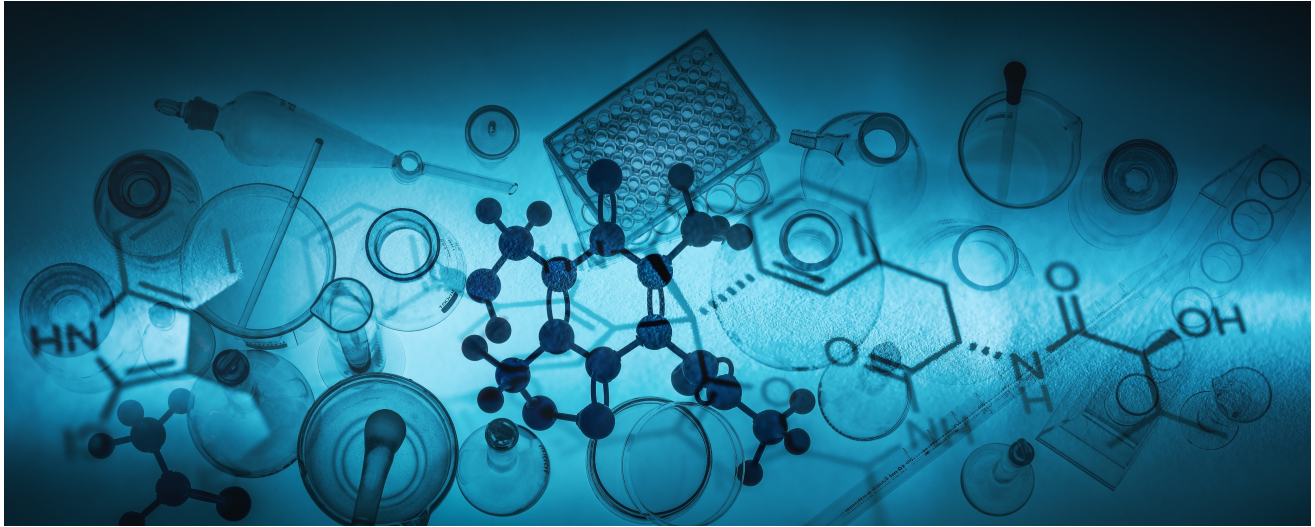


THE MONTHLY DOSE

Official Newsletter of The Mueller Health Foundation



WHAT'S NEW AT THE MUELLER HEALTH FOUNDATION:

We at The Mueller Health Foundation are very excited to have joined the Coalition for a TB-Free NYC, which aims to prevent and eliminate TB in NYC through community engagement, public-private partnerships, and innovation and research.

The Coalition unites various stakeholders across traditional and non-traditional industries, disciplines, and care levels to develop, implement, and evaluate a strategic plan to eliminate TB in NYC. The Coalition's work is guided by a patient-centered, human rights-, social justice-approach. To learn more, take a look at the Coalition's website: <https://tbfreenyc.wixsite.com/tbfreeenyc>

Stay tuned for more updates!

LATEST NEWS: STORY FROM A TB SURVIVOR

As part of our mission for 2022, the Mueller Health Foundation cares deeply about sharing the stories of those affected by TB around the world and to learn from their experiences. This month, based on a recent story published by the WHO, we would like to share the experience of a young girl, Massah H. Sherrif, who tested positive for tuberculosis in June 2021 in Liberia.

For Massah, June 2021 will always be a month to be remembered. Not only did she test positive for tuberculosis, but unfortunately her mother passed away within the same month. Despite her personal struggles, Massah made a strong commitment to get treated for TB. With the support of her aunt and nurses she was able to complete the six-month treatment and never missed her daily medication. During her routine medical visits, Massah also got excellent counseling, which helped her not only to better process the passing of her mother, but also provided her with additional support in dealing with the stigma she was facing from her community regarding her TB diagnosis. The additional mental health services became a key factor in her continuation and adherence to the treatment and significantly helped her in her journey to become tuberculosis-free. You can learn more details about her journey here: <https://www.afro.who.int/countries/liberia/news/all-i-needed-was-love-care-and-treatment-my-journey-tuberculosis-survivor>.

Massah's story is a mirror of what many patients that have suffered from tuberculosis experience. It is becoming increasingly apparent that a more comprehensive and holistic approach to treating TB that includes supportive mental health services is a key component in the management and care of tuberculosis patients. Given that tuberculosis is still considered a taboo in many communities, it is important to increase investments to provide counseling to TB patients to combat the adverse effects that stigma has on a patient's attitude towards treatment. A more person-centered approach can help to encourage TB patients to continue to comply with treatment adherence and thereby improve recovery rates in the future.

For more news, please also take a look at our top 3 picks for April 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 APRIL

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

1. Surge of HIV, Tuberculosis and COVID Amid War in Ukraine

Ukraine has one of the world's highest burdens of multidrug-resistant (MDR) TB. An estimated 32,000 people there develop active TB each year, and about one-third of all new TB cases are drug-resistant. Twenty-two per cent of people in Ukraine with TB are infected with HIV, and TB is the leading cause of death among those living with HIV. The current conflict poses additional risks for increasing the number of drug-resistant TB cases since any interruption of TB treatment can lead to MDR-TB. Additionally, interrupting treatment for MDR-TB makes it more possible to develop extremely drug-resistant TB, where there are few or no drugs available that work. Diagnosis and treatment of TB cases had already plunged by about 30% during the COVID-19 pandemic in 2020 and 2021, leading to increased transmission. The continued conflict will further fuel the public health crisis in the Ukraine, which will ultimately affect neighboring countries and the European region as a whole. To learn more, you can access the full article at: <https://www.nature.com/articles/d41586-022-00748-6>

2. Tuberculosis Induces Premature Cellular Aging

A new study published recently by researchers at Baylor College of Medicine found that the cells of humans and animals who have recovered from tuberculosis had prematurely aged up to 12 to 14 years. In this study, the researchers studied multiple cohorts and multiple tissue types and discovered that tuberculosis induced perturbations in epigenetic regulation, specifically in the regulation mediated by DNA methylation. These changes correlated with oxidative stress-induced senescence and were associated with premature cellular aging. These processes were observed across both guinea pigs and humans. Looking ahead, according to one of the study's researchers, the impact of the findings could be that a multi-omic epigenetic clock assay could become part of the standard of care for infectious diseases and further inform increased risk for comorbidities after chronic conditions or environmental exposure. To learn more, you can read the full article here: <https://www.aging-us.com/article/203936/text>

3. Shorter Treatment for Nonsevere Tuberculosis in African and Indian Children

Researchers from the MRC Clinical Trials Unit at UCL worked with partners in South Africa, Uganda, Zambia and India on the SHINE study, the first randomized control trial to assess whether children with non-severe tuberculosis could be effectively treated with a shorter course of treatment. The trial involved 1,204 children aged two months up to 16 years with non-severe TB, who were divided randomly into two groups to take either four or six months of treatment with anti-TB medicines. Of the enrolled children, 11% were living with HIV. All children were followed for 18 months after enrollment to see whether their treatment had been successful. The results clearly showed that children who received the shorter course did as well as those on the standard six-month treatment, regardless of the age group, country, or HIV status, with few and similar side effects in both groups.

To learn more, you can access the full article here: <https://www.nejm.org/doi/10.1056/NEJMoa2104535>

DID YOU KNOW?

In the 19th century, Rhode Island was considered to be the "Vampire Capital of America". Between the late 1700s and the 1890s, vampire superstitions were prevalent in New England. This was also around the time that tuberculosis, a disease people referred to as "consumption", claimed many lives in the New England communities.

In the 1800s, before scientists were able to better understand and explain tuberculosis, it was common for the average lay person to think that people who were dying of tuberculosis were having the life sucked out of them by a supernatural creature, such as a vampire. Back then, this belief was strongly supported by the observations that people suffering from (untreated) tuberculosis lose weight, become physically weak, have fevers, and cough up blood.

The most famous story is that of Mercy Brown in Exeter, Rhode Island. She was believed to have been the first female vampire and her story reflects the bizarre belief system and inhumane practices of the time.

Mercy Brown died of tuberculosis in 1892, and in the weeks after her death, her brother Edwin began suffering the symptoms of tuberculosis. Less than two months after Mercy died, the people of Exeter exhumed her body, as well as those of her mother and sister, who had also died of tuberculosis years earlier. Because so many people in the same family had died of the disease, the townspeople suspected a vampire was at work. When they found Mercy's body to be more intact than those of her relatives, so they decided she was a vampire, removed the heart, burned it, and fed the ashes to Edwin. Not surprisingly, he died shortly thereafter of the tuberculosis he already had.



Fortunately for modern medicine, scientists were beginning to accept germ theory towards the end of the 19th century, and Robert Koch identified and studied the bacterium that causes tuberculosis, paving the way for a later vaccine and treatment options. The case of Mercy Brown marked the end of tuberculosis-associated vampire prevention rituals in New England.

Information Source:
<https://www.visiblebody.com/blog/3-real-diseases-that-influenced-vampire-folklore>

Picture Source:
<https://www.scoopwhoop.com/women/story-of-mercy-brown-the-first-female-vampire/>