

# Countdown to 2015

Global Tuberculosis Report 2013  
Supplement

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Cover design by Tom Hiatt, Western Pacific Regional Office and Irwin Law, WHO headquarters. The front cover illustrates the latest status of global progress for five indicators that are part of the Millennium Development Goals framework. These are the incidence rate of tuberculosis disease per 100 000 population per year, the prevalence of tuberculosis disease per 100 000 population, the tuberculosis mortality rate per 100 000 population per year, the case detection rate (the number of cases detected and reported to national tuberculosis programmes divided by the estimated incidence) and the treatment success rate for new TB patients started on treatment. Each pair of shapes represents both the most recent level of the indicator and a baseline year against which progress is measured. For incidence (green and dark orange), prevalence (grey and pink) and mortality (light orange and light blue), the top of the combined height of each pair of shapes shows the level in 1990. The lower of the two shapes in each pair shows the level in 2012. For the case detection rate, the combined height of each pair of shapes (dark blue and brown) shows the level in 2012 and the lower of the two shapes (dark blue) illustrates the level in 1995. For the treatment success rate (red and yellow), the combined height of each pair shows the level in 2011 and the lower of the two shapes (red) shows the level in 1995.

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# **Countdown to 2015**

Global Tuberculosis Report 2013

**Supplement**



**World Health  
Organization**

# About this supplement

At the turn of the 21st century, the United Nations (UN) established 8 Millennium Development Goals (MDGs), with targets set for 2015 ([www.un.org/millenniumgoals](http://www.un.org/millenniumgoals)). Designed to drive progress worldwide and endorsed by all countries, the targets have been the focus of international and national development efforts for more than a decade. Tuberculosis (TB) was included as part of MDG 6, with a target that TB incidence should be falling by 2015. Two other 2015 global targets for reductions in disease burden (prevalence and mortality rates) and two additional indicators fit within the MDG framework (Box S1). In addition, 2015 targets for the response needed to address the specific challenges of multidrug-resistant TB (MDR-TB) and the TB/HIV co-epidemic were set within the *Global Plan to Stop TB 2011–2015*.<sup>1</sup>

Just over two years remain before the end of 2015, the target deadline. This special supplement of the *Global Tuberculosis Report 2013* summarizes the status of progress towards targets set within the MDG framework (Table S1) and for the response to TB/HIV and MDR-TB specifically (Table S2), and the actions needed to either move beyond or accelerate towards these targets. Snapshots are provided globally, regionally and for the 22 high-burden countries (HBCs) that have about 80% of the world's TB cases (Figure S1) and that have received the greatest attention at the global level since 2000.

## BOX S1

### Global targets and indicators, data sources and interpretation

**MDG 6, Target 6c.** To halt and reverse the incidence of TB.

#### Indicators in the MDG framework and associated targets:

The indicators in the MDG framework are TB incidence, prevalence and mortality rates; the case detection rate; and the percentage of TB patients successfully treated. The Stop TB Partnership set targets to halve prevalence and mortality rates by 2015 compared with a baseline of 1990. In 1991, the World Health Assembly (WHA) set targets to detect at least 70% of incident cases and to successfully treat at least 85% of TB patients by 2000 (later reset to 2005); these WHA targets were not updated after 2005 but are still used for reference.

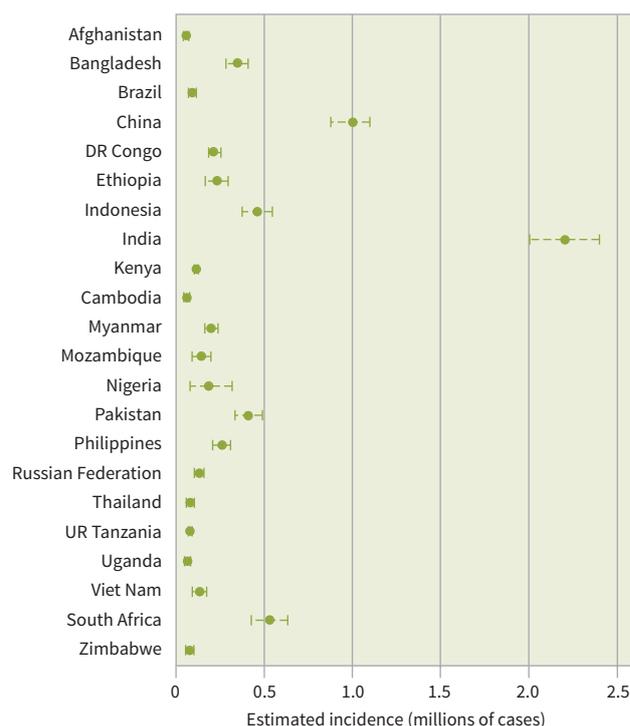
All tables and figures were prepared using data reported by Member States to WHO as well as estimates of the level of and trends in disease burden (incidence, prevalence, mortality) that are produced by WHO in consultation with countries. The data reported by countries and estimates of disease burden appear in the country profiles of the *Global Tuberculosis Report 2013* and were reviewed by countries in advance of publication. Other figures and tables are also based on data that appear in the *Global Tuberculosis Report 2013*.

In Table S1 and Table S5, “met” means that the target had been reached by 2012; “on track” means that the latest projections suggest that the target will be reached by 2015; and “not on track” means that the target will not be reached by 2015 without a major acceleration in the current rate of progress.

The global, regional and country snapshots of actions needed to progress beyond or accelerate towards 2015 targets are based on the data presented in the tables complemented by recommendations from recent reviews of national TB programmes (NTPs), published literature, and discussions with experts at global, regional and national levels.

FIGURE S1

**Estimated TB incidence, 22 high-burden countries, 2012.** The range shows the lower and upper bounds of the 95% uncertainty interval. The bullet marks the best estimate.



<sup>1</sup> *The Global Plan to Stop TB, 2011–2015*. Geneva, World Health Organization, 2010 (WHO/HTM/STB/2010.2). Available at [http://www.stoptb.org/assets/documents/global/plan/TB\\_GlobalPlanToStopTB2011-2015.pdf](http://www.stoptb.org/assets/documents/global/plan/TB_GlobalPlanToStopTB2011-2015.pdf)

# 56 million

**TB patients successfully treated since 1995**

# 22 million

**Lives saved since 1995**

# 45%

**Reduction in TB mortality rate since 1990**

# Global

FIGURE S2



## Targets achieved or on track

There has been major progress towards 2015 targets established within the MDG framework (Figure S2, Table S1, Table S2).

- The **TB incidence rate** has been falling worldwide for about a decade, meaning that the **MDG target has been achieved globally**. TB incidence rates are also falling in all six WHO regions.
- By 2012, the **TB mortality rate** had been reduced by 45% since 1990 and the **target of a 50% reduction by 2015 is within reach**.
- **Seven of the 22 HBCs have met all of the 2015 targets** for reductions in TB cases and deaths: Brazil, Cambodia, China, the Philippines, Uganda, the United Republic of Tanzania and Viet Nam. A further **four HBCs are on track** to do so by 2015: Ethiopia, India, Myanmar and Thailand. Combined, these 11 countries had 51% of the global TB burden in 2012 and 47% of the world's population.
- One of the most important indicators of global progress is an **87% treatment success rate in 2011, up from 69% in 2000**. This demonstrates huge improvement in the provision of high quality TB care in most countries.

# snapshot

## Targets not on track

- Of the 8.6 million (range, 8.3–9 million) incident cases of TB estimated to have occurred in 2012, only 5.7 million (66%, range 64–69%) were both detected and notified to national TB programmes (NTPs) or national surveillance systems. This leaves **a gap of about 3 million people with TB** who were “missed”, either because they were *not diagnosed* or because they were *diagnosed but not reported*. About 75% of these “missed cases” are in 12 countries (**Table S3, Figure S3**).
- There are **11 HBCs that are not on track** to reach one or more of the three targets for reductions in incidence, prevalence and mortality, including three for which an updated assessment of progress is scheduled in 2013 or 2014. The 11 countries are the Democratic Republic of the Congo, Kenya, Mozambique, Nigeria, South Africa and Zimbabwe in the African Region; Afghanistan and Pakistan in the Eastern Mediterranean Region; Bangladesh and Indonesia in the South-East Asia Region; and the Russian Federation in the European Region. In two of the 11 countries (Mozambique, South Africa), the incidence rate is still estimated to be rising and in two others (Afghanistan, Democratic Republic of the Congo) it is not yet falling (**Table S1**). Most of the 11 countries have faced one or more severe challenges including resource constraints, conflict and instability, and generalized HIV epidemics.
- Globally, **progress towards targets for universal access to diagnosis and treatment of MDR-TB is far off-track** (**Table S2, Table S4, Table S5**); **in many countries this now constitutes a public health crisis** that is not being adequately recognized and addressed. Worldwide and in most countries with a high burden of MDR-TB, less than one third of the reported TB patients estimated to have MDR-TB (and about one-fifth of estimated incident cases) were actually detected in 2012. Almost 94 000 TB cases eligible for MDR-TB treatment (84 000 with MDR-TB and 10 000 with rifampicin resistance) were notified globally in 2012, while just over 77 000 cases were reported to have been placed on MDR-TB treatment during the same period. Gaps are growing rapidly in many countries, with patients reported to be on long waiting lists for treatment. The global treatment success rate is under 50% due to high levels of mortality and large numbers of patients being lost to follow-up. Inadequate management of TB is known to create and amplify resistance; this is clearly shown by the detection of at least one case of XDR-TB in 92 countries by the end of 2012.
- **Many countries have made considerable progress in responding to the TB/HIV co-epidemic**, especially those with the highest rates of TB/HIV co-infection (**Table S2**), **but targets have not yet been reached at the global level** for HIV testing among TB patients, provision of antiretroviral therapy (ART) to HIV-positive TB patients and provision of chemoprophylaxis to prevent TB among people living with HIV. Impressive levels of performance in some countries with a high TB/HIV burden (for example, Kenya and Ethiopia) show that much more can be achieved elsewhere.

TABLE S1

**Progress towards 2015 targets set within the MDG framework.** Assessment is for 2012 unless specified.

MDG FRAMEWORK: INDICATORS AND TARGETS						
Indicator	TB incidence rate	TB prevalence rate	TB mortality rate	TB case detection rate (%) <sup>a</sup>	TB treatment success rate: new cases, 2011 (%) <sup>a</sup>	
Target	Incidence rate falling	50% reduction in prevalence rate by 2015 compared with 1990	50% reduction in mortality rate by 2015 compared with 1990			
<b>GLOBAL</b>						
Global	Met	Not on track	On track	66 (64–69)	87	
<b>WHO REGION</b>						
African (AFR)	Met	Not on track	Not on track	59 (55–64)	79	
Americas (AMR)	Met	Met	Met	79 (74–85)	75	
Eastern Mediterranean (EMR)	Met	Not on track	On track	63 (56–71)	88	
European (EUR)	Met	Not on track	Not on track	74 (70–79)	72	
South-East Asia (SEAR)	Met	On track	On track	62 (58–66)	89	
Western Pacific (WPR)	Met	Met	Met	81 (75–89)	93	
<b>22 HIGH-BURDEN COUNTRIES</b>						
AFR	DR Congo	Not on track	Not on track	Not on track	51 (44–59)	87
	Ethiopia	Met	On track	Met	64 (49–87)	89
	Kenya	Met	Not on track	Not on track	79 (76–83)	87
	Mozambique	Not on track	Not on track	On track	34 (25–50)	85 <sup>b</sup>
	Nigeria	Reassessment planned at end of 2013			51 (29–110)	85
	South Africa	Not on track	Not on track	Not on track	62 (52–75)	77
	Uganda	Met	Met	Met	69 (57–85)	73
	UR Tanzania	Met	Met	Met	79 (74–84)	88
	Zimbabwe	Met	Not on track	Not on track	46 (37–60)	80
AMR	Brazil	Met	Met	Met	82 (69–99)	73
EMR	Afghanistan	Not on track	Not on track	Not on track	52 (44–63)	88
	Pakistan	Reassessment planned at end of 2013			65 (54–78)	92
EUR	Russian Federation	Met	Not on track	Not on track	81 (70–96)	65
SEAR	Bangladesh	Reassessment planned in 2014			49 (41–59)	91
	India	Met	On track	On track	59 (54–66)	89
	Indonesia	Met	Not on track	Met	72 (61–87)	88
	Myanmar	Met	On track	Met	71 (62–83)	88
	Thailand	Met	On track	On track	76 (64–92)	82
WPR	Cambodia	Met	Met	Met	66 (57–77)	94
	China	Met	Met	Met	89 (79–100)	95
	Philippines	Met	Met	Met	84 (71–100)	87
	Viet Nam	Met	Met	Met	76 (59–100)	93
<b>CLASSIFICATION</b>						
	Met	Met	Met	≥70%	≥85%	
	On track	On track	On track	55–69%	70–84%	
	Not on track	Not on track	Not on track	<55%	<70%	

<sup>a</sup> The bands used for the classification of countries are defined according to the targets that existed when the MDGs were established.

<sup>b</sup> Data are for 2010 for Mozambique because treatment outcomes in 2011 had not been reported to WHO by June 2013.

TABLE S2

**Progress towards 2015 targets for the response to TB/HIV and MDR-TB set in the Global Plan to Stop TB 2011–2015.** Assessment is for 2012 unless specified.

		TB/HIV: 2015 GLOBAL PLAN TARGETS			MDR-TB: 2015 GLOBAL PLAN TARGETS	
Indicator		TB patients with known HIV status (%)	HIV-positive TB patients on ART (%)	People living with HIV newly enrolled in HIV care who were started on IPT (%)	Estimated MDR-TB cases that were detected and notified (%) <sup>a</sup>	Treatment success rate; confirmed MDR-TB cases, 2010 cohort (%)
Target		100%	100%	50% <sup>b</sup>	100%	≥75%
<b>GLOBAL</b>						
Global		46	57	30	28	48
<b>WHO REGION</b>						
African (AFR)		74	55	30	48	46
Americas (AMR)		56	76	63	42	54
Eastern Mediterranean (EMR)		14	48	10	12	56
European (EUR)		60	74	39	50	49
South-East Asia (SEAR)		39	61	3.1	21	46
Western Pacific (WPR)		34	56	38	6.0	46
<b>22 HIGH-BURDEN COUNTRIES</b>						
AFR	DR Congo	31	40		2.2	36
	Ethiopia	65	82	38	14	84
	Kenya	94	74		8.0	82
	Mozambique	94	55	12	13	29
	Nigeria	84	56	1.2	3.0	61
	South Africa	84	54	36	>100 <sup>c</sup>	40
	Uganda	86	49		8.9	
	UR Tanzania	82	54		8.4	75
AMR	Brazil	55	100		40	64
	Afghanistan	25	100	83	2.8	
EMR	Pakistan	3.8	73		15	70
	Russian Federation	<sup>d</sup>			30	43
SEAR	Bangladesh	1.2	100	0	12	75
	India	56	59		26	34
	Indonesia	0.8	29		6.2	72
	Myanmar	13	83		13	70
	Thailand	72	62		27	
WPR	Cambodia	80	88	25	20	68
	China	34	59		5.1	42
	Philippines	0.9			5.2	42
	Viet Nam	66	47	44	7.2	78
<b>CLASSIFICATION</b>						
		≥80% tested	≥80%	≥50%	≥80% detected and notified	≥75%
		50–79% tested	50–79%	25–49%	50–79% detected and notified	50–74%
		<50% tested	<50%	<25%	<50% detected and notified	<50%
		Yellow hatching indicates the overall burden of TB/HIV is low <sup>e</sup>			Yellow hatching indicates the overall burden of MDR-TB is low <sup>f</sup>	

A blank white cell indicates that no data are available.

<sup>a</sup> The denominator is the estimated number of MDR-TB cases among notified cases of pulmonary TB.

<sup>b</sup> Approximately 50% of patients newly enrolled in HIV care are expected to be eligible for IPT.

<sup>c</sup> The denominator (i.e. estimated number of MDR-TB cases) for South Africa may be too low. A national drug resistance survey is underway and will be completed in 2014.

<sup>d</sup> The exact percentage could not be calculated from reported data for the Russian Federation but is estimated to be at least 80%.

<sup>e</sup> ≤5% TB cases are HIV-positive.

<sup>f</sup> ≤3% MDR-TB prevalence in new TB cases and <1000 estimated MDR-TB cases among notified pulmonary TB cases.

# Priority actions to accelerate

## Reach the missed cases

Finding the “missed” cases (i.e. the gap between the estimated number of incident cases and the number of notified or officially reported cases) is one of the biggest challenges in TB care and control today. Access to TB diagnosis needs to be urgently improved in countries where a large share of the “missed” cases are likely due to the lack of diagnosis rather than under-reporting. Among the 22 HBCs, measures to do this include increasing the number of existing health facilities that have TB diagnostic capacity (including rapid tests) and expanding service coverage via nongovernmental organizations and greater engagement of community workers and volunteers. Under-reporting of diagnosed cases is most common in Asian countries that have large private sectors but no policy (or enforced policy) of mandatory notification and/or a large number of public hospitals that are not linked to NTP reporting systems. Reducing under-reporting requires measures such as intensified collaboration with public hospitals and the private sector, mandatory notification of cases (recently introduced in India and proposed in Indonesia), and specific efforts to compile data on diagnosed cases from facilities that are not routinely reporting to national surveillance systems.

TABLE S3

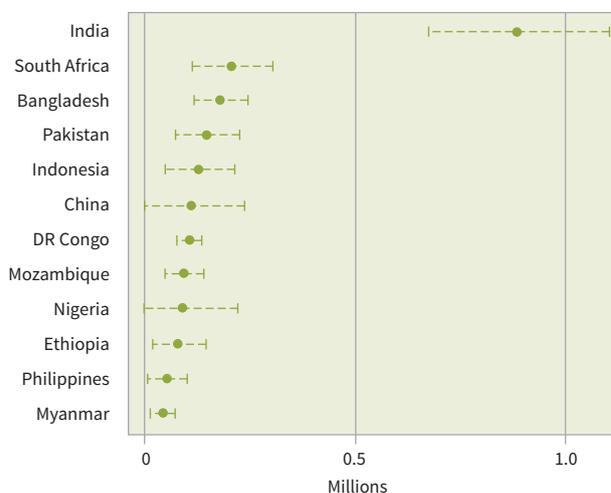
### 12 countries that account for 75% (2.1 million) of the estimated “missed” cases globally, 2012.

The number of missed cases is defined as the difference between the estimated number of incident cases and notified (new and relapse) cases in 2012.

COUNTRY	SHARE OF TOTAL MISSED CASES (%)	CUMULATIVE SHARE OF TOTAL MISSED CASES (%)
India	31	31
South Africa	7	38
Bangladesh	6	44
Pakistan	5	49
Indonesia	5	54
China	4	58
DR Congo	4	62
Mozambique	3	65
Nigeria	3	68
Ethiopia	3	71
Philippines	2	73
Myanmar	2	75

FIGURE S3

**Estimated number of missed cases in top 12 countries, 2012.** The range shows the lower and upper bounds of the 95% uncertainty interval. The bullet marks the best estimate.



## Accelerate the response to the TB/HIV epidemic

In countries with a high TB/HIV burden, the top priority is to increase coverage of ART among HIV-positive TB patients towards the 100% target. A second priority is to increase coverage of IPT.

# towards 2015 targets

## Address MDR-TB as a public health crisis

Countries with a high burden of MDR-TB should recognize it as a public health crisis and address it as an emergency. Adequate treatment of drug-susceptible TB, expansion of early and rapid detection of all MDR-TB cases, and immediate and proper treatment and care must all be prioritized. The crisis can only be solved if all stakeholders work together to support the accelerated scale up of services to prevent, diagnose, treat and care for MDR-TB. High-level dialogue and refocused commitment is imperative to ensure that the increasing capacity to diagnose MDR-TB is matched with an adequate supply of quality drugs and scaled-up country capacity to deliver effective treatment and care. Under the stewardship of ministries of health, this necessitates increased collaboration among multiple partners including donor and technical agencies, the pharmaceutical industry, civil society and drug regulatory authorities.

TABLE S4

**12 countries that account for 80% (237 000) of estimated MDR-TB cases among notified TB patients, 2012**

COUNTRY	BEST ESTIMATE	UNCERTAINTY INTERVAL	NUMBER OF NOTIFIED MDR-TB CASES IN 2012
India	64 000	49 000–79 000	16 588
China	59 000	52 000–66 000	3 007
Russian Federation	46 000	43 000–49 000	13 612
Philippines	13 000	10 000–16 000	679
Pakistan	11 000	0–29 000	1 602
Kazakhstan	8 800	8 700–9 000	7 608
South Africa	8 100	6 900–9 400	15 419
Indonesia	6 900	5 200–8 500	428
Ukraine	6 800	6 500–7 000	6 934
Myanmar	6 000	4 600–7 500	778
Uzbekistan	4 000	3 700–4 300	1 728
Bangladesh	4 200	3 100–5 200	513

## Increase financing from domestic and international donor sources to close all resource gaps

An estimated US\$ 7–8 billion is required in both 2014 and 2015, including US\$ 1.6–2.3 billion per year from international donors. The full replenishment of the Global Fund in 2013 is absolutely essential for donor dependent countries, since the fund provides about three-quarters of international donor funding for TB. Maintaining funding from other major donors, notably USAID, and increasing domestic commitments in lower and upper middle-income countries, are also crucial. Without the necessary investments, progress towards targets remains fragile and could be reversed.

## Ensure rapid uptake of new innovations

Country-specific operational research and translation of findings into policy and practice must be accelerated to facilitate fast uptake of new tools and strategies for better diagnosis, treatment and prevention of all cases of TB.

# Regional snapshots

## Progress, challenges and actions needed

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### AFRICAN REGION

**Progress:** The MDG target has been met: TB incidence rates have been falling since around 2002. In 2011, the treatment success rate reached its highest level since WHO began global monitoring and case detection has also improved over the past decade. There has been considerable progress in the implementation of TB/HIV interventions.

**Challenges and actions needed:** The region has the highest TB/HIV burden, accounting for 75% of the world's HIV-positive TB cases in 2012; 37% of TB cases are estimated to be co-infected with HIV. The TB incidence rate is still estimated to be rising in Mozambique and South Africa. Given the regional increase in TB cases caused by the HIV epidemic (especially in the 1990s) combined with higher death rates among HIV-positive TB patients, the region is not on track to achieve the 2015 targets for reductions in prevalence and mortality. To accelerate progress, top priority actions include increasing access to basic TB diagnosis and treatment services in countries where the estimated gap between incident and notified cases is large, and increasing the coverage of ART among HIV-positive TB patients towards the 100% target.

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### REGION OF THE AMERICAS

**Progress:** All three of the 2015 targets for reductions in TB cases and mortality have been met well in advance of the 2015 deadline. A high proportion of incident cases are detected and reported to NTPs and progress in implementing TB/HIV interventions has been relatively good. The Americas has the lowest burden among WHO's six regions and several countries are in a position to target TB elimination.

**Challenges and actions needed:** The treatment success rate was 75% in 2011 and needs to be improved, for example by reducing the proportion of cases for whom the treatment outcome is not documented. Although the region has no countries in the list of 27 high MDR-TB countries and only two in the list of 41 high TB/HIV burden countries (Brazil and Haiti), further efforts to increase the coverage of interventions related to HIV-related TB and MDR-TB are warranted.

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### EASTERN MEDITERRANEAN REGION

**Progress:** Despite ongoing challenges associated with conflict and instability, the MDG target has been met and the region is on track to reach the target of halving mortality by 2015 compared with 1990. The treatment success rate is high and the burden of TB/HIV is low. Some countries are in a position to target TB elimination.

**Challenges and actions needed:** More than two-thirds of the regional burden of TB is accounted for by the region's two HBCs, Afghanistan and Pakistan. Increasing access to high-quality TB diagnosis and care in both countries, and intensified collaboration with the private sector as well as scale-up of MDR-TB diagnosis and treatment in Pakistan, are top priorities.

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### EUROPEAN REGION

**Progress:** The MDG target has been met and case detection is high. Prevalence and mortality rates have been falling relatively fast for about 10 years. For many countries in western Europe with a low incidence rate, the relevant target is TB elimination.

**Challenges and actions needed:** The region is not on track to reach the 2015 targets for reductions in prevalence and mortality, following the upsurge of cases and mortality throughout most of the 1990s. The treatment success rate is only 72%. Of the 27 high MDR-TB burden countries, 15 are in the European Region (Table S5). Addressing the MDR-TB public health crisis is the top priority for TB control in the region. A regional MDR-TB action plan has already been developed under the leadership of the WHO Regional Office for Europe and approved by all Member States. By the end of 2015, the plan targets are to reduce the proportion of previously treated patients who have MDR-TB by 20% (compared with 2011), to diagnose at least 85% of all estimated cases of MDR-TB among TB patients and to successfully treat at least 75% of all TB patients with confirmed MDR-TB. Full funding and implementation of this plan are required to accelerate reductions in TB mortality rates, improve treatment outcomes and prevent the further generation of MDR-TB.

TABLE S5

**Progress towards selected 2015 targets set within the MDG framework and targets for the response to MDR-TB set in the Global Plan to Stop TB 2011–2015, 15 high MDR-TB burden countries in the European Region.\*** Assessment is for 2012 unless specified.

Indicator	MDG FRAMEWORK: INDICATORS AND TARGETS			MDR-TB: 2015 GLOBAL PLAN TARGETS	
	Mortality rate	TB case detection rate (%) <sup>a</sup>	TB treatment success rate: new cases 2011 (%) <sup>a</sup>	Estimated MDR-TB cases that were detected and notified (%) <sup>b</sup>	Treatment success rate: confirmed MDR-TB cases, 2010 cohort (%)
Target	50% reduction in mortality rate by 2015 compared with 1990			100%	≥75%
<b>HIGH MDR-TB BURDEN COUNTRIES</b>					
Armenia	Not on track	79 (67–95)	78	37	45
Azerbaijan	Met	72 (60–87)	78	21	53
Belarus	Not on track	72 (60–89)	71	73	31
Bulgaria <sup>c</sup>	On track	90 (79–100)	86	49	16
Estonia	Not on track	87 (77–99)	64	89	47
Georgia	Met	78 (70–88)	81	55	54
Kazakhstan	On track	81 (69–96)	76	86	73
Kyrgyzstan	Not on track	80 (67–97)	84	53	51
Latvia	Met	87 (80–95)	77	92	66
Lithuania	On track	82 (72–93)	50	90	0
Republic of Moldova	Not on track	79 (66–95)	67 <sup>d</sup>	53	
Russian Federation	Not on track	81 (70–96)	65	30	43
Tajikistan	Not on track	75 (63–91)	87	76	62
Ukraine	Not on track	83 (70–100)	67	>100 <sup>e</sup>	29
Uzbekistan	On track	66 (56–80)	85	43	58
<b>CLASSIFICATION</b>					
	Met	≥70%	≥85%	≥80% detected and notified	≥75%
	On track	55–69%	70–84%	50–79% detected and notified	50–74%
	Not on track	<55%	<70%	<50% detected and notified	<50%

A blank white cell indicates that no data are available.

\* The other 12 of the 27 high MDR-TB burden countries are already shown in Table S1 and Table S2. They are Bangladesh, China, DR Congo, Ethiopia, India, Indonesia, Myanmar, Nigeria, Pakistan, the Philippines, South Africa and Viet Nam.

<sup>a</sup> The bands used for the classification of countries are defined according to the targets that existed when the MDGs were established.

<sup>b</sup> The denominator is the estimated number of MDR-TB cases among notified cases of pulmonary TB.

<sup>c</sup> Recent data from continuous surveillance show that Bulgaria does not meet the criteria used in 2007 to define the 27 high MDR-TB burden countries.

<sup>d</sup> The data for Republic of Moldova are for the 2010 cohort.

<sup>e</sup> The denominator (i.e. estimated number of MDR-TB cases) for Ukraine may be too low. A national drug resistance survey is underway and will be completed in 2014.

## SOUTH-EAST ASIA REGION

**Progress:** The MDG target has been met and the region is on track to reach the targets of halving prevalence and mortality by 2015 compared with 1990. The treatment success rate is high.

**Challenges and actions needed:** Almost 40% of estimated cases are “missed”: either not diagnosed, or diagnosed but not reported to NTPs. HBCs in the region account for 44% of the global total of “missed” cases (Table S3). Top priority actions to close this gap include intensified collaboration with public hospitals and the private sector, mandatory notification of cases (recently introduced in India and proposed in Indonesia), and specific efforts to compile data on diagnosed cases from facilities that are not routinely reporting to national surveillance systems (for example, in Thailand). Progress in India has a big influence on regional indicators. The region has about one third of the global burden of MDR-TB and major efforts are needed to increase detection and treatment of cases.

## WESTERN PACIFIC REGION

**Progress:** All three of the 2015 targets for reductions in TB cases and mortality have been met in advance of the 2015 deadline. A high proportion of incident cases are detected and the treatment success rate is above 90%. The burden of TB/HIV is low.

**Challenges and actions needed:** The region has the second highest burden of MDR-TB, mostly (about 80%) in China. The top priority to improve TB control is rapid expansion of MDR-TB detection and treatment.

# Country snapshots

## DEMOCRATIC REPUBLIC OF THE CONGO

**Progress:** The Democratic Republic of the Congo is not on track to meet the 2015 targets for reductions in TB disease burden. However, in this challenging setting of ongoing conflict and instability, the treatment success rate is high among those cases that are being detected and enrolled on treatment.

**Challenges and actions needed:** Efforts are underway to expand DOTS coverage by strengthening the laboratory network, adopting new diagnostic tools for earlier case detection, ensuring collaboration between the TB and HIV programmes and expanding integrated TB and HIV activities at community level. Drug-resistance surveillance is a priority, since data on levels of drug-resistant TB are limited. Improving TB control will depend on the broader political and development context of the country as well as continued engagement of all partners.

## ETHIOPIA

**Progress:** Ethiopia has met the 2015 targets for reductions in incidence and mortality and appears on track to reach the target of halving the 1990 prevalence rate by 2015. The case detection rate is relatively high and treatment success has reached 90% following efforts to expand access to diagnosis and treatment through strengthened community-based structures. The country is performing well in terms of collaborative TB/HIV activities, with a relatively high percentage of TB patients tested for HIV and above-average coverage of IPT.

**Challenges and actions needed:** A high proportion of HIV-positive TB patients who are offered ART start treatment, but coverage could be improved by adopting the WHO policy that all HIV-positive TB patients should be provided with ART. Despite achievement of a high MDR-TB treatment success rate, access to diagnostic and treatment services for MDR-TB remains a challenge and further expansion of services is required.

## KENYA

**Progress:** Kenya is on track to meet the MDG target for falling TB incidence but is unlikely to achieve the targets for reductions in prevalence and mortality. This is largely due to the substantial increase in the burden of HIV-related TB during the 1990s. Nonetheless, there has been substantial progress in the last decade with a high estimated case detection rate and a high treatment success rate. Kenya is one of the leading HBCs in terms of HIV testing among TB patients and provision of ART and CPT to those who are HIV-positive.

**Challenges and actions needed:** Current achievements need to be sustained and consolidated, including provision of IPT to people living with HIV, greater community engagement and the integration of new diagnostic tools into the laboratory network.

## MOZAMBIQUE

**Progress:** Mozambique appears to be on track to achieve the target to halve the 1990 level of TB mortality, but is not on track to reach targets for reductions in TB incidence or prevalence. However, there is a critical need for better quality data, as there are currently no direct measurements of disease burden available. A TB prevalence survey is planned for 2015. The latest programmatic data show that the treatment success rate is high (85%) and the coverage of TB/HIV interventions is impressive, with rapid expansion of ART coverage for HIV-positive TB patients throughout 2012.

**Challenges and actions needed:** Acceleration of progress before 2015, especially to address the low case detection rate (estimated at 34%), will require greater awareness of TB signs and symptoms among health care staff so that more people with presumptive TB are appropriately investigated and initiated on treatment, strengthening of programmatic management and the laboratory network, and greater community and NGO engagement. There are major challenges with the detection and treatment of MDR-TB.

## NIGERIA

**Progress:** A comprehensive reassessment of trends in disease burden in Nigeria is planned for late 2013, following the finalization of results from the 2012 national TB prevalence survey. However, data already available from the survey and the findings of a recent programme review (April 2013) suggest that the country is not on track to

achieve the 2015 targets for reductions in TB disease burden. The treatment success rate reached 85% among new cases for the first time in 2011.

**Challenges and actions needed:** The burden of disease remains high, there is considerable ongoing transmission and there is a large pool of undetected prevalent cases with sputum-smear positive TB and symptoms that meet national screening criteria. The top priority is thus to rapidly expand access to and improve the quality of basic diagnostic and treatment services for TB within the already-available network of health facilities. Programmatic management and supervision activities and coordination between different administrative levels (federal, state, district) need to be enhanced to facilitate and support improvements in service coverage and quality. Progress in addressing HIV-associated TB could be further accelerated through the decentralization of ART services to TB facilities.

## SOUTH AFRICA

**Progress:** South Africa is not on track to meet the 2015 targets for reductions in disease burden. Among HBCs it has the highest TB incidence rate and the highest burden of TB/HIV co-infection; TB incidence is estimated to be increasing. In recent years, major progress has been made in improving access to TB and MDR-TB diagnostics and treatment, increasing treatment success rates and implementing TB/HIV interventions, supported by high levels of domestic financing. South Africa is the first HBC to implement a national policy to use Xpert MTB/RIF as the first diagnostic test for all presumptive TB cases (replacing sputum smear microscopy). These efforts should help to reduce the high burden of TB disease.

**Challenges and actions needed:** Further strengthening of programmatic quality, special initiatives targeting high risk populations (such as miners), further decentralization of ART and implementation of the new IPT policy could help to accelerate progress. Greater engagement of nongovernmental organizations, community-based organizations and the private sector may also help. A national TB prevalence survey is planned and this will provide new data on TB disease burden and inform actions needed to improve TB prevention, diagnosis and treatment.

## UGANDA

**Progress:** Uganda has met the 2015 targets for reductions in TB disease burden, with downward trends following a peak in the HIV epidemic in the 1980s. An updated and more accurate estimate of TB prevalence is expected in early 2015, following the implementation of the country's first nationwide prevalence survey in 2014. During the programme review in September 2013, considerable progress in the implementation of collaborative TB/HIV activities was observed, including good uptake of HIV services in TB clinics and progress in uptake of TB screening in HIV clinics.

**Challenges and actions needed:** Programmatic indicators show scope for further progress. For example, the treatment success rate was 77% in 2011 and less than half of HIV-positive TB patients received ART in 2012. Recommendations arising from the programme review in September 2013 emphasized the need to strengthen all of the basic components of TB care and control to ensure the quality of first-line TB care. The importance of including childhood TB in preventive, diagnostic and treatment practices was also highlighted. While the burden of MDR-TB is low, inadequacies in MDR-TB case management – notably gaps between the number of cases detected and the number of patients started on second-line treatment – warrant an emergency response to establish high-quality programmatic management of drug-resistant TB.

## UNITED REPUBLIC OF TANZANIA

**Progress:** The United Republic of Tanzania has met the 2015 targets for reductions in TB disease burden. The HIV epidemic had less impact on the TB epidemic compared with neighbouring countries, possibly reflecting the strong foundation of TB control efforts that provided one of the models on which the WHO DOTS strategy of the mid-1990s was built. The treatment success rate is relatively high and the burden of MDR-TB is very low.

**Challenges and actions needed:** The 2012 nationwide prevalence survey (the first in the country) indicates that further progress requires improved access to basic TB diagnostic and treatment services. Expansion of the coverage of ART for HIV-positive TB patients and IPT for people living with HIV is also needed.

## ZIMBABWE

**Progress:** Although Zimbabwe is on track to meet the MDG target of falling TB incidence following a peak in the HIV epidemic, it is unlikely to reach the targets for reductions in TB prevalence and mortality. The level of TB/HIV co-infection remains high and TB mortality is estimated to have increased over the last decade.

**Challenges and actions needed:** Building on recent improvements in the treatment success rate, better coverage of health care to increase access to TB diagnosis and treatment is a top priority. Decentralization of ART to sites where TB services are available could also help to reduce HIV-associated TB mortality. Future strategies include strengthening programme quality, rolling out the use of Xpert MTB/RIF to all diagnostic centres, and strengthening provision of both integrated TB/HIV care and community-based TB care.

## BRAZIL

**Progress:** Brazil has met all three of the 2015 targets for reductions in TB disease burden, and has one of the highest case detection rates among the 22 HBCs. The supportive environment for these achievements has included rapid economic growth, major governmental efforts to reduce health inequalities, a longstanding political commitment to the achievement of universal health coverage and increasing financing for the NTP. The detection of TB and MDR-TB is expected to be enhanced in the near future by the use of Xpert MTB/RIF as the initial diagnostic test.

**Challenges and actions needed:** Documentation of final treatment outcomes for all TB patients would probably increase the treatment success rate. TB prevention and care could be further strengthened by expanding the provision of IPT to people living with HIV and, building on existing achievements, increasing coverage of HIV testing and provision of ART for HIV-positive TB patients.

## AFGHANISTAN

**Progress:** The most encouraging sign of progress is that in areas where health services are available, excellent treatment success rates have been achieved. However, against a backdrop of long-standing instability and conflict, Afghanistan is not on track to achieve the 2015 targets for reductions in TB disease burden. Recognizing these circumstances, the country has deferred the targets to 2020.

**Challenges and actions needed:** Case detection remains a major challenge, given security problems and low health service coverage in remote and hard-to-reach areas as well as during harsh weather. Maintaining service quality and achieving additional gains through the expansion of services requires sustained development assistance.

## PAKISTAN

**Progress:** An updated assessment of progress towards the 2015 targets for reductions in disease burden is anticipated towards the end of 2013, once final results from the 2011 TB prevalence survey and an inventory study of under-reporting are available. Although the case detection rate remains uncertain, it is clear that the number of patients detected and reported has dramatically increased over the past decade.

**Challenges and actions needed:** There is considerable scope for accelerated progress in TB case detection and management of MDR-TB within the next three years if ambitious plans to expand private sector collaboration and operational scale-up can be fully implemented. Given the devolution of powers from the central to the provincial level, human resource capacity must be strengthened in the provinces.

## RUSSIAN FEDERATION

**Progress:** The Russian Federation is on track to meet the MDG target: TB incidence is falling fast compared with most other HBCs. Prevalence and mortality rates have been falling for several years. However, halving 1990 levels of prevalence and mortality rates by 2015 is very challenging because of the resurgence of TB during the 1990s. Case detection has been sustained at a high level for many years. Government commitment to TB control and associated high levels of financing (more than any other HBC at over US\$ 1 billion per year) provide a strong foundation for further progress.

**Challenges and actions needed:** One of the top priorities already identified by the Ministry of Health is to increase the treatment success rate. Measures required to do this include ensuring earlier detection of MDR-TB and enrolment of patients on second-line treatment, and strengthening patient support to improve adherence to treatment (especially among the most socially and economically disadvantaged patients). It is expected that the introduction of a patient-based monitoring system for those with M/XDR-TB and patients co-infected with HIV in the near future will also help to improve the quality of care and treatment outcomes.

## BANGLADESH

**Progress:** Treatment success rates are high for both drug susceptible and MDR-TB. The level of and trends in TB disease burden will be reassessed following the completion of a prevalence survey planned for 2014.

**Challenges and actions needed:** The major challenge is to reach more cases, building on the already strong engagement with NGOs in service delivery and community based care. This requires strengthening human resources, the laboratory diagnostic network and health system capacity in general, supported by increased financing. The 2014 prevalence survey may help to identify the programmatic and policy measures required to overcome social and economic barriers to accessing care.

## INDIA

**Progress:** India has one quarter of the global burden of TB. The country has achieved the MDG target that incidence should be falling and is on track to reach the 2015 targets for reductions in TB prevalence and mortality. Treatment success rates have been above 85% for several years. India has one fifth of the world's TB patients with MDR-TB and there was a big increase in detection and treatment between 2011 and 2012.

**Challenges and actions needed:** Case notifications must be improved by forging stronger linkages with the private health sector and enforcing reporting of diagnosed cases that is now mandated by law. The overall quality of TB services, including human resources and systems for financial management, needs to be strengthened. In addition, regulation to ensure rational use of anti-TB drugs and urban TB control both require priority attention. Scale-up of diagnosis and treatment for MDR-TB needs to continue. To achieve the NTP's ambitious goal of universal health care access for all people with TB by 2017, financial commitments must be maintained.

## INDONESIA

**Progress:** Indonesia has met the 2015 targets for reductions in incidence and mortality but does not appear on track to halve the 1990 prevalence rate by 2015 (an ongoing TB prevalence survey will provide new data). The global target for treatment success has been achieved for over a decade.

**Challenges and actions needed:** Further progress in case-finding requires much greater engagement with the private sector, especially large hospitals and private practitioners, as well as improved human resource capacity. Health system strengthening is also required to improve drug regulations and supply management systems. Programmatic and health system capacity to detect and treat patients with MDR-TB need to be enhanced. Financing must be sustained by ensuring adequate contributions from domestic sources at the national and local levels as well as through universal health insurance schemes and contributions from the social sector.

## MYANMAR

**Progress:** Myanmar is on track to reach all three of the 2015 targets for reductions in TB disease burden. The burden of TB per capita nonetheless remains one of the highest among the 22 HBCs. There is an ambitious agenda to strengthen case finding, particularly among vulnerable populations. Substantial funding is being provided from grants from the Global Fund and the Three Diseases Fund.

**Challenges and actions needed:** Concerted efforts are required to increase HIV testing while also ensuring access to ART for HIV-positive TB patients. The country has set a target of enrolling half of the estimated TB patients with MDR-TB on second-line treatment by 2016, which requires contributions of multiple partners to ensure deployment of rapid diagnostics and increased capacity to provide treatment for MDR-TB.

## THAILAND

**Progress:** Thailand is on track to achieve the MDG target and is likely to meet the targets for reductions in prevalence and mortality. An 85% treatment success rate was achieved for the first time in 2009; sustaining this level is a high priority. The case detection rate is relatively high, with access to TB diagnosis and care facilitated by the introduction of universal health coverage in 2002: an estimated 99.5% of Thai nationals were covered by health insurance by 2012. There has been steady progress in coverage of ART among HIV-positive TB patients, although ART is not yet routinely provided to all TB patients irrespective of their CD4 count.

**Challenges and actions needed:** Case detection could be improved further by intensified collaboration with the private and academic sectors, especially in the Bangkok Metropolitan Area. The NTP is committed to rolling out a single electronic recording and reporting system nationally by 2015, which should also facilitate reporting of all diagnosed cases. As the country's demographic and socio-economic profile evolves, particular focus on migrant and elderly populations is required. The Ministry of Public Health is making strong efforts to expand existing health insurance schemes to cross-border migrant populations.

## CAMBODIA

**Progress:** Cambodia has already met all three of the 2015 targets for reductions in TB disease burden, including documenting progress in reducing TB prevalence through two nationally representative and population-based surveys (2002 and 2011). Great strides have also been made in increasing access to TB/HIV services, including impressive scale-up of IPT. Although testing for MDR-TB and enrolment of cases on treatment is limited, surveys suggest that the MDR-TB burden is low.

**Challenges and actions needed:** The NTP is developing a new strategic plan that looks beyond the 2015 targets, including a focus on early case finding among sub-populations with a high burden of disease. Securing continued and increased financing is one of the main challenges faced by the NTP and adequate funding will be crucial to sustain and consolidate gains already made.

## CHINA

**Progress:** China has met all three of the 2015 targets for reductions in TB disease burden, with reductions in prevalence and mortality documented in nationwide prevalence surveys (1990, 2000 and 2010) and a sample vital registration system, respectively. The supportive environment for these achievements has included rapid economic growth and associated improvements in living conditions, and political commitment including nationwide adoption of internationally recommended strategies for TB control and sustained increases in funding for the NTP.

**Challenges and actions needed:** China has the second highest estimated number of MDR-TB cases in the world while treatment coverage is limited. The expansion of health insurance may have a crucial role in expanding access to high-quality treatment for MDR-TB, within the wider context of health reform. Ensuring rational use of anti-TB drugs is also essential to help prevent the generation of MDR-TB.

## PHILIPPINES

**Progress:** The Philippines has met all three of the 2015 targets for reductions in TB disease burden, with reductions in prevalence and mortality documented through repeat TB prevalence surveys (1987, 1997 and 2007) and a vital registration system, respectively. The country has a high treatment success rate and is intensifying case finding via public-private mix (PPM) activities. The Philippines was one of the first countries to pilot MDR-TB projects followed by nationwide scale-up.

**Challenges and actions needed:** The treatment success rate for MDR-TB is low. Programmatic management of MDR-TB needs to be decentralized to DOTS facilities and/or the community level, supported by strengthening of case holding activities through the engagement of community partners or volunteers. With decentralization of access to MDR-TB treatment, the NTP will need to ensure that the necessary human resources for treatment delivery are available.

## VIET NAM

**Progress:** Viet Nam has met the 2015 targets for reductions in TB disease burden. The supportive environment for these achievements includes a strong history of programmatic efforts in TB care and control with increasing coverage of services, rapid economic growth, improving health care performance illustrated by a substantial decline in under-5 mortality and growing coverage of health insurance.

**Challenges and actions needed:** Moving beyond achievements to date, there is a need to improve case finding among the poor and specific high-risk groups, to increase MDR-TB diagnosis and enrolment while maintaining excellent treatment outcomes and to expand engagement with the private sector, particularly large hospitals. Securing the availability of well-trained human resources together with sustained and increased financing in the context of health reforms and administrative decentralization will be crucial to ensure equity and to sustain and consolidate the gains already made.

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