

## **Infectious Diseases-HAI, Infectious Diseases**

### **Nebraska Department of Health and Human Services, Division of Public Health, Epidemiology and Informatics Unit**

Lincoln, Nebraska

#### **Assignment Description**

The fellow will organizationally be located in the HAI Program of the Office of Epidemiology and report directly to the Director of HAI and the State Epidemiologist.

The Epidemiology Fellow will be protected from clerical and routine work, and will be expected to remain highly focused on specific epidemiologic projects in the field of HAI. Because of the organizational structure of the agency, the Fellow will have ready access to personnel and data in the Office of Epidemiology, the HAI Program, the HAI program partnerships with the University of Nebraska Medical Center and the College of Public Health.

#### **Day-to-Day Activities**

1) Develop an understanding of and familiarity with antibiotic susceptibility surveillance datasets and reportable disease reporting mechanisms; 2) Refine data processing and data analysis skills; 3) Understand how to assess surveillance systems; 4) Analyze and interpret data; and 5) Prepare epidemiology reports. 6) help evaluate the success of various antibiotic stewardship programs; 7) help determine which determinants are predictive of success of a particular stewardship approach; 8) begin to develop strategies to have an impact on stewardship in dental practices, 9) learn about the management of outbreaks of MDROs especially CDC and CDI.

2) The training goals for the Fellow will be defined by Centers for Disease Control and Prevention (CDC)/Council of State and Territorial Epidemiologists (CSTE) Applied Epidemiology Competencies (AECs). At the completion of the fellowship, the Fellow will function as a well-qualified Tier 2, mid-level epidemiologist and will be highly employable in a wide range of public health settings.

## **Potential Projects**

### **Surveillance      Epidemiology of CRE Activity**

There are 2 ongoing projects that the CSTE fellow might participate in including the Non Big 3 CRE study with the CDC and a better understanding of the epidemiology of CDI in our state. As CRE is now reportable in Nebraska we are just beginning to understand its epidemiology and the different susceptibility patterns in our heartland state and others in the Midwest as opposed to the East Coast. The non Big 3 is a project spearheaded by the CDC which invited certain states with carbapenemase producing isolates in species other than Enterobacter, Klebsiella or E.coli. We have also begun a study to look at the epidemiology and risk factors of CDI in Nebraska as well as have begun an effort to standardize testing for CDI.

### **Surveillance      Clostridium Difficile Evaluation**

There are several options for surveillance system evaluation projects which are negotiable depending on the interests of the applicant. Among those options would be to assess the Clostridium difficile laboratory reporting system in comparison to hospital surveillance for C. difficile reported to the National Healthcare Safety Network. All Clostridium difficile tests performed in Nebraska are required to be reported to Nebraska DHHS. The HAI Fellow will have the opportunity to conduct a surveillance system evaluation of Nebraska's Clostridium difficile surveillance system using CDC's Updated Guidelines for Evaluating Public Health Surveillance Systems. The Fellow will 1) engage with stakeholders to participate in the evaluation, 2) describe the surveillance system, 3) design the evaluation, and 4) gather credible evidence of the surveillance system including the data quality, simplicity, representativeness, and timeliness. The Fellow will write a report summarizing the findings of the evaluation.

### **Major Project      Antibiotic Stewardship**

The CSTE fellow could be a primary investigator on a project that is just in the beginning stages which is to determine which type of program to improve antibiotic stewardship will best fit an institution:-a telestewardship model or an intensive in house model. This will look at factors that predict success and sustainability of these 2 models at different types of institutions. A third project would be to create interventions to make improve antibiotic stewardship practices of dentists in Nebraska.

## **Preparedness Role**

The IEF will be expected to respond to acute and emergent problems related to Injury Epidemiology, including emergency response activities related to naturally occurring and intentional events which have actual or potential impact on injury morbidity/mortality. Nebraska's Bioterrorism Preparedness Program offers training and exercises to ensure Nebraska's preparedness in the event of an incident or attack involving biological, chemical, radiological or other agents of bioterrorism. The injury fellow can access this training and participate in such exercises.

**Mentors**

**Primary**

Maureen Tierney MD MSc  
Director, HAI program

**Secondary**

Tom Safranek MD  
Nebraska State Epidemiologist