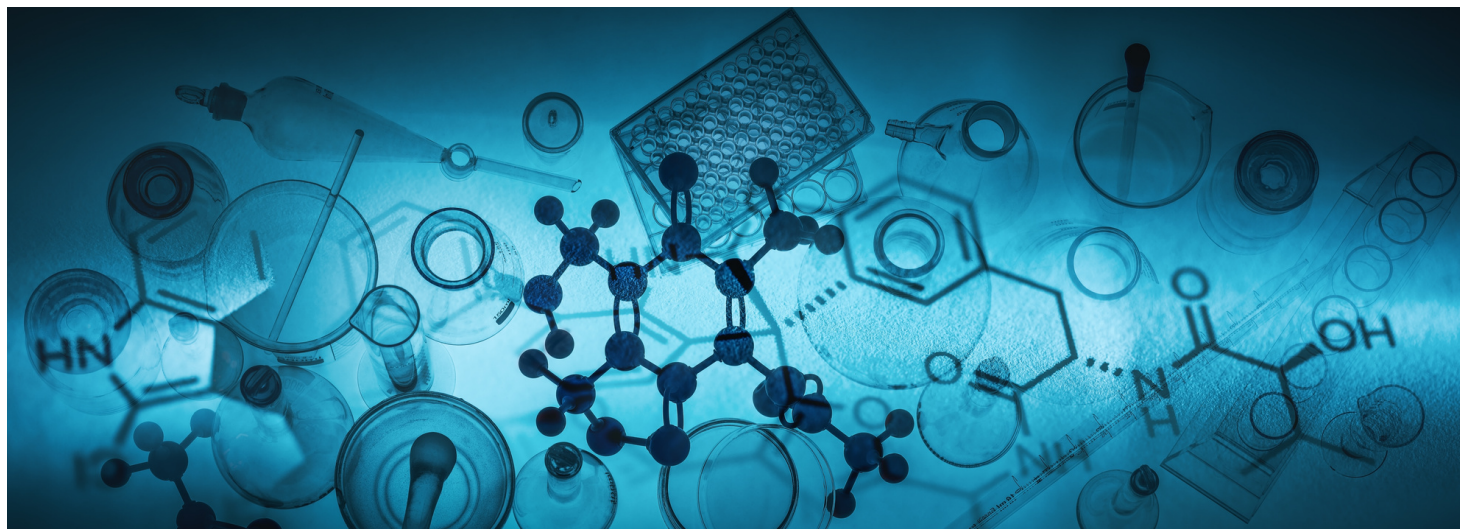


THE MONTHLY DOSE

Official Newsletter of The Mueller Health Foundation



WHAT'S NEW AT THE MUELLER HEALTH FOUNDATION:

As the year comes to a close, we at The Mueller Health Foundation look back with deep appreciation at the incredible work accomplished by the global TB community. Despite a challenging year, our grantees, partners, and frontline implementers continued to push boundaries, advance innovation, and bring life-saving care to those most affected. Their commitment to early detection, equitable access, and compassionate support remains at the heart of our mission to help eradicate TB. We are profoundly grateful for every individual and organization that makes this work possible. Stay tuned for our Annual Report highlighting the year's achievements. Our team at MHF wishes everyone a peaceful, healthy, and re-energizing holiday season!

LATEST NEWS: SHOWCASING STORIES OF TB SURVIVORS

We at The Mueller Health Foundation remain deeply committed to sharing personal stories and giving a voice to TB patients, TB survivors, TB practitioners, and the friends and family of those affected by the disease. We are also proud to continue supporting Tamasha, our HeroRat trained by APOPO to detect tuberculosis in sputum samples across Africa. APOPO has put together a wonderful collection of success stories from TB survivors, and this month, we would like to highlight Maria's story:

Maria Nhamtumbo, a 39-year-old mother of four, was diagnosed with tuberculosis and believes she contracted TB from her husband while caring for him during his illness. Although she was aware of the stigma surrounding TB in her community, she felt reassured knowing that, with proper treatment, she could be fully cured. Having watched her husband's recovery, she learned a great deal from his experience and was relieved to find that her friends and fellow church members responded to her diagnosis with kindness and acceptance. However, Maria's illness had a severe impact on her work and income. She became extremely weak, experienced persistent pain, and lost her appetite. Her clinic sent her sample to APOPO, where HeroRATs identified TB in her sputum, and the laboratory confirmed the results and notified the clinic. Maria felt immense relief knowing she could begin treatment. Diagnosed with drug-susceptible TB, she underwent a six-month course of multiple antibiotics, along with routine re-testing and adherence to continuous medication. Eventually, her test results turned negative. She recalls being amazed and even a bit worried when she first saw the African giant pouched rats that APOPO trains to detect TB. She feared they might sense the disease on her directly, not realizing that they were trained to screen heat-inactivated sputum samples. Understanding their role, she now appreciates how crucial they were in identifying the bacteria that caused her illness, and she encourages others to get tested. To read her full story, please follow the link here: <https://apopo.org/what-we-do/detecting-tuberculosis/success-stories/maria/?v=0b3b97fa6688>

For more news, please also take a look at our top 3 picks for **December** in this newsletter, where we highlight novel research findings and news about the prevention and treatment of tuberculosis around the world.

MHF TOP PICKS FOR DECEMBER

Every month, we at the Mueller Health Foundation like to showcase interesting news and updates in the field of tuberculosis (TB). Below are our top 3 picks for December:

1. Cornell Researchers Secure Grant to Develop Low-Cost TB Diagnostic Device

Cornell University researchers, through the point-of-care center, PORTENT, have received a \$250,000 grant from the Gates Foundation to develop a low-cost, battery-powered device, dubbed MAGNilyser, to improve tuberculosis diagnostics in low-resource settings. The MAGNilyser will heat and mechanically break open TB bacteria in patient samples to release DNA, a crucial step for molecular TB testing, enabling accurate diagnosis even in rural or infrastructure-limited areas. The project, led by professor David Erickson along with collaborators including Saurabh Mehta and a partner institution in Kampala, Uganda, plans to build and test working prototypes over two years, first under controlled lab conditions and then in real-world field settings. The initiative aims to make TB diagnostics more accessible and decentralized, with hopes of faster diagnosis and better global health equity in TB care. To learn more, you can access the article here: <https://news.cornell.edu/stories/2025/12/cornell-researchers-awarded-grant-advance-tuberculosis-diagnostics>

2. New Rapid Test Offers Hope for Detecting Latent TB in Low-Resource Settings

Researchers from Karolinska Institutet, in collaboration with colleagues in Vietnam, have shown that a point-of-care test called TB-Feron can detect latent tuberculosis infections quickly and without needing advanced lab infrastructure. In a study of 345 adults in Hanoi, the TB-Feron test produced results in about 15 minutes and correctly identified 88% of individuals expected to test positive, which is close to the 92% sensitivity of the standard lab-based QuantiFERON-TB Gold Plus test. Specificity was lower (70% vs. 96% for the standard test), indicating that TB-Feron was less reliable for ruling out infection in uninfected individuals. Nonetheless, the rapid test's ease of use, speed, and low infrastructure requirements make it a promising tool to expand latent TB screening, especially in rural or resource-limited regions where traditional testing is impractical. To learn more, you can access the article here: <https://www.news-medical.net/news/20251127/Rapid-point-of-care-test-shows-promise-for-detecting-latent-tuberculosis.aspx>

3. New Funding Supports Investigation into TB Transmission Dynamics

A new five-year, \$5.7 million grant from the National Institute of Allergy and Infectious Diseases will fund a large research effort to better understand how Mycobacterium tuberculosis spreads between people. The study will leverage data from the large-scale cohort RePORT-Brazil, including TB patients and their close contacts, to analyze bacterial genetic variants via whole-genome sequencing, and pair that with detailed immune response profiling in exposed contacts, aiming to uncover why some TB strains transmit more readily than others. Researchers will also explore “subclinical TB”, which is an active infection without apparent symptoms, which may be a hidden driver of transmission. By integrating pathogen genetics, host immune data, and epidemiological factors, the project aims to develop predictive models that could inform better diagnostics, public-health interventions, and ultimately reduce TB transmission worldwide. You can read the article here: <https://news.vumc.org/2025/12/01/timothy-sterling-receives-5-7-million-to-study-tuberculosis-transmission/>

DID YOU KNOW?

The newly released Global TB Report 2025 from the World Health Organization emphasizes the ongoing severity of the global tuberculosis crisis, while also highlighting areas of meaningful progress. Key data from the report include:

- 1.23 million deaths from Mycobacterium tuberculosis in 2024, with TB maintaining its position as the world's leading killer among infectious diseases.
- Limited progress on drug-resistant TB, with only 2 in 5 people diagnosed and treated (164,545 out of an estimated 390,000).
- Slow uptake of modern diagnostics, with only 54% of people with TB being diagnosed using rapid molecular tests, despite their availability.
- Weak prevention efforts, as only 1 in 4 household contacts received preventive treatment.

Yet several positive trends offer grounds for optimism:

- Global TB incidence declined by 1.7% compared to 2023.
- Treatment success remains relatively strong at 88% for drug-sensitive TB and 71% for drug-resistant disease and is bolstered by newer regimens deployed at scale.
- The research and development pipeline is expanding, with significant advances in near point-of-care diagnostics, 18 vaccine candidates in progress, and 42 clinical trials exploring improved treatment regimens.

Taken together, the data point to a dual reality: urgent gaps in diagnosis, prevention, and equitable access continue to cost lives, while renewed innovation and strategic public-health action show that accelerating progress is possible.

Information Source:
<https://www.who.int/teams/global-programme-on-tuberculosis-and-lung-health/tb-reports/global-tuberculosis-report-2025>