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-TB1 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).

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1EXPAND-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)

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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.

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"

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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