

**ID: 87781652**

**Infectious Diseases, Wastewater Surveillance - Host Site Description**

**Virgin Islands Department of Health**

**Assignment Location:** St. Thomas, CA-VI  
Virgin Islands Department of Health  
Epidemiology

**Primary Mentor:** Lisa Ekpo, DrPH, MPH  
Deputy Territorial Epidemiologist  
Virgin Islands Department of Health

**Secondary Mentor:** Esther Ellis, PhD  
Territorial Epidemiologist  
Virgin Islands Department of Health

**Work Environment**

100% In-person

**Assignment Description**

The AEF will be placed under the direct supervision of the Deputy Territorial Epidemiologist and the Territorial Epidemiologist. The major activity will be to develop a wastewater surveillance system although the AEF will be afforded ample opportunity to contribute to outbreak responses, disaster preparedness and response, and emerging public health issues. The Epidemiology Division supports a multitude of public health programs, and the AEF will be encouraged to pursue areas of interest while addressing the learning competencies. Greater than fifty percent of the AEF's time will be dedicated to wastewater surveillance and the remainder will be available for emerging outbreaks, newly identified projects, and trainings.

The Epidemiology Division at the U.S. Virgin Islands Department of Health (VIDOH) includes four major foci: Epidemiology, Health Research, Statistics & Quality Assurance, and Health Information Systems. As the focal point for outbreak management, the division works closely with the five other VIDOH divisions to assure collaboration. Currently, there are about twenty staff members in the division who are divided into two major offices on St. Thomas and St. Croix.

The Epidemiology Team on St. Thomas and St. Croix are led by Doctoral-level staff Epidemiologists supported by numerous masters-trained staff members, CDC assignees (Career Epidemiology Field Officer, Epidemic Intelligence Service Officers), and highly qualified surveillance personnel. The breadth of experience of the potential Associate's colleagues will provide a strong learning and mentoring environment.

As a host site with highly skilled, doctoral-level leadership staff, exceptionally qualified field staff from partner entities (CDC, CSTE, etc.) and current and former CDC Epidemic Intelligence Service Officers (2), the VIDOH Epi Division is a vibrant and highly effective team. That effectiveness has enabled the team to identify new opportunities to better serve our communities and address emerging public health issues. Building on those successes affords opportunities for incoming staff members, such as AEFs, to contribute to the VIDOH mission while learning and growing with a robust public health team.

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

While a working knowledge of statistical software, namely R, would be beneficial, Epi Division staff members are committed to providing training and mentoring as needed to assure that the AEF is can develop these skills. Similarly,

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training and mentoring are available to familiarize the incoming AEF with the National Electronic Disease Surveillance System Base System (NBS) and Beacon database, which are used by VIDOH for routine surveillance.

**Projects**

**Surveillance Activity Title: Wastewater Surveillance**

*Surveillance Activity Description:*

In 2023, USVI began piloting a wastewater surveillance system to facilitate early detection of emerging pathogens. Currently, USVI is testing wastewater at 5 sites across the territory for COVID, RSV, Flu A, Flu B and high consequence drugs. Based on the success of this pilot, The USVI Epidemiology Division aims to expand this program and build a sustainable system with broader representation of wastewater sites.

The AEF will conduct an initial evaluation of the existing pilot, provide recommendations, and work with partner organizations to enhance surveillance. As there are current opportunities to collaborate with public and private entities in both USVI and Puerto Rico, the AEF will be charged with scoping opportunities and working with the Epidemiology Division leadership team to achieve these outcomes.

*Surveillance Activity Objectives:*

- Conduct an evaluation of the existing wastewater surveillance system
- Identify gaps and areas for improvement
- Produce a surveillance system evaluation report
- Provide recommendations for implementation of findings
- Lead system development

*Surveillance Activity Impact:*

A sustainable wastewater surveillance system and program will facilitate the early detection and mitigation of emerging threats in USVI.

**Surveillance System Evaluation Title: Healthcare-Associated Infections (HAI) Surveillance**

*Surveillance System Evaluation Description:*

The fellow will conduct an evaluation of the Healthcare-Associated Infection (HAI) surveillance system to assess data quality, reporting timeliness, and overall system performance. This work will include engagement with IPs at the territory's two acute care hospitals to identify barriers to reporting, strengthen communication, and improve data completeness and usability for prevention-focused decision-making and improved collaborations between hospitals.

*Surveillance System Objectives:*

Conduct an evaluation of the existing HAI surveillance system for data quality, completeness, and timeliness.  
Identify barriers and facilitators to reporting from acute care IPs.  
Develop strategies to improve communication and collaboration between the HAI program and healthcare facilities.  
Produce a surveillance system evaluation report.  
Provide recommendations for implementation of findings.  
Produce a summary of stakeholder feedback.

*Surveillance System Impact:*

The fellow's work will help to reduce infection risk for patients and enhance overall healthcare safety and quality in the territory.

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**Major Project Title: Enhancing Foodborne Outbreak Surveillance**

*Major Project Description:*

VIDOH recently strengthened its food and waterborne illness surveillance structure with the launch of a dedicated hotline and the rollout of an online food and water safety complaint portal. These innovations provide a strong foundation for the continued development of the program area.

There is an ongoing need to systematically integrate and analyze complaint data, improve timeliness of detection, and optimize inter-departmental workflows. The fellow will help scale surveillance analytics and refine operational pathways.

*Major Project Objectives:*

- Develop analytic tools to identify unusual patterns or clusters of foodborne and waterborne illness reports.
- Enhance outbreak investigation protocols.
- Strengthen community engagement and reporting by evaluating barriers to reporting, refining messaging, and increasing utilization of hotline and online portal.
- Development of communication toolkit with public health messaging to increase awareness and appropriate use of existing reporting tools.
- Evaluation report
- SOPs for investigation workflows connecting complaint surveillance to environmental assessments and eventually lab confirmation

*Major Project Impact:*

Measurable improvements in food and waterborne illness surveillance with improved outbreak response capacity, broader community reach and equity in reporting, stronger collaboration with Environmental Health and enhanced readiness and resilience.

**Additional Project #1 Title: Chikungunya Community Risk Communication & Behavior Change Interventions**

**Project #1 Type: Major Project**

*Project #1 Description:*

Following a recent dengue outbreak in the territory and amid an ongoing chikungunya outbreak in the region, this project will develop and evaluate community-focused risk communication strategies to prevent chikungunya transmission. The fellow will assess local knowledge, attitudes, and practices, developing messaging with stakeholders, and measure changes in awareness and protective behaviors.

*Project #1 Objectives and Expected Deliverables:*

- Conduct baseline KAP surveys in target communities (estates and locations that experienced high burden of illness during previous outbreaks)
- Develop community messaging with stakeholders on both dengue and chikungunya risk
- Evaluate program impact
- KAP baseline and endline reports
- Develop community risk communication toolkit
- Propose evidence-based recommendations for scaling interventions

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*Project #1 Impact:*

This project will reduce the risk of local chikungunya transmission by increasing community awareness and encouraging protective behaviors. It will also strengthen preparedness for emerging arboviral threats and ensure that prevention efforts reach all populations.

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

Preparations for the annual hurricane season and emerging threats require that the Epidemiology Division work closely with the VIDOH Emergency Preparedness Program and the AEF will be expected to dedicate 10% of their time to the following:

- Support Jurisdictional Risk Assessment Activities
- Respond to emerging threats/outbreaks
- Support hurricane preparedness activities
- Enhance shelter and needs assessment tools for hurricane response

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

The Epidemiology Division has undergone a major period of growth and expansion over recent years stemming from strong leadership and responses to major outbreaks and disasters (Chikungunya, Zika, Hurricanes Irma/Maria, COVID-19). Moreover, less prominent cluster and outbreak investigations routinely divert Epi staff from routine functions to respond to emerging needs. The AEF will serve an integral role in outbreak investigations as they arise and will work closely with the Epi Division leadership team and Epidemic Intelligence Service Officers (EIS) during such responses.