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Media Release

Important TB prevention, treatment and funding research unveiled at the virtual 51st Union World Conference on Lung Health

New data provides insights with potential real-world implications for people living with TB including a one-third reduction in treatment time

U.S. researchers say cost of not ending TB by 2030 will be US\$3 trillion and over 28 million deaths

Wednesday 21st October, 2020 – Leading lung health researchers announced important new developments in tuberculosis (TB) research at the 51st Union World Conference on Lung Health today. This includes the promising results from an inaugural trial in South Africa of targeted universal testing for TB and new data from a clinical trial demonstrating that treatment time for people living with TB can be reduced by a third.

Other announcements included promising new insights on the birth outcomes of pregnant women exposed to isoniazid preventive therapy, the potential feasibility of using an adapted PPE mask attached with a gelatin membrane to collect sputum from children and a study by U.S. researchers demonstrating the economic and human cost of not meeting the UN target of ending TB by 2030.

“For 50 years the Union World Conference on Lung Health has helped answer the most pressing research questions in TB and lung health and this year, against the backdrop of COVID-19, the evolving research presented at the event takes on extra importance,” said **José Luis Castro**, Executive Director of The [International Union Against Tuberculosis and Lung Disease](#) (The Union), convener of the conference and the world’s first global health NGO, celebrating its 100th anniversary this year.

“The studies presented at the Union World Conference advance our knowledge on multiple fronts, knowledge that can potentially help the communities and regions most impacted by TB worldwide.”

Today’s official press conference highlighted five studies covering prevention, treatment and funding research selected from over 1000 abstracts being presented at the Union World Conference.

Targeted universal testing in high risk groups successful in finding missing patients.

The Targeted Universal Testing for Tuberculosis (TUTT) study is a cluster-randomized trial evaluating the effectiveness of a risk-factor based laboratory screening intervention of 22,638 participants in 60 primary health care facilities in South Africa.

The overall yield of targeted risk-factor-based testing was high (5,500/100,000), even in the absence of symptoms (3,800/100,000). This approach finds individuals with *Mycobacterium tuberculosis* (MTB) beyond symptom-based testing.

Rebecca Berhanu of Boston University reported that TB control programmes use symptom-based screening to identify individuals for further investigation and that these results confirm that this approach does not find all patients with TB.

Berhanu noted that research is required to assess whether TUTT contributes to reducing TB transmission, morbidity and mortality.

Abstract: Finding missing patients: yield of targeted universal testing for tuberculosis in high-risk groups presenting to 30 primary health care facilities in South Africa (OA-23-646-23)

Session: Track: B7: Identification and management of TB infection (Chanel 2, Friday 23rd October, 11:00 – 12:20 CEST)

High-dose rifapentine with or without moxifloxacin can shorten treatment time by a third for people with pulmonary TB.

A randomised, open-label, controlled Phase III trial enrolled a total of 2,516 participants from 33 sites in 13 countries to determine whether one or two four-month regimens of TB treatment are as effective as a standard six-month regimen for treatment of pulmonary TB. All three regimens were administered daily, seven days each week, with direct observation of each dose by a health-care worker at least five of the seven days of each week.

Susan Dorman of the Medical University of South Carolina reported that participants were TB free after a regimen of four months, effectively reducing their treatment time by a third, down from six months.

Abstract: The design and primary efficacy results of Study 31/A5349 (Symposia)

Session: Symposia: High-dose rifapentine with or without moxifloxacin for shortening treatment of TB - TB Trials Consortium study 31/ACTG A5349 phase III clinical trial results (Channel 2, Wednesday 21st October, 16:30 – 17:50 CEST)

HIV positive women who take isoniazid preventive therapy (IPT) have higher live birth rates.

Both pregnancy and HIV increase the risk of TB disease. Antiretroviral therapy and isoniazid preventive therapy (IPT) can reduce mortality rates among HIV-positive pregnant women in high-burden settings

1,215 HIV-positive consenting pregnant women in their second or third trimester were prospectively enrolled from six facilities across three provinces in South Africa (October 2017–May 2019) and the birth outcomes were assessed for those with IPT exposure and those with non-exposure.

Women receiving IPT were significantly more likely to experience live birth outcomes (94.9 percent) than IPT-unexposed women (92.6 percent) and were less likely to have a

miscarriage and a still birth.

Sikhethiwe Masuku of the South African Medical Research Council reported that these findings suggest that IPT can be safely used during the second and third trimester of pregnancy. With recent changes in TB and HIV treatment regimens, more research is needed to determine the safety of these therapies during each trimester of pregnancy and to evaluate pregnancy outcomes.

Abstract: Birth outcomes of pregnant women exposed to isoniazid preventive therapy (OA-01-502 21)

Session: Track: B8: TB and co-morbidities: including HIV and diabetes (Channel 1, Wednesday 21st October, 11:00-12:20 CEST)

Adapted PPE Masks with an attached gelatin membrane can be used to collect sputum samples from children with pulmonary tuberculosis

Children with pulmonary TB (PTB) find it difficult to produce sputum, necessitating invasive sample collection methods for diagnosis.

Ten children, of median age 11, with confirmed diagnosis for PTB, wore an N-95 mask attached with a gelatin membrane for 10 minutes, during which they talked/recited, coughed, and took tidal breaths 20 times each to collect expelled and exhaled aerosols on the membrane. Two membrane samples were collected from each child- one in a GeneXpert reagent for detection and the other in RNAzol for detection of TB specific RNA.

Nine of 10 patients had TB confirmation in the GL/sputum by GeneXpert.

Kalpna Sriraman of the Foundation for Medical Research reported a proof of concept of respiratory aerosol sampling on masks combined with RNA-qPCR to detect TB in children. The method is non-invasive and simple with comparable results to standard methods. The study has significant implications in paediatric pulmonary TB diagnosis.

Abstract: Non-invasive respiratory aerosol sampling using masks for detection of pulmonary tuberculosis in children (OA-11-564-22)

Session: Track: A3: TB diagnostics, including drug-resistance determination (Channel 6, Thursday 22nd October, 11:00 – 12:20)

U.S. researchers say cost of not ending TB by 2030 will be US\$3 trillion and over 28 million deaths

This is the first estimate of the full-income losses due to TB mortality in 120 countries from 2020 to 2050. Prior estimates have been limited to a few countries and a shorter time horizon.

The study estimated cause-eliminated life expectancy in 165 countries, from 2020-2050, if TB deaths fell by 2 percent annually. It estimated the life expectancy gain if the End TB mortality target was met in 2030 versus 2045. To do so, it monetized life expectancy gains employing the approach first employed in the Commission on Investing in Health.

The study models a number of scenarios. Ending TB in 2030, 2045, 2050.

The economic and human cost of not ending TB by the UN target of 2030 and instead the more likely date of 2045, will be to the order of some US\$3 trillion. This figure includes

losses in income growth and the societal value of some 5.7 million avoidable TB deaths in 120 countries.

Sachin Silva of Harvard university reported that failure to achieve the End TB targets by 2030 will have devastating economic impacts on countries with high prevalence of HIV and TB, especially in sub Saharan Africa.

Silva noted that COVID-19 has certainly made 2045 the more likely scenario, suggesting even a brief shut down in TB programmes because of the SARS-CoV2 pandemic is likely to have calamitous epidemiologic and economic consequences.

Abstract: Assessing the economic impact of TB mortality in 165 countries: what it will cost if we don't achieve the End TB targets (OA-29-680-23)

Session Date and Time: Track: D10: Health Economics (Channel 3, Friday 23rd October, 15:00 – 16:20)

ENDS

[Media registration](#) is open and free to all accredited media representatives.

Full Union Conference Programme available [here](#).

See how The Union is supporting the [COVID-19 response](#).

Further Information:

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About the [51st Union World Conference on Lung Health](#)

The Union World Conference on Lung Health, convened by [The Union](#), is the world's largest gathering of clinicians and public health workers, health programme managers, policymakers, researchers and advocates working to end the suffering caused by lung disease, with a focus specifically on the challenges faced by low-and lower-middle income populations. Of the 10 million people who die each year from lung diseases, some 80 percent live in these resource-limited settings.

Organising international conferences on TB and related subjects has been a core activity of The Union since its founding in 1920.

Twitter: @UnionConference

About [The Union](#)

The Union was founded in 1920 and is the world's first global health organisation. We are a global leader in ending TB, we fight the tobacco industry, and we solve key problems in treating major diseases. We use science to design the best treatments and policies for the

most pressing public health challenges affecting people living in poverty around the world. The Union's members, staff and consultants operate in more than 140 countries and embody our core values of accountability, independence, quality and solidarity.

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