

Executive summary

Tuberculosis (TB) remains a major global health problem. In 2012, an estimated 8.6 million people developed TB and 1.3 million died from the disease (including 320 000 deaths among HIV-positive people).¹ The number of TB deaths is unacceptably large given that most are preventable.

Nearly 20 years after the WHO declaration of TB as a global public health emergency, major progress has been made towards 2015 global targets set within the context of the Millennium Development Goals (MDGs). Two years ahead of the deadline, the *Global Tuberculosis Report 2013* and accompanying supplement *Countdown to 2015* assess progress towards the 2015 targets and the top priority actions needed to achieve and/or move beyond them.

COUNTDOWN TO 2015: key findings

On track:

- The rate of new TB cases has been falling worldwide for about a decade, achieving the MDG global target. TB incidence rates are also falling in all six WHO regions. The rate of decline (2% per year) remains slow.
- Globally by 2012, the TB mortality rate had been reduced by 45% since 1990. The target to reduce deaths by 50% by 2015 is within reach.
- Two WHO regions have already achieved the 2015 targets for reduced incidence, prevalence and mortality: the Region of the Americas and the Western Pacific Region.
- Of the 22 high TB burden countries (HBCs) that account for about 80% of the world's TB cases,² seven have met all 2015 targets for reductions in TB incidence, prevalence and mortality. Four more HBCs are on track to do so by 2015.

Off track:

- By 2012, the level of active TB disease in the community (prevalence) had fallen by 37% globally since 1990. The target of a 50% reduction by 2015 is not expected to be achieved.
- The African and European regions are currently not on track to achieve the mortality and prevalence targets.
- Among the 22 HBCs, 11 are not on track to reduce incidence, prevalence and mortality in line with targets. Reasons include resource constraints, conflict and instability, and generalized HIV epidemics.
- Progress towards targets for diagnosis and treatment of multidrug-resistant TB (MDR-TB) is far off-track. Worldwide and in most countries with a high burden of MDR-TB, less than 25% of the people estimated to have MDR-TB were detected in 2012.

- Many countries have made considerable progress to address the TB/HIV co-epidemic. However, global-level targets for HIV testing among TB patients and provision of antiretroviral therapy (ART) to those who are HIV-positive have not been reached.

Five priority actions required to accelerate progress towards 2015 targets:

1. **Reach the missed cases.** About 3 million people who developed TB in 2012 were missed by national notification systems. Key actions needed to detect people with the illness and ensure that they get the right treatment and care include: expanded services (including rapid tests) throughout health systems bolstered by the support of nongovernmental organizations, community workers and volunteers to diagnosis and report cases; intensified collaboration with public hospitals and private health facilities who are treating patients but not reporting; instituting mandatory notification of cases in more countries; and better data compilation.
2. **Address MDR-TB as a public health crisis.** In high MDR-TB burden countries, increased capacity to diagnose MDR-TB must be matched with supplies of quality drugs and scaled-up country capacity to deliver effective treatment and care. This will require high-level political will and leadership and more collaboration among partners, including drug regulatory authorities, donor and technical agencies, civil society and the pharmaceutical industry.
3. **Accelerate the response to TB/HIV.** The top priority is to increase coverage of ART for HIV-positive TB patients towards the 100% target. Expanded coverage of TB preventive treatment among people living with HIV is the second priority.
4. **Increase financing to close all resource gaps.** An estimated US\$ 7–8 billion per year is required for a full response to the TB epidemic in low- and middle-income countries in 2014 and 2015 (excluding research and development for new TB diagnostics, drugs and vaccines). Funding in 2013 is about US\$ 6 billion. Increases in both domestic and donor financing are needed to close the gap of up to US\$ 2 billion per year, including via the full replenishment of the Global Fund in 2013. Progress remains fragile and could be reversed without adequate funding.
5. **Ensure rapid uptake of innovations.** The fast uptake of new tools and strategies for better diagnosis, treatment and prevention of all forms of TB can be accelerated by country-specific operational research and translation of findings into policy and practice.

ADDITIONAL FINDINGS

The report is based primarily on data provided by WHO's Member States. In 2013, data were reported by 178 Member States and a total of 197 countries and territories that collectively have more than 99% of the world's TB cases.

Burden of disease

The current global picture of TB shows continued progress, but not fast enough.

- An estimated 1.1 million (13%) of the 8.6 million people who developed TB in 2012 were HIV-positive. About 75% of these cases were in the African Region.
- Globally in 2012, an estimated 450 000 people developed MDR-TB and there were an estimated 170 000 deaths from MDR-TB.
- Most TB cases and deaths occur among men, but TB remains among the top three killers of women worldwide. There were an estimated 410 000 TB deaths among women in 2012, including 160 000 among HIV-positive women. Half of the HIV-positive people who died from TB in 2012 were women. Of the estimated 8.6 million new TB cases worldwide in 2012, 2.9 million were women.
- There were an estimated 530 000 TB cases among children (under 15 years of age) and 74 000 TB deaths (among HIV-negative children) in 2012 (6% and 8% of the global totals, respectively).
- The majority of cases worldwide in 2012 were in the South-East Asia (29%), African (27%) and Western Pacific (19%) regions. India and China alone accounted for 26% and 12% of total cases, respectively.
- The TB incidence rate at country level ranges substantially, with around 1000 or more cases per 100 000 people in South Africa and Swaziland, and fewer than 10 per 100 000 population in parts of the Americas, several countries in western Europe, Japan, Australia and New Zealand.

TB detection and treatment outcomes

Millions of people access effective TB care each year but "missed cases" hold back gains.

- Between 1995 and 2012, 56 million people were successfully treated for TB in countries that had adopted WHO's global TB strategy, saving 22 million lives.
- In 2012, 6.1 million cases of TB were notified to national TB programmes (NTPs). Of these, 5.7 million were people newly diagnosed in 2012 and 0.4 million were previously diagnosed TB patients whose treatment regimen was changed.
- In 2011, the treatment success rate continued to be high at 87% among all new TB cases.
- Notifications of TB cases have stabilized globally. In 2012, about 66% (5.7 million) of the estimated 8.6 million people who developed TB were notified as newly diagnosed cases.

- About 75% of the estimated 2.9 million missed cases – people who were either *not diagnosed* or *diagnosed but not reported* to NTPs – were in 12 countries. In order of total numbers, these were India (31% of the global total), South Africa, Bangladesh, Pakistan, Indonesia, China, Democratic Republic of the Congo, Mozambique, Nigeria, Ethiopia, the Philippines and Myanmar.
- Xpert® MTB/RIF, a rapid molecular diagnostic test, is being rapidly adopted by countries to detect TB and rifampicin-resistant TB. By end June 2013, 1402 testing machines and 3.2 million test cartridges had been procured by 88 of the 145 countries eligible for concessional prices.
- Treatment success rates for TB remain lowest in the European Region, where in 2011 only 72% of new cases were successfully treated.

MDR-TB and XDR-TB detection and treatment outcomes

Undetected cases and treatment coverage gaps constitute a public health crisis.

- Globally in 2012, data from drug resistance surveys and continuous surveillance among notified TB cases suggest that 3.6% of newly diagnosed TB cases and 20% of those previously treated for TB had MDR-TB. The highest levels of MDR-TB are found in eastern Europe and central Asia, where in some countries more than 20% of new TB cases and more than 50% of those previously treated for TB have MDR-TB.
- A total of 94 000 TB patients eligible for MDR-TB treatment were detected in 2012: 84 000 people with confirmed MDR-TB (i.e. resistance to both rifampicin, the most powerful TB drug, and isoniazid), plus 10 000 with rifampicin resistance detected using Xpert MTB/RIF. This was a 42% increase in detected cases eligible for treatment compared with 2011. The largest increases between 2011 and 2012 were in India, South Africa and Ukraine.
- Just over 77 000 people with MDR-TB were started on second-line treatment in 2012, equivalent to 82% of the 94 000 newly detected cases that were eligible for treatment globally. Treatment coverage gaps for detected cases were much larger in some countries, especially in the African Region (51% enrolled in treatment), and widened in China, Pakistan and South Africa.
- At least one case of extensively drug-resistant TB (XDR-TB) had been reported by 92 countries by the end of 2012. On average, an estimated 9.6% of MDR-TB cases have XDR-TB.
- Globally, only 48% of MDR-TB patients in the 2010 cohort of detected cases were successfully treated, reflecting high mortality rates and loss to follow-up. A treatment success rate of 75% or more for patients with MDR-TB was achieved in 34 of 107 countries.

Addressing TB-HIV

TB-HIV collaborative services are expanding, but global targets are not yet in sight.

- The main interventions to reduce the burden of HIV in TB patients are HIV testing and provision of ART and cotrimoxazole preventive therapy (CPT) to those found to be HIV-positive. The main interventions to reduce TB among people living with HIV are regular screening for TB among people in HIV care and provision of isoniazid preventive therapy (IPT) to those without active TB who meet eligibility criteria (estimated at 50% of those newly enrolled in HIV care).
- Progress in the implementation of TB/HIV interventions was further consolidated in 2012. Globally, 46% of TB patients knew their HIV status (up from 40% in 2011). In the African Region that has the highest TB/HIV burden, 74% of TB patients knew their HIV status (up from 69% in 2011). Among the 41 countries with the highest TB/HIV burden, more than 85% of TB patients knew their HIV status in 15 countries, and in 7 of these countries over 90% of patients knew their HIV status.
- The coverage of ART among TB patients who were known to be HIV-positive reached 57% in 2012, up from 49% in 2011. As in the past few years, about 80% of HIV-positive TB patients were treated with CPT.
- In 2012, 4.1 million people enrolled in HIV care were reported to have been screened for TB, up from 3.5 million in 2011. Of the reported 1.6 million people newly enrolled in HIV care in 2012, 0.5 million (31%) were provided with IPT.

TB financing

International donor funding and more domestic investments are essential.

- Of the US\$ 7–8 billion per year required in low and middle-income countries in 2014 and 2015, about two thirds is needed for the detection and treatment of drug-susceptible TB, 20% for treatment of MDR-TB, 10% for rapid diagnostic tests and associated laboratory strengthening, and 5% for collaborative TB/HIV activities.

- Growth in domestic and international donor funding has been clearly documented since 2002. There is capacity to further increase domestic funding, especially in BRICS (Brazil, the Russian Federation, India, China and South Africa) that have almost 50% of global TB cases.
- International donor funding reported by NTPs amounted to US\$ 0.8 billion in 2013, about three-quarters of which was from the Global Fund. To close resource gaps, at least US\$ 1.6 billion is needed in both 2014 and 2015.
- International donor funding is crucial in many countries, accounting for more than 50% of total funding in the group of 17 HBCs excluding BRICS, and in all low-income countries. The proportion is even higher in some individual countries.

Research and development

New TB diagnostics, medicines and vaccines are crucial to end the global TB epidemic.

- More than 50 companies are involved in development of new diagnostic tests.
- 10 new or repurposed TB drugs are in late phases of clinical development. In late 2012, bedaquiline became the first novel TB drug approved in 40 years. In June 2013, WHO issued interim guidance for its use in treatment of MDR-TB.
- There are 10 vaccines for TB prevention and two immunotherapeutic vaccines in the pipeline. In early 2013, results from a Phase IIb proof-of-concept study of one of the preventive vaccine candidates were published. While efficacy was not superior to the Bacille-Calmette-Guérin (BCG) vaccine alone, the study demonstrated that a trial of a novel TB vaccine is feasible in a high TB burden setting.
- Short, effective and well-tolerated treatments for latent TB infection, a point-of-care diagnostic test, and an effective post-exposure vaccine are needed to help end the global TB epidemic.

¹ The estimated number of TB deaths among HIV-positive people in 2011 was 336 000. Estimates of TB deaths among HIV-positive people for the entire period 1990–2012 were updated in 2013 using the Spectrum software, which has been used for more than a decade to produce estimates of the burden of disease caused by HIV. In 2013, a TB module in Spectrum was available for the first time for use in the country consultations on HIV burden estimates that are organized by UNAIDS every two years. Estimation of the number of TB cases living with HIV, and of the number of TB deaths among HIV-positive people, was integrated into this process.

² The 22 HBCs are 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.