

ID: 74165322

Infectious Diseases - HAI, Infectious Diseases - Host Site Description

Dallas County Health and Human Services

Assignment Location: Dallas, US-TX
Dallas County Health and Human Services
Epidemiology/Communicable Diseases

Primary Mentor: Saad Zaheer, MD, MPH, MSPH, FACE
Chief Epidemiologist
Dallas County Health and Human Services

Secondary Mentor: Deborah Bujnowski, PhD, MPH, RD
Lead Epidemiology Surveillance Coordinator
Dallas County Health and Human Services

Work Environment

Hybrid

Assignment Description

The CSTE Fellow will be working in the Acute Communicable Disease Epidemiology Division of Dallas County Health and Human Services on the Healthcare Associated Infections (HAI) Team. The HAI team currently consists of 3 full-time positions, one temporary contractor, and one CSTE AEF Fellow. Fellows will spend most of their time investigating reportable Multi Drug Resistant Organisms (MDROs), although clusters and outbreaks of non-reportable HAIs are investigated as needed. Investigators will do Carbapenem Resistant Enterobacteriaceae (CRE), Carbapenemase Producing-CRE (CP-CRE), and Candida auris investigations, including conducting Infection Control Assessment and Response (ICARs), Point Prevalence Surveys, and following up as needed. The Fellow will communicate with a wide variety of healthcare facilities daily and educate them on how to implement infection prevention and control measures within their facilities. The HAI program has identified a community need for more interaction with long term care facilities and is hoping to initiate a preventive ICAR program. This will require the fellow to assist in developing educational tools and resources for various healthcare facilities. In addition, the fellow will devote time to shadowing employees in other communicable disease areas and in conducting related surveillance and investigation.

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

The Fellow will have access to Salesforce, SAS, R, ESSENCE, and ArcGIS.

Projects

Surveillance Activity Title: Assist with continuing to build Dallas County's MDRO surveillance program.

Surveillance Activity Description:

DCHHS is in the process of developing our own independent electronic investigation and surveillance tool in Salesforce. Many conditions are already built and operational, however HAIs have not been started. This tool will aid in investigating cases, and it will produce data that we plan to use to target our interventions. The fellow would build on the data analysis work already done by our current AEF Fellow to help us develop the Salesforce tool in a way that will serve the HAI team and the analysis we currently do as well as analysis we want to do.

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Surveillance Activity Objectives:

By the end of the fellowship, we expect to have a fully operational, comprehensive electronic HAI investigation and documentation tool that produces actionable data. The fellow will assist in identifying key data points, compiling data from various platforms and sources, and integrating needed fields and desired reports into our new electronic investigation and surveillance tool in Salesforce.

Surveillance Activity Impact:

We expect to see a decrease in reportable MDROs and other HAIs as a result of our targeted infection prevention and control interventions (or an increase, as a result of improved surveillance that we can use to target interventions).

Surveillance System Evaluation Title: Ensure the Salesforce investigation and surveillance tool is efficient and valuable to the HAI team through quality assurance checks throughout the building and implementation process.

Surveillance System Evaluation Description:

The biggest check on this tool will be regular validation among our internal line list, Salesforce, and the state database, NEDSS. As we transition to Salesforce, it will be important to confirm that information is not being lost, excluded, or altered. The fellow will regularly monitor this data to catch anything that needs to be corrected. Additionally, we want to ensure that investigations are initiated and completed in a timely manner, hopefully increasing in speed, and with attention to detail. As the tool's functionality expands, we will monitor progress on speed and quality of investigations.

Surveillance System Objectives:

The fellow will be responsible for regular quality assurance checks on a scheduled interval. The goal is to ensure that the implementation process of the Salesforce tool goes smoothly, and any corrections necessary can be made as identified.

Surveillance System Impact:

Through the development of this Salesforce tool and regular updates to ensure productivity, the HAI team will have more time to build and maintain relationships with stakeholders and focus on work that is preventive rather than solely response driven.

Major Project Title: Data Validation and Development of HAI Dashboard in Salesforce

Major Project Description:

As the Salesforce tool is developed for HAI investigations, it will be important to ensure our data is correctly organized. The fellow will work with the supervisor and Salesforce development team to validate transferred data. As the information shifts to a new platform, the fellow will be responsible for making sure that the data is input correctly for analysis purposes. They will also build a dashboard in Salesforce to keep our HAI team and DCHHS leadership up to date on HAI trends. Our plan is that with having entire investigations and all information provided by facilities in Salesforce, we will have the opportunity to analyze data at more detailed level than before. This will allow us to provide very specific recommendations for interventions according to observed data trends. We want the fellow to utilize their epidemiological training and knowledge to build a dashboard that will be useful for numerous data analysis queries.

Major Project Objectives:

The fellow will be involved in decision making during the process as HAI investigations are built out in Salesforce to ensure high-level understanding of the data fields. Once HAI investigations are operational in Salesforce, the fellow will develop an HAI dashboard for the team. It will have multiple analysis points such as an epidemiological curve, a demographic breakdown, and the ability to filter data by facility or even ancillary services within a facility.

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Major Project Impact:

First and foremost, accurate data is required for decision making. Once we have confidence that our historical data is accurate and all fields are appropriate, we will use the historical and new data to run very specific reports. These opportunities for data analysis will produce evidence-based findings of benefit to healthcare facilities in our county.

Additional Project #1 Title: General Non-Communicable Disease Surveillance and Investigation

Project #1 Type: Surveillance Activity

Project #1 Description:

The AEF Fellow will have an opportunity to shadow full-time staff in a variety of areas before participating more independently in communicable disease surveillance and investigation. Potential areas include enteric illnesses, vaccine preventable diseases (varicella, hepatitis, mpox, mumps, measles, etc.), emerging and high consequence pathogens, COVID, influenza, and arboviruses.

Project #1 Objectives and Expected Deliverables:

The fellow will learn to conduct case investigations for more than just reportable HAIs. Based on their interest and our division's need at the time, the fellow will learn how to conduct investigations for at least one other disease area. Part of the case investigation phone call includes providing recommendations to prevent transmission and answering any questions the case has. The ability to speak to lay people is an important skill for public health practitioners, and this will be a useful, relevant way for the fellow to develop this skill. The completion of non-HAI case investigations will be a deliverable for the fellow. The goal number will be determined in consultation with the fellow based on capacity.

Project #1 Impact:

When cases surge or we are short staffed, our epidemiologists and nurses support each other even when they are not on the same teams. Cross training is very important for ensuring continuity of surveillance and reliability of data, especially when the data are being used for decision-making. The fellow's support of other teams through case investigations will be helpful in these efforts.

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

This Fellow's emergency preparedness and outbreak response efforts will be focused on MDRO and other HAIs. In our efforts to be proactive and work with facilities before an outbreak occurs, we are hoping to prevent transmission of MDROs and ensure that facilities have protocols for properly caring for patients with MDROs.

Additional preparedness exposure will come through shadowing opportunities with other teams in our division. We have a team focused on emerging infections who works closely with our preparedness division, Laboratory Response Network (LRN), and area hospitals. The fellow would be able to shadow and learn about the preparedness efforts of everyone at DCHHS.

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

Most outbreak investigations conducted by the HAI team are for *Candida auris* or Carbapenemase Producing Organisms (CPOs). These outbreaks occur at a variety of different healthcare settings, and require different interventions to mitigate exposure risks. Outbreak investigation activities include confirming and defining the outbreak, alerting key partners, case finding, maintaining a line list, creating an epi curve, searching for the source and/or propagation

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methods of the outbreak, implementing interventions, evaluating interventions for effectiveness, and writing a follow-up report. Time spent on these activities will depend on the number of outbreaks (generally about two per quarter).