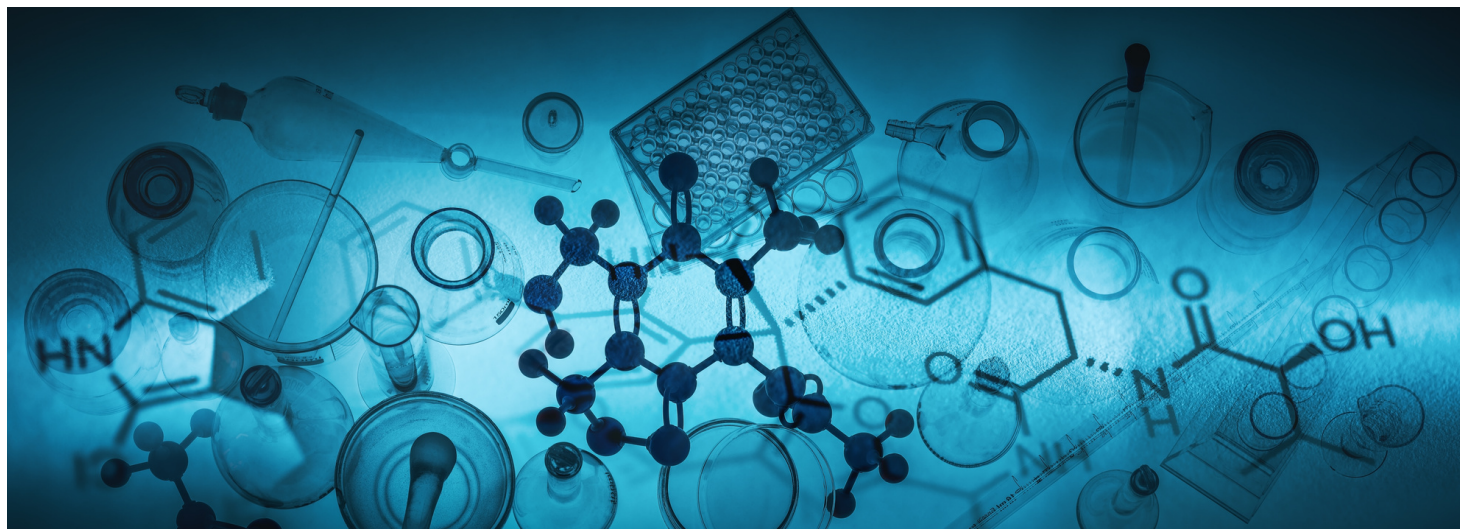


THE MONTHLY DOSE

Official Newsletter of The Mueller Health Foundation



WHAT'S NEW AT THE MUELLER HEALTH FOUNDATION:

We at the Mueller Health Foundation are excited to continue to lead the Education Working Group for the TB-Free NYC Coalition. We are currently in the planning process and are assessing key topics for the development of future educational materials.

If you are interested in joining this effort or have suggestions for topics we should cover in our work going forward, we would welcome your collaboration and suggestions. Please feel free to reach out to us - we look forward to hearing from you!

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 HeroRat Carolina 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 Asma's story:

Asma's symptoms began with aching bones, which soon developed into coughing, night sweats, and a persistent fever. After visiting the pharmacy and being given antibiotics with no improvement, she sought help at her local clinic. Despite various tests, no clear diagnosis was made. For three months, her illness remained a mystery, during which time her condition worsened, and she unknowingly passed the sickness to her daughter. Initially, they believed her daughter was simply teething, as Asma's illness had not been diagnosed. Asma's illness progressed quickly and she became even more weak and struggled to care for her baby. As her health deteriorated further, Asma reached a point where all she could do was sleep, lacking energy and the will to eat. She felt she was near death. Then, her husband received a call from the clinic informing them that her sample had been sent to an organization called APOPO, which uses rats to quickly screen for TB. The rats detected that Asma's sample might be TB-positive, leading to a confirmation through retesting. With a diagnosis finally in hand, Asma began treatment and is now feeling much better. Her daughter has since been diagnosed with TB as well and is undergoing treatment. Thankfully, her husband has tested negative, though they continue to monitor him closely. To read her full story please follow the link here: <https://apopo.org/what-we-do/detecting-tuberculosis/success-stories/asma/>

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 around 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. “Tuberculosis & Pollution” – Young Artists Draw Attention to Lung Health in Romania

A new day has dawned at the National Institute of Pneumology “Marius Nasta” in Bucharest, Romania, and it is more vibrant than ever. Theia Catrina Mirodot, a first-year art student, has transformed one of the institute’s walls into a canvas that tells a powerful story of resilience and hope. The mural, called “Tuberculosis & Pollution”, is a striking reminder of the persistent public health threat that tuberculosis poses in Romania. With over 20% of the cases in the WHO European Region being recorded in Romania, the disease remains a significant concern, particularly among vulnerable populations and those with low socioeconomic status. Theia’s mural is not just about the problem; it is also about the fight against TB and pollution and about hope and healing. The butterfly, a central element in the mural, symbolizes the patient suffering and gradual recovery from TB. The transformation of the butterfly mirrors the healing process of the patient, from being protected in a bubble by dedicated health-care professionals to taking flight once cured. The mural aims to raise awareness of the association between TB and pollution and to highlight the importance of TB prevention and treatment. To learn more, you can access the article at: <https://www.who.int/europe/news/item/02-07-2024-tuberculosis---pollution---young-artists-draw-attention-to-lung-health-in-romania>

2. More Global Effort Needed to Tackle the Double Burden of Diabetes and TB

In 2019, the prevalence of diabetes in patients with TB around the globe was 15%, whereas in the general population, it was 9.3%. Diabetes, especially if undiagnosed or uncontrolled, can have severe effects. Patients with TB and coexistent diabetes have a higher risk of TB relapse after treatment and a two times higher risk of mortality during such treatment. This may be especially devastating among vulnerable groups, including those with HIV and those located in low- and middle-income countries like India, Pakistan, Bangladesh, Indonesia, and the Philippines. The problem and the link between diabetes and TB is also evident in high-income countries like the U.S. and Japan. It is therefore critical to look at patients from a holistic view and consider what is known about a patient, or what other risks there could be for that individual. This is a great opportunity to advance care and address two difficult illnesses and improve patients’ lives and the Mueller Health Foundation has partnered with REACH in India to create a community care model that seeks to address both diabetes and TB. However, more global efforts are needed to tackle the double burden of these diseases. To learn more, you can read about the article here: <https://www.devex.com/news/sponsored/global-effort-needed-to-tackle-the-double-burden-of-diabetes-and-tb-108316>

3. Plant Compound Used in Traditional Medicine May Help Fight Tuberculosis

A team, co-led by Penn State researchers, found that a chemical compound, an O-methylflavone found in African wormwood, can kill the mycobacteria that causes tuberculosis in both its active state and its slower, hypoxic state, which the mycobacteria enters when it is stressed. For their study, the researchers took raw extract of the African wormwood plant and separated it into “fractions”, which are versions of the extract that have been separated into simpler chemical profiles. They then tested each of the fractions against Mtb, noting whether they were effective or ineffective against the bacteria. At the same time, they created a chemical profile of all of the tested fractions. From these, the researchers identified and tested the O-methylflavone compound that effectively killed the bacteria in the pathogen’s active and inactive states, which the researchers said is significant and rare to see in TB treatments. Further testing in a human cell model showed that it had minimal toxicity. The researchers said the findings have the potential to open new avenues for developing new, improved therapeutics. You can read the full article here: <https://www.sciencedirect.com/science/article/pii/S0378874124007992>

DID YOU KNOW?

In a landmark achievement for global health at the end of September 2024, world leaders have officially adopted the Political Declaration on Antimicrobial Resistance (AMR) at the UN High-Level Meeting on AMR, recognizing drug-resistant tuberculosis (DR-TB) as a critical component of the global AMR response. Key Highlights of the AMR Political Declaration include:

- DR-TB has been recognized as an essential component of the global AMR efforts. The text expresses grave concern that DR-TB places an additional burden on health and community systems, especially in low- and middle-income countries, and poses a critical challenge that could reverse the progress made against the disease, against antimicrobial resistance, and towards the Sustainable Development Goals.
- A target to reduce the global deaths associated with AMR by 10% by 2030 and a funding target of 100 million USD to catalyse the achievement of at least 60% of countries having funded AMR plans by 2025.
- A paragraph proposed by the TB community recognizes the need to support vulnerable groups. It recognizes the profound socioeconomic challenges and financial hardships faced by people affected by antimicrobial resistance and affirms that people require integrated, people-centred prevention, diagnosis, treatment, management of side effects, and care, as well as psychosocial, nutritional and socioeconomic support, including the need to reduce stigma and discrimination.

The declaration provides a critical opportunity to mobilize resources, political will, and the partnerships necessary to tackle DR-TB and broader AMR challenges.

Information Source:

<https://www.stoptb.org/news/world-leaders-unite-to-tackle-antimicrobial-resistance-passage-of-un-political-declaration>