EMBARGOED UNTIL 12:00 SAST FRIDAY 4 DECEMBER 2015

Media Release

Studies: Progress against TB hindered by faltering response to disease among key affected populations

Friday, 4 December 2015 (Cape Town, South Africa)--A series of new studies on TB among incarcerated persons, bovine strains of TB found in cattle that are transmitting to humans, and TB in children show that key affected populations are facing unique risks. These risks must be addressed in order to end TB by 2035, as called for by the World Health Organization's End TB Strategy. The studies are being presented at the 46th Union World Conference on Lung Health in Cape Town, South Africa.

New data show growing TB epidemic in Brazilian prisons is offsetting progress on TB in general population

New data from Brazil show a growing TB epidemic within the country's prisons large enough to partially offset reductions in TB among the general population. From 2007-2013, the annual incidence of TB among incarcerated persons increased 28%, compared with a 12% decline among non-incarcerated persons. The net effect was just an 8% decrease in the combined population, showing that the dramatic increase in the prison population and TB among inmates has offset one third of recent progress against TB in Brazil.

"Brazil has the world's fourth largest prison population, and with a high throughput of inmates, Brazil's prisons may serve as reservoirs for TB transmission into the general population. Without intervention to address the alarming rates of TB in Brazil's prisons, the epidemic among incarcerated persons will continue to thwart national efforts to address TB," said Paul Bourdillon of Yale University, who presented the study.

In another study from Tanzania presented at the conference, a prison screening project has shown promise for reducing TB transmission. All inmates and new admissions to three prisons were tested for TB using chest x-ray and the Xpert MTB/RIF molecular diagnostic test. From July 2013 to March 2015, 6,003 inmates were tested for TB. All inmates found to have TB began treatment promptly, either the same day or the next day.

High rates of bovine TB found among Nigerian cattle and livestock workers

A new study presented at the 46th Union World Conference on Lung Health assessed TB rates among both cattle and livestock workers in Nigeria. Overall, 3595 cattle (abattoirs=3133; herds=462) and 266 livestock workers (butchers and marketers) were screened for TB. Among cattle herds, 10.4% of individual cattle and 42.9% of herds had positive TB cultures. Additionally, 86 strains of bovine TB were isolated from slaughtered cattle, portending major public health risks in a setting with poor knowledge and practices

towards bovine TB. Overall, 4.6% (7/152) of butchers and 6.1% (7/114) of marketers, respectively had positive TB cultures.

With a conservative estimate based on available evidence that 1.4% of all TB cases are caused by zoonotic strains, this would represent approximately 126,000 people affected by zoonotic TB worldwide annually, or over 1 million cases in the last decade. This neglect has led patients to receive improper diagnosis and inadequate treatment, especially in developing regions. *Mycobacterium bovis*, a zoonotic strain, is naturally resistant to pyrazinamide, a key first-line medicine used in the standard TB treatment regimen. Using pyrazinamide to treat patients with bovine TB increases the risks of treatment failure and of their developing resistance to other TB medicines used in course of treatment.

“The people affected by zoonotic TB who we're now identifying likely represent the tip of the iceberg,” said Dr. Francisco Olea-Popelka, Assistant Professor at the College of Veterinary Medicine and Biomedical Sciences at Colorado State University. “We must ensure that TB diagnosis can identify the specific type of TB that people are affected by in regions in which socio-cultural practices increase the risk of getting TB from infected animals or their products, especially through consumption of unpasteurized milk products. We also need to broaden our concept of TB to design strategies to prevent and control TB at the animal source to prevent transmission to humans.”

Children treated for TB based on symptoms die at significantly higher rates than children treated for TB based on confirmed diagnosis

In countries with high burdens of TB, children are often treated for TB based on an empirical diagnosis based on symptoms, rather than confirmed TB, due to a lack of effective available diagnostics for TB in children. A new study conducted in Uganda and present at the 46th Union World Conference on Lung Health, however, shows that children on empirical TB treatment were more likely to die than children on TB treatment who had confirmed TB. Among child patients on empirical TB treatment, 15 out of 126 (11.9%) died versus 0 out of 18 children with confirmed TB (0%).

“Our findings stress the urgent need for TB diagnostics that are appropriate and effective for diagnosing TB in children. Treating TB based solely on symptoms rather than a confirmed diagnosis is leading to unnecessary deaths among children that could be avoided with the availability of proper diagnostics,” said Maryline Bonnet of MSF, who presented the study.

Household contact investigation improves childhood TB case finding, treatment and prevention in Uganda

DETECT Child TB (Decentralize TB services and Engage Communities to Transform lives of Children with TB) has more than doubled the number of children diagnosed as a proportion of total cases. In Kabarole, a rural district, the number of children diagnosed increased from a baseline of 7.4% to 16% of total TB cases from July to September. As part of the project, 299 health workers have been trained on diagnosis and treatment of TB in children, including preventative care, specifically by providing Isoniazid therapy to prevent TB infection from progressing to active TB disease. In addition, 178 community health workers have been trained on household contact investigation procedures, which enables districts to find children with TB early and quickly start them on treatment.

“Children with TB have long been overlooked by the public health system. With DETECT Child TB, we are correcting this. All children have a right to live without TB. This starts with making sure they receive a proper diagnosis,” said Dr Anna Nakanwagi Mukwaya, Director of The Union Uganda Office.

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About the organisers:

For nearly 100 years, the International Union against Tuberculosis and Lung Disease (The Union) has drawn from the best scientific evidence and the skills, expertise and reach of its staff, consultants and membership in order to advance solutions to the most pressing public health challenges affecting people living in poverty around the world. With over 20 000 members and subscribers from 146 countries, The Union has its headquarters in Paris and regional offices in Africa, the Asia Pacific, Europe, Latin America, North America and South-East Asia. The Union's scientific departments focus on tuberculosis and HIV, tobacco control and operational research. For more information, please visit theunion.org.