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Contact: press@theunion.org

The Union
International Union Against Tuberculosis and Lung Disease
Health solutions for the poor

Research Finds Promise in Shorter, More Effective Approaches to Treating Drug-Resistant Tuberculosis

With improper treatment, drug-resistance can develop quickly. Health clinics are missing opportunities to diagnose drug-resistant TB sooner, studies show

New research was presented at the 47th Union World Conference on Lung Health

Friday, 28 October 2016 (Liverpool, UK) – Today, researchers released new data from a series of scientific studies on drug-resistant tuberculosis. Researchers demonstrated promising results from experimental treatments and models of providing health care to patients suffering from multidrug-resistant tuberculosis (MDR-TB) and the even more severe extensively drug-resistant tuberculosis (XDR-TB). They also announced new data showing that TB drug resistance can develop quickly, and that a significant percentage of patients who are diagnosed with drug-resistant TB could have been diagnosed earlier. Late diagnosis is more likely to lead to treatment complications and worse treatment outcomes. The results were announced at the 47th Union World Conference on Lung Health, convening 26-29 October in Liverpool, UK.

"Drug-resistant TB is one of the most challenging diseases any person could ever face. But we're starting to see promise in shorter, more effective treatments that have the hope of eliminating for patients some of the most difficult parts of the treatment experience," said Dr Paula I Fujiwara, Scientific Director of the International Union Against Tuberculosis and Lung Disease (The Union).

"Solving the challenge of drug-resistant TB is not only a medical issue. It is often also an issue of management within a healthcare system," said José Luis Castro, Executive Director of The Union." To solve the challenge of drug-resistant TB, we need to promote expertise across a range of disciplines, including health systems management so that healthcare settings run as efficiently as possible."

The following scientific announcements were presented today.

Abstract, OA-3117: Interim Results of Nix-TB Clinical Study of Pretomanid, Bedaquiline and Linezolid for Treatment of XDR and Treatment Intolerant/Failed MDR TB

In a study conducted by Helen Joseph Hospital in South Africa, researchers studied the effectiveness of an experimental treatment regimen for extensively drug-resistant TB (XDR-TB), using bedaquiline—a medicine produced by Janssen Pharmaceutica that was approved for use in 2012. The use of bedaquiline allowed the patients to receive a treatment regimen that included only oral medications and zero injections, which are often difficult for patients to

tolerate. Between April 2015 and July 2016, 42 patients were enrolled. Of the first 15 patients, three died within seven weeks and the remaining 12 completed treatment, with none needing extended treatment. As of July 2016, there were no clinical or microbiological relapses. Early results show that a simplified and all-oral treatment is both safe and efficacious, which is encouraging for the treatment of XDR. Patients were given a treatment regimen that included the medicines bedaquiline, pretomanid and linezolid, given orally for six months with the option to extend treatment to nine months if needed. XDR-TB is defined as TB that is resistant to at least isoniazid and rifampicin (two first-line medicines used to treat standard TB), and at least two second-line medicines used to treat cases of TB that are already resistant to multiple medicines.

Abstract OA-3036: Effectiveness of TB treatment regimens containing bedaquiline with repurposed drugs for drug resistant tuberculosis in the Chechen Republic, Russian Federation

In a study conducted by Médecins Sans Frontières in Russia, researchers assessed the effectiveness of treating drug-resistant TB patients in Chechnya using the medicines bedaquiline, clofazimine and linezolid. Patients included in the study had been diagnosed with TB resistant to at least the first-line medicines isoniazid and rifampicin, plus the second-line medicine fluoroquinolone and/or injectable medicines. 69% of the patients treated using bedaquiline, clofazimine and linezolid achieved culture conversation after six months—a highly reliable measure of treatment success—versus 39% in the control group.

Abstract OA-3138: Short course regimen for MDR TB in high HIV prevalence setting: model of care in Swaziland

In a study conducted by Médecins Sans Frontières and the Ministry of Health of Swaziland, patients were treated for MDR-TB using a new, dramatically shortened treatment regimen. Of the 80 patients who completed treatment, 75% were treated successfully—compared with treatment success rates of about 55% using the previous standard treatment regimen. The model of care included providing patients with psychological support and financial incentives to complete treatment. The shorter regimen, which reduces the length of treatment from 20 or more months to only nine months, was recommended by the WHO as the new standard approach that should be used to treat MDR-TB.

Abstract OA-429-28:Timing of acquired resistance to fluoroquinolones and second-line injectable drugs during treatment of MDR TB

In a study conducted by researchers at the US Centers for Disease Control and Prevention (CDC), researchers found that among 1,761 patients with multidrug-resistant TB, 9% (78 patients) developed further resistance to a least one “second-line” medicine reserved exclusively for treating drug-resistant cases. The researchers followed each patient over the course of two years. Patients developed additional resistance in a median length of 91 days.

Abstract OA-402-28: Missed opportunities for rapid diagnosis of rifampicin-resistant tuberculosis in the setting of universal GeneXpert MTB/RIF coverage in South Africa

Researchers from Médecins Sans Frontières assessed TB cases that were resistant to rifampicin (RR-TB) and identified missed opportunities to provide earlier diagnosis in the township of Khayelitsha, South Africa, a township which has among the world’s highest rates of TB. They found in 28% of cases (188 patients out of 682) studied from 2012-2014, there were missed opportunities for diagnosing RR-TB earlier. Among the 681 RR-TB patients, 448 (66%) were diagnosed sooner by using Xpert MTB/RIF testing. The remaining patients were diagnosed using a line probe assay test. Earlier RR-TB diagnosis improves patient outcomes and reduces TB transmission within the community. These data show a high proportion of patients not being tested with GeneXpert despite being eligible, and a high proportion of

diagnosed RR-TB patients with the potential to have been diagnosed earlier.

On 13 October, the World Health Organization published new data on the global TB epidemic, referring to drug-resistant TB as a "crisis." In 2015, 580,000 people became sick with drug-resistant TB. This includes 100,000 people who developed rifampicin-resistant TB, and 480,000 people who developed TB resistant to at least rifampicin and isoniazid. In September 2016, the United Nations General Assembly issued a declaration committing to take worldwide action against drug-resistant TB. The declaration recognised that within the broader context of antimicrobial resistance, resistance to antibiotics "is the greatest and most urgent global risk, requiring increased attention and coherence at the international, national and regional levels."

Media Registration:

Media are strongly encouraged to register prior to the conference.

Press contacts:

Michael Kessler
Press Coordinator - The Union
In Liverpool October 20-29
Mobile: +34 655 792 699
e-mail: michael.kessler@intoon-media.com
Skype: mickgpi
Twitter: @mickessler

About The International Union Against Tuberculosis and Lung Disease (The Union)

Since its founding as a global scientific organisation in 1920, The Union has drawn from the best evidence and expertise to advance solutions to public health challenges affecting people living in poverty. The Union is currently progressing solutions for tuberculosis, HIV, tobacco-related diseases and other lung and non-communicable diseases. With close to 17,000 members active in more than 140 countries, The Union has its headquarters in Paris and 11 offices in Africa, the Asia Pacific, Europe, Latin America, North America and South-East Asia.

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.

Our theme this year, **Confronting Resistance: Fundamentals to Innovations**, addresses a number of critical areas for discussion, including the growing problem of resistance to existing TB drugs, which is one of the most important challenges facing us today, while also reflecting our global tobacco control work, which requires coordinated efforts to confront resistance from the powerful tobacco industry and to introduce the innovative policies needed to de-normalise and reduce tobacco use.