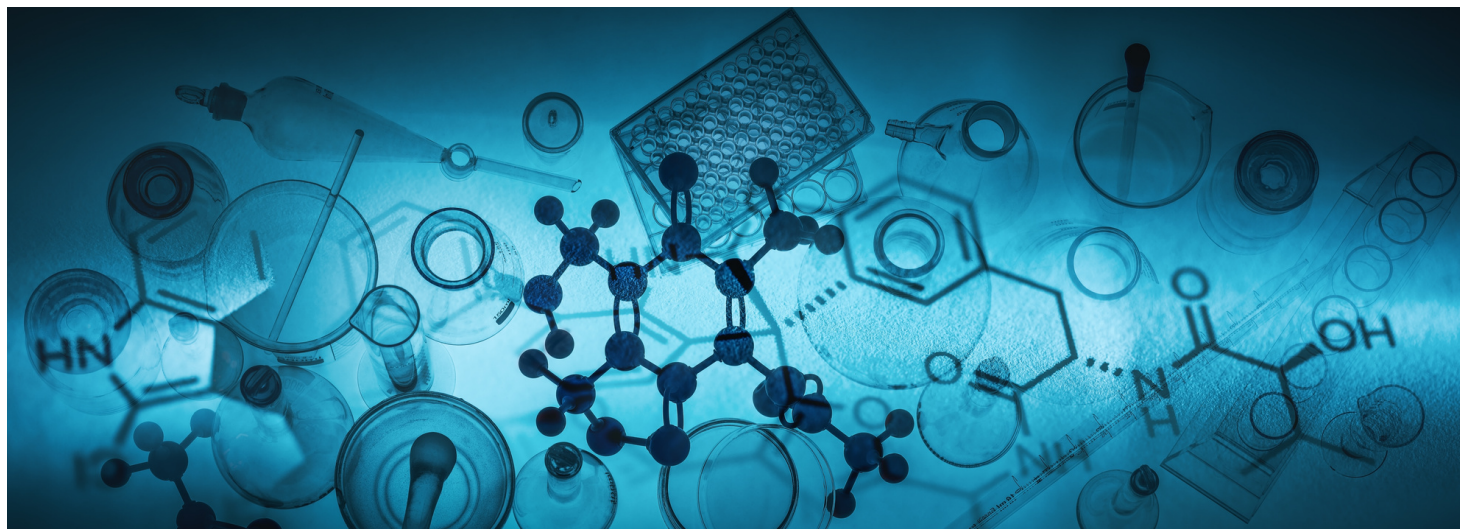


THE MONTHLY DOSE

Official Newsletter of The Mueller Health Foundation



WHAT'S NEW AT THE MUELLER HEALTH FOUNDATION:

We are excited to share that our partner REACH in India has launched an inspiring six-part film series to support people newly diagnosed with tuberculosis (TB) and their families. Each film explores a key aspect of the TB journey, from treatment expectations and nutrition to addressing stigma, mental health, and building strong support systems. These resources are designed to empower patients and their loved ones with knowledge, encouragement, and practical guidance. You can view the whole series on YouTube here:

<https://www.youtube.com/playlist?list=PLSQ23mIQurfBgtL3dYvpWAYm-3w8QXFcG>

Stay tuned for more updates!

LATEST NEWS: SHOWCASING STORIES OF TB SURVIVORS

We at The Mueller Health Foundation continue to be deeply committed to sharing personal stories and giving a voice to TB patients, TB survivors, TB practitioners, and all the friends and family members of the people who have been affected by the disease. We are also proud to continue our support of our new HeroRat Tamasha, who has been trained by APOPO, a charity focused on training rats to detect TB 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 Ekram's story:

Ekram is an 18-year-old student from Addis Ababa whose journey with tuberculosis nearly derailed her education and dreams. After months of unexplained illness and visits to multiple health facilities, each diagnosing her with everything from typhoid to pneumonia, she was finally diagnosed with TB. During treatment, Ekram endured isolation, lengthy commutes to the clinic, and the emotional weight of missing school for three months. What is remarkable is that her diagnosis was confirmed using a unique method: specially trained rats that detect TB by scent. Thanks to timely care, her perseverance, and this innovative diagnostic tool, she completed treatment, returned to school, and now speaks openly about her experience while encouraging others to get tested early and raising awareness about TB. Her resilience highlights the importance of accurate diagnostics and community support in fighting TB. Today, Ekram is determined to use her story to inspire others, showing that with the right tools and care, recovery is possible. Her journey also demonstrates how innovative, low-cost solutions can transform public health outcomes in resource-limited settings. Beyond her personal recovery, Ekram dreams of pursuing higher education and building a career where she can give back to her community. She is a powerful reminder that every patient's story carries lessons of hope, resilience, and the impact of accessible health care. To read her full story, please follow the link: <https://apopo.org/what-we-do/detecting-tuberculosis/success-stories/ekram/?v=0b3b97fa6688>

For more news, please also take a look at our top 3 picks for **October** 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 OCTOBER

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 **October**:

1. New Research on Using Tongue Swabs to Diagnose Tuberculosis

Northwestern researchers are pioneering a novel, non-invasive method to diagnose tuberculosis using tongue swabs instead of traditional sputum samples, which are often difficult to obtain, particularly from children and people with HIV. They have developed a specialized swab-capture device and are collaborating with international partners to validate its effectiveness, with the aim of advancing it toward World Health Organization consideration. If proven successful, this approach could greatly expand access to TB testing, simplify diagnosis, and play a critical role in reducing transmission worldwide. To learn more, you can access the article here: <https://www.mccormick.northwestern.edu/news/articles/2025/09/using-tongue-swabs-to-diagnose-tuberculosis/>

2. New AI Method Maps How TB Drugs Destroy Bacteria

Scientists at Tufts University have developed an AI-assisted tool called DECIPHAER (Decoding Cross-Modal Information of Pharmacologies via Autoencoders) to map in great detail how tuberculosis drugs kill bacterial cells. DECIPHAER integrates high-resolution morphological images (showing changes in bacterial structure) with transcriptional data (which genes are turned on or off), allowing researchers to infer a drug's molecular mechanism of action from images alone. Notably, this technology revealed that one drug thought to work on the bacterial cell wall actually acts by disrupting energy production in the respiratory chain. Because it eliminates the need for expensive RNA sequencing, DECIPHAER has the potential to accelerate and reduce the cost of discovering better drug combinations for TB, especially for drug-resistant strains, and may also be adapted for other infectious diseases or cancer research. To learn more, you can access the article here: <https://www.drugtargetreview.com/news/185159/new-ai-method-maps-how-tuberculosis-drugs-destroy-bacteria/>

3. HIV Protein Tat Makes People More Vulnerable to TB

A recent study led by Centre National de la Recherche Scientifique (CNRS) has revealed that Tat, a viral protein secreted by HIV-infected cells, undermines a key immune defense mechanism (autophagy) in host cells, thereby allowing *Mycobacterium tuberculosis* to survive and replicate more readily. Experiments in human immune cells and zebrafish larvae showed that Tat blocks clathrin-mediated endocytosis, which disrupts the formation of autophagosomes and creates an environment inside cells where TB bacteria can grow more easily. These findings help explain why people living with HIV remain significantly more susceptible to TB, even when on antiretroviral therapy, and suggest that treatments restoring autophagy could be a new strategy to protect against HIV-associated TB. You can read the article here: <https://journals.plos.org/plospathogens/article?id=10.1371/journal.ppat.1013183>

DID YOU KNOW?

The sweeping U.S. aid cuts have already begun to derail tuberculosis (TB) programs across multiple high-burden countries. The abrupt withdrawal of support threatens to reverse gains, weaken health systems, and accelerate TB transmission. In several nations, the impacts are becoming visible now:

- In Bangladesh, the US\$48 million aid cut has put years of TB control progress at risk, leading to a significant increase in preventable deaths.
- In Nigeria, the “TB Local Network (TB LON)”, which was responsible for screening, diagnosis, and treatment, has been forced into de facto suspension, and more than 1,000 workers used in TB screening have been laid off.
- In the Philippines, U.S. cuts have disrupted TB testing in four USAID-funded projects and affected the supply of drugs.
- In southeast Pakistan, TB testing and tracing efforts at the community level are reported to have stalled entirely following the U.S. funding suspension, with experts predicting a disproportionate impact on children in those communities.
- Research sites and clinical trials in South Africa have been disrupted: 39 clinical research sites and at least 20 TB trials and 24 HIV trials reliant on U.S. support are in limbo or halted completely.

With the renewal of the Global Fund commitment on the horizon in November, sustained global support, paired with innovative funding approaches, will be essential to safeguard fragile TB programs, address existing resource gaps, and help to minimize the reversal of progress made in the fight against TB over the last decade.

Information Source:
<https://www.japantimes.co.jp/news/2025/06/04/world/science-health/tuberculosis-tb-testing-us-aid-cuts/>