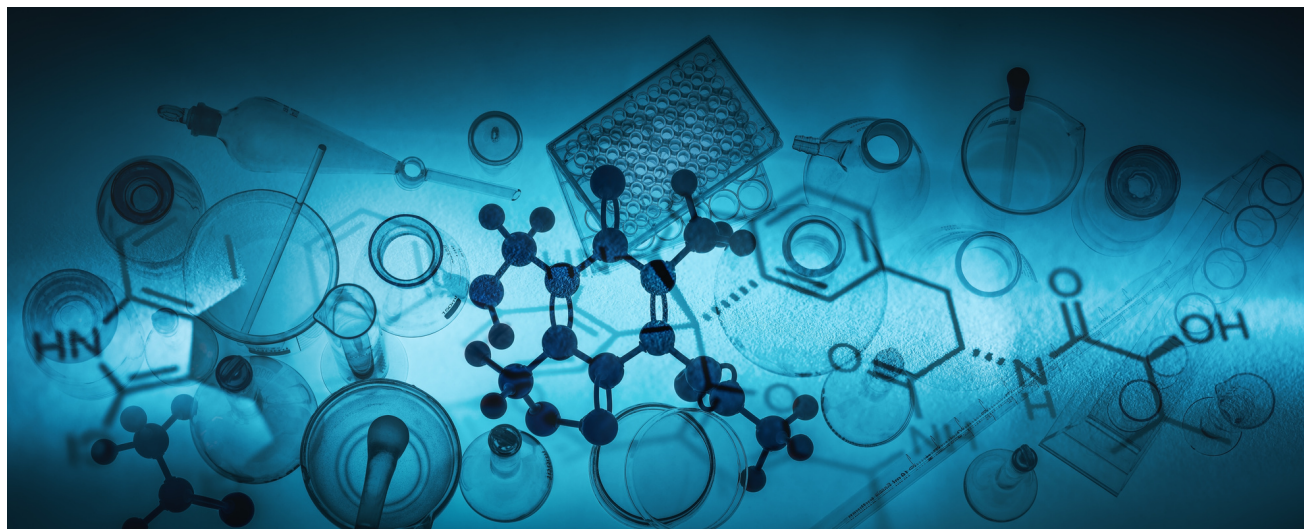


THE MONTHLY DOSE

Official Newsletter of The Mueller Health Foundation



WHAT'S NEW AT THE MUELLER HEALTH FOUNDATION:

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 recently came across a beautiful collection of stories that the Center for Disease Control and Prevention (CDC) has put together. These stories highlight the personal experiences of people who were diagnosed and treated for latent TB infection and TB disease, as well as the work of TB control professionals. You can take a look at the videos and written stories here:

<https://www.cdc.gov/tb/topic/basics/personalstories.htm>

Stay tuned for more updates!

LATEST NEWS: NEW COLLABORATION BETWEEN REACH AND THE MUELLER HEALTH FOUNDATION

The Mueller Health Foundation is proud to announce a new collaboration with the Resource Group for Education and Advocacy for Community (REACH) based in India that will focus on a 2-year pilot project aimed at building and operationalizing a community care model for people with drug-resistant TB.

India currently has the highest number of people with TB and DRTB in the world, comprising almost a quarter of the total burden. According to the India TB Report 2022 [1], 48,232 people were diagnosed with MDR/RRTB in 2021, which is 4.11% of those tested for rifampicin resistance. Treatment success rates remain suboptimal, at 48% and 60% respectively for people with DRTB initiated on shorter regimens and conventional regimens. Treatment for drug-resistant TB has traditionally been hospital or facility-based management and ambulatory care. However, facility-based interventions have their limitations including lengthy and costly travel for the patients to comply with regular visits. In addition, TB programs are often designed and implemented top-down, and affected communities remain largely unengaged.

In this context, community-based care emerges as a viable alternative. REACH's experience in working with TB survivors over the last five years has shown the need for and the impact of involving affected communities in designing public health interventions. The active participation of those most affected by the disease - people with TB, TB survivors and their families - provides an opportunity to tailor services to particular needs, rather than adopt a one-size-fits-all approach. In this context, the collaboration between REACH and MHF aims to design and operationalize a community care model for drug-resistant TB to provide comprehensive, holistic, person-centered services for those affected by DRTB in two selected districts of Tamilnadu in India. The goal of this project is to reduce morbidity and mortality due to drug-resistant TB through decentralized care at the community level. The project will include a rapid assessment and landscape mapping of DRTB care models in India, the design and implementation of a community care model for people with drug-resistant TB, the development of a package of person-centered services that can improve the physical, mental, social and economic wellbeing of people with TB, the amplification of voices of those affected by drug-resistant TB, and the improved information sharing through the use of MHF's TBConnect Blockchain Portal.

We at The Mueller Health Foundation are truly excited about this new collaboration with REACH and we look forward to having meaningful impact on the lives of those affected by tuberculosis as we embark on this new and exiting project!

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

[1] <https://tbcindia.gov.in/index1.php?lang=1&level=1&sublinkid=5613&lid=3658>

MHF TOP PICKS FOR JUNE

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 June:

1. Peer to Peer TB Education in San Diego Highschools

San Diego High School has been piloting an eight-week service-learning project to educate peers on tuberculosis. The project was part of a collaboration between the San Diego County Office of Education's (SDCOE) Work-Based Learning team and the county Health and Human Services Agency Public Health Services Tuberculosis Control and Refugee Health Branch. Each week, a representative from the Public Health Services Tuberculosis Control and Refugee Health Branch visited the classroom to give a presentation about tuberculosis. Students then conducted surveys in their community and designed a strategy to help prevent the spread of the infection. The project culminated with a presentation to a panel of professional. At San Diego High School, 36 students participated. Additional schools are expected to participate next year, focusing on high-risk tuberculosis areas. To learn more, you can access the full article at: <https://www.sdcoe.net/about-sdcoe/news/post/~board/news/post/collaborative-efforts-teaches-students-about-tuberculosis>

2. New Diagnostic Test for TB Detects DNA Fragments in the Blood

Researchers at Tulane University School of Medicine have developed a new highly sensitive blood test for tuberculosis that screens for DNA fragments of the *Mycobacterium tuberculosis* bacteria that causes the deadly disease. The study evaluated a CRISPR-based assay that screened for cell-free DNA from live *Mycobacterium tuberculosis* bacilli. The screening target is released into the bloodstream and cleared quite rapidly, providing a real-time snapshot of active infection. Researchers tested preserved blood samples from 73 adults and children with presumptive TB and their asymptomatic household contacts in Eswatini, Africa. The test identified adult TB with 96.4% sensitivity and 94.1% specificity and pediatric TB with 83.3% sensitivity and 95.5% specificity. The CRISPR-based test uses a small blood sample and can deliver results within two hours, thereby making it a viable option for improving current TB diagnostic practices. To learn more about this new diagnostic approach, you can read the full paper here: <https://www.sciencedirect.com/science/article/pii/S2666524722000878>

3. New Modelling Study on the Global Impact of Household Contact Management for Children on Multidrug-resistant and Rifampicin-resistant Tuberculosis

According to a new modeling study, one in five multi-drug resistant (MDR) tuberculosis cases in children under the age of 15 could be averted globally every year by household contact management. The research from the London School of Hygiene & Tropical Medicine (LSHTM), University of Sheffield and Imperial College London, suggests this test and treat strategy could avert as many as 3,950 deaths and 5,870 cases in children under the age of 15. Contact management, which involves working with TB patients to encourage their household contacts to be screened for TB and offers preventive treatment to those who are eligible, is not implemented nearly as often as it should be. In many countries with limited resources, household contact management is not seen as a priority, as many TB programs mainly focus on the treatment of TB patients who are symptomatic. The researchers stated that this study could be a turning point in showing the effectiveness of this strategy in terms of its low costs and substantial impact in preventing illness and death. To learn more about the research, you can access the full article here: <https://www.sciencedirect.com/science/article/pii/S2214109X22001139>

DID YOU KNOW?

In recent news, Queen Elizabeth II of England has been celebrating her Platinum Jubilee to mark the 70th anniversary of her accession to the throne. Given global fascination with royalty, we thought it would be interesting to share a few interesting historic facts on the relationship between tuberculosis and royal families:

- During the Middle Ages, it was widely (and wrongfully) believed that English and French royalty could cure *mycobacterial cervical lymphadenitis*, a swelling of the lymph glands associated with TB (also known as scrofula), simply through touch. Royal touch was thought to be bestowed on royalty by the divine rights of sovereigns.
- During the Middle Ages, *tuberculous lymphadenitis (scrofula)* was known by the nickname of the "king's evil" in Europe. The belief that the disease could be cured by a king's touch has its origins with Clovis of France (487-511), and later other European monarchs such as Robert the Pious, Edward the Confessor and Philip I of France.
- The practice was very common in Europe from the 13th century onward. In the 1600s in England, it is said that King Charles II touched 92,102 subjects during his 25 year reign. The practice in England stopped after Queen Anne's reign in the 1700s, but continued in France until 1825.
- Since the 1800s, tuberculosis has been strongly associated with the Swedish royal family. In 1897, King Oscar celebrated 25 years on the throne and received a monetary gift from the people of Sweden worth approximately 10 million euros today. While the King desired a new boat, his wife Queen Sofia, who was involved in nursing care issues and nursing education persuaded him that the money should be used to fight tuberculosis instead. Her wise suggestion led to four state sanatoria being built after models of other sanatoria that already existed in several places in Europe.
- In 1904, the Swedish National Association against Tuberculosis was formed with the strong support of the Swedish crown prince who later became King Gustav. He emphasized the importance that every citizen must contribute to the fight against TB and help those who are afflicted. The Swedish National Association against Tuberculosis was the beginning of today's Swedish Heart and Lung Foundation, which is pro-actively funding basic and clinical TB research.

Information Source:
<https://blog.microbiologics.com/10-interesting-facts-about-drug-resistant-tuberculosis>
<https://jmvh.org/article/history-of-tuberculosis-part-1-phthisis-consumption-and-the-white-plague/>
https://historyhouse.co.uk/articles/kings_evil.html
<https://www.sciencedirect.com/science/article/pii/S1201971215000247>