RE-EMERGING COMMUNICABLE DISEASES IN THE UNITED STATES AFFILIATED PACIFIC ISLANDS

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ISSUE

The United States affiliated Pacific Islands (USAPI) have historically had high rates of communicable disease, including tuberculosis (TB), measles, pertussis, mumps, and Hansen's Disease. The rates of some of these diseases have been reduced through the development and implementation of effective immunization programs that receive funding support from Federal and international agencies. Other diseases such as TB and Hansen's Disease lack effective immunizing agents and have not been subject to immunization programs that could protect a populace from them. In USAPI jurisdictions with underfunded and under-developed public health infrastructures, including the lack of highly effective disease testing and surveillance systems, TB and Hansen's Disease have been able to spread undetected through populations and are once again emerging as threats to vulnerable communities and challenged health departments.

BACKGROUND

TB: In recent years, TB and multidrug-resistant TB (MDR TB) have re-emerged in the USAPI with epicenters in Chuuk State, Federated States of Micronesia (FSM) and Majuro, Republic of the Marshall Islands (RMI). Quick action by health departments in Chuuk State and the RMI, with support from Federal and NGO agencies, has averted a public health crisis that could have resulted in TB infections spiraling out of control. As it was, several TB patients died and some were children. The detection of these cases would likely have been further delayed without the TB surveillance systems put in place in the USAPI through years of work by Federal and multilateral agencies, including the World Health Organization (WHO) and Secretariat of the Pacific Community (SPC). As part of this well-coordinated response to the TB outbreak in both locations, it was determined that a small number of TB patients had developed MDR TB which is problematic in that the particular bacterium that causes it is resistant to effective treatment by the most commonly used and available TB drugs. A strict medical treatment protocol termed Directly Observed Therapy (DOT) is employed to assure that TB patients take their TB medications in a manner that will assure effective treatment of the disease and prevent the TB bacterium from mutating into multi-drug resistant or even extensively drug-resistant TB (XDR TB). XDR TB is even more challenging to treat than MDR TB as fewer medications are available to treat the more resistant bacterium.

Hansen's Disease (Leprosy): In 2010, reports of an elevated case rate of Hansen's Disease (HD) in some outer islands of the RMI came to the attention of the U.S. DHHS-funded National Hansen's Disease Program (NHDP). NHDP program staff theorized that the elevated rate of Hansen's Disease detected in the RMI's outer islands was connected to an increase in the disease that had been seen by the State Health Department in Arkansas, where a sizeable community of Marshallese migrants has congregated over the years. Other states that have reported recent HD cases among

Micronesians include Hawaii, North Carolina, Oregon, Utah, and Wisconsin. The USAPI includes two of the three countries (FSM and RMI) in the World Health Organization (WHO) Western Pacific Region with documented HD transmission. The burden of Hansen's Disease and transmission risk in both countries is not well understood because of poor disease surveillance.

In addition to tuberculosis and Hansen's Disease, numerous other infectious disease threats have been documented in the USAPI. Notable outbreaks over the past decade have included dengue fever, cholera, measles, Zika virus, and mumps. In many of these cases, outbreaks resulted in transmission through the region. The early detection and control of most infectious disease threats in the USAPI is often hampered by the lack of adequate routine disease surveillance.

STATUS

The U.S. DHHS Centers for Disease Control and Prevention (CDC) has worked in partnership with the Chuuk State, FSM and RMI health departments to ensure that adequate technical assistance, guidance on acquisition of drugs, and current treatment protocols are available for the response to the MDR TB outbreak in these jurisdictions. The U.S. Department of the Interior's Office of Insular Affairs (DOI/OIA) has arranged for access to funding to assist in the acquisition of needed medications, trained personnel and equipment to facilitate the safe and effective treatment of MDR TB patients in Chuuk State. A coordinated effort between DOI/OIA and a number of programs and offices within the U.S. DHHS has resulted in a well orchestrated program of support for the involved USAPI health departments. Valuable technical assistance to the Chuuk State TB control program has also been provided by the Commonwealth of the Northern Mariana Islands' Department of Public Health and by the Territory of Guam's Department of Public Health and Social Services. The MDR TB outbreak is now considered to be under control with case finding and disease surveillance ongoing.

In another collaborative effort, the NHDP is partnering with other agencies within U.S. DHHS, the State of Hawaii Department of Health and the World Health Organization on the development of strategies to provide technical assistance to the RMI Ministry of Health/Health Department as it ramps up its response to the Hansen's Disease outbreak in its outer islands.

The limited capacity to perform accurate routine surveillance is a major common underlying deficiency in the USAPI and has hampered the risk assessment and burden measurement in most of these diseases (and indeed most other health conditions in the region). This lack of surveillance capacity limits the ability of regional health authorities to establish baseline burden data, detect changing trends or outbreaks, and evaluate program impacts. The successful example of improved tuberculosis surveillance established in USAPI jurisdictions with technical assistance and funding by CDC, WHO and the SPC highlights the importance of coordination between regional health partners. U.S. DHHS, U.S. Department of Defense, WHO, SPC, and local jurisdiction health departments are working together on a range of projects to improve disease surveillance capacity in the USAPI.