Infectious Diseases

Guam Department of Public Health and Social Services, Bureau of Communicable Disease Control
Mangilao, Guam

Assignment Description

The CSTE Fellow will work among three health agencies, the Guam Department of Public Health and Social Service (DPHSS) Bureau of Communicable Disease Control, the Commonwealth of the Northern Mariana Islands (CNMI) Healthcare Corporation, and the Pacific Island Health Officers’ Association.

The fellow will focus on general infectious diseases in Guam and CNMI with an emphasis on developing/enhancing disease surveillance, investigating and responding to outbreaks, and analyzing and interpreting data. In addition, the fellow will have an opportunity to contribute to PIHOA’s ongoing efforts to build epidemiologic capacity in the USAPI through the development and delivery of graduate-level epidemiology training. Through this collaboration with PIHOA, the fellow will also have the opportunity to respond to outbreaks and other public health emergencies across the U.S.-affiliated Pacific Islands.

Day-to-Day Activities

The fellow will be primarily based in Guam with a selected project as their focus. The fellow will be embedded in Guam’s Bureau of Communicable Disease Control (BCDC) and will participate in required meetings with BCDC staff. Three mornings a week, the fellow will meet with the primary mentor (Dr. Thane Hancock) at his office in PIHOA (15 minute drive from BCDC offices). The fellow will also have their own work space in PIHOA to use as needed for PIHOA’s regional project in epidemiology training/capacity building. The fellow will be allowed to jump between these two work spaces as appropriate to maximize their productivity. As the fellowship progresses, less time will be obligated to meeting with the primary mentor in order to allow for more time of key projects.

In addition to the work on Guam, the fellow may have travel assignments to Saipan over the two years to collaborate on infectious disease projects in the CNMI. During these visits, the fellow will be assigned to CNMI’s Public Health & Hospital Emergency Preparedness Program under the mentorship of the Territorial Epidemiologist (Dr. Paul White). Most work on these projects will be completed during the visits to Saipan; if required, additional time for remote work on the CNMI project will be provided while back on Guam.

The fellow is also expected to have the opportunity to join Dr. Hancock in work in the other Pacific jurisdictions such as Palau, Yap, Chuuk, Pohnpei, Kosrae, Marshall Islands, and American Samoa. This travel may be (1) in support of public health response and/or (2) as a co-facilitator for the week-long applied/field epidemiology training workshops coordinated by PIHOA.
**Potential Projects**

**Surveillance Activity**

Develop syndromic surveillance system

This project would involve designing and implementing syndromic surveillance at the key clinics of Guam. It would start with an assessment of the existing surveillance systems for infectious disease, as well as an evaluation of the resources/assets available to establish sustained syndromic surveillance. This would include an evaluation of a syndromic surveillance prototype that utilizes MAX.gov as well as the current surveillance for acute respiratory illness. The fellow would get experience building collaboration between civilian public health agencies, public clinics, private providers and the military.

**Surveillance Evaluation**

Evaluation of Routine Surveillance in CNMI

The CNMI has put in place routine communicable disease surveillance that is composed of syndromic surveillance, reportable disease surveillance, and event-based surveillance. A weekly report is generated and shared weekly.

The fellow would evaluate one component, or the complete system using CDC's Guidelines for Evaluating Public Health Surveillance Systems.

**Major Project**

Establishing enhanced arboviral surveillance system

Arboviruses are a common cause of outbreaks in the U.S.-affiliated Pacific Islands. The Guam Public Health Laboratory (GPHL) can now perform nucleic acid testing for three key viruses—Chikungunya, Zika and Dengue. The fellow would collaborate with the epidemiologic and laboratory teams of GPHL to develop an enhanced system for monitoring for arboviral illness in Guam. Results of the enhanced arboviral system would be integrated with the newly established mosquito surveillance by the Division of Environmental Health to help better inform outbreak detection and prevention activities.

**Additional Project**

Supporting Field Epidemiology Training in the U.S.-affiliated Pacific Islands

The fellow would collaborate with Dr. Hancock in providing ongoing epidemiology training for the other islands of the U.S.-affiliated Pacific. The fellow would assist in delivering the Post-Graduate Certificate in Field Epidemiology (previously called Data for Decision Making), an accredited course through Fiji National University. The fellow obtain adjunct faculty appointment from FNU and travel to other islands for in-country delivery of the week-long course modules. The five modules include public health surveillance, outbreak detection and response, introductory epidemiology, intermediate epidemiology, and an individual final project. While assisting in the delivery of the course, the fellow would also refine and enhance the course materials.
**Additional Project**

Create Regional threat analysis report

The fellow would collaborate with Dr. Hancock in developing a standard regional public health threat assessment that would be done routinely and shared with key partners (local health departments, DoD, NGOs, etc.) This assessment would include the integration of local surveillance reports, as well as reviews of other sources that share key information on emerging infectious diseases (ProMed Mail, WHO).

**Preparedness Role**

The fellow’s projects would build the public health preparedness capability of Public Health Surveillance and Epidemiological Investigation for Guam and the CNMI.

The fellow would also get the opportunity to assist in any outbreak investigations that occur in Guam, CNMI, or the USAPI (that involve Dr. Hancock.

Finally, the fellow could support (or lead) a regional exercise in outbreak detection and response. The “EpiNet Games” is a regional exercise for the outbreak detection and response teams (EpiNet) of each jurisdiction. The exercise would be tailored for each island, but involve testing key steps of outbreak detection, investigation, and response activities. At the end, each participating jurisdiction would undergo an after action review and improvement plan based on their performance in the exercise.

**Additional Activities**

Guam Proposed Projects
- Enhance routine weekly surveillance report
- Establish event-based surveillance system
- Establishing influenza sentinel surveillance at Guam clinics
- Developing a hepatitis registry

CNMI Proposed Projects
- Assessment of the burden of parasitic disease in the CNMI
- Development of outbreak investigation tools
- Enhancing STD monitoring and reporting
- Enhance routine infectious disease surveillance
- Refine all-hazards response plan with pandemic influenza annex
Mentors

Primary
W. Thane Hancock MD MPH
Career Epidemiology Field Officer

Secondary
Paul White MSc PhD
Territorial Epidemiologist