



Accessible Link cdc.gov/global-hiv-tb/php/resources/drug-resistant-tb-factsheet.html

Urgent Threat of TB Drug Resistance

Nearly 2 billion people—or 1 in 4 globally—have been infected with the TB bacteria, and each year 10.7 million people become sick with active TB disease. Globally, TB is the leading cause of death from an infectious disease, claiming over 1 million lives in 2024, even though a TB cure has existed for more than 70 years. Fortunately, TB is preventable and curable. With existing tools implemented at scale it can be eliminated in all affected countries.

How Drug Resistance Develops

In some cases, the bacteria that causes TB infection can develop resistance to drugs used for TB treatment. Most often, this happens when people do not complete treatment of drug-susceptible TB.

Drug-resistant strains continue to spread globally.

Each year, half a million people develop DR TB, and cases have risen in the U.S. in the last few years. These DR TB strains are often more difficult to diagnose and cure and result in longer and more costly interventions. In the U.S., the cost of a single DR TB case ranges from \$20,000 to up to \$500,000 for the most drug-resistant strains.

Types of Drug-resistant TB

There are multiple types of DR TB based on drug resistance patterns which have progressively broader drug resistance and often poorer treatment outcomes with fewer medicines available for treatment:

- Rifampicin-resistant TB (RR TB)
- Multi-drug resistant TB (MDR TB)
- Pre-extensively drug-resistant TB (pre-XDR TB)
- Extensively drug-resistant TB (XDR TB)

New breakthroughs mean that fully oral DR TB treatment regimens, as short as six months, are now available.

Why It Matters

TB is airborne and contagious, so the continued spread of undiagnosed and untreated DR TB could cause a resurgence of TB in parts of the world where TB is currently less common, including the United States. DR TB is also a leading contributor to antimicrobial resistance – making infections costlier and deadlier worldwide.

This is why CDC responds to TB globally, to create a safer America and a safer world.

To prevent further spread of DR TB, countries and partners must find and cure all cases of DR TB. But equally important is ensuring that drug-susceptible TB cases are properly diagnosed and treated, so those strains do not develop drug resistance and restart the cycle.

To stop DR TB, public health responses must ensure the basics of effective TB prevention and treatment.

The Time is Now

In 2024, about 390,000 people became sick with MDR TB or RR TB around the world, and an estimated 150,000 lost their lives from it. MDR TB is resistant to isoniazid and rifampicin, the two most common anti-TB drugs. MDR TB has been reported in virtually every country in the world, and XDR TB has been reported in over 100 countries.

If decisive action to contain these strains is not taken, DR TB will remain a public health crisis and a health security threat.



Why DR TB is Challenging



Harder to Diagnose

- Requires laboratory tests not easily accessible to patients as first line tests in all impacted countries.
- Some countries have limited capacity for testing, especially beyond rifampin resistance.
- Often requires weeks to months to diagnose accurately.
- Only 2 in 5 people in need of DR TB treatment were diagnosed and started on treatment in 2024.
- In 2024, only 14% of the estimated 30,000 children with MDR/RR TB were diagnosed and initiated treatment.



Harder to Cure

- Treatment for DR TB often takes longer and may be more complicated to cure than drug-susceptible TB.
- DR TB drugs are sometimes more toxic than drug-susceptible TB drugs and may have a higher risk of causing side effects.
- Just 71% of people who started on MDR TB/RR TB treatment in 2024 were successfully treated. For drug-susceptible TB, the 2024 treatment success rate was 88%.

CDC is a Leader in the Response to DR TB

CDC supports countries to diagnose, treat, and prevent all forms of TB that pose a public health threat globally and to the U.S. To address DR TB, CDC works with ministries of health and other partners to:

Diagnose



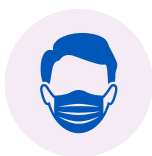
- Strengthen quality services, laboratory networks and surveillance systems to enable rapid, accurate diagnosis of all TB, including DR TB cases.
- Develop innovative approaches to find TB in all forms.

Treat



- Collaborate with global experts to set the gold standard for treating DR TB.
- Expand access to newer, shorter treatment regimens that cure patients faster and with fewer side effects.

Prevent



- Ensure appropriate treatment of all TB cases to prevent resistance.
- Break the cycle of transmission through infection prevention and control.
- Scale up TB preventive treatment, and for persons living with HIV, scale up both TB preventative treatment and antiretroviral therapy to prevent TB co-infection with HIV.
- Expand access to new regimens for TB preventive treatment of DR TB.

Eliminating DR TB Worldwide

This is a critical point in time to respond to TB and DR TB. Improvements in TB diagnosis led to TB notifications rising to the highest levels in history in 2023, but dropped in 2024. In the U.S., where TB diagnosis is highly accurate, there has been a recent rise in TB notifications, reflecting an increase in TB cases. If left unchecked, drug-resistant strains of TB will continue to spread with a potential to grow more resistant to treatment. **This may lead to a future where TB is no longer curable, which could result in a substantial increase in TB-related deaths.**

The availability of shorter, all-oral regimens for all forms of DR TB is very promising and can be a game-changer in the management of DR TB. Every \$1 invested in ending TB yields \$40 in returns by 2050. Ending TB, including DR TB, has benefits that extend beyond TB by bolstering health systems, preparing the world for the next pandemic of another airborne pathogen, and reducing the global burden of antimicrobial resistance.

Acting now to find, treat, and prevent every case of DR TB will stop its spread, save lives, and strengthen health security in the U.S. and globally.