



Drug-Resistant TB

The World's Deadliest "Superbug"

Tuberculosis (TB) is the leading infectious cause of death worldwide, and the problem is worsening as it becomes increasingly resistant to available medicines. Drug-resistant forms of TB – including multidrug-resistant TB (MDR-TB) and extensively drug-resistant TB (XDR-TB) – are deadlier and much more complicated to treat than drug-susceptible TB. The threat of "superbugs" is increasing around the world, with XDR-TB now found in 131 countries.



About **500,000** new cases of drug-resistant TB every year



Only **39%** treatment success rate for people with XDR-TB



Estimated **75M** people who will die from drug-resistant TB by 2050 without new cures



About **1 in 3** deaths from antimicrobial infections are due to drug-resistant TB



Estimated **\$16.7 Trillion** financial toll of drug-resistant TB by 2050 without new cures

Treating Drug-Resistant TB

Drug-resistant TB is often a death sentence, with a historical treatment success rate of about 56 percent. Treatment for drug-resistant TB can last two years or longer and consist of more than 14,000 pills per person.

Even when treated with current approaches, roughly two-thirds of those with XDR-TB are not cured successfully. Despite poor treatment outcomes, the cost of treating XDR-TB can be 100 times greater than that of treating drug-susceptible TB.

Lives and Livelihoods at Risk

Antimicrobial resistance (AMR) is a defining health issue of our time. So-called “superbugs” pose a staggering threat to public health, safety and the global economy. While AMR is often associated with hospital-based infections, like MRSA (methicillin-resistant *Staphylococcus aureus*), drug-resistant TB accounts for about 1 in 3 deaths caused by antimicrobial infections—more than any other drug-resistant infection. By 2050, it is estimated that drug-resistant TB will kill 75 million people and cost the global economy a cumulative \$16.7 trillion if new cures are not developed.

Overcoming TB Drug Resistance

Drug-resistant TB can develop when a treatment course of first-line antibiotics is not completed, which can happen for many different reasons. Given the length and complexity of treatment for drug-susceptible TB (up to four drugs daily over six to nine months) and issues relating to accessing this treatment, the development of drug resistance is unfortunately difficult to contain. Once drug-resistant TB has developed, it can spread directly from person to person through the air. New and improved therapies are urgently needed. If used appropriately, shorter, simpler and more powerful cures have the potential to overcome TB drug resistance.

Know Your TB Drug Resistance

MDR-TB

Multidrug-resistant TB is defined by resistance to the two most commonly used drugs in the current standard treatment: isoniazid and rifampin.

XDR-TB

Extensively drug-resistant TB is resistant to isoniazid and rifampin, plus any fluoroquinolone and at least one of three injectable second-line drugs.

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It can take

14,000 +

pills to cure a single case of drug-resistant TB. Pictured at left: just one day of treatment.

References:

- *WHO Global Tuberculosis Report 2019*
www.who.int/tb/publications/global_report/en
- *The Review on Antimicrobial Resistance*
www.amr-review.org