ID: 88188350
Infectious Diseases - Host Site Description
Rhode Island Department of Health

Assignment Location: Providence, US-RI
Rhode Island Department of Health
Emergency Preparedness and Infectious Disease

Primary Mentor: Suzanne Bornschein, MD
State Epidemiologist
RI Dept of Health

Secondary Mentor: Daniela Quilliakm, MPH
Chief, Center for Acute Infectious Disease Epidemiology
RI Department of Health

Work Environment
Hybrid

Assignment Description

The Fellow will be assigned as the primary epidemiologist for several reportable conditions, and will be trained as the back-up epidemiologist for several other reportable conditions. Assignments shift from time to time, but the current need in CAIDE is for a primary epi for arboviral diseases and vaccine preventable diseases, and a back-up epidemiologist for animal bites and enteric outbreaks.

Daily activities would include checking the electronic database of lab reports, logging them and assigning them to a nurse. Reviewing the data collected by the nurse during the investigation, ensuring completeness and accuracy, and then submitting data to CDC. In addition, the Fellow would review and update protocols, conduct analyses, and update public-facing data on the website.

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

All reportable diseases in CAIDE are managed in the National Electronic Disease Surveillance System Base System (NEDSS/NBS). During the spring of 2026 we will be transitioning to the Inductive Health Electronic Disease Surveillance System (IH EDSS). The Fellow will be trained to use this database.

In addition, the Fellow will have the opportunity to use REDCap for data collection and management, SAS and R Studio for analysis, ESSENCE for syndromic Surveillance, and PowerBI for data visualization.

Projects

Surveillance Activity Title: Conduct surveillance of mosquitos and and mosquito borne diseases

Surveillance Activity Description:
RI Department of Environmental Management conducts mosquito trapping each summer. The RI State Health Laboratories tests the mosquitos and shares the data with CAIDE. The Fellow would be responsible for analyzing the data over time, and presenting the data to the Mosquito-borne Disease Advisory Group (MDAG) which meets weekly. The Fellow will also be the lead epidemiologist for all human cases of mosquito-borne diseases.

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Surveillance Activity Objectives:
Objectives:
- monitor rates of infections in mosquitos and humans over time.
- concisely present data to the MDAG
- analyze data to see if there is a correlation between detections of infected mosquitos and human cases

Deliverables:
- weekly graphs of mosquito densities and infections
- weekly presentations to the MDAG
- complete case investigation of human cases.

Surveillance Activity Impact:
The data collected and analyzed will be used to inform the public about the risk of mosquito-borne disease over time and the need to increase precautions to prevent preventing mosquito bites.

Surveillance System Evaluation Title: Assessment of cluster detection using REDCap for Enteric interviews

Surveillance System Evaluation Description:
Although CAIDE collects an extensive food history when conducting enteric investigations, only a limited amount of information is collected in NEDSS, making it more difficult to conduct an analysis. Over the last few years, CAIDE has created surveys in REDCap to capture all information from enteric interviews, allowing for a centralized repository for all data. The Fellow would conduct an analysis of how the new system using REDCap compares to the old system where data was captured on a case report form and an Excel file.

Surveillance System Objectives:
Objectives:
- Assess whether the REDCap system allows for better detection of clusters/outbreaks compared to the previous process.
- Assess whether the REDCap system allows for more efficient determination of a suspect food item compared to previous process

Deliverables:
- Analysis of the REDCap process compared to the old process
- Presentation of the analysis
- Summary report of findings
- Potential publication if the findings are significant

Surveillance System Impact:
This analysis will determine if the investment of time/effort in the development of a REDCap survey form helps detect clusters and outbreaks, and if so, should this model be implemented for other diseases to detect outbreaks more quickly. More rapidly detecting outbreaks will ultimately allow for more timely determination of the cause and implementation of interventions to prevent the spread.

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Major Project Title: Analysis to determine the impact of Infection Control Assessment and Response (ICAR) evaluations

Major Project Description:
CAIDE has had a field team for the last several years that has been conducting outbreak ICARs and preventive ICARs. Data has been collected but a formal evaluation of the data has not been collected. The Fellow would clean and analyze the data to determine the impact of ICAR visits.

Major Project Objectives:
Objective:
- Describe the impact of ICAR visits in outbreak situations and preventive situations
- Determine what percent of the of the infection control gaps identified during the ICARs were resolved on follow-up visits
- Conduct a cost/benefit analysis of having a field team

Deliverables:
- Analysis of ICAR data
- Presentation of analysis
- Summary report of the analysis
- Potential publication depending on the findings

Major Project Impact:
The project will assess the impact of conducting ICARs and will determine if funding for a field team should be prioritized over other activiites.

Additional Project #1 Title: Evaluation of noro-like outbreak investigation
Project #1 Type: Surveillance System Evaluation

Project #1 Description:
In recent years, CAIDE has transitioned noro-like outbreak investigations from a system that relied on emailing forms and PDFs to a REDCap system. The Fellow will evaluate the success of this REDCap system assess efficiency, ease of use, and time saved compared to the previous system.

Project #1 Objectives and Expected Deliverables:
Objectives:
- Describe the impact of the REDCap system
- Determine how much time/effort was saved by using the new system
- Conduct a qualitative analysis of the ease of use by healthcare facilities and schools that are using the REDCap reporting system

Deliverables:
- Analysis of data
- Presentation of analysis
- Summary report of the analysis
- Potential publication depending on the findings

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Project #1 Impact:
Quantify the staff time saved by using REDCap so health departments can continue to do more with less as funding challenges continue to loom.

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

Several times a year, the Fellow will participate in trainings, exercises, and tabletop exercises hosted by the Center for Emergency Preparedness and Response. The Fellow will complete the emergency preparedness training required by all RIDOH staff and would be considered for an appropriate position within RIDOH's Incident Command System (ICS), should it be activated during the Fellow's tenure at RIDOH

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

Fellows will be provided outbreak response training and when an outbreak investigation arises, the Fellow will shadow the lead epidemiologist to learn the process. Once they have had several shadowing opportunities, they will be able to lead an outbreak investigation with the support of a more senior staff member. The Fellow could then write the outbreak response summary report, participate in the hotwash, and draft activities for improvement.