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Why We Need New Tools to Fight TB/HIV

"We cannot win the battle against AIDS if we do not also fight TB. TB is too often a death sentence for people with AIDS." -- Nelson Mandela, TB survivor (International AIDS Conference, Bangkok, Thailand, July 2004)

Tuberculosis (TB) kills someone with HIV every 90 seconds, and accounts for nearly 25% of HIV deaths globally. People living with HIV in countries with high TB prevalence are 20 times more likely to develop TB than people who are not infected with HIV. Mounting drug resistance, including multidrug-resistant TB (MDR-TB) and extensively drug-resistant TB (XDR-TB), is making the TB/HIV pandemic more threatening and more deadly. Researchers estimate that up to 85% of deaths from XDR-TB have come in people also infected with HIV.

New tools are desperately needed to save millions of lives needlessly lost to TB/HIV.

- Today's most commonly used TB diagnostic, sputum microscopy, is more than **100 years old**. It detects only half of the cases of TB in patients tested, and is particularly ineffective for diagnosing TB in people with HIV/AIDS. As a consequence, many co-infected patients die without ever receiving a diagnosis. Without proper treatment, approximately 90% of HIV-positive patients die of TB within months of infection.
- Today's first-line TB drugs are more than **40 years old** and must be taken for 6-9 months. Rifampin, a cornerstone of current TB treatment, cannot be used concurrently with certain commonly-used antiretrovirals (ARVs) for HIV/AIDS. Furthermore, erratic or inconsistent treatment has led to the emergence of drug-resistant strains of TB, which are particularly lethal in populations with high rates of HIV infection.
- Today's TB vaccine, which is more than **85 years old**, provides some protection against severe forms of TB in children but is unreliable against pulmonary TB, which accounts for most of the worldwide disease burden. The vaccine, Bacille Calmette-Guérin (BCG), is not recommended for infants known to be infected with HIV, due to increased risk of serious BCG-related complications.

We will never defeat the TB/HIV co-epidemic without new and more effective tools: rapid, more accurate diagnostic tools to quickly detect TB in people with HIV; simpler, faster drug regimens that can be administered concurrently with ARVs; and a vaccine that will be safe and effective in people living with HIV and those at high risk of becoming infected with HIV. New tools will play a crucial role alongside the growing commitment to more aggressive TB control and integration of TB and HIV services to address the devastating impact of these diseases.

Three public-private partnerships lead the development of needed new tools.

Research is currently underway to develop these critically needed new tools through innovative partnerships that maximize the likelihood of success and minimize costs. The Foundation for Innovative New Diagnostics (FIND), the Global Alliance for TB Drug Development (TB Alliance) and the Aeras Global TB Vaccine Foundation (Aeras) — three not-for-profit Product Development Partnerships (PDPs) — are leading the global effort to develop new TB tools.

- FIND is developing rapid, accurate and affordable TB tests and point-of-care diagnostics to more efficiently detect TB in people with and without HIV.
- The TB Alliance is developing new affordable TB drugs that will dramatically shorten treatment time, work against drug-resistant TB, be compatible with HIV antiretrovirals and improve treatment of latent TB.
- Aeras is developing new, safe, effective and affordable vaccine regimens to protect against all forms of TB, to prevent TB in children, adolescents and adults, and to be safe for use in people infected with HIV.

Harnessing the collective resources of government, industry, academics, and philanthropies, FIND, the TB Alliance and Aeras have created over the past five years the largest pipeline of new TB diagnostics, drugs and vaccines in history. Nevertheless, increased investments and support for this research are needed to speed development of better TB tools and ensure access for those who need them most.

At the 2008 HIV/TB Global Leaders Forum, UN Member States and Organizations were urged to increase investment and facilitate research to promote the development of better tools - drugs, diagnostics and vaccines - for prevention, diagnosis, and treatment of TB, in particular for people living with HIV.