North Dakota Department of Health and Human Services

Assignment location:
Bismarck, ND

North Dakota Department of Health and Human Services
Division of Public Health

Primary Mentor: Tracy Miller, MPH, PHD
State Epidemiologist
ND Dept of Health and Human Services

Secondary Mentor: Benjamin Schram, MPH
Electronic Surveillance Systems Manager
ND Dept of Health and Human Services

Work Environment: Hybrid

Assignment Description

Agency Description:
In September 2022, the North Dakota Department of Health underwent a merger with the state’s human services department to become the North Dakota Department of Health and Human Services (NDHHS). The NDHHS is made up of four Business Divisions and four Programmatic Divisions which is where the Public Health Division resides.

The Public Health Division employs about 210 FTEs and over 200 temporary employees dedicated to making North Dakota a healthier place to live.

The Public Health Division is comprised of five sections:

- Disease Control and Forensic Pathology (DCFP): Supports infectious disease prevention, surveillance, and identification as well as epidemiologic investigation and forensic examinations.
- Healthy & Safe Communities: Provides support for individuals, families, and communities by providing quality programs that protect and enhance the health and safety of all North Dakotans.
- Health Response and Licensure: Leads the planning and coordination of the public health and medical response as well as the implementation of regulation programs that protect the health and safety of North Dakotans, including ensuring North Dakota’s inpatient care facilities, outpatient programs, and staff-provided-services meet relevant health care standards.
Laboratory Services: Provides rapid, accurate detection and identification of organisms that may threaten the public’s health.

Health Statistics and Performance (HSP): Coordinates epidemiological studies, investigations, and surveillance activities; conducts data analysis; manages the registration and certification of vital events in ND and provides expertise and consultation on disease surveillance, data acquisition, database management, quality improvement, and health intervention activities.

The Public Health Division is located in Bismarck, ND. The capital building is located in central Bismarck with a park-like walking path located on the capital campus. This is a secure building in which the fellow will be provided a ND State ID badge. The fellow will be provided a computer, printer access, and access to clerical support will be provided. They will receive their own NDHHS email address, phone number and have access to Office 365 software for daily work.

The Division is currently working to improve our educational health department opportunities. The two mentors work hard to encourage learning but also the opportunity to teach. That may come in the form of guest speaking at a class, lecturing to HS students, or reaching out to youth programs. Hand in hand with education comes community engagement and health equity. We will expect our fellow, to help support ideas and data capture to help increase our awareness and knowledge regarding our health disparities.

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

Depending on the projects the fellow will be involved in, they will have access to a variety of data and data systems. The following is a non-inclusive list:

- Maven, the division’s disease surveillance and case management system
- NDIIS, the division’s immunization information system
- Envoy, the division’s (currently under construction) medicolegal death investigation system
- Stroke and Trauma registry
- EMS registry
- Data Lake/Warehouse
- Vital Records

Any additional information about the placement:

The fellow will have their own office space; however, the state is set up to allow for working remotely. This allows for fellows to work from home either ad hoc, such as during poor weather conditions, or on a set schedule such as Mon-Wed in the office, Thurs-Fri at home. The state uses Microsoft Teams to allow for virtual meetings, phone calls, etc. The physical office space is in a shared location by the Disease Control and Forensic Pathology and Health Statistics and Performance Sections.

Describe the Preferred Background and Skills the Ideal Fellow For This Site Would Have:

We would prefer a fellow who is knowledgeable about:

- Public health systems and practices
• Public health information system standards, message formats, transport mechanisms (e.g. ELR, syndromic surveillance, eCR, FHIR)

Along with skills to:
• Perform routine epidemiology and analytic functions which may include business, workflow, and/or statistical analysis.
• Communicate complex technical information to a wide range of non-technical audiences
• Write computer programming code with languages such as Java, C, Python, R, and SQL

Projects

Project 1 Title: Create and/or implement Data Sharing Repository

Project objectives and expected deliverables: Goals and objectives:
1. Review other state’s repositories, identify platforms used (i.e., Socrata, CKAN, etc.)
2. Report on findings, provide recommendations to mentors
3. Determine if purchasing an OTC platform or creating an internal platform is best method
4. Meet with internal data stakeholders
5. Identify priority data sets
6. Create public use data sets
7. Test data sets to ensure they meet privacy and confidentiality rules
8. Post to web

Deliverables
1. Due diligence report
2. Depending on the findings
   a. Creation of the “platform”
      i. One data set posted
   b. Purchase of the “platform”
      i. 4 data sets posted

Expected public health impact from this project: Currently epidemiologists and data analysts within the HSP Section and the Disease Control & Forensic Pathology Section spend many hours compiling de-identified data for students, local health units, university professors, community engagement groups,
If data was already available online that people could use, this would free up time for personnel to spend on evaluations, gap analysis, needs assessments and case investigations.

Not only is the public facing data improved, but this would also improve internal data ownership and management within department. Because each data set would need to be reviewed, cleaned and tested, it improves access and availability, but also improves the credibility and governance of that data. This public use data project is identified as a high need project for this agency.

**Project 2 Title: Creation of Occupational Surveillance data modelling in ND’s data lake**

*Project objectives and expected deliverables: Goals and objectives:*

1. Review the CSTE Occupational Health Indicators document
2. Identify ND’s available data
3. Start creating Power Bi Dashboard showcasing Occ Health Indicators
4. Set up meeting with ND Work Force Safety and Insurance (WSI) Department (workman’s comp)
5. Work to create manual/automated data feeds from WSI
6. Work with NDIT department to implement WSI data into data lake
7. Work with NDIT to ensure data is modeled up correctly
8. Test data
9. Create Code to ensure data can be abstracted
10. Add state identified indicators using WSI data to data dashboard
11. Post dashboard department’s website

**Deliverables**

1. Creation of Occupational Health Indicator dashboard
2. Manual/Automated data downloads from WSI
3. WSI data modeled up into data lake
4. OHI dashboard posted to website

*Expected public health impact from this project:* Currently North Dakota does not have an environmental/occupational epidemiologist. The HSP section is looking to expand the non-infectious epidemiology capacity not only for occupational and environmental but also for lead and other heavy
metals. This would allow for greater follow-up and investigation into these areas. North Dakota has one of the highest occupational mortality rates in the country, therefore there is an urgency to identify gaps and needs in this area.

Implementing this surveillance/data project will position the state better to apply for funding for childhood lead programs and NIOSH.