Scientists see new hope in fight against HIV and TB

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WASHINGTON, DC (20 May 2010)—As US policymakers consider scaling back on its historic initiative to fight AIDS around the world and downsizing goals to combat tuberculosis, next-generation treatment and prevention strategies to significantly reduce the spread of HIV/AIDS and tuberculosis are now imminent. New science can dramatically change the trajectory of both deadly epidemics, according to a special new issue of the journal *Clinical Infectious Diseases*.

Breakthroughs on the horizon, say the authors, include novel TB drugs in the pipeline that offer the hope of a safer, faster cure for both standard TB and drug-resistant TB; TB diagnostic tests that shrink the time it takes to diagnose drug-resistant TB from six weeks to 90 minutes; and bold HIV prevention approaches that include using antiretroviral agents as prophylactics to prevent against HIV infection, a method known as PrEP, or pre-exposure prophylaxis.

At a Washington briefing today, the journal articles' authors and scientific leaders said that policymakers now need to find ways to capitalize on these promising advances, and not retreat from an effort that already has saved countless lives. The briefing featured Anthony S. Fauci, director of NIH's National Institute of Allergy and Infectious Diseases, and other leading physician-scientists from across the United States.

"Bold new policy, research, and programmatic approaches are needed to empower the scientific community to take on these twin diseases," said Wafaa El-Sadr, MD, MPH, director of the International Center for AIDS Care and Treatment Programs and professor of medicine and epidemiology at Columbia University's Mailman School of Public Health. "These global health challenges are surmountable. With the right combination of financial resources, scientific innovation, and political will, the United States can lead the effort to save millions of lives from HIV and TB."

Publication of the journal comes as U.S. policymakers prepare to make key decisions in the next few weeks about global health spending amid an unfolding crisis in inadequate HIV treatment access in Africa, as well as the emerging threat of multidrug-resistant TB.

U.S. government officials are seeking to curb costs for treating AIDS patients overseas and have asked some AIDS treatment centers in recent months to stop enrolling new patients, depriving them of life-saving medicines. Expressions of grave concern can be heard around the world that the United States is backing down from one of its most successful foreign policy programs in decades. The HIV and TB epidemics—the world's two leading infectious disease killers—claim nearly 10,000 lives every day. The HIV and TB experts who authored articles in the journal

said the United States must redouble efforts to combat HIV and TB. Several said that funding for TB, in particular, was woefully inadequate.

"With new TB diagnostics and better drugs in the pipeline, we have the potential to revolutionize the treatment of tuberculosis," said William J. Burman, MD, a leading TB expert and professor of medicine at the University of Colorado. "When it comes to the TB epidemic, and particularly the threat of drug-resistant TB, this is a time of great need—and also a time of great opportunity." Tuberculosis is the number one killer of HIV-infected people. Preventing death from TB in HIV-infected patients is another clear priority and possible with major scale-up of interventions known to be effective, according to Burman.

Similarly, nearly three decades after HIV was first recognized, AIDS remains an incurable, devastating disease, domestically and globally. But physician-scientists are forging new prevention paths, from pre-exposure prophylaxis (PrEP) to the "test and treat" approach, which could make significant inroads in the epidemic, according to the authors.

"Novel scientific methods of fighting HIV are on the horizon, but this science must be funded if we want to turn the tide of the HIV/AIDS epidemic," said Kenneth Mayer, MD, FIDSA, co-chair of the Center for Global Health Policy's Scientific Advisory Committee and professor at Brown University, where he directs the AIDS program.

In this special issue of *Clinical Infectious Diseases*, entitled "Synergistic Pandemics: Confronting the Global HIV and Tuberculosis Epidemics," leading physician-scientists explore many facets of these dual epidemics. Highlights of the supplement include:

- Dr. Lynne M. Mofenson, chief of NIH's Eunice Kennedy Shriver National Institute of Child Health and Human Development, Pediatric, Adolescent & Maternal AIDS Branch, examines the obstacles and opportunities to achieving dramatic reductions in the number of infants and children who become infected with HIV—currently 1,000 every day.

- The CDC's lead expert on drug-resistant TB, Dr. J. Peter Cegielski, details how complacency and neglect of TB led to the lethal emergence of drug-resistant TB, raising the risk of repeating history with multidrug-resistant TB and extensively drug-resistant TB. Dr. William J. Burman and other leading TB experts describe exciting innovations in TB diagnostics, drugs, and a vaccine, forging a new path for treatment and control of this disease.

- In the face of lagging HIV prevention efforts and disappointments in the search for an HIV/AIDS vaccine, urgent new prevention strategies are needed. Harvard University's Dr. Victor DeGruttola and co-authors examine the challenges of evaluating "test-and-treat strategies," and Dr. Rochelle

Walensky, also of Harvard, describes the promise of scaling up voluntary HIV counseling and testing in resource-poor countries.

- Dr. Myron Cohen, MD, FIDSA, of the University of North Carolina, and other leading HIV experts take a hard look at the potential of antiretroviral therapy (ART) as prevention, discussing concerns about adherence, drug-resistance, and the impact on sexual behavior in the search for a "magic bullet" of HIV prevention.

- Dr. Gerald Friedland, of Yale University, and co-authors detail the longstanding "collective neglect" of TB prevention, including inadequate or nonexistent infection control measures that put patients and health care workers at risk of TB infection, including MDR and XDR-TB. Mounting evidence indicates that a major portion of drug resistant TB is the result of transmission in health care and other congregate settings, with resultant morbidity, mortality and ongoing transmission. These could be averted, even in resource limited settings, by relatively minor improvements in facilities and the widespread provision of information, motivation and training in the use of low cost and readily-available air borne infection control strategies, Dr. Friedland writes.

- Dr. Wafaa El-Sadr, of Columbia University, and her co-author outline simple, yet significant, mechanisms that will allow for better integration and treatment of TB and HIV in the developing world, thus making a difference in the outcomes of patients with both conditions. "Lessons learned" from their first-hand experience in sub-Saharan Africa can inform the science and implementation of scale-up of these efforts.

"Workers in the HIV and TB field are at the vanguard of health systems strengthening, which will be essential to achieve universal access and primary health care for all persons," said Mark Harrington, executive director of the Treatment Action Group.

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