	2000	<1	0.14 (0.083–0.2)	263 (158–393)			34	65	25 (17–41)
	2005	<1	0.19 (0.046–0.43)	363 (89–826)			111	213	59 (26–240)
	2008	<1	0.23 (0.067–0.5)	441 (126–949)			125	236	54 (25–188)
	2009	<1	0.25 (0.071–0.54)	471 (134–1014)	<0.01 (<0.01–0.02)	9.6 (<1–37)	135	253	54 (25–189)
	2010	<1	0.27 (0.046–0.69)	502 (85–1279)			190	352	70 (27–412)
Micronesia (Federated States of)	1990	<1	0.36 (0.093–0.82)	379 (96–850)			367	381	101 (45–396)
	1995	<1	0.35 (0.19–0.55)	325 (181–510)			172	160	49 (31–88)
	2000	<1	0.3 (0.21–0.4)	279 (198–374)			91	85	30 (23–43)
	2005	<1	0.26 (0.17–0.37)	240 (156–341)			98	90	37 (26–57)
	2008	<1	0.24 (0.1–0.44)	219 (94–395)			164	149	68 (38–158)
	2009	<1	0.23 (0.11–0.41)	212 (98–370)			148	134	63 (36–137)
	2010	<1	0.23 (0.095–0.42)	206 (86–377)			160	144	70 (38–168)
Mongolia	1990	2	8.9 (7.5–10)	405 (344–471)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	1 659	76	19 (16–22)
	1995	2	7.2 (6.3–8.2)	314 (273–357)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	2 780	121	38 (34–44)
	2000	2	6.1 (5.5–6.8)	254 (227–281)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	3 109	129	51 (46–57)
	2005	3	5.7 (5.3–6.2)	225 (206–244)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	4 601	181	80 (74–88)
	2008	3	5.9 (5.5–6.4)	222 (206–239)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	4 490	168	76 (70–82)
	2009	3	6.1 (5.6–6.5)	224 (208–240)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	4 481	165	74 (69–80)
	2010	3	6.2 (5.7–6.6)	224 (208–240)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	4 458	162	72 (67–78)
Nauru	1990	<1	<0.01 (<0.01–0.011)	102 (82–124)			7	76	75 (62–93)
	1995	<1	<0.01 (<0.01–<0.01)	47 (38–57)					–
	2000	<1	<0.01 (<0.01–<0.01)	45 (35–57)			4	40	88 (70–114)
	2005	<1	0.014 (0.011–0.017)	139 (111–170)			11	109	78 (64–98)
	2008	<1	<0.01 (<0.01–<0.01)	55 (42–69)			5	49	89 (71–116)
	2009	<1	<0.01 (<0.01–<0.01)	51 (41–63)			4	39	76 (63–95)
	2010	<1	<0.01 (<0.01–<0.01)	40 (32–48)			3	29	73 (61–91)
New Caledonia	1990	<1	0.17 (0.15–0.19)	99 (87–111)			143	84	85 (76–97)
	1995	<1	0.11 (0.1–0.13)	59 (53–66)			87	46	77 (69–86)
	2000	<1	0.087 (0.074–0.1)	41 (35–48)			94	44	108 (93–127)
	2005	<1	0.056 (0.05–0.064)	24 (22–28)			47	20	83 (74–94)
	2008	<1	0.055 (0.048–0.061)	22 (20–25)			44	18	81 (72–91)
	2009	<1	0.056 (0.048–0.064)	23 (19–26)			54	22	97 (85–113)
	2010	<1	0.057 (0.05–0.064)	23 (20–26)			49	20	86 (76–98)
New Zealand	1990	3	0.37 (0.33–0.43)	11 (9.6–13)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	348	10	93 (81–107)
	1995	4	0.41 (0.35–0.47)	11 (9.5–13)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	391	11	96 (84–112)
	2000	4	0.42 (0.37–0.47)	11 (9.5–12)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	344	9	83 (73–94)
	2005	4	0.39 (0.34–0.44)	9.5 (8.3–11)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	332	8	85 (75–96)
	2008	4	0.36 (0.32–0.4)	8.4 (7.4–9.4)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	292	7	82 (73–92)
	2009	4	0.35 (0.3–0.39)	8 (7–9)	<0.01 (<0.01–<0.01)	<1 (<1–<1)	298	7	86 (76–98)
	2010	4	0.33 (0.29–0.38)	7.6 (6.6–8.7)	<0.01 (<0.01–0.012)	<1 (<1–<1)	301	7	90 (79–104)
Niue	1990	<1	<0.01 (<0.01–<0.01)	74 (<1–148)			0	0	0
	1995	<1	<0.01 (<0.01–<0.01)	57 (<1–114)			0	0	0
	2000	<1	<0.01 (<0.01–<0.01)	40 (<1–81)			0	0	0
	2005	<1	<0.01 (<0.01–<0.01)	23 (<1–47)			0	0	0
	2008	<1	<0.01 (<0.01–<0.01)	13 (<1–27)			0	0	0
	2009	<1	<0.01 (<0.01–<0.01)	9.9 (<1–20)			0	0	0
	2010	<1	<0.01 (<0.01–<0.01)	6.5 (<1–13)			0	0	0
Northern Mariana Islands	1990	<1	0.038 (0.03–0.046)	86 (69–104)			28	64	74 (61–92)
	1995	<1	0.062 (0.05–0.076)	109 (87–133)			48	83	77 (63–96)
	2000	<1	0.092 (0.073–0.11)	135 (107–166)			75	110	81 (66–103)
	2005	<1	0.074 (0.059–0.09)	110 (88–134)			57	85	77 (63–96)
	2008	<1	0.045 (0.037–0.053)	71 (60–84)			28	45	63 (53–75)
	2009	<1	0.045 (0.036–0.056)	74 (58–92)			38	62	84 (68–107)
	2010	<1	0.044 (0.036–0.053)	72 (58–87)			32	53	73 (60–90)
Palau	1990	<1	<0.01 (<0.01–<0.01)	45 (36–55)					–
	1995	<1	0.025 (0.02–0.031)	147 (118–178)			19	110	75 (62–93)
	2000	<1	0.03 (0.024–0.036)	156 (126–190)					–
	2005	<1	0.013 (0.011–0.016)	67 (54–81)			10	50	75 (62–93)
	2008	<1	0.019 (0.016–0.023)	95 (77–116)					–
	2009	<1	0.025 (0.02–0.031)	125 (100–151)			19	93	75 (62–93)
	2010	<1	0.025 (0.02–0.031)	124 (100–150)			19	93	75 (62–93)
Papua New Guinea	1990	4	13 (8.2–18)	303 (197–430)	0.015 (<0.01–0.052)	<1 (<1–1.2)	2 497	60	20 (14–30)
	1995	5	14 (9.3–20)	303 (197–430)	0.077 (0.015–0.19)	1.6 (<1–4)	8 041	171	56 (40–86)
	2000	5	16 (11–23)	303 (197–430)	0.3 (0.14–0.51)	5.5 (2.6–9.6)	10 520	196	65 (45–99)
	2005	6	18 (12–26)	303 (197–430)	0.64 (0.36–1)	11 (5.9–17)	12 564	206	68 (48–104)
	2008	7	20 (13–28)	303 (197–430)	0.76 (0.37–1.3)	12 (5.6–20)	13 984	214	71 (50–108)
	2009	7	20 (13–29)	303 (197–430)	0.79 (0.46–1.2)	12 (6.8–18)	12 306	184	61 (43–93)
	2010	7	21 (14–29)	303 (197–430)	0.83 (0.48–1.3)	12 (7–19)	14 531	212	70 (49–107)
Philippines	1990	62	240 (150–360)	393 (239–585)	0.016 (<0.01–0.032)	<1 (<1–<1)	317 008	514	131 (88–215)
	1995	69	250 (200–300)	360 (293–434)	0.068 (0.026–0.13)	<1 (<1–<1)	119 186	172	48 (40–59)
	2000	77	250 (210–310)	329 (268–396)	0.19 (0.028–0.51)	<1 (<1–<1)	119 914	155	47 (39–58)
	2005	86	260 (210–310)	301 (245–362)	0.42 (0.15–0.82)	<1 (<1–<1)	137 100	160	53 (44–66)
	2008	90	260 (210–310)	285 (232–343)	0.73 (0.36–1.2)	<1 (<1–1.4)	139 603	155	54 (45–67)
	2009	92	260 (210–310)	280 (229–336)	0.88 (0.42–1.5)	<1 (<1–1.6)	146 565	160	57 (48–70)
	2010	93	260 (210–310)	275 (226–329)	1 (0.51–1.8)	1.1 (<1–1.9)	166 323	178	65 (54–79)
Republic of Korea	1990	43	70 (61–80)	163 (142–186)	0.13 (0.041–0.28)	<1 (<1–<1)	63 904	149	91 (80–105)
	1995	45	46 (40–52)	102 (89–117)	0.099 (0.032–0.2)	<1 (<1–<1)	42 117	94	92 (81–106)
	2000	46	36 (33–40)	79 (72–86)	0.11 (0.065–0.16)	<1 (<1–<1)	21 782	47	60 (55–65)
	2005	47	41 (36–47)	88 (76–100)	0.26 (0.14–0.41)	<1 (<1–<1)	38 290	81	93 (81–107)
	2008	48	44 (39–50)	93 (82–105)	0.28 (0.15–0.45)	<1 (<1–<1)	36 847	77	83 (74–94)
	2009	48	46 (40–51)	95 (83–107)	0.3 (0.16–0.48)	<1 (<1–1)	38 741	81	85 (75–97)
	2010	48	47 (41–53)	97 (85–110)	0.33 (0.17–0.52)	<1 (<1–1.1)	41 889	87	90 (79–103)
Samoa	1990	<1	0.058 (0.047–0.071)	36 (29–44)			44	27	76 (62–94)
	1995	<1	0.05 (0.038–0.063)	30 (23–37)			45	27	90 (71–117)
	2000	<1	0.041 (0.03–0.054)	23 (17–30)			43	24	104 (80–141)
	2005	<1	0.031 (0.025–0.038)	17 (14–21)			24	13	78 (64–97)
	2008	<1	0.024 (0.021–0.028)	13 (12–15)			12	7	49 (43–57)
	2009	<1	0.022 (0.018–0.027)	12 (9.8–15)			16	9	73 (60–89)
	2010	<1	0.02 (0.016–0.024)	11 (8.9–13)			14	8	71 (59–86)

[a] Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (in *italics*).
[b] Rates are per 100 000 population.

TABLE A3.2 **Incidence, notification and case detection rates, all forms, 1990–2010**

			INCIDENCE (INCLUDING HIV)		INCIDENCE HIV-POSITIVE		NOTIFIED NEW AND RELAPSE[a]		CASE DETECTION RATE[a]
	YEAR	POPULATION (MILLIONS)	NUMBER (THOUSANDS)	RATE[b]	NUMBER (THOUSANDS)	RATE[b]	NUMBER	RATE[b]	PERCENT
Singapore	1990	3	1.9 (1.7–2.1)	62 (55–70)	0.026 (0.016–0.04)	<1 (<1–1.3)	1 591	53	85 (75–96)
	1995	3	2.1 (1.9–2.4)	61 (53–69)	0.083 (0.043–0.14)	2.4 (1.2–3.9)	1 889	54	89 (78–101)
	2000	4	2 (1.7–2.2)	50 (44–57)	0.09 (0.051–0.14)	2.3 (1.3–3.6)	1 728	44	88 (77–100)
	2005	4	1.6 (1.4–1.8)	37 (32–41)	0.073 (0.044–0.11)	1.7 (1–2.6)	1 356	32	87 (77–99)
	2008	5	1.7 (1.5–1.9)	36 (31–41)	0.079 (0.045–0.12)	1.6 (<1–2.6)	1 548	32	91 (80–104)
	2009	5	1.8 (1.6–2)	36 (31–40)	0.081 (0.059–0.11)	1.6 (1.2–2.2)	1 525	31	86 (76–98)
	2010	5	1.8 (1.6–2)	35 (31–40)	0.081 (0.059–0.11)	1.6 (1.2–2.1)	1 560	31	87 (77–99)
Solomon Islands	1990	<1	0.97 (0.59–1.4)	312 (190–464)			382	123	40 (27–65)
	1995	<1	0.86 (0.7–1)	240 (195–290)			352	99	41 (34–51)
	2000	<1	0.75 (0.61–0.91)	185 (150–223)			302	74	40 (33–49)
	2005	<1	0.67 (0.54–0.8)	142 (116–171)			397	85	60 (49–73)
	2008	<1	0.62 (0.5–0.74)	121 (99–146)			387	76	63 (52–77)
	2009	<1	0.6 (0.49–0.72)	115 (94–138)			366	70	61 (51–75)
	2010	<1	0.58 (0.48–0.7)	108 (89–130)			338	63	58 (48–71)
Tokelau	1990	<1	<0.01 (<0.01–<0.01)	72 (56–90)			1	62	86 (69–111)
	1995	<1	<0.01 (<0.01–<0.01)	39 (12–82)			2	132	335 (160–1098)
	2000	<1	<0.01 (<0.01–<0.01)	13 (<1–26)			0	0	0
	2005	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)			0	0	–
	2008	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)			0	0	–
	2009	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)			0	0	–
	2010	<1	<0.01 (<0.01–<0.01)	<1 (<1–<1)			0	0	–
Tonga	1990	<1	0.036 (0.03–0.042)	38 (32–45)			23	24	64 (54–77)
	1995	<1	0.032 (0.026–0.037)	33 (28–39)			20	21	63 (54–76)
	2000	<1	0.027 (0.021–0.034)	28 (22–35)			24	25	88 (70–113)
	2005	<1	0.023 (0.018–0.028)	22 (18–28)			18	18	79 (65–100)
	2008	<1	0.02 (0.016–0.023)	19 (16–23)			13	13	66 (56–80)
	2009	<1	0.019 (0.016–0.021)	18 (16–20)			8	8	43 (39–49)
	2010	<1	0.017 (0.015–0.021)	17 (14–20)			11	11	63 (54–76)
Tuvalu	1990	<1	0.048 (0.031–0.07)	536 (343–772)			23	255	48 (33–75)
	1995	<1	0.04 (0.016–0.076)	437 (174–819)			36	390	89 (48–224)
	2000	<1	0.034 (0.021–0.048)	357 (228–514)			16	170	48 (33–74)
	2005	<1	0.028 (0.019–0.039)	291 (196–404)			12	124	43 (31–63)
	2008	<1	0.025 (0.013–0.041)	258 (133–423)			17	174	67 (41–131)
	2009	<1	0.024 (0.012–0.042)	247 (118–423)			18	184	74 (43–155)
	2010	<1	0.023 (0.013–0.037)	237 (133–371)			14	142	60 (38–107)
Vanuatu	1990	<1	0.19 (0.15–0.23)	127 (103–155)			140	95	75 (62–93)
	1995	<1	0.11 (0.085–0.13)	63 (50–76)			79	47	75 (62–93)
	2000	<1	0.2 (0.16–0.25)	110 (88–133)			152	82	75 (62–93)
	2005	<1	0.17 (0.14–0.21)	83 (67–100)			76	36	44 (36–54)
	2008	<1	0.17 (0.14–0.2)	74 (61–90)			103	45	61 (50–75)
	2009	<1	0.17 (0.14–0.2)	72 (59–86)			134	57	80 (66–98)
	2010	<1	0.17 (0.14–0.2)	69 (57–83)	0.05 (0.026–0.078)	21 (11–33)	116	48	70 (58–85)
Viet Nam	1990	67	140 (100–180)	204 (153–262)	0.39 (0.11–0.85)	<1 (<1–1.3)	50 203	75	37 (29–49)
	1995	74	150 (110–190)	204 (154–262)	1.4 (0.7–2.3)	1.9 (<1–3.2)	55 739	75	37 (29–49)
	2000	79	160 (120–210)	205 (154–263)	3.5 (2.1–5.3)	4.5 (2.7–6.7)	89 792	114	56 (43–74)
	2005	83	170 (130–220)	204 (154–261)	6.2 (3.8–9.3)	7.5 (4.5–11)	94 916	114	56 (44–74)
	2008	86	170 (130–220)	201 (152–258)	7.1 (4–11)	8.3 (4.7–13)	97 772	114	56 (44–75)
	2009	87	170 (130–220)	200 (152–255)	7.3 (4.5–11)	8.4 (5.2–13)	95 036	109	55 (43–72)
	2010	88	180 (130–220)	199 (152–253)	7.6 (4.6–11)	8.6 (5.2–13)	94 867	108	54 (43–71)
Wallis and Futuna Islands	1990	<1	0.012 (0.011–0.013)	85 (78–93)					–
	1995	<1	0.011 (0.01–0.012)	77 (71–83)			6	42	55 (51–60)
	2000	<1	<0.01 (<0.01–0.01)	68 (66–70)					–
	2005	<1	<0.01 (<0.01–<0.01)	60 (53–67)			7	49	83 (73–94)
	2008	<1	<0.01 (<0.01–<0.01)	54 (50–59)					–
	2009	<1	<0.01 (<0.01–<0.01)	53 (43–63)			9	66	125 (105–151)
	2010	<1	<0.01 (<0.01–<0.01)	51 (42–61)			*9*	*66*	*129 (108–157)*

[a] Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (in *italics*).
[b] Rates are per 100 000 population.

Data can be downloaded from www.who.int/tb/data

TABLE A3.3 **Case notifications, 1990–2010**

	NEW AND RELAPSE NOTIFICATION RATE[a] 1990–2010	YEAR	NEW AND RELAPSE[a]	NEW CASES: SMEAR-POSITIVE	NEW CASES: SMEAR-NEGATIVE/ UNKNOWN	NEW CASES: EXTRA-PULMONARY	NEW CASES: OTHER	RELAPSE	RE-TREAT EXCL. RELAPSE	TOTAL RETREAT	HISTORY UNKNOWN	% SMEAR-POS AMONG NEW PULM
American Samoa		1990	9									–
		1995										–
		2000	3	2	0	1		0		0		100
		2005	6	3	2	0	0	1	0	1	0	60
		2008	3	0	3	0	0	0	0	0	0	0
		2009	4	0	2	2	0	0	0	0	0	0
	• 19 6 •	2010	4	0	3	1	0	0	0	0	0	0
Australia		1990	1 016									–
		1995	1 073									–
		2000	1 043	251	362	369		17		17		41
		2005	1 046	241	339	450		16	27	43		42
		2008	1 213	299	409	473	1	31	12	43	2	42
		2009	1 217	267	391	511	7	41	20	61	77	41
	• 6 5 •	2010	1 187	274	410	457	5	41	24	65	70	40
Brunei Darussalam		1990	143									–
		1995										–
		2000	307	84	166	42		15		15		34
		2005	163	101	30	27		5	0	5	0	77
		2008	223	132	28	43	8	12	0	12	0	83
		2009	213	140	18	49	6	0	0	0	0	89
	• 57 59 •	2010	237	146	30	43	13	5	0	5	0	83
Cambodia		1990	6 501									–
		1995	14 603	11 101	1 465	1 428		605		605		88
		2000	18 891	14 822	1 108	2 147		814		814		93
		2005	35 535	21 001	7 057	6 759		718	588	1 306		75
		2008	38 927	19 860	7 847	10 678	0	542	893	1 435	0	72
		2009	39 202	17 863	8 378	12 529	0	432	997	1 429	0	68
	• 68 286 •	2010	40 460	17 454	8 301	14 239	0	466	1 168	1 634	0	68
China		1990	375 481									–
		1995	515 764	134 488	203 088	1 560		18 693		18 693		40
		2000	454 372	204 765	229 943			19 664	53 480	73 144		47
		2005	894 428	472 719	329 157	42 845		49 707	90 780	140 487	5 301	59
		2008	975 821	462 596	431 115	35 546	2 863	43 701	58 378	102 079	0	52
		2009	965 257	449 152	439 399	34 169	0	42 537	17 046	59 583	0	51
	• 33 68 •	2010	908 399	429 899	432 868	6 325	0	39 307	14 909	54 216	0	50
China, Hong Kong SAR		1990	6 510									–
		1995	6 212	0								–
		2000	6 015	1 940	3 115	772		188	594	782		38
		2005	5 660	1 561	3 179	701	0	219	500	719	0	33
		2008	5 544	1 459	2 981	728	0	376	185	561	0	33
		2009	5 160	1 444	2 673	722	0	321	188	509	0	35
	• 112 70 •	2010	4 935	1 475	2 352	792	0	316	197	513	0	39
China, Macao SAR		1990	343									–
		1995	402	141	94	70		49		49		60
		2000	449	160	180	50		12		12		47
		2005	355	136	162	43	0	14	17	31	43	46
		2008	359	139	150	49	0	21	17	38	35	48
		2009	308	116	130	45	0	17	28	45	35	47
	• 95 68 •	2010	368	123	175	49	0	21	39	60	26	41
Cook Islands		1990	0	0	0	0	0	0	0	0	0	–
		1995	2	2	0	0	0	0	0	0	0	100
		2000	1	0	1	0	0	0	0	0	0	0
		2005	1	1	0	0	0	0	0	0	0	100
		2008	2	2	0	0	0	0	0	0		100
		2009	2	1	1	0	0	0	0	0	0	50
	• 0 0 •	2010	0	0	0	0	0	0	0	0	0	–
Fiji		1990	226	84	105	37						44
		1995	203	68	99	34		2	0	2		41
		2000	144	62	42	40		0	0	0		60
		2005	132	63	29	40						68
		2008	106	78	5	19	0	4	0	4	0	94
		2009	144	83	21	38	0	2	0	2	0	80
	• 31 22 •	2010	189	89	45	45	0	10	2	12	0	66
French Polynesia		1990	59									–
		1995										–
		2000	62	29	19	10		1		1		60
		2005	63	21	25	14		3	0	3	0	46
		2008	50	20	18	10	0	2	0	2	0	53
		2009	53	17	17	14	0	5	0	5	0	50
	• 30 15 •	2010	41	13	18	6	0	4	0	4	0	42
Guam		1990										–
		1995										–
		2000	54	43	5	6		1		1		90
		2005	63	27	26	9	0	1	1	2	0	51
		2008	89	31	50	8	0	0	1	1	0	38
		2009	102	31	60	10	0	1	0	1	0	34
	– 56 •	2010	101	39	51	9	0	2	0	2	0	43
Japan		1990	51 821									–
		1995	43 078	14 367	25 172	2 803		736		736		36
		2000	39 384	11 853	19 118	7 046		1 367		1 367		38
		2005	27 194	10 931	10 056	5 340		867	1 125	1 992		52
		2008	24 181	8 995	8 856	5 073	0	1 257	579	1 836	0	50
		2009	23 631	8 853	8 591	4 975		1 212	539	1 751		51
	• 42 18 •	2010	22 693	8 237	8 630	4 632	0	1 194	568	1 762		49
Kiribati		1990	68									–
		1995										–
		2000	252	54	47	106		3		3		53
		2005	332	124	79	126		3	7	10		61
		2008	335	147	71	107	0	10	7	17	0	67
		2009	278	145	70	59	0	4	0	4	0	67
	• 95 287 •	2010	286	118	91	71	0	6	8	14	0	56
Lao People's Democratic Republic		1990	1 826									–
		1995	830	478	404	95		2		2		54
		2000	2 227	1 526	457	180		64		64		77
		2005	3 699	2 801	484	275		139	41	180	67	85
		2008	4 045	3 075	519	298	0	153	26	179	78	86
		2009	3 848	3 034	368	292	0	154	30	184	52	89
	• 44 64 •	2010	3 999	3 119	394	323		163	22	185	62	89

[a] Rates are per 100 000 population. Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (*in italics*).

TABLE A3.3 **Case notifications, 1990–2010**

	NEW AND RELAPSE NOTIFICATION RATE[a] 1990–2010	YEAR	NEW AND RELAPSE[a]	NEW CASES: SMEAR-POSITIVE	NEW CASES: SMEAR-NEGATIVE/ UNKNOWN	NEW CASES: EXTRA-PULMONARY	NEW CASES: OTHER	RELAPSE	RE-TREAT EXCL. RELAPSE	TOTAL RETREAT	HISTORY UNKNOWN	% SMEAR-POS AMONG NEW PULM
Malaysia		1990	11 702									–
		1995	11 778	6 688	4 021	1 069		210		210		62
		2000	15 057	8 156	5 517	1 384		0		0		60
		2005	15 342	8 446	4 862	1 702	0	332	651	983	73	63
		2008	17 144	10 441	3 814	2 197	0	692	362	1 054	0	73
		2009	17 341	9 981	4 596	2 344	0	420	761	1 181	0	68
	• 64 65 •	2010	18 517	11 135	4 338	2 545	0	499	820	1 319	0	72
Marshall Islands		1990										–
		1995										–
		2000	34	11	25	9		0		0		31
		2005	111	48	31	28		4	1	5	0	61
		2008	125	28	62	30	0	5	2	7	0	31
		2009	135	52	71	12	0	0	2	2	6	42
	– 352 •	2010	190	59	64	65	0	2	8	10	3	48
Micronesia (Federated States of)		1990	367									–
		1995	172	9	79	18		2		2		10
		2000	91	15	69	4		3		3		18
		2005	98	32	35	19	5	7	14	21		48
		2008	164	38	89	30	4	3	2	5	0	30
		2009	148	61	47	38	0	2	7	9	0	56
	• 381 144 •	2010	160	53	79	25	0	3	10	13	4	40
Mongolia		1990	1 659	0								–
		1995	2 780	455	1 330	976		82		82		25
		2000	3 109	1 389	732	862		126		126		65
		2005	4 601	1 868	897	1 620	0	216	125	341	0	68
		2008	4 490	1 838	640	1 745	0	267	277	544	0	74
		2009	4 481	1 809	726	1 683	0	263	306	569	0	71
	• 76 162 •	2010	4 458	1 837	701	1 675	0	245	343	588	0	72
Nauru		1990	7									–
		1995										–
		2000	4	4	0	0		0		0		100
		2005	11	0	11							0
		2008	5	2	2	0	0	1	2	3	0	50
		2009	4	1	1	2	0	0	0	0	0	50
	• 76 29 •	2010	3	1	1	1	0	0	0	0	0	50
New Caledonia		1990	143									–
		1995	87	21	81	9		4		4		21
		2000	94	20	15	29		4		4		57
		2005	47	16	15	15		1	6	7	0	52
		2008	44	9	22	10	0	3	1	4	6	29
		2009	54	15	26	13	0	0	9	9	0	37
	• 84 20 •	2010	49	20	16	13	0		8	8	0	56
New Zealand		1990	348									–
		1995	391	78	222	34		4		4		26
		2000	344	74	133	130		7	0	7		36
		2005	332	83	114	95	29	11	8	19		42
		2008	292	101	91	92	2	6	5	11		53
		2009	298	90	90	102	11	5	4	9		50
	• 10 7 •	2010	301	86	68	134	6	7	4	11		56
Niue		1990	0									–
		1995	0	0	1			0		0		0
		2000	0	0	0							–
		2005	0	0								–
		2008	0	0	0	0	0	0	0	0	0	–
		2009	0	0	0	0						–
	• 0 0 •	2010	0	0	0	0	0	0	0	0	0	–
Northern Mariana Islands		1990	28									–
		1995	48	14	26	8		0		0		35
		2000	75	27	37	11		0		0		42
		2005	57	15	35	7	0	0	0	0	0	30
		2008	28	13	12	3	0	0	2	2	0	52
		2009	38	16	16	6	0	0	0	0	0	50
	• 64 53 •	2010	32	17	13	2	0	0	0	0	0	57
Palau		1990										–
		1995	19	9	6	4		0		0		60
		2000										–
		2005	10	3	6	1		0	0	0		33
		2008										–
		2009	19	6	9	4	0	0	0	0	0	40
	– 93 •	2010	19	9	10	0	0	0	0	0	0	47
Papua New Guinea		1990	2 497									–
		1995	8 041	1 652	3 767	2 349		273		273		30
		2000	10 520	1 933	4 405	3 227		955		955		30
		2005	12 564	1 805	5 105	4 198		1 456		1 456		26
		2008	13 984	2 323	5 340	4 522		1 799		1 799	0	30
		2009	12 306	2 238	4 768	4 826		474	914	1 388		32
	• 60 212 •	2010	14 531	2 584	5 907	5 798		242	1 582	1 824		30
Philippines		1990	317 008									–
		1995	119 186	94 768	140 712	8		8		8		40
		2000	119 914	67 056	52 858							56
		2005	137 100	81 647	50 347	1 149	0	3 957		3 957		62
		2008	139 603	85 025	49 916	2 085	0	2 577	6 289	8 866	0	63
		2009	146 565	88 806	52 041	2 745	0	2 973	6 602	9 575	0	63
	• 514 178 •	2010	166 323	89 198	72 440	1 610	0	3 075	8 066	11 141	0	55
Republic of Korea		1990	63 904									–
		1995	42 117	11 754	19 360			2 082		2 082		38
		2000	21 782	8 216	11 304			2 262		2 262		42
		2005	38 290	11 638	18 460	5 171	0	3 021	4 077	7 098	4 602	39
		2008	36 847	11 048	17 292	5 813	0	2 694	3 616	6 310	3 707	39
		2009	38 741	11 285	17 634	6 923	0	2 899	3 981	6 880	4 577	39
	• 149 87 •	2010	41 889	11 596	18 660	8 795	0	2 838	4 038	6 876	2 174	38
Samoa		1990	44									–
		1995	45	15	30	6		0		0		33
		2000	43	13	18	12		0		0		42
		2005	24	11	8	5	0	0	0	0	0	58
		2008	12	6	5	1	0	0	0	0	0	55
		2009	16	8	5	3	0	0	0	0	0	62
	• 27 8 •	2010	14	6	5	3	0	0	0	0	0	55

[a] Rates are per 100 000 population. Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (*in italics*).

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TABLE A3.3 **Case notifications, 1990–2010**

	NEW AND RELAPSE NOTIFICATION RATE[a] 1990–2010	YEAR	NEW AND RELAPSE[a]	NEW CASES: SMEAR-POSITIVE	NEW CASES: SMEAR-NEGATIVE/ UNKNOWN	NEW CASES: EXTRA-PULMONARY	NEW CASES: OTHER	RELAPSE	RE-TREAT EXCL. RELAPSE	TOTAL RETREAT	HISTORY UNKNOWN	% SMEAR-POS AMONG NEW PULM
Singapore		1990	1 591									–
		1995	1 889	455	1 187	127		120		120		28
		2000	1 728	248	869	165		55		55		22
		2005	1 356	552	570	174	0	60	93	153	20	49
		2008	1 548	525	672	240	0	111	40	151	13	44
		2009	1 525	552	655	235	0	83	49	132	0	46
	• 53 31 •	2010	1 560	530	735	213	0	82	48	130	0	42
Solomon Islands		1990	382									–
		1995	352	109	133	97		13		13		45
		2000	302	109	128	65		0		0		46
		2005	397	169	161	62	0	5	0	5	0	51
		2008	387	140	136	97	0	14	0	14	0	51
		2009	366	138	86	140	0	2	0	2	0	62
	• 123 63 •	2010	338	133	98	105	0	2	3	5	0	58
Tokelau		1990	1									–
		1995	2	1	1	0		0		0		50
		2000	0	0	0	0		0		0		–
		2005	0	0	0	0	0	0	0	0	0	–
		2008	0	0	0	0	0	0	0	0	0	–
		2009	0	0	0	0	0	0	0	0	0	–
	• 62 0 •	2010	0	0	0	0	0	0	0	0	0	–
Tonga		1990	23									–
		1995	20	9	2	9		0		0		82
		2000	24	15	5	3		1		1		75
		2005	18	11	3	4						79
		2008	13	11	0	2	0	0	0	0	0	100
		2009	8	6	1	1	0	0	0	0	0	86
	• 24 11 •	2010	11	6	3	2	0	0	0	0	0	67
Tuvalu		1990	23									–
		1995	36	6	13	16		1		1		32
		2000	16	0	7	7						0
		2005	12	5	3	4			3	3		63
		2008	17	9	5	3	0	0	2	2	0	64
		2009	18	8	0	10	0	0	0	0	0	100
	• 255 142 •	2010	14	5	2	7	0	0	0	0	0	71
Vanuatu		1990	140									–
		1995	79	30	27	21		1		1		53
		2000	152	63	56	28		5		5		53
		2005	76	35	21	17	0	3	5	8	0	63
		2008	103	45	19	39	0	0	1	1	0	70
		2009	134	47	24	62	0	1	2	3	0	66
	• 95 48 •	2010	116	44	33	35	3	1	0	1	0	57
Viet Nam		1990	50 203									–
		1995	55 739	37 550	8 379	6 194		3 616		3 616		82
		2000	89 792	53 169	17 993	13 137		5 493		5 493		75
		2005	94 916	55 492	16 429	16 670	0	6 325	976	7 301	0	77
		2008	97 772	53 484	19 056	18 610	0	6 622	912	7 534	0	74
		2009	95 036	51 291	18 612	18 333	0	6 800	1 331	8 131	1 825	73
	• 75 108 •	2010	94 867	52 145	18 237	17 651	0	6 834	1 574	8 408	2 581	74
Wallis and Futuna Islands		1990										–
		1995	6	3	2	0		1		1		60
		2000										–
		2005	7	1	6							14
		2008										–
		2009	9	2	7	0	0	0	0	0	0	22
	– *66* •	2010	*9*									–

[a] Rates are per 100 000 population. Where notification data from a country had not been received by 2 September, the notification rate was assumed to be the same as for 2009 (*in italics*).

TABLE A3.4 **Treatment outcomes, new smear-positive cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
American Samoa		1995		4	–	100	0	0	0	0	0
		2000	2	2	100	0	100	0	0	0	0
		2005	3	4	133	75					25
		2007	0	0	–	–	–	–	–	–	–
		2008	0	0	–	–	–	–	–	–	–
	• 100 100 •	2009	0	3	–	0	100	0	0	0	0
Australia		1995			–						
		2000	251	238	95	27	45	9	0	3	16
		2005	241	241	100	12	68	10		2	8
		2007	281	498	177	7	77	6	0	2	7
		2008	299	587	196	7	73	6	1	1	12
	– 80 •	2009	267	606	227	6	73	3	0	1	16
Brunei Darussalam		1995			–						
		2000	84	84	100	42	21	17	0	4	17
		2005	101	101	100	66	5	7	0	2	20
		2007	136	136	100	63	13	4	0	2	18
		2008	132	164	124	64	23	8	0	1	4
	– 71 •	2009	140	164	117	63	8	9	0	0	20
Cambodia		1995	11 101	4 363	39	83	8	2	1	4	2
		2000	14 822	14 775	100	88	4	4	0	4	1
		2005	21 001	21 001	100	89	4	3	0	2	2
		2007	19 421	19 429	100	91	3	3	0	1	2
		2008	19 860	19 811	100	92	3	2	0	1	2
	• 91 95 •	2009	17 863	17 863	100	92	3	2	0	1	1
China		1995	134 488	131 413	98	72	22	2	1	1	3
		2000	204 765	213 766	104	93		1	2	1	3
		2005	472 719	472 719	100	92	2	2	1	1	3
		2007	465 877	465 877	100	93	2	1	1	1	3
		2008	462 596	464 151	100	92	2	1	1	1	3
	• 93 95 •	2009	449 152	449 039	100	93	2	1	1	1	2
China, Hong Kong SAR		1995	0		–						
		2000	1 940	1 940	100	55	5	5	6	4	24
		2005	1 561	1 561	100	60	3	5	9	3	20
		2007	1 501	1 481	99	59	7	11	14	6	3
		2008	1 459	1 448	99	58	10	17	0	4	11
	– 70 •	2009	1 444	1 441	100	59	11	15	0	3	12
China, Macao SAR		1995	141		–						
		2000	160	160	100	81	8	6	0	4	1
		2005	136	136	100	93	0	4	0	1	3
		2007	138	251	182	49	42	6	0	1	2
		2008	139	246	177	89	0	5	0	1	4
	– 88 •	2009	116	115	99	86	2	3	0	2	7
Cook Islands		1995	2	2	100	100	0	0	0	0	0
		2000	0		–						
		2005	1	1	100	100	0	0	0	0	0
		2007		2	–		100				0
		2008	2	2	100	50	0	0	0	50	0
	• 100 –	2009	1	0	0	–	–	–	–	–	–
Fiji		1995	68	73	107	78	8	7	0	3	4
		2000	62	62	100	81	5	5	0	8	2
		2005	63	68	108	71	0	10	0	10	9
		2007	52	78	150	81		5		10	4
		2008	78	82	105	82	9	6	0	1	2
	• 86 94 •	2009	83	79	95	89	5	4	0	1	1
French Polynesia		1995		33	–	67	0	3	0	21	9
		2000	29	62	214	0	97	2	2	0	0
		2005	21	18	86		89	11	0	0	0
		2007	19	26	137	85		12	0	4	0
		2008	20	28	140		96	4	0	0	0
	• 67 89 •	2009	17	18	106		89	6	0	6	0
Guam		1995			–						
		2000	43	43	100	93	0	7	0	0	0
		2005	27	27	100	85	0	11	0	0	4
		2007	5	36	720	89	0	6	0	0	6
		2008	31	31	100	90	0	6	0	0	3
	– 96 •	2009	31	47	152	96	0	2	0	0	2
Japan		1995	14 367		–						
		2000	11 853	10 348	87	30	15	5	4	1	44
		2005	10 931	10 931	100	38	22	11	3	1	26
		2007	9 433	9 421	100	17	29	18	1	5	30
		2008	8 995	8 999	100	18	30	19	1	4	28
	– 52 •	2009	8 853	8 772	99	21	31	19	1	4	24
Kiribati		1995		31	–	45	42	13			0
		2000	54	54	100	83	7	7	2	0	0
		2005	124	123	99	62	31	7	0	1	0
		2007	103	100	97	79	14	7	0	0	0
		2008	147	146	99	93	3	4	0	0	0
	• 87 97 •	2009	145	144	99	84	13	3	0	0	0
Lao People's Democratic Republic		1995	478	343	72	62	8	6	2	19	4
		2000	1 526	1 588	104	68	9	7	0	9	7
		2005	2 801	2 802	100	85	5	5	1	3	1
		2007	3 080	3 080	100	91	2	6	0	1	0
		2008	3 075	3 075	100	92	1	5	0	1	0
	• 70 93 •	2009	3 034	3 034	100	91	2	4	1	2	1
Malaysia		1995	6 688	13 398	200	69	0	6	2	8	14
		2000	8 156	7 915	97	0	78	8	0	10	4
		2005	8 446	8 446	100	69	1	9	0	5	16
		2007	9 578	10 236	107	67	5	8	0	5	15
		2008	10 441	9 757	93	78	1	8	0	4	11
	• 69 78 •	2009	9 981	9 981	100	78	1	9	0	4	9
Marshall Islands		1995		163	–	3	21	7	0	67	1
		2000	11	11	100	64	27	0	0	9	0
		2005	48	47	98	85	2	2		2	9
		2007	19	27	142	93	4	0	0	4	0
		2008	28	35	125	91	6	0	0	3	0
	• 25 84 •	2009	52	58	112	71	14	9	0	3	3
Micronesia (Federated States of)		1995	9	10	111	80	0	10	0	10	0
		2000	15	14	93	93	0	7	0	0	0
		2005	32	20	63	75	5	10	5	0	5
		2007	47	52	111	25	40	8	2	4	21
		2008	38	59	155	39	8	2	0	2	49
	• 80 88 •	2009	61	60	98	65	23	3	2	0	7
Mongolia		1995	455	455	100	66	7	8	6	10	2
		2000	1 389	1 389	100	83	4	3	3	4	3
		2005	1 868	1 868	100	82	6	3	5	3	2
		2007	1 856	1 855	100	85	4	2	6	2	0
		2008	1 838	1 838	100	84	3	3	7	2	1
	• 74 88 •	2009	1 809	1 809	100	84	4	2	7	2	0

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

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TABLE A3.4 **Treatment outcomes, new smear-positive cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Nauru		1995			–						
		2000	4	4	100	25					75
		2005	0	3	–	0	67	33	0	0	0
		2007	3	2	67	0	100	0	0	0	0
		2008	2	3	150	33	67	0	0	0	0
	– –	2009	1	0	0						
New Caledonia		1995	21	32	152	75		13		3	9
		2000	20	45	225	33	56	9		2	0
		2005	16	16	100	88	6	6	0	0	0
		2007	12	13	108	69	8	23	0	0	0
		2008	9	11	122	9	73	9	9	0	0
	• 75 93 •	2009	15	15	100	0	93	0	0	7	0
New Zealand		1995	78		–						
		2000	74	73	99	5	25	23			47
		2005	83	84	101	0	60	6	0	1	33
		2007	81	84	104	0	86	7	0	1	6
		2008	101	98	97	0	73	8	0	3	15
	– 76 •	2009	90	92	102		76	7		1	16
Niue		1995	0		–						
		2000	0		–						
		2005	0	0	–	–	–	–	–	–	–
		2007	0	0	–	–	–	–	–	–	–
		2008	0	0	–	–	–	–	–	–	–
	– –	2009	0		–						
Northern Mariana Islands		1995	14		–						
		2000	27	27	100	81	0	0	0	0	19
		2005	15	15	100	73	0	0	0	0	27
		2007	14	13	93	0	92	0	0	0	8
		2008	13	13	100		77	8	0	0	15
	– 81 •	2009	16	16	100	0	81	0	0	0	19
Palau		1995	9	9	100	56	11	0	0	11	22
		2000			–						
		2005	3	3	100	100	0	0	0	0	0
		2007	5		–						
		2008		0	–	–	–	–	–	–	–
	• 67 75 •	2009	6	8	133	63	13	25	0	0	0
Papua New Guinea		1995	1 652	4 904	297		56	4	0	15	25
		2000	1 933	422	22	39	24	2	0	26	9
		2005	1 805	1 292	72	57	14	4	1	19	5
		2007	2 087	2 087	100	33	6	1	2	6	51
		2008	2 323	2 259	97	58	7	4	2	16	13
	• 56 72 •	2009	2 238	2 584	115	58	13	4	2	16	6
Philippines		1995	94 768	90 297	95	54	6	1	1	5	34
		2000	67 056	50 196	75	73	15	2	1	6	3
		2005	81 647	81 125	99	82	7	2	1	4	3
		2007	86 566	86 566	100	79	10	2	1	4	3
		2008	85 025	85 025	100	80	8	2	1	4	5
	• 60 89 •	2009	88 806	88 806	100	82	7	2	1	4	4
Republic of Korea		1995	11 754	11 675	99	74	2	2	3	5	14
		2000	8 216	3 231	39	81	2	2	1	3	12
		2005	11 638	3 752	32	81	2	1	1	4	11
		2007	10 927	3 987	36	81	1	1	1	4	12
		2008	11 048	4 056	37	82	2	1	0	3	12
	• 76 83 •	2009	11 285	3 813	34	81	2	1	1	3	12
Samoa		1995	15	15	100	13	67	20	0	0	0
		2000	13	13	100	85	8	8	0	0	0
		2005	11	11	100	91	0	9	0	0	0
		2007		13	–	85	8	0	8	0	0
		2008	6	7	117	71	0	29	0	0	0
	• 80 90 •	2009	8	10	125	90	0	10	0	0	0
Singapore		1995	455	122	27	71	15	2	0	11	0
		2000	248	242	98		71	14	0	14	0
		2005	552	548	99		83	14	0	2	1
		2007	504	859	170	62	19	16	0	1	1
		2008	525	951	181	62	19	16	0	0	2
	• 86 82 •	2009	552	937	170	65	17	15	0	1	2
Solomon Islands		1995	109	368	338		65	6	0	4	26
		2000	109	109	100	73	7	5	0	4	11
		2005	169	169	100	56	30	8	0	4	2
		2007	142	142	100	75	17	6	0	1	1
		2008	140	140	100	82	11	2	0	1	3
	• 65 88 •	2009	138	138	100	67	22	4	1	3	3
Tokelau		1995	1		–						
		2000	0		–						
		2005	0		–						
		2007	0		–						
		2008	0		–						
	– –	2009	0	0	–						
Tonga		1995	9	20	222	75	0	10	5	0	10
		2000	15	15	100	93	0	0	7	0	0
		2005	11	11	100	73	0	18	0	0	9
		2007	14	14	100	93	0	7	0	0	0
		2008	11	11	100	100	0	0	0	0	0
	• 75 83 •	2009	6	6	100	83	0	17	0	0	0
Tuvalu		1995	6		–						
		2000	0	7	–		86			14	0
		2005	5	6	120	100	0	0	0	0	0
		2007	12	16	133	56	19	13	0	6	6
		2008	9	9	100	67	11	11	0	11	0
	– 88 •	2009	8	8	100	88	0	0	0	0	13
Vanuatu		1995	30	13	43	38	46	15	0	0	0
		2000	63	26	41	77	12	8	0	4	0
		2005	35	42	120	64	17	10	7	2	0
		2007	41	42	102	81	12	2	0	0	5
		2008	45	43	96	63	28	5	2	2	0
	• 85 96 •	2009	47	47	100	81	15	4	0	0	0
Viet Nam		1995	37 550	38 189	102	84	5	3	2	4	2
		2000	53 169	53 169	100	90	2	3	1	2	2
		2005	55 492	55 492	100	90	2	3	1	1	2
		2007	54 457	54 457	100	89	2	3	1	2	2
		2008	53 484	53 482	100	90	2	3	1	2	2
	• 89 92 •	2009	51 291	51 387	100	90	2	3	1	2	2
Wallis and Futuna Islands		1995	3		–						
		2000			–						
		2005	1		–						
		2007	1		–						
		2008		3	–	100	0	0	0	0	0
	– –	2009	2		–						

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

TABLE A3.5 **Treatment outcomes, retreatment cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
American Samoa		1995			–						
		2000	0		–						
		2005	1	1	100		100				0
		2007	0	0	–	–	–	–	–	–	–
		2008	0	0	–	–	–	–	–	–	–
	– –	2009	0	0	–	–	–	–	–	–	–
Australia		1995			–						
		2000	17	11	65	9	73	9	0	0	9
		2005	43	43	100	16	56	5		5	19
		2007	47	55	117	7	69	5	0	4	15
		2008	43	50	116	4	62	12	0	2	20
	– 66 •	2009	61	65	107	6	60	3	2	8	22
Brunei Darussalam		1995			–						
		2000	15		–						
		2005	5	5	100	40	40	20	0	0	0
		2007	12	12	100	75	25	0	0	0	0
		2008	12	12	100	50	33	8	0	0	8
	– –	2009	0	0	–	–	–	–	–	–	–
Cambodia		1995	605	436	72	59	26	5	3	3	4
		2000	814	827	102	85	5	6	1	4	0
		2005	1 306	1 306	100	49	27	9	2	3	11
		2007	1 542	711	46	77	6	6	4	2	5
		2008	1 435	597	42	74	5	7	5	3	6
	• 85 79 •	2009	1 429	1 429	100	34	45	3	1	1	15
China		1995	18 693	54 052	289	90	2	2	3	1	1
		2000	73 144	43 252	59	86	2	1	1	1	8
		2005	140 487	89 239	64	85	5	3	3	1	4
		2007	112 816	70 163	62	84	5	2	2	1	5
		2008	102 079	64 023	63	85	4	2	2	1	5
	• 92 90 •	2009	59 583	59 853	100	86	4	2	2	1	4
China, Hong Kong SAR		1995			–						
		2000	782	218	28	27	26	4	17	18	8
		2005	719	716	100	40	18	4	9	7	22
		2007	572	555	97	0	61	6	8	5	19
		2008	561	526	94	21	45	13	0	5	16
	– 65 •	2009	509	481	94	26	38	15	0	6	14
China, Macao SAR		1995	49		–						
		2000	12	37	308	68	16	11	0	5	0
		2005	31	37	119	51	24	11	0	0	14
		2007	46	46	100	37	35	13	0	0	15
		2008	38	38	100	55	26	3	0	3	13
	– 78 •	2009	45	46	102	43	35	11	0	7	4
Cook Islands		1995	0		–						
		2000	0		–						
		2005	0	0	–	–	–	–	–	–	–
		2007			–						
		2008	0	0	–	–	–	–	–	–	–
	– –	2009	0	0	–	–	–	–	–	–	–
Fiji		1995	2		–						
		2000	0		–						
		2005		0	–	–	–	–	–	–	–
		2007	1		–						
		2008	4	0	0	–	–	–	–	–	–
	– 80 •	2009	2	5	250	40	40	20	0	0	0
French Polynesia		1995		2	–	50	0	50	0	0	0
		2000	1		–						
		2005	3	4	133		75	25			0
		2007	2	4	200	50		50	0	0	0
		2008	2	4	200		75	0	0	25	0
	• 50 100 •	2009	5	5	100	0	100	0	0	0	0
Guam		1995			–						
		2000	1		–						
		2005	2	2	100	50	0	0	0	50	0
		2007	2	1	50	100					0
		2008	1	0	0	–	–	–	–	–	–
	– 100 •	2009	1	1	100	100	0	0	0	0	0
Japan		1995	736		–						
		2000	1 367	1 169	86	31	15	5	6	1	41
		2005	1 992	1 992	100	29	16	8	2	2	43
		2007	1 685	1 423	84	14	24	13	1	9	39
		2008	1 836	1 547	84	14	30	16	1	8	31
	– 48 •	2009	1 751	1 452	83	15	32	15	1	6	31
Kiribati		1995			–						
		2000	3	9	300	89	0	11	0	0	0
		2005	10	3	30	100					0
		2007	24	5	21	100	0	0	0	0	0
		2008	17	17	100	53	24	12	0	12	0
	– 100 •	2009	4	6	150	83	17	0	0	0	0
Lao People's Democratic Republic		1995	2	1	50	100	0	0	0	0	0
		2000	64	64	100	41	8	11	8	11	22
		2005	180	181	101	75	12	6	2	5	1
		2007	149	149	100	83	3	7	5	3	0
		2008	179	153	85	86	3	9	1	0	1
	• 100 89 •	2009	184	184	100	85	3	8	2	1	0
Malaysia		1995	210		–						
		2000	0		–						
		2005	983	1 056	107	46	9	8	1	9	27
		2007	1 147	1 362	119	23	18	7	2	27	22
		2008	1 054	1 171	111	36	26	11	1	5	22
	– 61 •	2009	1 181	1 181	100	33	27	9	1	6	23
Marshall Islands		1995			–						
		2000	0		–						
		2005	5	20	400	60	10				30
		2007	11	16	145	13	63	13	0	13	0
		2008	7	2	29	0	50	50	0	0	0
	– 88 •	2009	2	8	400	13	75	0	0	13	0
Micronesia (Federated States of)		1995	2	9	450	100	0	0	0	0	0
		2000	3	20	667	25	60	5	10	0	0
		2005	21	9	43	11	89				0
		2007	5	8	160	0	25	75	0	0	0
		2008	5	5	100	40	20	20	0	0	20
	• 100 19 •	2009	9	16	178	0	19	75	0	0	6
Mongolia		1995	82	23	28	61	0	9	13	13	4
		2000	126	126	100	57	14	8	8	7	6
		2005	341	443	130	39	34	9	11	4	3
		2007	609	609	100	43	33	6	12	5	1
		2008	544	385	71	51	22	6	16	4	1
	• 61 73 •	2009	569	380	67	60	13	4	17	4	2

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

Data can be downloaded from www.who.int/tb/data

TABLE A3.5 **Treatment outcomes, retreatment cases, 1995–2009**

	TREATMENT SUCCESS (%)[a] 1995–2009	YEAR	NUMBER NOTIFIED	SIZE OF COHORT	COHORT AS % NOTIFIED	% OF COHORT					
						CURED	COMPLETED	DIED	FAILED	DEFAULTED	NOT EVALUATED
Nauru		1995			–						
		2000	0		–						
		2005		0	–	–	–	–	–	–	–
		2007	1	1	100	0	100	0	0	0	0
		2008	3	0	0	–	–	–	–	–	–
	– 100 •	2009	0	1	–	100					0
New Caledonia		1995	4	4	100	100					0
		2000	4		–						
		2005	7	7	100	86	0	14	0	0	0
		2007	4	2	50	100	0	0	0	0	0
		2008	4	5	125	0	40	40	20	0	0
	• 100 89 •	2009	9	9	100	0	89	0	0	0	11
New Zealand		1995	4		–						
		2000	7	23	329	0	30	4			65
		2005	19	18	95	0	67	0	0	0	33
		2007	17	17	100	0	65	24	0	0	12
		2008	11	11	100	0	91	0	0	0	9
	– 67 •	2009	9	9	100		67	11			22
Niue		1995	0		–						
		2000			–						
		2005		0	–	–	–	–	–	–	–
		2007	0	0	–	–	–	–	–	–	–
		2008	0	0	–	–	–	–	–	–	–
	– –	2009			–						
Northern Mariana Islands		1995	0		–						
		2000	0		–						
		2005	0	0	–	–	–	–	–	–	–
		2007	0	2	–	0	100	0	0	0	0
		2008	2	0	0	–	–	–	–	–	–
	– –	2009	0	0	–	–	–	–	–	–	–
Palau		1995	0		–						
		2000			–						
		2005	0	0	–	–	–	–	–	–	–
		2007	0		–						
		2008		0	–	–	–	–	–	–	–
	– –	2009	0	0	–	–	–	–	–	–	–
Papua New Guinea		1995	273		–						
		2000	955	68	7	29	35	4	1	21	9
		2005	1 456	65	4	42	14	15	6	20	3
		2007	1 277		–						
		2008	1 799		–						
	– 58 •	2009	1 388	530	38	36	22	5	5	29	3
Philippines		1995	8		–						
		2000			–						
		2005	3 957		–						
		2007	5 075	4 101	81	53	18	4	6	7	11
		2008	8 866	3 819	43	56	15	4	4	7	14
	– 61 •	2009	9 575	4 362	46	48	13	4	4	5	26
Republic of Korea		1995	2 082	2 004	96	39	1	1	2	3	53
		2000	2 262	131	6	59	2	3	3	12	21
		2005	7 098	3 331	47	72	3	2	0	6	18
		2007	6 583	2 698	41	70	2	1	1	6	20
		2008	6 310	2 476	39	74	2	1	1	6	16
	• 40 71 •	2009	6 880	2 420	35	69	3	2	1	5	21
Samoa		1995	0		–						
		2000	0		–						
		2005	0	0	–	–	–	–	–	–	–
		2007		1	–	100					0
		2008	0	0	–	–	–	–	–	–	–
	– –	2009	0	0	–	–	–	–	–	–	–
Singapore		1995	120		–						
		2000	55		–						
		2005	153	149	97		79	15	0	5	1
		2007	149	116	78	71	11	15	1	3	0
		2008	151	149	99	40	30	22	0	3	5
	– 76 •	2009	132	130	98	37	39	20	0	1	3
Solomon Islands		1995	13		–						
		2000	0		–						
		2005	5	5	100	20	40	20	20	0	0
		2007	9	9	100	78	22	0	0	0	0
		2008	14	14	100	79	21	0	0	0	0
	– 100 •	2009	2	2	100	50	50	0	0	0	0
Tokelau		1995	0		–						
		2000	0		–						
		2005	0		–						
		2007	0		–						
		2008	0		–						
	– –	2009	0	0	–						
Tonga		1995	0	9	–	100	0	0	0	0	0
		2000	1	1	100	100					0
		2005		0	–	–	–	–	–	–	–
		2007	0	0	–	–	–	–	–	–	–
		2008	0	0	–	–	–	–	–	–	–
	• 100 –	2009	0	0	–	–	–	–	–	–	–
Tuvalu		1995	1		–						
		2000			–						
		2005	3	0	0	–	–	–	–	–	–
		2007	1	0	0	–	–	–	–	–	–
		2008	2	0	0	–	–	–	–	–	–
	– –	2009	0	0	–	–	–	–	–	–	–
Vanuatu		1995	1		–						
		2000	5	5	100	100	0	0	0	0	0
		2005	8	0	0	–	–	–	–	–	–
		2007	0	0	–	–	–	–	–	–	–
		2008	1	1	100	0	0	100	0	0	0
	– 100 •	2009	3	3	100	100	0	0	0	0	0
Viet Nam		1995	3 616	2 384	66	80	2	5	8	2	4
		2000	5 493	8 806	160	74	5	6	5	3	7
		2005	7 301	7 374	101	79	4	5	6	3	3
		2007	7 658	7 659	100	79	3	6	5	4	3
		2008	7 534	7 534	100	80	3	5	5	3	3
	• 81 73 •	2009	8 131	357	4	67	6	8	2	10	7
Wallis and Futuna Islands		1995	1		–						
		2000			–						
		2005			–						
		2007	0		–						
		2008		0	–	–	–	–	–	–	–
	– –	2009	0		–						

[a] TREATMENT SUCCESS = percent cured + percent completed then rounded to the nearest digit.

TABLE A3.6 **HIV testing and provision of CPT, ART and IPT, 2005–2010**

	% OF TB PATIENTS WITH KNOWN HIV STATUS 2005–2010	YEAR	% OF TB PATIENTS WITH KNOWN HIV STATUS	NUMBER OF TB PATIENTS WITH KNOWN HIV STATUS	PATIENTS NOTIFIED (NEW AND RETREAT)	NUMBER OF HIV-POSITIVE TB PATIENTS	% OF TESTED TB PATIENTS HIV-POSITIVE	% OF HIV-POSITIVE TB PATIENTS ON CPT	% OF HIV-POSITIVE TB PATIENTS ON ART	NUMBER OF HIV-POSITIVE PEOPLE PROVIDED IPT
American Samoa		2005	0	0	6		–	–	–	
		2008	100	3	3	0	0	–	–	0
		2009	100	4	4	0	0	–	–	0
	• 0 100 •	2010	100	4	4	0	0	–	–	
Australia		2005	42	448	1 073	22	5	9	–	
		2008	36	440	1 227	17	4	12	59	
		2009	49	648	1 314	23	4	–	–	
	• 42 44 •	2010	44	564	1 281	28	5	–	–	
Brunei Darussalam		2005	100	163	163	2	1	0	0	
		2008	100	223	223	0	0	–	–	0
		2009	100	213	213	2	1	100	100	
	• 100 100 •	2010	100	237	237	1	0	100	100	2
Cambodia		2005	3	1 044	36 123	86	8	–	–	
		2008	54	21 523	39 820	3 309	15	39	22	66
		2009	70	28 264	40 199	3 597	13	30	15	66
	• 3 77 •	2010	77	32 236	41 628	2 112	7	65	45	491
China		2005	–		990 509		–	–	–	
		2008	8	81 682	1 034 199	2 848	3	54	20	
		2009	6	63 227	982 303	2 511	4	87	43	
	– 16 •	2010	16	145 919	923 308	4 542	3	–	45	
China, Hong Kong SAR		2005	68	4 209	6 160	35	1	49	54	
		2008	72	4 121	5 729	48	1	35	33	75
		2009	74	3 953	5 348	38	1	29	26	78
	• 68 74 •	2010	74	3 805	5 132	28	1	14	25	
China, Macao SAR		2005	91	378	415	1	0	0	100	
		2008	91	376	411	1	0	0	100	0
		2009	90	335	371	1	0	0	0	1
	• 91 94 •	2010	94	407	433	3	1	0	0	
Cook Islands		2005	0	0	1	0	–	–	–	
		2008	0	0	2	0	–	–	–	0
		2009	0	0	2	0	–	–	–	0
	• 0 –	2010	–	0	0	0	–	–	–	
Fiji		2005	100	132	132	1	1	–	–	
		2008	98	104	106		–	–	–	
		2009	48	69	144	0	0	–	–	0
	• 100 82 •	2010	82	157	191	3	2	100	100	0
French Polynesia		2005	48	30	63	0	0	–	–	
		2008	32	16	50	0	0	–	–	0
		2009	23	12	53	0	0	–	–	0
	• 48 24 •	2010	24	10	41	0	0	–	–	
Guam		2005	72	46	64	0	0	–	–	
		2008	66	59	90	2	3	50	50	1
		2009	63	64	102	0	0	–	–	0
	• 72 61 •	2010	61	62	101	1	2	100	0	
Japan		2005	–		28 319		–	–	–	
		2008	56	13 777	24 760	67	0	–	–	
		2009	51	12 429	24 170	52	0	–	–	
	– 52 •	2010	52	12 098	23 261	53	0	–	–	
Kiribati		2005	13	44	339	2	5	0	0	
		2008	5	16	342	0	0	–	–	0
		2009	54	151	278	2	1	100	0	
	• 13 54 •	2010	54	159	294	0	0	–	–	2
Lao People's Democratic Republic		2005	–		3 807		–	–	–	
		2008	13	557	4 149	221	40	98	59	0
		2009	17	686	3 930	179	26	89	–	
	– 38 •	2010	38	1 537	4 083	181	12	83	–	
Malaysia		2005	73	11 661	16 066	1 468	13	–	–	
		2008	88	15 337	17 506	1 819	12	–	43	0
		2009	84	15 192	18 102	1 644	11	10	10	0
	• 73 91 •	2010	91	17 577	19 337	1 628	9	22	22	
Marshall Islands		2005	77	86	112	0	0	–	–	
		2008	100	127	127	0	0	–	–	
		2009	69	98	143	2	2	0	100	0
	• 77 68 •	2010	68	137	201	0	0	–	–	
Micronesia (Federated States of)		2005	6	7	112		–	–	–	
		2008	39	64	166	0	0	–	–	0
		2009	46	72	155	0	0	–	–	0
	• 6 50 •	2010	50	87	174	0	0	–	–	
Mongolia		2005	0	1	4 726	1	100	100	100	
		2008	27	1 296	4 767	1	0	100	100	0
		2009	83	3 993	4 787	0	0	–	–	0
	• 0 89 •	2010	89	4 256	4 801	2	0	100	100	0
Nauru		2005	0	0	11	0	–	–	–	
		2008	0	0	7	0	–	–	–	0
		2009	0	0	4	0	–	–	–	0
	• 0 0 •	2010	0	0	3	0	–	–	–	
New Caledonia		2005	40	21	53	0	0	–	–	
		2008	–		51		–	–	–	
		2009	–		63		–	–	–	
	• 40 0 •	2010	0	0	57	0	–	–	–	
New Zealand		2005	41	140	340	8	6	–	–	
		2008	46	136	297	8	6	–	–	
		2009	46	140	302	3	2	–	–	
	• 41 58 •	2010	58	178	305	2	1	–	–	
Niue		2005	–	0	0	0	–	–	–	
		2008	–	0	0	0	–	–	–	0
		2009	–	0	0	0	–	–	–	0
	– –	2010	–		0		–	–	–	
Northern Mariana Islands		2005	98	56	57	0	0	–	–	
		2008	117	35	30	0	0	–	–	0
		2009	87	33	38	0	0	–	–	0
	• 98 100 •	2010	100	32	32	0	0	–	–	
Palau		2005	90	9	10	0	0	–	–	
		2008	–	18			–	–	–	
		2009	100	19	19	0	0	–	–	0
	• 90 100 •	2010	100	19	19	0	0	–	–	
Papua New Guinea		2005	–		12 564		–	–	–	
		2008	4	582	13 984		–	–	–	47
		2009	7	888	13 220	91	10	–	–	
	– 7 •	2010	7	1 112	16 113	130	12	–	–	135

Data can be downloaded from www.who.int/tb/data

TABLE A3.6 **HIV testing and provision of CPT, ART and IPT, 2005–2010**

	% OF TB PATIENTS WITH KNOWN HIV STATUS 2005–2010	YEAR	% OF TB PATIENTS WITH KNOWN HIV STATUS	NUMBER OF TB PATIENTS WITH KNOWN HIV STATUS	PATIENTS NOTIFIED (NEW AND RETREAT)	NUMBER OF HIV-POSITIVE TB PATIENTS	% OF TESTED TB PATIENTS HIV-POSITIVE	% OF HIV-POSITIVE TB PATIENTS ON CPT	% OF HIV-POSITIVE TB PATIENTS ON ART	NUMBER OF HIV-POSITIVE PEOPLE PROVIDED IPT
Philippines		2005	–		137 100		–	–	–	
		2008	1	1 069	145 892	0	0	–	–	
		2009	1	1 136	153 167	1	0	0	0	1
	– 1	2010	1	1 356	174 389	0	0	–	–	16
Republic of Korea		2005	–		46 969		–	–	–	
		2008	–		44 170		–	–	–	
		2009	–		47 299	96	–	–	–	
	– –	2010	–		48 101	138	–	–	–	
Samoa		2005	8	2	24	0	0	–	–	
		2008	0	0	12	0	–	–	–	0
		2009	13	2	16	0	0	–	–	
	8 50	2010	50	7	14	0	0	–	–	0
Singapore		2005	–		1 469		–	–	–	
		2008	–		1 601		–	–	–	
		2009	71	1 121	1 574	52	5	–	–	
	– 74	2010	74	1 187	1 608	53	4	–	–	
Solomon Islands		2005	0	0	397	0	–	–	–	
		2008	0	0	387	0	–	–	–	0
		2009	0	0	366	0	–	–	–	0
	0 11	2010	11	39	341	0	0	–	–	0
Tokelau		2005	–	0	0	0	–	–	–	
		2008	–	0	0	0	–	–	–	0
		2009	–		0		–	–	–	
	– –	2010	–	0	0	0	–	–	–	
Tonga		2005	–		18		–	–	–	
		2008	100	13	13	0	0	–	–	0
		2009	100	8	8	0	0	–	–	0
	– 73	2010	73	8	11	0	0	–	–	
Tuvalu		2005	–		15		–	–	–	
		2008	89	17	19	0	0	–	–	0
		2009	0	0	18	0	–	–	–	0
	– 0	2010	0	0	14	0	–	–	–	
Vanuatu		2005	0	0	81	0	–	–	–	
		2008	16	17	104	0	0	–	–	
		2009	8	11	136	0	0	–	–	0
	0 0	2010	0	0	116	0	–	–	–	
Viet Nam		2005	15	14 128	95 892	595	4	–	–	
		2008	11	11 332	98 684	2 210	20	78	32	500
		2009	36	34 907	98 192	5 934	17	89	6	1 500
	15 43	2010	43	42 356	99 022	3 515	8	62	43	1 317
Wallis and Futuna Islands		2005	–		7	0	–	–	–	
		2008	–	4			–	–	–	
		2009	100	9	9	0	0	–	–	0
	– –	2010	–				–	–	–	

TABLE A3.7 **Testing for MDR-TB and number of confirmed cases of MDR-TB, 2005–2010**

	YEAR	TOTAL CONFIRMED CASES OF MDR-TB[a]	NEW CASES				PREVIOUSLY TREATED CASES			
			NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB	NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB
American Samoa	2005		5		–		1		–	
	2008		3		–		0		–	
	2009	0	4	0	0	0	0	0	–	0
	2010	0	4	0	0	0	0	0	–	0
Australia	2005	12	1 030		–		43		–	
	2008	21	1 182		–		43		–	
	2009	31	1 176		–		61		–	
	2010	33	1 146	868	76	21	65	48	74	11
Brunei Darussalam	2005		158		–		5		–	
	2008		211		–		12		–	
	2009	0	213	164	77	0	0	13	–	0
	2010	0	232	181	78	0	5	5	100	0
Cambodia	2005		34 817		–		1 306		–	
	2008	31	38 385	11	0	3	1 435	91	6	28
	2009	2	38 770		–		1 429		–	
	2010	31	39 994	5	0	1	1 634	93	6	30
China	2005		844 721		–		140 487		–	
	2008		932 120		–		102 079		–	
	2009	474	922 720		–	12	59 583		–	367
	2010	2 792	869 092		–	229	54 216		–	1 669
China, Hong Kong SAR	2005	41	5 441	3 271	60	28	719	163	23	13
	2008	18	5 168	2 443	47	8	561	310	55	10
	2009	21	4 839	2 056	42	15	509	234	46	6
	2010	28	4 619	1 897	41	18	513	211	41	10
China, Macao SAR	2005	9	341	265	78	6	31	19	61	3
	2008	7	338	243	72	5	38	25	66	2
	2009	3	291	201	69	3	45	27	60	0
	2010	6	347	221	64	4	60	39	65	2
Cook Islands	2005		1		–		0		–	
	2008		2		–		0		–	
	2009	0	2	0	0	0	0	0	–	0
	2010	0	0	0	–	0	0	0	–	0
Fiji	2005		132		–				–	
	2008		102		–		4		–	
	2009	0	142	0	0	0	2	2	100	0
	2010	0	179	4	2	0	12	4	33	0
French Polynesia	2005	0	60		–	0	3	3	100	0
	2008	0	48	46	96	0	2	2	100	0
	2009	0	48	42	88	0	5	4	80	0
	2010	0	37	27	73	0	4	4	100	0
Guam	2005	1	62	39	63	1	2	0	0	0
	2008	0	89	37	42	0	1	0	0	0
	2009	1	101	50	50	1	1	1	100	0
	2010	2	99	56	57	2	2	2	100	0
Japan	2005		26 327		–		1 992		–	
	2008		22 924		–		1 836		–	
	2009		22 419		–		1 751		–	
	2010	68	21 499	7 684	36	41	1 762	694	39	27
Kiribati	2005	1	329	1	0		10		–	
	2008		325		–		17		–	
	2009		274		–		4		–	
	2010	0	280	0	0	0	14	0	0	0
Lao People's Democratic Republic	2005		3 560		–		180		–	
	2008		3 892		–		179		–	
	2009		3 694		–		184		–	
	2010	2	3 836		–		185		–	
Malaysia	2005	1	15 010	15 010	100	1	983	1 056	107	
	2008	56	16 452		–		1 054		–	
	2009	55	16 921		–		1 181		–	
	2010	64	18 018		–		1 319		–	
Marshall Islands	2005	2	107	52	49	2	5	3	60	0
	2008		120		–		7		–	
	2009	1	135	40	30	1	2	1	50	0
	2010	1	188	68	36	1	10	3	30	0
Micronesia (Federated States of)	2005	1	91	35	38	0	21	21	100	1
	2008	4	161	40	25	4	5	3	60	0
	2009	3	146	48	33	3	9	2	22	0
	2010	1	157	50	32	1	13	3	23	0
Mongolia	2005	0	4 385	0	0	0	341	16	5	0
	2008	115	4 223	75	2	1	544	334	61	114
	2009	168	4 218	121	3	3	569	508	89	165
	2010	187	4 213	40	1	18	588	561	95	169
Nauru	2005		11		–				–	
	2008		4		–		3		–	
	2009	0	4	0	0	0	0	0	–	0
	2010		3		–		0		–	
New Caledonia	2005		46		–		7		–	
	2008	0	41	41	100	0	4	4	100	0
	2009	0	54	43	80	0	9	1	11	0
	2010	0	49	20	41	0	8	0	0	0
New Zealand	2005	4	321	247	77	1	19	14	74	3
	2008	0	286	231	81	0	11	6	55	0
	2009	7	293	237	81	6	9	8	89	1
	2010	4	294		–		11		–	
Niue	2005		0		–				–	
	2008		0		–		0		–	
	2009	0	0		–				–	
	2010	0	0		–		0		–	
Northern Mariana Islands	2005	2	57	24	42	2	0	1	–	0
	2008		28		–		2		–	
	2009	0	38	21	55	0	0	0	–	0
	2010	0	32	17	53	0	0	0	–	0
Palau	2005	0	10	3	30	0	0	0	–	0
	2008				–				–	
	2009	0	19		–	0	0		–	0
	2010	0	19	11	58	0	0	0	–	0
Papua New Guinea	2005		11 108		–		1 456		–	
	2008	5	12 185		–		1 799		–	
	2009		11 832		–		1 388		–	
	2010		14 289		–		1 824		–	

[a] TOTAL CONFIRMED CASES OF MDR-TB includes cases with unknown previous treatment history (i.e. not included under NEW CASES or PREVIOUSLY TREATED CASES).

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TABLE A3.7 **Testing for MDR-TB and number of confirmed cases of MDR-TB, 2005–2010**

	YEAR	TOTAL CONFIRMED CASES OF MDR-TB[a]	NEW CASES				PREVIOUSLY TREATED CASES			
			NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB	NOTIFIED	NUMBER OF NOTIFIED TESTED FOR MDR-TB	% OF NOTIFIED TESTED FOR MDR-TB	NUMBER OF CONFIRMED CASES OF MDR-TB
Philippines	2005	274	133 143	4	0	4	3 957	138	3	119
	2008	929	137 026	74	0	14	8 866	1 305	15	729
	2009	1 073	143 592	1 242	1	1 050	9 575	36	0	23
	2010	522	163 248	3	0	2	11 141	297	3	232
Republic of Korea	2005		35 269		–		7 098		–	
	2008		34 153		–		6 310		–	
	2009		35 842		–		6 880		–	
	2010	450	39 051		–	103	6 876		–	347
Samoa	2005		24		–		0		–	
	2008		12		–		0		–	
	2009		16		–		0		–	
	2010	0	14	0	0	0	0	0	–	0
Singapore	2005	3	1 296	895	69	2	153	105	69	1
	2008	4	1 437	919	64	1	151	103	68	3
	2009	3	1 442	915	63	3	132	85	64	0
	2010	3	1 478	923	62	2	130	79	61	1
Solomon Islands	2005		392		–		5		–	
	2008		373		–		14		–	
	2009	0	364	5	1	0	2	15	750	0
	2010	0	336	1	0	0	5	1	20	0
Tokelau	2005		0		–		0		–	
	2008		0		–		0		–	
	2009		0		–		0		–	
	2010	0	0	0	–	0	0	0	–	0
Tonga	2005		18		–				–	
	2008		13		–		0		–	
	2009		8		–		0		–	
	2010	0	11	0	0	0	0	0	–	0
Tuvalu	2005		12		–		3		–	
	2008		17		–		2		–	
	2009	0	18	0	0	0	0	0	–	0
	2010	0	14	0	0	0	0	0	–	0
Vanuatu	2005		73		–		8		–	
	2008		103		–		1		–	
	2009	0	133	0	0	0	3	0	0	0
	2010	0	115		–		1		–	
Viet Nam	2005		88 591		–		7 301		–	
	2008		91 150		–		7 534		–	
	2009	217	88 236		–		8 131		–	
	2010	101	88 033		–		8 408		–	
Wallis and Futuna Islands	2005		7		–				–	
	2008				–				–	
	2009		9		–		0		–	
	2010				–				–	

[a] TOTAL CONFIRMED CASES OF MDR-TB includes cases with unknown previous treatment history (i.e. not included under NEW CASES or PREVIOUSLY TREATED CASES).

TABLE A3.8 **New smear-positive case notification by age and sex, 1995–2010**

		MALE								FEMALE								
	YEAR	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	MALE/FEMALE RATIO
American Samoa	1995																	–
	2000					1	1							1				2.0
	2005											1		2				0.0
	2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	–
Australia	1995																	–
	2000	3	16	35	25	24	19	49		0	15	19	12	15	5	14		2.1
	2005	0	32	27	23	11	12	30		2	18	26	11	10	6	14		1.6
	2010	2	42	33	22	25	9	27	0	4	36	43	12	2	5	12	0	1.4
Brunei Darussalam	1995																	–
	2000	0	6	4	15	5	7	15		0	4	6	9	6	3	4		1.6
	2005	0	9	19	19	12	9	0		0	9	11	8	3	2	0		2.1
	2010	0	17	15	13	18	7	18	0	2	7	15	12	8	4	10	0	1.5
Cambodia	1995	161	453	1 244	1 147	1 253	1 257	707		123	388	1 133	1 435	1 426	1 180	578		1.0
	2000	26	519	1 323	1 618	1 456	1 373	1 058		38	457	1 157	1 649	1 798	1 459	892		1.0
	2005	49	894	1 600	2 349	2 043	1 964	1 811		45	790	1 413	2 089	2 323	2 058	1 573		1.0
	2010	39	750	1 564	1 760	2 105	1 531	1 599		60	752	1 321	1 303	1 732	1 607	1 331		1.2
China	1995	1 102	12 791	18 306	15 487	13 105	13 489	10 130		1 169	10 890	13 250	8 376	5 679	4 579	2 841		1.8
	2000	1 131	19 111	29 399	25 206	25 593	21 429	21 771		1 420	14 536	18 496	12 377	9 899	7 102	6 296		2.0
	2005	1 416	43 005	49 558	55 400	54 872	53 822	69 779		1 864	31 180	27 759	24 728	19 889	18 203	21 244		2.3
	2010	759	42 851	38 880	50 246	52 925	56 754	64 514	0	926	27 064	21 022	20 422	16 075	17 441	20 020	0	2.5
China, Hong Kong SAR	1995																	–
	2000	4	78	102	160	211	236	578		5	65	115	86	44	45	211		2.4
	2005	3	76	84	108	200	168	453		3	67	81	92	57	34	135		2.3
	2010	2	52	84	99	184	166	413	0	3	49	101	76	64	49	133	0	2.1
China, Macao SAR	1995	0	7	19	20	13	12	16		0	9	18	12	4	5	6		1.6
	2000	0	10	8	25	22	9	17		0	10	4	6	6	3	13		2.2
	2005	3	6	9	21	23	17	22		0	5	9	7	8	1	5		2.9
	2010	0	17	5	7	22	20	11	0	0	7	6	10	5	7	6	0	2.0
Cook Islands	1995	0	0	0	0	0	1	0		0	0	0	0	1	0	0		1.0
	2000	0	0	0	0	0	0	0		0	0	0	0	0	0	0		–
	2005	0	1	0	0	0	0	0		0	0	0	0	0	0	0		–
	2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	–
Fiji	1995	0	8	10	9	4	2	3		1	10	9	2	3	4	3		1.1
	2000	0	8	6	13	5	4	2		0	7	5	7	1	4	0		1.6
	2005	7	9	18	18	14	16	6		7	7	9	6	4	6	5		2.0
	2010	1	7	15	11	6	2	4	0	1	11	12	5	1	8	5	0	1.1
French Polynesia	1995																	–
	2000	1	3	3	4	4	4	3		1	4	1	0	1	0	0		3.1
	2005	0	2	2	2	0	4	2		0	2	3	0	1	1	3		1.2
	2010	0	3	1	0	1	1	1	0	0	1	1	0	3	0	1	0	1.2
Guam	1995																	–
	2000	2	1	6	6	9	6	9		0	3	1	2	5	2	2		2.6
	2005	0	2	4	4	2	2	4		0	3	1	1	2	0	2		2.0
	2010	0	2	3	5	5	7	3	0	1	0	4	3	3	0	3	0	1.8
Japan	1995	15	342	627	995	1 847	2 059	4 089		14	258	476	298	476	637	2 234		2.3
	2000	2	246	572	676	1 494	1 509	3 816		5	222	464	213	292	384	1 958		2.4
	2005	9	197	488	605	868	1 418	3 867		5	187	428	249	224	309	2 077		2.1
	2010	1	128	252	382	469	911	3 326		6	89	232	194	155	183	1 909		2.0
Kiribati	1995																	–
	2000	2	9	3	3	3	8	2		2	5	6	3	4	1	3		1.3
	2005	3	15	15	12	17	4	1		5	22	12	7	7	3	1		1.2
	2010	3	27	13	10	9	6	2	0	5	15	7	4	8	5	4	0	1.5
Lao People's Democratic Republic	1995	6	56	71	68	78	90	55		3	49	49	69	54	52	26		1.4
	2000	7	92	128	166	201	177	176		10	59	95	131	122	91	71		1.6
	2005	13	136	223	296	373	300	352		7	101	186	205	244	192	178		1.5
	2010	8	157	254	287	416	385	380		13	133	152	215	269	225	225		1.5
Malaysia	1995	59	640	879	775	788	374	1 072		58	446	448	345	316	149	339		2.2
	2000	32	694	1 138	1 177	908	814	891		41	464	564	424	367	356	286		2.3
	2005	244	1 179	2 218	2 277	1 980	1 427	1 507		208	1 044	1 061	947	816	586	572		2.1
	2010	129	884	1 438	1 599	1 453	967	981	0	152	704	881	592	542	425	388	0	2.0
Marshall Islands	1995																	–
	2000	3	5	4	1	3	5	3		7	7	3	0	2	2	0		1.1
	2005	2	4	4	5	6	1	1		1	9	2	4	3	4	2		0.9
	2010	0	10	1	4	6	6	2	0	5	9	2	2	4	8	0	0	1.0
Micronesia (Federated States of)	1995	0	1	0	3	1	0	0		0	0	1	0	0	0	1		2.5
	2000	0	2	0	1	0	0	1		4	3	1	1	0	1	1		0.4
	2005																	–
	2010	3	8	1	2	4	4	0	0	5	8	9	3	4	2	0	0	0.7
Mongolia	1995	37	99	111	68	19	13	15		30	70	78	33	15	9	25		1.4
	2000	6	181	260	171	68	38	23		32	200	213	113	41	26	17		1.2
	2005	7	271	253	232	147	52	36		15	320	270	145	63	32	25		1.1
	2010	3	285	255	231	154	50	40	0	12	296	246	112	83	42	28	0	1.2
Nauru	1995																	–
	2000					1								1	1			0.5
	2005																	–
	2010	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.0
New Caledonia	1995	3	2	3	4	2	2	3		2	1	1	3	3	0	1		1.7
	2000	1	1	3	4	2	3	4		1	8	1	1	3	2	4		0.9
	2005	0	2	1	0	0	3	0		0	1	2	1	2	0	4		0.6
	2010	0	1	2	3	1	4	3	0	0	1	0	1	0	1	3	0	2.3
New Zealand	1995	0	4	3	3	5	7	7		1	2	3	4	2	2	4		1.6
	2000	0	6	5	6	8	10	7		1	6	6	5	0	4	10		1.3
	2005	4	6	10	6	6	5	10		1	11	9	6	6	1	2		1.3
	2010	0	6	13	4	6	5	11	0	2	12	7	6	5	3	6	0	1.1
Niue	1995																	–
	2000																	–
	2005	0	0	0	0	0	0	0		0	0	0	0	0	0	0		–
	2010																	–
Northern Mariana Islands	1995	1	1	3	5	10	3	3		0	0	2	6	4	1	1		1.9
	2000	1	4	8	9	9	3	2		0	10	17	7	3	1	1		0.9
	2005	0	0	1	3	4	1	2		0	0	0	1	1	1	1		2.8
	2010	0	2	0	0	3	3	0	0	0	2	0	1	3	2	1	0	0.9
Palau	1995	0	2	3	0	2	1	0		0	0	0	0	1	0	0		8.0
	2000																	–
	2005			2				1										–
	2010	0	1	2	1	1	1	1	0	1	0	1	1	0	0	0	0	2.3
Papua New Guinea	1995																	–
	2000	8	87	70	30	21	12	5		6	77	45	21	15	5	1		1.4
	2005	28	183	205	108	94	48	12		38	200	204	124	65	35	2		1.0
	2010	37	279	260	196	135	87	27		64	313	292	191	97	52	9		1.0
Philippines	1995	2	43	56	61	46	47	26		1	20	32	26	20	19	11		2.2
	2000																	–
	2005	482	7 358	11 275	13 253	12 531	7 646	4 279		374	3 710	5 268	5 565	4 603	3 274	2 029		2.3
	2010	511	9 320	12 224	13 716	13 651	8 923	4 742	0	454	4 825	5 489	5 301	4 643	3 329	2 070	0	2.4

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TABLE A3.8 **New smear-positive case notification by age and sex, 1995–2010**

		MALE								FEMALE								
	YEAR	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	0–14	15–24	25–34	35–44	45–54	55–64	65+	UN-KNOWN	MALE/FEMALE RATIO
Republic of Korea	1995	27	1 131	1 613	1 425	1 207	1 307	1 225		46	908	863	431	296	408	867		2.1
	2000	19	821	1 085	988	853	731	901		25	546	544	393	220	295	795		1.9
	2005	22	687	1 171	1 326	1 336	1 005	1 669		27	590	842	491	370	373	1 729		1.6
	2010	22	537	705	1 049	1 496	1 029	1 997	0	23	472	686	509	487	368	2 216	0	1.4
Samoa	1995	0	1	1	1	0	3	2		1	2	2	0	0	1	1		1.1
	2000	0	3	1	1	1	2	1		0	2	1	1	0	0	0		2.3
	2005	0	4	0	1	1	0	0		0	2	0	2	0	1	0		1.2
	2010		1	1			1		3				2		1		3	1.0
Singapore	1995	0	9	40	60	62	70	94		1	8	18	21	22	19	31		2.8
	2000	1	8	9	34	51	26	64		1	9	8	7	9	5	16		3.5
	2005	0	8	25	61	94	96	118		0	5	20	33	29	20	43		2.7
	2010	0	11	21	38	105	86	120	0	1	15	21	26	21	21	44	0	2.6
Solomon Islands	1995	2	14	6	5	7	9	3		3	17	11	7	12	13	0		0.7
	2000	3	13	4	8	8	10	6		8	15	13	7	7	5	2		0.9
	2005	4	14	18	9	15	12	11		9	23	21	12	11	9	1		1.0
	2010	4	16	18	16	8	3	3	0	4	19	17	11	5	4	5	0	1.0
Tokelau	1995																	–
	2000																	–
	2005																	–
	2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	–
Tonga	1995	0	1	0	0	0	1	2		0	0	1	1	0	2	1		0.8
	2000		2	1	1		1	5			1	1	1		1	1		2.0
	2005	0	2	1	0	2	1	0		0	2	1	0	0	2	0		1.2
	2010	0	0	0	1	0	1	3	0	0	0	0	0	1	0	0	0	5.0
Tuvalu	1995	1	0	1	0	0	1	0		0	1	1	0	0	1	0		1.0
	2000																	–
	2005					1	1				1				2			0.7
	2010	0	1	0	0	1	2	0		0	0	1	0	0	0	0		4.0
Vanuatu	1995	0	6	2	5	3	4	0		0	5	0	2	3	0	0		2.0
	2000	2	7	5	1	10	5	2		5	3	15	7	3	3	1		0.9
	2005	1	4	5	5	0	4	1		0	5	1	2	4	1	2		1.3
	2010	4	6	3	1	5	2	0	0	3	5	3	3	5	3	1	0	0.9
Viet Nam	1995																	–
	2000	51	2 367	6 147	8 209	6 713	5 150	7 712		64	1 334	2 320	2 754	2 594	2 847	4 907		2.2
	2005	54	3 408	7 105	8 738	8 606	4 958	7 573		47	1 747	2 293	2 116	2 298	2 023	4 604		2.7
	2010	59	3 205	7 036	7 851	8 564	5 790	6 248	0	53	1 870	2 454	1 681	1 864	1 863	3 751	0	2.9
Wallis and Futuna Islands	1995																	–
	2000																	–
	2005																	–
	2010																	–

TABLE A3.9 **Laboratories, NTP services, drug management, human resources and infection control, 2010**

	LABORATORIES					FREE THROUGH NTP		DRUG MANAGEMENT			% OF STAFF TRAINED BY THE NTP (IN 2010)[c]				TB NOTIFICATION RATE PER 100 000 HEALTH-CARE WORKERS
	SMEAR LABS PER 100K POPULATION	CULTURE LABS PER 5M POPULATION	DST LABS PER 5M POPULATION	SECOND-LINE DST AVAILABLE	NRL[a]	TB DIAGNOSIS	FIRST-LINE DRUGS	RIFAMPICIN USED THROUGHOUT TREATMENT	% OF PATIENTS TREATED WITH FDC[b]	PAEDIATRIC FORMULATIONS PROCURED	MEDICAL OFFICERS	NURSES	HEALTH ASSISTANTS	LABORATORY TECHNICIANS	
American Samoa				In country	No	Yes, all suspects	Yes	Yes	0	No					
Australia				In country	Yes	Yes, all suspects	Yes	Yes	0	Yes					
Brunei Darussalam	0.3	13	13	No	Yes	Yes, all suspects	Yes	Yes	0	No	100	100	100	100	79
Cambodia	1.5	1.1	0.4	Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes	50	60	50	60	
China	0.2	3.3	0.7	In country	Yes	Yes, all suspects		Yes	15	No					
China, Hong Kong SAR	0.4	14	2.1	In country	Yes	Yes, all suspects	Yes	Yes	5	Yes	100	100	100	100	15
China, Macao SAR	1.5	9.2	9.2	In country	No	Yes, all suspects	Yes	Yes	0	Yes					
Cook Islands				Out of country	Yes	If TB is confirmed	No	No	0	No					
Fiji	0.5	5.8	0	Out of country	Yes	Yes, all suspects	Yes	Yes	0	No	4	2	0	4	0
French Polynesia	1.1	37	37	No	Yes	Yes, all suspects	Yes	Yes	100	Yes					
Guam	2.2	111	111	Out of country	Yes	Yes (other criteria)	Yes	Yes	0	No	100	50	0	100	
Japan				In country	Yes	For certain income groups	No	Yes	0	Yes					
Kiribati	2.0	0	0	Out of country	No	Yes, all suspects	Yes	Yes	100	Yes	75	85	90	100	92
Lao People's Democratic Republic	2.5	2.4	0	Out of country	Yes	Yes, all suspects	Yes	No	99	No	100	100	100	100	0
Malaysia	2.5	5.6	0.5	In country	Yes	Yes, all suspects	Yes	Yes	15	No	30	20	45	5	98
Marshall Islands	5.6	93	93	Out of country	No	Yes, all suspects	Yes	Yes	98	Yes	0	30	4	50	0
Micronesia (Federated States of)	3.6	0	0	No	Yes	Yes, all suspects	Yes	No	50	Yes	0	0	0	0	0
Mongolia	1.3	1.8	1.8	In country	Yes	Yes, all suspects	Yes	Yes	100	Yes	8	5	0	22	1049
Nauru				Out of country	Yes	Yes, all suspects	Yes	Yes		Yes					
New Caledonia	0.8	40	40	No	Yes	Yes, all suspects	Yes	Yes	100	Yes	5	5	10	0	0
New Zealand				In country	Yes	Yes, all suspects	Yes	Yes	100	No					
Niue				Out of country	No	Yes, all suspects	Yes	Yes	100	Yes					
Northern Mariana Islands	1.6	82	82	Out of country	No	Yes, all suspects	Yes	Yes	100	Yes	100	50	50	20	200
Palau	4.9	244	244	Out of country	Yes	Yes, all suspects	Yes	Yes	0	Yes	75	90	90	90	233
Papua New Guinea															
Philippines	2.1	0.4	0.1	In country	Yes	Yes, all suspects	Yes	Yes	100	Yes	80	50	50	50	
Republic of Korea	1.0	52	0.7	In country	Yes	Yes, all suspects	Yes	Yes	0	No	100	100	100	100	192
Samoa	1.1	0			Yes	If TB is confirmed	Yes			Yes		80			0
Singapore				In country	Yes	No	No	Yes	0	No					
Solomon Islands	1.7	0	0	Out of country	No	Yes, all suspects	Yes	Yes	100	No	0	20	0	0	111
Tokelau				Out of country	Yes	Yes, all suspects	No	No	0	No					
Tonga	1.0	0	0	Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes	100	70	50	100	0
Tuvalu	10.2	0	0	Out of country	Yes	Yes, all suspects	Yes	Yes	100	Yes	100	100	100	100	0
Vanuatu	4.6	0	0	Out of country	Yes	Yes, all suspects	Yes	Yes		No					
Viet Nam	0.9	1.3	0.1	In country	Yes	If TB is confirmed	Yes	Yes	100	No	60	60	40	60	
Wallis and Futuna Islands															

a NRL = national reference laboratory
b FDC = fixed-dose combination
c NURSES (Registered Nurses, Registered Midwives, Enrolled Nurses, Enrolled Midwives); HEALTH ASSISTANTS (Medical Assistants, Clinical Officers); LABORATORY TECHNICIANS (Microscopists)

Data can be downloaded from www.who.int/tb/data

The World Health Organization monitors the global tuberculosis epidemic in support of national TB control programmes.

For further information about tuberculosis contact:
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