

Public Affairs Section

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Press Release

United States Engaged in the Fight Against Tuberculosis in Botswana

March 24 is World TB Day and the United States Embassy joins its health partners and the people of Botswana in raising the awareness that tuberculosis today remains a very real threat to health of Botswana. TB is still epidemic in much of the world, causing the deaths of several million people each year, and on March 24th we commemorate the day in 1882 when Dr Robert Koch astounded the scientific community by announcing that he had discovered the cause of tuberculosis, the TB bacillus. At the time of Koch's announcement in Berlin, TB was raging through Europe and the Americas, causing the death of one out of every seven people. Koch's discovery opened the way toward diagnosing and curing TB.

In Botswana, as HIV prevalence has risen, rates of TB infection have risen simultaneously. Since 1990, TB cases with active symptoms, such as persistent coughing, have more than doubled from 0.2% to 0.5% of the population, with three quarters of cases occurring among HIV positive people. Although one in two hundred people have active TB infections at any given time, the number of cases of infection without symptoms is expected to be much higher as exposure to TB is so common in Botswana. The prevalence of HIV increases the likelihood of TB spreading in the population, as HIV infected people are more likely to acquire TB and latent TB is more likely to become active amongst HIV positive people.

Historically, TB was curable with a long-term antibiotic regimen, but now there are increasing numbers of cases that are resistant to standard drug treatments (MDR-TB). As with many diseases, TB becomes resistant to drugs when patients do not consistently take their prescribed medication, but in most diseases the mutations that make the disease resistant to drugs also weaken the disease and reduce the likelihood that the mutated strain will be transmitted.

This is not always the case with mutated forms of TB. Consistent with a trend across southern Africa, new infections of TB that are resistant to multiple drugs have increased 200% over the past decade in Botswana, from 0.2% of TB cases in the 1990's, to 0.8% in the early 2000's, to 2.6% in 2008. These new strains must be treated over a period of two years (compared to six months for standard TB) and require a series of injections (rather than simply pills required in standard cases). In seven documented cases in Botswana, TB was resistant to all standard treatments (called Extensively Drug Resistant or XDR-TB).

TB infections may continue to increase in areas with high HIV infection rates and MDR-TB could potentially be spreading in these areas through casual contact. Experts with the U.S. Centers for Disease Control and Prevention in Botswana (CDC Botswana, in previous years referred to as BOTUSA) believe that such casual transmission in public settings could represent a significant public health threat in Botswana and elsewhere. Botswana's 449 documented cases of MDR-TB may only be a fraction of the actual cases due to the difficulty in detecting MDR-TB, and the number only represents a small portion of the larger epidemic throughout southern Africa.

U.S. Government Engagement:

CDC Botswana has had a strong partnership with the Government of Botswana in TB research and control since 1995. Given the country's high rates of disease, centralized health care system, and emerging drug-resistance problem, Botswana is a unique and important setting for TB research.

CDC Botswana conducted the Isoniazid Preventive Therapy (IPT) Trial from 2004 through 2011. This trial was designed to determine whether 36 months of isoniazid treatment was more effective in preventing TB disease among HIV infected adults than the routinely prescribed six month treatment. The main findings were that the IPT was highly effective (>90% reduction) in reducing TB in people with a positive tuberculin skin test and 36 months of IPT was more effective than 6 months of IPT. CDC Botswana has worked closely with the Botswana National TB and HIV Programs, including providing cost effectiveness analysis, to modify the National IPT Program based on IPT Trial. This trial gained international recognition and influenced WHO recommendations for prevention of TB. Specifically, based on information from the IPT Trial, the WHO now recommends at least 36 months of IPT for people living with HIV/AIDS.

CDC Botswana is currently focusing on TB through various research projects including the RIFAQUIN Trial, the first clinical trial of treatment in Botswana, focusing on shortening and simplifying standard treatment for TB so that patient default is less likely. CDC is also part of the KOPANYO Study that will examine the transmission characteristics of TB in Botswana. The goal is to identify "hotspots" or places where most TB transmission occurs, whether it be in the community or in healthcare facilities, transportation hubs or other unsuspected places. This will provide important information to our partner, the Ministry of Health, to plan strategies to control TB and eliminate these hotspots.

CDC Botswana, in partnership with the Ministry of Health, is also pioneering the national rollout of a new technology to diagnose active TB called "Xpert." The "Xpert Package Rollout Evaluation Study" (XPRES) will measure the impact of Xpert throughout Botswana to find TB cases, treat them, and reduce TB transmission. Traditional laboratory testing with microscopic examination of sputum may only identify about half of all infections. Although TB culture is more accurate—detecting 70-80% of infections—this method takes several months to get a final result. As part of XPRES, CDC Botswana will provide 13 government clinics countrywide with Xpert equipment that significantly improves TB detection in a fraction of the time (90 minutes) and at the same time, provides information about the presence of MDR-TB. This will allow doctors to detect and treat more infected people and treat them sooner, reducing the risk of TB transmission

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