Infectious Diseases
Douglas County Health Department, Health Data, Planning, and Emergency Response
Omaha, Nebraska

Assignment Description

The Fellow will be placed in either the STD Surveillance and Control Section or the Communicable Disease Epidemiology Section in the Division of Health Data and Planning division of the Douglas County Health Department. These sections perform disease surveillance, investigative, and analytical epidemiologic activities. Staff also implement and/or recommend appropriate disease prevention and control strategies and document disease incidence in the Nebraska Electronic Disease Surveillance System. At times, staff may also assist individuals in procuring necessary examinations, testing, and treatment.

Day-to-Day Activities

The Fellow will be integrated into the section, working alongside other staff and attending routine section meetings. The Fellow will also have opportunities to participate in database development and management, data analysis, and other public health informatics activities. DCHD has played an active role with the state Division of Public Health in the development of the Nebraska Electronic Disease Surveillance System (NEDSS) and its use. The fellow will also have the opportunity to attend meetings and presentations in other parts of the department as well as the many grand rounds and other educational opportunities in the community, which is home to a College of Public Health (University of Nebraska Medical Center) and the Nebraska Biocontainment Unit (NBU). The NBU is one of three units designated by the Centers for Disease Control and Prevention (CDC) to care for patients with Ebola or other highly infectious diseases.

The Fellow will primarily be involved in a specific epidemiologic project or projects to be determined based on needs of the department and interests of the Fellow. As other activities arise, such as outbreak investigations or response to/planning for public health emergencies, the fellow will participate as a member of the team. Activities will include analysis of local data sets, meeting with various staff members to understand the data, and developing reports and presentations of the analysis results. The fellow will also participate in outbreak investigations by conducting disease investigations, entering data into disease surveillance systems, and conducting epidemiologic analysis of surveillance and outbreak data. The Fellow will also have the opportunity to participate in everyday activities, such as routine disease investigations, directly observed therapy for tuberculosis, and assisting other parts of the department in data analysis and reporting requests.
Potential Projects

Surveillance Activity

**Tuberculosis Surveillance and Information Systems**

The fellow will work closely with tuberculosis public health nurses and epidemiologists to become familiar with our program and participate in various case and contact investigation activities. The fellow will assess information systems used to document and track tuberculosis surveillance and control activities and have the opportunity to investigate improved information systems, including adapting the Nebraska Electronic Disease Surveillance System (NEDSS) and investigating the use of other database systems such as Epi Info 7 and REDCap (Research Electronic Data Capture). REDCap is a secure web application for building and managing online surveys and databases.

Surveillance Evaluation

**HIV Surveillance in Douglas County**

A formal evaluation of the HIV surveillance system in Douglas County is needed. Information related to reported HIV case-patients exists in 3 separate surveillance databases: NEDSS (Nebraska Electronic Disease Surveillance System), eHARS (Nebraska Electronic HIV and AIDS Surveillance System), and STD*MIS (STD Management Information System). Staff also access Nebraska's health information exchange, NeHII (Nebraska Electronic Health Information Initiative) to obtain clinical information related to disease investigations. There are many opportunities for optimizing the efficiency and effectiveness of the system.

Major Project

**STD Surveillance Data for Descriptive and Analytical Epidemiology**

Douglas County has a high rate of sexually transmitted infections (STIs) compared to state and national rates. In 2006, STDs were declared epidemic in Douglas County, with subsequent increases in funding for surveillance, testing, and education. These efforts have resulted in large amounts of data that have not been fully explored. DCHD has developed unique outreach efforts to increase STD testing and education in non-traditional sites such as libraries, other community locations, and public events. These efforts have proven valuable for reaching high risk populations that may not otherwise access clinical STD services. Additionally, the DCHD STD clinic has routinely collected specimens from multiple body sites when evaluating patients for STDs. The Fellow may also analyze clinical data on STD positivity by body site and risk factors. The goal of this project will be to increase understanding of risk factors and to inform efforts to improve public health response to the epidemic and reduce the impact of STDs on the population.
**Preparedness Role**

The Fellow will participate in the department’s emergency preparedness planning efforts by learning about previous activities and working on current planning projects as they may occur. DCHD plays a key role in working with the Nebraska Biocontainment Unit (NBU), which is located in Douglas County and has been designated by the CDC as one of three such units selected to care for Americans exposed or infected with Ebola or other highly infectious diseases. This has put DCHD in a unique position to participate directly in national preparedness and response activities. The fellow may evaluate current epidemiological protocols for in the Douglas County Public Health Emergency Response Plan. The Fellow will have several opportunities to participate with DCHD’s Emergency Response Coordinators (ERCs) in the development and review of preparedness response plans and policies. In the event of a public health emergency, the fellow will participate in some capacity, such as disease investigations, creation of questionnaires, creation and maintenance of databases, and data analysis.

**Additional Activities**

1. Attend regular team meetings in communicable disease epidemiology and STD control sections.
3. Participate in public health emergency exercises.
4. Participate in the event a real public health emergency occurs.
5. Participate in public health communication activities aimed at the public and public health partners.
6. Attend Douglas County Health Department Board of Health meetings.
7. Assess and develop improved process documentation for tuberculosis investigation and surveillance.
8. Design improved data systems for managing investigation and surveillance data.

**Mentors**

**Primary**

Anne O’Keefe, MD, MPH  
Senior Epidemiologist

**Secondary**

Leah Casanave, DrPH, MPH  
Supervisor, STD Control