



Improving current diagnosis is crucial to better detect and fight tuberculosis

About Tuberculosis

Tuberculosis (TB) is a contagious disease caused by *Mycobacterium tuberculosis*, an airborne bacterium transmitted when an infectious person breathes out TB germs by speaking, coughing, sneezing or spitting. Like the common cold, the TB bacterium spreads through the air. Tuberculosis is not a disease of the past; it is a problem of global proportions today.

According to the World Health Organization, one-third of the world's population carries the bacterium that causes TB but the majority of infections do not lead to illness. In total, about 8.8 million new cases of TB occur each year worldwide. The disease is prevalent in developing countries, mainly in sub-Saharan Africa and Southeast Asia. Poverty also contributes significantly to the spread of TB, as people are forced to share close living quarters and are often in overall poor health.

The more recent emergence of multidrug-resistant (MDR) TB strains and rising rates of HIV/TB co-infection have led to significant new healthcare challenges. It is currently estimated that 500,000 cases of MDR-TB occur annually. Tuberculosis kills more women than all other maternal mortality causes combined. Economically, TB drains \$12 billion from the annual incomes of the world's poorest communities and in some countries, loss of productivity attributable to TB approaches 7% of GDP.

Why new TB diagnostics?

- The most commonly used TB diagnostic, sputum smear microscopy, is **more than 100 years old** and is for the most part ineffective. It detects only half of patients tested and is particularly ineffective for diagnosis of TB in children and in patients co-infected with HIV.
- Delay in accessing proper diagnosis costs patients and their families valuable time and money, delaying start of proper treatment and leading to continued transmission of infections to close contacts.
- Mounting drug resistance, including MDR-TB and extensively drug-resistant (XDR) TB, coupled with a growing number of people co-infected with TB and HIV, have highlighted the urgent need for more accurate and rapid diagnostic tests.

References: World Health Organization: <http://www.who.int>

For more information on FIND's projects, please visit: <http://www.finddiagnostics.org>