

**ID: 46788448**

**Injury, Maternal and Child Health - Host Site Description  
ND Dept of Health and Human Services**

**Assignment Location:** Bismarck, US-ND  
ND Dept of Health and Human Services  
Public Health Division

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

**Secondary Mentor:** Kodi Pinks, MPH  
Surveillance & Data Management Director  
ND Dept of Health and Human Services

**Work Environment**

Hybrid

**Assignment Description**

The fellow will be located within the Health Statistics and Performance (HSP) Section. This Section manages vital records and provides epidemiology and data analysis support to all sections and units in the health department. This office reflects the new atmosphere of the department that recognized the need for a cross-cutting office with department-wide responsibilities. This office was established in July 2017.

Responsibilities of the section include investigating or providing consultation on disease outbreaks; identifying and implementing various databases and surveillance systems; informatics needs, data analysis, data stewardship, developing guidelines for data management, and supporting statewide epidemiologic infrastructure.

The Fellow will be exposed to a wide variety of projects in applied public health epidemiology. The Fellow will be responsible for special analyses and projects, but involvement in other projects going on in the division will be strongly encouraged to assure exposure to communicable disease, chronic disease, maternal and child health, and emergency preparedness program activities. Projects will focus on program evaluation, surveillance, data acquisition, data analysis and report writing.

These activities will involve close collaboration with agencies at the federal, state, and local level, private and non-profit organizations and academic institutions. The Health Statistics and Performance section has access to numerous data sets, including but not limited to hospital discharge, prescription drug monitoring program, BRFSS, acute disease surveillance data, immunization registry data, injury, newborn screening and syndromic data. However, because we are a smaller health department, our capacity to conduct data analyses, research, surveillance, and evaluation beyond the necessary requirements is often hindered. The fellow can take a leadership role in carrying out these additional activities based on his/her interests, fellowship competency requirements, and agency needs.

While at the department, the fellow will be treated as any other newly hired epidemiologists and will be offered the same rights and privileges. Their day-to-day activities may include data collection, data analysis, database development, informatics determinations, reporting writing and education development. The Fellow will participate in staff meetings and epidemiology workgroup meetings. At these meetings, situational awareness, data needs and special projects are discussed. Additionally, the fellow will be collaborating with external partners through in-person or virtual communication.

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

The HSP Section has access to a variety of data sets/databases, including but not limited to hospital discharge, prescription drug monitoring program, BRFSS, acute disease surveillance data, immunization registry data, injury, newborn screening and syndromic data. Additionally, the Fellow will work to establish a protocol for acquiring regular submissions of data from the Department of Transportation, Workforce Safety and Insurance, Department of Human Services, and Law Enforcement.

Statistical software includes SAS, R, Python, SPSS, Epi Info, Azure Machine learning, Power Bi and Excel.

**Projects**

**Surveillance Activity Title: Injury Burden Report**

*Surveillance Activity Description:*

Currently the Injury Program has no dedicated epidemiologist. They produce a Burden of Injury Report every three years. The Fellow would be responsible for turning this paper report into a Power Bi dashboard. Training would be provided, and opportunities to work with other epidemiologists from around the Division would be available.

The fellow would need to work with the Department of Transportation personnel, Medicaid employees, as well as those in the injury program to develop this dashboard. They would work to set up the required data feeds from various organizations, and work to ensure that the data set will meet a standard for updating every year. Additionally, data from Poison Control, Essence and EMS data would be added so that more timely (daily or monthly) data would also be incorporated.

This report takes a long time to finalize due to the amount of time between updating. This project is one of the priority projects within the section.

*Surveillance Activity Objectives:*

As indicated above, we are interested in turning this into a Power Bi dashboard that would be updated annually.

- The fellow would work with the IT dept/informatics personnel to gather the needed data from the various sources and put it into the state's data lake.
- The fellow would then use that modeled data from the data lake to create a Power Bi dashboard that would be updated as new data was added.

The final deliverable would be a power bi dashboard that would automatically update as the new data is added.

*Surveillance Activity Impact:*

As of right now the surveillance data for the injury program is only looked at every 3 years. This would allow for daily and annual viewing of the data. This would allow the program to make changes, identify gaps and address needs on a more timely basis.

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**Surveillance System Evaluation Title: Evaluation of Newly Automated Poison Control Project**

*Surveillance System Evaluation Description:*

The HSP Section recently completed a project with the National and the Hennepin County Poison Control. North Dakota does not have its own Poison Control center and therefore contracts with Hennepin County, MN. Currently, North Dakota receives routine monthly reports from Poison Control; additionally, if Poison Control notices unusual activity they will call or email the Public Health Division.

In order to improve reporting and reduce the burden on Poison Control, the State Epidemiologist along with members of the state's Information Technology agency worked to automate data feeds from Poison Control. These data messages are submitted to the state's data lake, where the information is modeled up into usable data formats to be used by the HSP as well as other sections for analysis and situational awareness.

This project was just completed in January 2023. The fellow will work with IT personnel, and other data analysts in the Division to help all sections gain access to the poison control data. At the end of the first year, HSP would like an evaluation done on this newly implemented surveillance opportunity.

*Surveillance System Objectives:*

We will want a full evaluation of the project:

- Are people able to easily access the data
- Is the data timely enough
- How is the data being used
- What are the gaps in reports
- Is the data flows easily maintained or lot of work

The final deliverable would be a final report with recommendations on improvements, changes to the system or whether the project should be continued.

*Surveillance System Impact:*

Our overall goal of this project is to provide near real-time access to poison control data in order to monitor for various clusters, specific types of poisonings/injuries, etc. Our hope is to allow programs to monitor these injuries more closely in order to provide better response, more timely interventions and identify areas where more help is needed.

However, because this is a new project, we do not know if the project will actually be utilized as expected. The initial implementation of this project was free to the HSP because it allowed our IT department to work out protocols and processes for the new data lake and how we go about adding data to the lake. However, in the years to come, this project will have a cost to maintain, and therefore there is a need to determine if the project will be worth the ongoing costs.

**Major Project Title: Childhood Lead Program**

*Major Project Description:*

The HSP section will be implementing the childhood lead program starting May 2023. There are currently no dedicated personnel associated with this program. An ASTHO employee will be obtained by the HSP section to help initiate the program.

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The Fellow will work with the ASTHO support, to help develop a systematic, ongoing collection, management, analysis, and interpretation of lead reports coming into the state. The fellow will use these reports to collaborate with the department of Environmental Quality to do any environmental testing, abatement and reporting.

Data collected and disseminated through this surveillance will be used for public health action, program planning, and evaluation. The fellow will be responsible for working with epidemiologists, data analysts, informaticists, and vendors to help design and improve the reporting and follow up of childhood lead program.

The fellow will help to build this surveillance program from the ground up and be responsible for ensuring data acquisition and management but will also plan and design the quarterly and annual reports that will be used by the Division, the Department and Legislation.

*Major Project Objectives:*

Currently, this project is not yet implemented.

Our objectives and deliverables are pretty broad at this time.

- The fellow would reach out to other states to talk with childhood lead coordinators and get some idea on how it is done.
- The fellow would need to work with our Maven coordinator to get the lead questions added to Maven
- Redirect the electronic lab results to the new reports
- Create a protocol for how cases will be handled and followed up.

The final deliverables will be electronic lab reporting into Maven, creation of a case with that report and then a SOP for follow up and testing of high lead levels.

*Major Project Impact:*

The Public Health Division will be taking on the childhood lead program. It is currently in the Dept of Environmental Quality. Over the last year, it was determined that more could be done with these cases. Because this is new to the Division, there will be a lot of work involved as well as knowledge to be built. However, the division has a long-standing history of surveillance and follow up, therefore our hope is that by using the people in the division with these skills, that we will be able to improve the identification and follow up children with high lead levels. So we are hoping to use the fellow to really help us build this program from the ground up.

**Additional Project #1 Title: Drug Overdose and STI surveillance & evaluation**

**Project #1 Type: Surveillance Activity/Evaluation**

*Project #1 Description:*

A nationwide study published in 2019 has shown an association between drug use and STIs.<sup>1</sup> Also in 2019, CDC published an MMWR indicating the link between drug use and primary and secondary syphilis among heterosexual men and women.<sup>2</sup> In 2019, North Dakota started collecting data for the National Violent Death Reporting Program (NVDRS), and although not an official part of the program, drug overdose deaths have been included in this surveillance. Currently, ND only has a part-time person dedicated to this project, so minimal data is collected. However, in 2019 76 drug overdose deaths were reported, 115 in 2020 and 131 (preliminary) in 2021 and 119 (prelim) in 2022. As indicated, the number of deaths due to drug overdoses has increased each year (2021 and 2022 data still being gathered) so the need for improved data collection, timeliness, and analysis of this data is needed. The Fellow would help the current part time epidemiologist with data collection, abstraction, entry, and would provide all the data analysis for this data. Additionally, as part of this project, the fellow would be expected to explore the possible relationship between drug overdose deaths and STI/HIV/viral hepatitis

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*Project #1 Objectives and Expected Deliverables:*

- Participate in collection/abstraction/entry to bring the program current
- Begin initial analysis of the data in Maven system
  - Identify gaps in data/areas for improve collection
  - Work with Division personnel to create reports for partner agencies
    - Provide education and documentation to partners for data collection/improvement
- Collaborate with Sexually Transmitted and Bloodborne Diseases Division on OD/STI evaluation
  - Conduct analysis
  - Write up report
  - Submit abstract for CSTE conference

*Project #1 Impact:*

As data collection improves and we continue to collaborate with the Sexually Transmitted and Bloodborne Diseases Division, our goal is to identify potential avenues for prevention that were previously unexplored. STIs and overdoses are complex public health issues and multiple health factors are likely related to both. We are hoping to find additional partners to continue our in-depth evaluation to identify any missed opportunities as well as determine where future work is needed.

1. [Sexual risk behaviors and STDs among persons who inject drugs: A national study - PMC \(nih.gov\)](#)
2. [Increased Methamphetamine, Injection Drug, and Heroin Use Among Women and Heterosexual Men with Primary and Secondary Syphilis — United States, 2013–2017 | MMWR \(cdc.gov\)](#)

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

With Covid winding down, the fellow will still have opportunities to participate in briefings, answering the health department hotline, help with the daily data collection and reporting, support long term care outreach, as well as help with the analysis of covid data and data management. This will be minimal, maybe a couple hours a month.

However, we would have the fellow complete Incident Command Training as well as help in updating current response plans. There is also the need to develop an internal dashboard that can be used for situational awareness that can be monitored on the daily using data from the weather service, infectious disease, poison control, essence, etc. Depending on the data sources and the time to gather data, ensure its consistency and quality, create the dashboard, etc. This could take up to 400 hours if not more.

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

The fellow will have opportunities to work with the Disease Control and Forensic Pathology section.

Activities may include:

- Conducting analysis projects with the STI program and the suicide/overdose program to continue evaluation of cases. 100 hours
- Conduct case interviews for food borne outbreaks (as requested or needed): estimating 1 outbreak per year, this would be maybe 100 hours for the two years
- We want to implement EVALI surveillance, so the fellow would take the lead on this project. Estimating 200 hours in the two years.

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**Please Describe the Fellow's Anticipated Role in the COVID-19 Response – Include Activities and Time Allocation**

In North Dakota, the covid activities are minimal and almost completely handled by personnel in the Disease Control and Forensic Pathology section. The HSP still follows up on covid data requests from the sections, leadership and governor. Along with the requests, the HSP conducts analysis on various projects (ie value of contact tracing, work done in nursing homes, etc). The fellow would be able to participate in those projects if interested.

Additionally, like all states, we will continue our ongoing surveillance of the pandemic and if changes occur or additional work is needed, the fellow would be able to participate in the response.

However, if things stay at the status quo, work in the covid response will be minimal. However, as projects are identified, the fellow could take the lead on one of the projects. This can typically take up to two weeks or a couple months depending on the project.

**Please Describe Opportunities for Fellows to Work in Health Equity as well as Incorporating Diversity, Equity, and Inclusion into their Work**

North Dakota is currently working on ways to improve reporting to our tribal partners in the state. Additionally, the HSP section already provides epidemiological support to our Community Engagement Unit (health equity). We work with them on a variety of project from infectious diseases to Alzheimer's. Because there is no dedicated epidemiologist for the Community Engagement Unit, there will be ample opportunity to improve data acquisition and reports for rural communities, elders, LGBTQS+, New Americans/foreign born, etc.