

PRESS RELEASE

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Ushering in a new era of TB science: Studies show progress in finding new TB diagnosis and treatment options

(Guadalajara, Mexico) -- Researchers released data from cutting-edge studies that show progress in the science of tuberculosis (TB) diagnosis and treatment at an official press conference at the 48th Union World Conference on Lung Health (WCOLH 2017) today. These included three studies demonstrating new developments around bio markers and the development of technologies that could revolutionise treatment.

“We appear to be on the cusp of serious progress in TB science,” said **José Luis Castro**, Executive Director of The International Union Against Tuberculosis and Disease (The Union), organisers of WCOLH2017. “This progress is fundamental if we are to improve the way we find and treat people living with TB. Wireless Observed Therapy is a case in point – it has the potential to treat tens of thousands of people more effectively which means more people cured and less people developing multidrug-resistance – a real game changer.”

The press briefing highlighted the following five studies, which were selected from more than 800 scientific abstracts being presented at WCOLH2017.

Wireless Observed Therapy (WOT) is accurate and confirms more MTB medication doses than DOT

A Phase 1 randomised controlled trial of 75 patients comparing Directly Observed Therapy (DOT) with Wireless Observed Therapy (WOT) found that the total number of confirmed WOT doses in comparison to DOT doses was 1983/1288, indicating that WOT confirmed 54 per cent more doses than DOT.

Sara Browne of the University of California In the U.S. reported the results of the FDA approved WOT device which consists of an edible ingestion sensor (IS), external wearable patch and paired mobile device, can detect and record ingestion events, which are uploaded to a secure Internet server, where healthcare workers can confirm ingestions remotely. The sensor was combined with Rifamate via co-encapsulation within certified gelatin capsules.

Abstract: Wireless Observed Therapy is accurate and confirms more MTB medication doses than DOT ((OA-137-12), Hall 11 – Jalisco Hall, Thursday, 12 October 2017, 16:00- 17:30

Molecular Bacterial load assay as a marker for treatment response late during treatment

A study found that Molecular Bacterial Load Assay (MBLA) as a marker to determine treatment success bears potentials that could contribute in routine patient care and trial setting in search for new TB drug regimen.

Nyanda Nelias Nitinginya of the NIMR- Mbeya Medical Research Centre in Tanzania reported the results of the multiple contributed data set for 103 patients to the PanACEA Biomarkers Expansion programme (PANBIOME) study. -stage (MAM)

Abstract: Molecular Bacterial load assay as a marker for treatment response late during treatment (SOA-411-13), Hall 5 – Events Ballroom, Friday, 13 October 2017, 14:00- 15:30

Plasma Mycobacterium tuberculosis cell wall metabolites have potential utility as biomarkers of treatment response.

A study found that the intensity of multiple *Mtb* lipid metabolites was significantly lower in MDR-TB patients compared to DS-TB patients at baseline and during the initial treatment phase. This effect may be due to increased bacterial killing in patients with DS-TB and/or altered *Mtb* cell wall composition in MDR-TB patients. Thus, increased concentrations of *Mtb*-derived metabolites in plasma may potentially be an early indicator of effective antibiotic therapy.

JM Collins of the Emory University School of Medicine in the U.S. reported the results of the trial that used plasma high-resolution metabolomics (HRM) on 61 patients diagnosed with active pulmonary TB, targeting *Mycobacterium tuberculosis (Mtb)*-derived cell wall metabolites in plasma of patients with active TB disease to evaluate potential utility as biomarkers of treatment response.

Abstract: Plasma Mycobacterium tuberculosis cell wall metabolites identify patients with multidrug resistant tuberculosis: a pilot study (SOA-310-12), Location: Hall 5 – Events Ballroom, Thursday, 12 October 2017, 10:30- 12:00

Two further studies analysing inefficiencies in the application of science on the ground were also presented in the press conference.

Recommended age of BMG Vaccination if adhered too would save tens of thousands of lives.

Preliminary research suggests that if the current recommendation for giving the BCG vaccine “at birth” is retained, but measures taken to improve implementation to reduce delays so that in practice newborn babies do actually receive the vaccine at birth, around 5,000-30,000 childhood TB deaths could be averted for each year of vaccination.

Rebecca Harris of the **London School of Hygiene & Tropical Medicine** in the UK reported the results which used mathematical modelling to predict the impact on global childhood TB deaths of different implementation scenarios for BCG vaccination at birth, 6 weeks, 6 months and 1 year.

Abstract: Recommended age at BCG vaccination - modelling the impact on global paediatric TB mortality (OA-2911-13), Hall 7 – Events Ballroom, Friday, 13 October 2017, Session time: 16:00- 17:30

Evidence to improve global tuberculosis control strategies: lessons from Southeast Asia

A Special Issue of *Health Planning and Policy* journal reviewed the state of play of TB delivery in SE Asia. International public health experts, recognising the need to improve approaches for TB control, are calling for a 'paradigm shift' in our approach. However, the TB control community has been criticised for constantly looking for innovative solutions and failing to act effectively on the basis of existing knowledge of what works and what does not. In light of this, the papers in this supplement aim to critically examine the approach to TB control in the Greater Mekong sub-region, highlighting some of the challenges for policy makers and TB programme managers, but also to show, when put alongside the growing knowledge of TB control globally, some of the solutions.

Series Guest Editor **Mishal Khan** of the **London School of Hygiene & Tropical Medicine**

reported findings that provide some key lessons that have broader relevance in the region and globally. It shows the importance, yet again, of linking health systems research to resolving locally defined problems—in this case the reduction of death and suffering from an ancient disease, TB. As has been shown elsewhere, countries need both effective TB control programmes and sufficiently resourced primary health care, with an efficient use of resources to achieve both.¹² Locally defined health systems research can then help define what works in different situations for different communities and high-risk groups. Similarly, there are lessons in other parts of the world that could help inform local TB policy and research priorities in the region. The series shows how the global public health and research community can help ensure health systems and TB research and global monitoring should continue to respond to locally defined needs, as well as encourage the sharing of innovations and experience across the region and beyond.

ENDS

Press Programme available: [here](#)

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Conference Programme: **download the online iPlanner** [here](#)

Media Registration:

Media are strongly encouraged to [register](#) prior to the conference.

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[About The International Union Against Tuberculosis and Lung Disease \(The Union\)](#)

The Union is a global scientific organisation with the mission to improve health among people living in poverty. We do that by conducting scientific research, working with governments and other agencies to translate research into better health for people around the world, and delivering projects directly in the field. The Union is made up of a membership body of people around the world who help to advance our mission, and a scientific institute that implements public health projects within countries. For close to 100 years, we have been leaders in the fight against some of the world's biggest killers, including tuberculosis, lung diseases and tobacco use.

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

The Union World Conference on Lung Health 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 the low- and middle-income countries. Of the 10 million people who die each year from lung diseases, some 80 percent live in these resource-limited countries.

This year's conference theme, 'Accelerating Toward Elimination', will centre discussion around the global lung health agenda and the ambitious goals that have been set for the public health community working in lung health. It will focus on how to accelerate toward elimination on multiple fronts: tuberculosis (TB) and co-infections, improving tobacco control and reducing air pollution.

