

INVESTMENT IN RESEARCH SAVES LIVES AND MONEY

Tuberculosis

Tuberculosis (TB) is the leading cause of death from infection globally. A bacterial airborne infection, TB affected 10 million people and killed 1.5 million in 2018 alone.¹ While research and public health interventions have reduced TB rates dramatically in the U.S., TB still affects individuals in every state across the country.² Further, in our increasingly globalized world, treatment-resistant forms of the disease including multiple drug-resistant (MDR) and extensively drug-resistant (XDR) TB pose a growing threat to Americans and individuals across the globe. In fact, the U.S. Institute of Medicine released a report in 2000 stating that the United States cannot eliminate TB without working to fight the disease globally.³

TODAY United States

- **9,025 individuals** were diagnosed with TB in 2018.²

Globally

- **10 million people** fell ill with TB in 2018, and **1.5 million people** lost their lives to the disease.¹
- An estimated **58 million lives** were saved through diagnosis and treatment between 2000 and 2018.¹
- In 2018, **378,000 people** contracted MDR-TB. Only **56%** of patients with MDR-TB are successfully treated.¹
- About **6.2%** of individuals with a drug-resistant form of TB have XDR-TB.¹

COST

\$21 billion:

The global cost per year.⁴

\$294,000:

The average cost of treating a single case of MDR-TB in the U.S.⁴

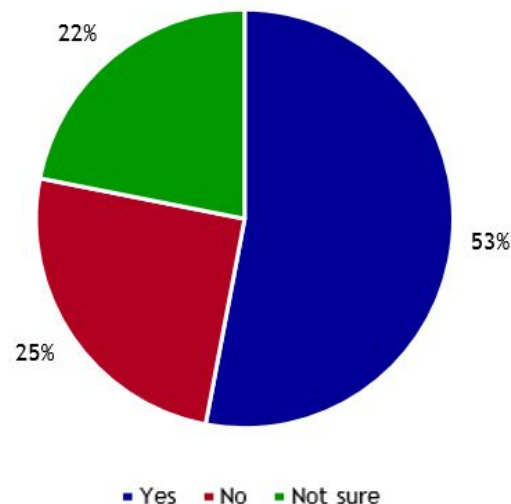
Over \$694,000:

The cost of treating a single case of XDR-TB in the U.S.⁴

\$75.6 million:

The cost of 2,133 new cases in California alone in 2015.⁵

Would you be willing to pay \$1 per week more in taxes if you were certain that all of the money would be spent on additional medical research?



Source: A Research!America poll of U.S. adults conducted in partnership with Zogby Analytics in January 2019

Research Delivers Solutions

A major objective underlying the landmark 21st Century Cures Act of 2016 was to encourage R&D focused on treatments for diseases lacking effective intervention. Two new Food and Drug Administration (FDA) programs authorized under the law have helped expedite an important new TB drug, **pretomanid**, which was developed by the TB Alliance, a public-private partnership. When used in combination with two already established medications, pretomanid has been shown to increase the survival rate for several drug-resistant forms of TB, including extensively drug-resistant pulmonary TB.⁶

The NIH, CDC, and the United States Agency for International Development (USAID) are executing a **National Action Plan for Combating Multidrug-Resistant Tuberculosis** focusing on 10 priority countries and targeting treatment to 560,000 persons with MDR-TB. According to the plan, the U.S. “has a window of opportunity to ensure that accelerating progress towards a TB-free world is not imperiled by MDR-TB.”⁷

Tuberculosis (TB)

Then. Now. Imagine.

THEN

When TB cases were first reported in the U.S. in 1953, there were more than 84,000 cases of TB across the country. Global TB rates were not recorded until 2000, but surpassed 10 million at that time.⁸

NOW

Improved diagnosis, surveillance, and treatment has enabled a near 10-fold decrease in the U.S. case rate and has reduced the global case rate by 42%; however, TB, particularly in its drug-resistant forms, remains one of the world's most significant global health threats.^{6,8}

IMAGINE

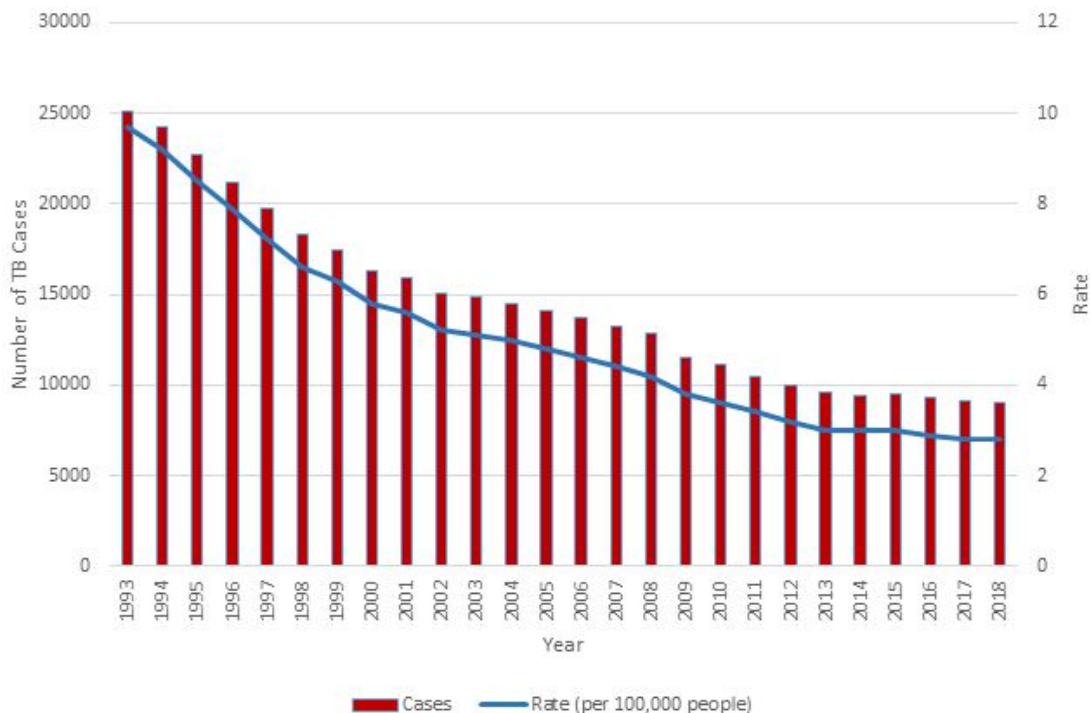
A time when TB is a chapter in the past, and not a resurgent threat to our future.

Vaccines

In 2019, new findings were published from clinical research on a promising new TB vaccine candidate called **M72/AS01_E**. These findings show that this vaccine candidate was significantly protective against TB in a trial consisting of individuals with evidence of latent tuberculosis infection.⁹

In 2020, researchers from the National Institute of Allergy and Infectious Diseases (NIAID) found a more effective way to administer the currently only licensed TB vaccine, **Bacille Calmette-Guerin (BCG)**. By changing the vaccine dosage and route of administration from intradermal (ID) to intravenous (IV), the vaccine dramatically increases the effectiveness in protecting from infection after bacterial exposure.¹⁰

Cases and Rate of TB Elimination in the U.S.*



*CDC data indicates that while the number of TB cases is declining in the U.S., the rate of decline has been slowing in recent years.¹¹

SOURCE: CDC World TB Day

1. "Tuberculosis." WHO. 2019.
2. "Burden of TB in the U.S." CDC. 2019.
3. Institute of Medicine (US). "Ending Neglect: The Elimination of Tuberculosis in the United States." 2000.
4. "The Global Impact." AERAS. N.d.
5. Oh, Peter et al. "A systematic synthesis of direct costs to treat and manage tuberculosis disease applied to California." BMC Res Notes, 2017;10:434.

6. "FDA approves new drug." FDA. 2019.
7. "Tuberculosis." Global Health Council. 2019.
8. "Global TB Report." WHO. 2019.
9. Tait et al. "Final Analysis of a Trial of M72/AS01E Vaccine to Prevent Tuberculosis." N Engl J Med 2019; 381:2429-2439.
10. "Changed route of immunization dramatically improves efficacy of TB vaccine." NIH. 2020.
11. "World TB Day." CDC. 2019.

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