World Health Organization

www.who.int/tb/

Multidrug-resistant tuberculosis (MDR-TB)

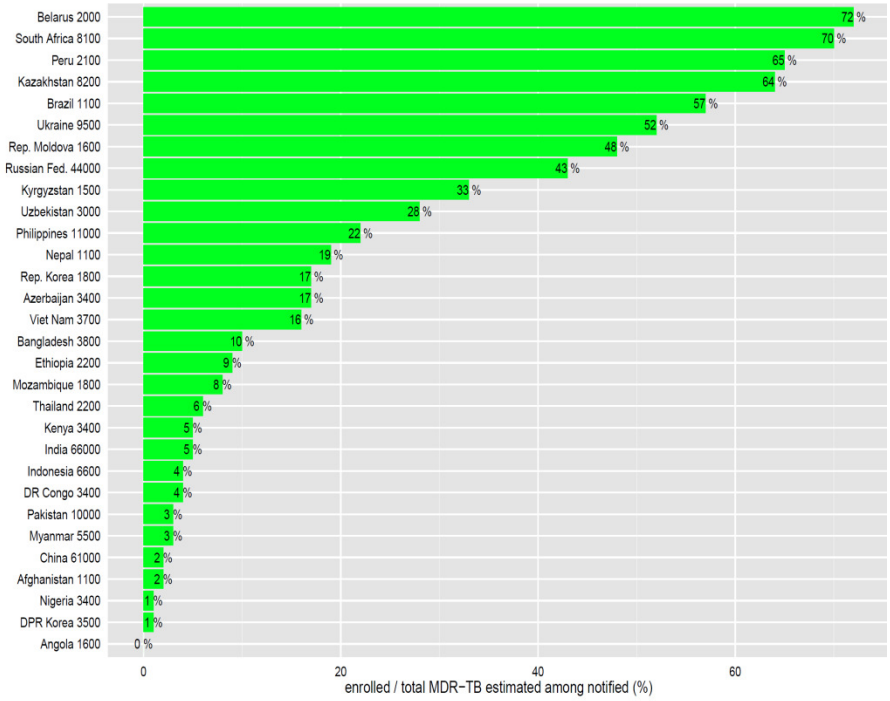
2013 Update

Key findings:

- **Proportion of TB cases with drug-resistance:** about 3.7% of new tuberculosis (TB) patients in the world have multidrug-resistant strains (MDR-TB). Levels are much higher in those previously treated – about 20%. The frequency of MDR-TB varies substantially between countries. About 9% of MDR-TB cases also have resistance to two other classes of drugs, or extensively drug-resistant TB (XDR-TB). By March 2013, 84 countries had reported at least one XDR-TB case.
- **MDR-TB case-loads:** WHO estimates that there were about 0.5 million new MDR-TB cases in the world in 2011. About 60% of these cases occurred in Brazil, China, India, the Russian Federation and South Africa alone ("BRICS" countries).
- **Detection & diagnosis:** of MDR-TB patients is increasing given the availability of rapid diagnostics. The Xpert MTB/RIF assay has been rolled out in 77 countries in 2012, while the EXPAND-TB[1] project has reported about 25,000 cases from 24 countries in 2012.
- **One in five** of the estimated MDR-TB cases among pulmonary TB patients notified in the world in 2011 were reported to have been enrolled on treatment (from about 1 in 9 in 2009). In certain high burden countries, the proportion was much higher (upper graphic).
- **Treatment Success:** 48% of patients with MDR-TB enrolled on treatment in 2009 were reported to have been successfully treated (lower graphic).

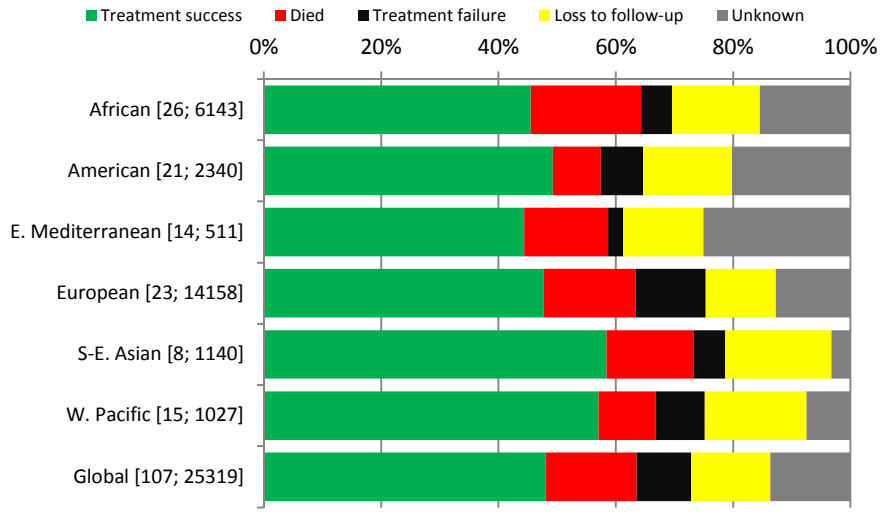
[1]EXPAND-TB is a project to accelerate access to diagnostics for patients at risk of multidrug-resistant tuberculosis in 27 countries. (see www.who.int/tb/publications/factsheet_expand_tb.pdf)

Percentage of estimated MDR-TB cases enrolled on treatment in 2011



Showing countries with >1000 estimated MDR-TB cases among pulmonary TB patients notified in 2011. The estimate of MDR-TB cases is shown beside the country names.

Treatment outcomes for MDR-TB patients started on treatment in 2009, by WHO Region and Global



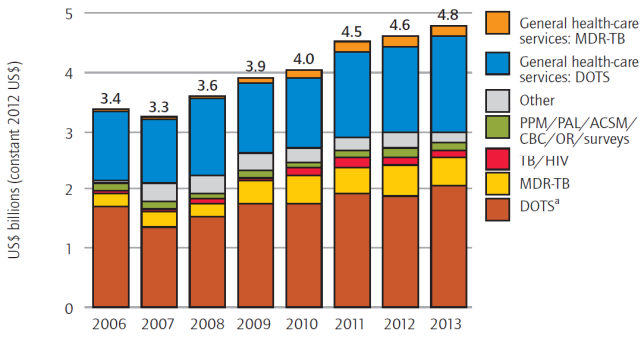
The number of countries reporting outcomes for at least one MDR-TB case, followed by the total cases with outcome results, shown beside each bar.

For more information: www.who.int/tb/challenges/mdr

FUNDING FOR MDR-TB

In 2015, it is estimated that USD 2 billion will be required for the diagnosis and treatment of MDR-TB. Funding available for MDR-TB has increased from USD 0.5 billion in 2009 to USD 0.6 billion in 2011 in countries with data (representing 75% of estimated MDR-TB cases in the world). Costs for second-line drugs alone amount to USD 0.3 billion a year.

Funding for TB care and control in 104 countries reporting 94% of global cases, by line item, 2006–2013



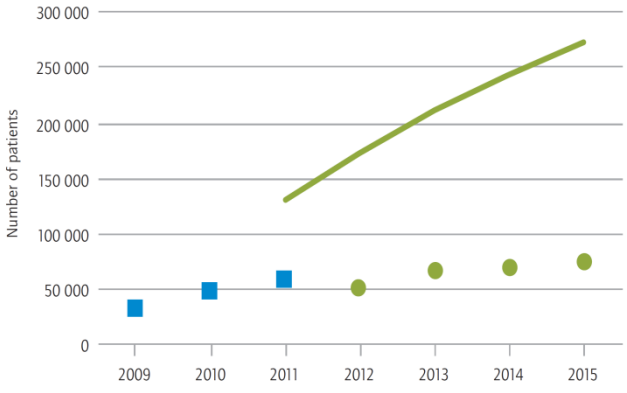
[a] DOTS includes funding available for first-line drugs, NTP staff, programme management and supervision, and laboratory equipment and supplies.

THE GLOBAL RESPONSE TO MDR-TB AND XDR-TB

In 2009, a World Health Assembly resolution urged WHO Member States

"*to achieve universal access to diagnosis and treatment of MDR-TB and XDR-TB*"

Enrolment on MDR-TB treatment (blue squares, 2009–2011), compared with the targets in the Global Plan to Stop TB, 2011–2015 (green line) and projections provided by countries (green circles)



The Stop TB Partnership Global Plan estimates that between 2011 and 2015 about one million MDR-TB patients will need to be detected and placed on treatment. This Plan also aims that by 2015 at least 75% of MDR-TB patients will be treated successfully. In 2011, about 18% of cases were placed on treatment and the 75% treatment success target was achieved by 30 countries (MDR cases starting treatment in 2009).

WHAT ARE MDR-TB & XDR-TB ?

- TB organisms resistant to the antibiotics used in its treatment are widespread and occur in all countries surveyed. Drug resistance emerges as a result of inadequate treatment and once TB organisms acquire resistance they can spread from person to person in the same way as drug-sensitive TB.

- **Multidrug-resistant TB (MDR-TB)** is caused by organisms that are resistant to the most effective anti-TB drugs (isoniazid and rifampicin). MDR-TB results from either infection with organisms which are already drug-resistant or may develop in the course of a patient's treatment.

- **Extensively drug-resistant TB (XDR-TB)** is a form of TB caused by organisms that are resistant to isoniazid and rifampicin (i.e. MDR-TB) as well as any fluoroquinolone and any of the second–line anti-TB injectable drugs (amikacin, kanamycin or capreomycin).

- These forms of TB do not respond to the standard six month treatment with first-line anti-TB drugs and can take two years or more to treat with drugs that are less potent, more toxic and much more expensive.

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