Host site: Nebraska Department of Health and Human Services Division of Public Health

Assignment Location: Lincoln, Nebraska

Primary Mentor: Jeff Armitage, B.S. in Community Health Education

Secondary Mentor: Alison Keyser-Metobo, MPH

Agency Description:

The Nebraska Department of Health and Human Services (DHHS) is comprised of five Divisions: Children and Family Services, Behavioral Health, Medicaid and Long Term Care, Development Disabilities, and Public Health. DHHS is tasked by state statute to protect the health and safety of persons in Nebraska, approximately 1.9 million constituents. The Division of Public Health (DPH) serves as the state public health department, and partners with local health departments and public health partners to ensure statewide access to the ten essential public health services.

The Director and Chief Medical Officer, Dr. Gary Anthone, the Director of Operations, Charity Menefee, and two Deputy Directors provide oversight of two Sections, which include Epidemiology and Informatics and Health Promotion and Prevention. The DPH is responsible for a breadth of public health services including (among other things) preventive and community health programs, maintaining vital records and other health-related data, and investigating disease outbreaks. The Applied Public Health Informatics Fellow (APHIF) will office within the Epidemiology and Informatics Unit. The NDHHS Epidemiology and Informatics Unit provides statistical information and epidemiology services that support public health actions and policies to improve the health and safety of Nebraskans. The Unit includes the following Offices: 1) Epidemiology, 2) Health Statistics, 3) Crash Outcome Data Evaluation System, 4) Geographic Information System, and 5) Nebraska Joint Public Health Data Center.

The Office of Epidemiology is responsible for infectious disease surveillance. When data are analyzed, the aim is to understand the severity of a disease (hospitalizations and deaths), how many people are impacted, which groups are disproportionately impacted, exposures, and risk factors. Reportable disease laboratory results come into NDHHS’s disease surveillance system where local health departments view the lab and do case investigations. Based on the lab result local health departments may contact the individual and/or provider to get information on hospitalization, occupation, symptoms, travel history, vaccination status, and underlying conditions. It is important to visualize infectious disease data for our local health departments, community partners, and the public so they have visibility on what is going on in their community as well as being able to craft prevention messages.

The DPH achieved national public health accreditation in 2016, and continues to meet the public health standards and measures. One of the DPH Strategic Plan priorities includes being the Trusted Source of Public Health Data in Nebraska. The Nebraska Public Health Atlas initiative was formed as a result of
this strategic plan priority, and enhancing data visualization remains one of the top priorities for the Division. Other Division priorities include data modernization efforts, including the development of a state data warehouse.

The DPH has a record of accomplishment supporting the public health workforce by mentoring fellows, students, interns, and associates. Additionally, the DPH has hosted many CDC based interns, associates, fellows and residents over the years, many of which have chosen to stay on as employees.

Preferred Background & Skills:

There is no specific background or skill that is essential for this fellowship position, and to some degree, the team can adapt the project requirements for the Fellow to support their strengths and interests. Having an interest in working with electronic laboratory, disease investigation, and health disparities data is essential, as is interest in analysis and visualization of these data. Background in health informatics or related field is preferred.

What can the fellow expect to gain from 2 years at this host site?

At the end of the fellowship program, the Fellow will have a more thorough understanding of how a state department of public health operates on a day-to-day basis and what challenges and opportunities correspond with that. In addition, the Fellow will have the opportunity to work with internal and external partners and stakeholders, learn the development life cycle and processes used for completing each stage of the application development process, how agile team management can benefit data and application development teams, and other tools and processes.

Potential Projects include:

Host sites have listed up to 5 projects

Project 1: Health Equity Data Dashboard

DHHS will provide comprehensive, timely, accurate, and meaningful data to stakeholders that will allow them to identify, monitor, and track health disparities in Nebraska. This dashboard will include information on population demographics, social determinants of health, health behaviors, and health outcomes. Project objectives include gathering needs and requirements from product owners and stakeholders, acquiring, integrating, and analyzing data, and completing dashboard development within Tableau. Other activities include conducting user testing sessions and integrating feedback, and preparing the dashboard for deployment. The outcome for this project is a public facing Nebraska Health Equity Data Dashboard.
Surveillance is one of the most important elements of public health practice and is used to identify, monitor, and improve the health of communities. A robust and comprehensive data Health Equity Data Dashboard that includes demographic and social determinants of health data is vital to advancing equity in Nebraska. It is also essential to provide timely and meaningful data that will drive policies and decisions across many sectors, including housing, health, education, and transportation. This dashboard will include data from various sources vital to engaging stakeholders in health equity work.

Project 2: Electronic Laboratory Reporting & Investigations Data Quality Dashboards

This dashboard will include information on data quality for laboratory reporting and investigations. Project objectives include gathering requirements from stakeholders and creating a dashboard to report the information. For lab data, we are interested in the completeness of variables such as gender, date of birth, address, county, race, ethnicity, specimen source, and, specimen collection date. For investigations, we are interested in the completeness of variables such as gender, date of birth, address, county, race, ethnicity, vaccination status, case status, date of hospital admission, and date of death. This dashboard will be created using Tableau, and will be targeted to internal DHHS and LHD users.

The electronic laboratory reporting and investigations data quality dashboards will help DHHS and the local health departments monitor and improve lab and investigation data completeness.

Project 3: Electronic Disease Investigations Data Dashboard

This dashboard will display information related to disease investigations. Project objectives include gathering requirements from stakeholders and creating a dashboard to report the information. The dashboard will include various measures including case count, rates by local health department, rates by age group, severity of disease (hospitalizations and deaths), rates by race and ethnicity, vaccination rates, and information related to disease outbreaks.

Public health is founded on the need to protect and improve the health of people and their communities. The electronic disease investigations data dashboard will help Nebraska visualize critical public health data for DHHS and LHD staff. Greater accessibility to these data will help ensure earlier detection and quicker response.

Additional information about the placement:

We look forward to the opportunity to work with a Fellow in an environment that fosters growth and development and provides mutually beneficial work experiences.