ID: 74236503
Infectious Diseases, Infectious Diseases - Foodborne - Host Site Description
Hawaii Department of Health

Assignment Location: Honolulu, US-HI
Hawaii Department of Health
Disease Outbreak Control Division

Primary Mentor: David Johnston, MPH
ELC Epidemiologist Supervisor
Hawaii State Department of Health

Secondary Mentor: Alden Henderson, PhD, MPH
Epidemiologist
Hawaii State Department of Health

Work Environment
Hybrid

Assignment Description

The CSTE AEF Fellow would be assigned to DOCD under the mentorship of Mr. Johnston and Dr. Henderson. This assignment would allow the fellow to have exposures and experiences within all branches of DOCD (Disease Investigation Branch, Immunization Branch, and Healthcare Acquired Infections Branch) and the Office of Rapid Epidemiologic Response. Involvement in these areas would include participating in investigations of, for example, foodborne and vaccine-preventable disease outbreaks, enhancing existing systems including developing and/or improving questionnaires, and analyzing and interpreting data collected. The fellow would also have the opportunity to participate in other areas of interest (e.g., assessments of hospital-associated infections) as long as his/her primary project was progressing as agreed upon with his/her mentors. In addition, the fellow would be expected to gain experience in managing and addressing public inquiries through assignment once a month as the duty officer of the day; this responsibility would lead to sometimes investigating individual cases of infectious disease and potentially serving as the lead investigator for a disease outbreak response.

Describe Statistical and Data Analysis Support, Such as Databases, Software, and Surveillance Systems Available to the Fellow

Data resources will be available to the fellow not only from those sources directly related to the fellow's primary project but also Hawaii's electronic surveillance system (MAVEN) for all reportable conditions in the state. In addition, information from smaller databases may be accessed either directly by the fellow through Microsoft Office products or through the surveillance coordinators (e.g., food safety and influenza) For data cleaning, analysis, and visualization, the fellow will have access to Microsoft Office products, R, SAS, PowerBI, ArcGIS, and training materials and opportunities. Statistical consultation is available (i.e., biostatistician, senior epidemiologist).

Projects

Surveillance Activity Title: Arboviral syndromic surveillance alert system

Surveillance Activity Description:
Early detection of arboviral diseases through syndromic surveillance can result in more timely responses, thereby reducing the spread of disease and mitigating potential outbreaks. The fellow will develop a syndromic surveillance alert system to enhance early detection of arboviral diseases.

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Surveillance Activity Objectives:
Using the BioSense platform, the fellow will develop/identify syndromic surveillance queries, determine alert thresholds, and establish mechanisms for notifications of alerts for selected arboviral diseases. They will also develop supporting documentation for the system, including SOPs for interpreting and responding to alerts.

Surveillance Activity Impact:
By establishing an alert system within our syndromic surveillance platform, this project will improve situational awareness, enhance our surveillance capabilities, and support more timely responses to arboviral diseases in Hawaii.

Surveillance System Evaluation Title: Toxoplasmosis surveillance evaluation

Surveillance System Evaluation Description:
Toxoplasmosis is a preventable disease caused by the protozoan parasite Toxoplasma gondii. Often the infections are asymptomatic or mild, but in some cases, for example in those with immunosuppression, they can be severe and cause ocular, neurologic, or other systemic manifestations. Additionally, acute infection during or just before pregnancy can lead to miscarriage or disease in the newborn. Recently, Hawaii updated the case definition being used for surveillance purposes as well as updated the data collection tool being used, all with the goal of better understanding the burden of toxoplasmosis in the state.

Surveillance System Objectives:
The fellow will conduct a surveillance system evaluation of toxoplasmosis surveillance in Hawaii. They will particularly focus on evaluating the completeness and quality of data being collected to determine the impact of the updated data collection tools. They will also evaluate the strengths and weaknesses of the system to identify other potential improvements to increase its accuracy and effectiveness.

Surveillance System Impact:
Knowing the burden of a particular disease is the first step to being able to adequately address it. Ensuring that we have improved the completeness and quality of the data being collected for toxoplasmosis surveillance will allow us to be more confident in our understanding of the burden of the disease in Hawaii, which will lead to more focused prevention methods and outreach.

Major Project Title: Hepatitis C virus (HCV) infections in correctional facilities

Major Project Description:
Hepatitis C virus (HCV) infections are a significant public health concern, and are a leading cause of chronic liver disease, cirrhosis, and liver cancer. Advances in antiviral treatments have made HCV a curable disease, but many infected individuals remain undiagnosed and untreated, contributing to ongoing transmission. One population that is disproportionately impacted are incarcerated individuals, where the prevalence of HCV infections is significantly higher than the prevalence in the general population. The goal of this project is to better understand the prevalence, transmission, and risk factors of HCV in Hawaii's correctional facilities.

Major Project Objectives:
The fellow will support the design and implementation of a survey targeting correctional facilities to collect data on HCV prevalence, transmission patterns, and associated risk factors. They will then conduct data analyses to identify trends, assess risk behaviors, and provide insights into the burden of HCV within correctional facilities.

ID: 74236503
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Major Project Impact:
Strengthening our understanding of the burden of HCV in correctional facilities and the associated risk factors will help inform targeted interventions, improving HCV prevention and care within the incarcerated populations.

Additional Project #1 Title: Kauai Community Assessment for Public Health Emergency Response (CASPER)
Project #1 Type: Surveillance Activity

Project #1 Description:
The Community Assessment for Public Health Emergency Response (CASPER) methodology was developed by CDC as a way to collect data about the health needs of a community post-disaster. While the CASPER methodology is typically used to assess disaster-related impacts and needs, CASPERs can also be used to establish baseline preparedness levels and build capacity to conduct CASPERs post-disaster. The Kauai District Health Office (KDHO) conducted CASPERs annually from 2017 - 2024 (excluding 2021) to monitor trends in the emergency preparedness of island residents. Several of these CASPERs also included disaster components such as evaluating impacts from a major flood event as well as the COVID-19 pandemic.

Project #1 Objectives and Expected Deliverables:
The fellow will have the opportunity to participate in all stages of the annual CASPER. They will assist with planning and coordination of the assessment, will participate in conducting the assessment including performing door-to-door surveys, and will assist with the analysis of the results and production of the summary report.

Project #1 Impact:
The information obtained through the annual CASPERs enables KDHO to better meet the community's needs before, during, and after a disaster.

Please Describe the Fellow's Anticipated Role in Preparedness and Response Efforts – Include Activities and Time Allocation (Required Competency of Fellowship)

The CSTE fellow would be encouraged to participate in public health preparedness and response related activities within the division (e.g., mass vaccination, discussions and planning regarding quarantine and isolation, issues related to high consequence emerging infectious diseases) as well as with outside stakeholders. Times of increased surveillance (e.g., monitoring for the influenza A [H1N1] virus during the 2009 pandemic), responding to statewide disease outbreaks, or preparing the state to respond to the threat of a potential emerging pathogen (e.g., Ebola virus disease response) require assistance from everyone division- and even department-wide. At critical times such as these, the CSTE fellow would be expected to lend his/her full support to the division.

Please Describe the Fellow's Anticipated Role in Cluster and Outbreak Investigations – Include Activities and Time Allocation (Required Competency of Fellowship)

Fellows will have the opportunity to serve as officer of the day for the Disease Investigation Branch on a monthly basis. Cases, clusters, and outbreaks may be reported through this system and ownership is assigned to the officer of the day on duty. Fellows would also be involved in larger or ongoing infectious disease outbreaks. If a fellow has an interest in a specific disease, they could potentially assist with case or outbreak investigations.