ID: 46788448
Infectious Diseases, Maternal and Child Health - Host Site Description
North Dakota Department of Health and Human Services

Assignment Location: Bismarck, US-ND
North Dakota Department 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: Molly Howell, MPH
Director, Immunization Unit/Assistant Section Director of Disease Control and Forensic Pathology/Deputy State Epidemiologist
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 section 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.

This fellowship entails a variety of research, surveillance, and evaluation opportunities. These activities will involve close collaboration with agencies at the federal, state, and local level, private and non-profit organizations and academic institutions. The HSP 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 small 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 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: Neisseria Meningococcal B vaccine and gonorrhea

Surveillance Activity Description:
For the past two years gonorrhea cases in North Dakota have declined, despite increases in chlamydia and syphilis. Recent research from other countries has suggested cross protection between the meningococcal B vaccine and gonorrhea. This activity aims to determine if vaccination against meningococcal B is associated with lower likelihood of testing positive for gonorrhea in North Dakota.

Surveillance Activity Objectives:
Data from our disease surveillance system and our immunization information system will be utilized to determine if individuals vaccinated against meningococcal B are less likely to test positive for gonorrhea or other sexually transmitted infections. An article for publication is an expected deliverable. Interim deliverables include review of data analysis, figures/tables, and conclusions. Analysis should include stratification of data by age, race, gender and ethnicity.

Surveillance Activity Impact:
Data to inform healthcare providers regarding additional benefit of meningococcal B vaccination, data to inform the public about additional importance of vaccination.

Surveillance System Evaluation Title: Evaluation of Cribs for Kids Program

Surveillance System Evaluation Description:
The rate of sleep-related infant death declined significantly in the 1990s after the American Academy of Pediatrics (AAP) and others recommended that babies be placed on their backs to sleep, but rates have since plateaued, and SIDS remains the leading cause of post neonatal mortality. Black and Native American/Alaska Native infants die at rates more than double that of white babies.

As one strategy to address this challenge, North Dakota has been implementing the Cribs for Kids® Program since 2010. Cribs for Kids® was developed by Judy Bannon, the Executive Director of Sudden Infant Death Services of PA, a Pittsburgh-based nonprofit, when she realized most of the deaths she was seeing were from lower-income areas, were predominantly African-American infants, and that with most of the deaths, the babies were not found in cribs, but on couches or in chairs or adult beds. She concluded these babies were dying for the simple and tragic reason that their mothers couldn't afford cribs and/or had not been educated about infant safe sleeping practices. There are currently over 1,750 Cribs for Kids®National Infant Safe Sleep Initiative partners across the country,
Proposed Cribs for Kids®Surveillance System Evaluation:

- North Dakota SID and SUID death numbers or rates per county, region and statewide

- Number of cribettes distributed by North Dakota Cribs for Kids® site locations
- Compliance with required program forms completed and submitted by North Dakota Cribs for Kids® site locations
- Self-reported knowledge of Cribs for Kids® recipients in safe sleep practices using pre and post evaluation questions
- Self-reported knowledge of Cribs for Kids® recipients on the use of a cribette using pre and post evaluation questions

Surveillance System Objectives:

- To increase compliance of North Dakota Cribs for Kids® Program site locations in completing and submitting required program forms
- To increase the self-reported knowledge and practices of North Dakota Cribs for Kids® Program recipients
- Utilize SID and SUID data to identify gaps in services

Surveillance System Impact:
For at-risk families, the lack of resources, namely a crib, may be the primary reason for putting infants in unsafe sleep environments. Implementation of a standardized safe sleep program such as Cribs for Kids® provides an opportunity to educate parents and caregivers and on safe sleep practices and provides them with the necessary resources (Cribs for Kids® cribette kit) to put that education and knowledge into practice.

Improved implementation of the safe sleep practices could help reduce sleep-related infant mortality.

Major Project Title: Cervical Cancer Elimination in North Dakota

Major Project Description:
Using HPV vaccination rates, cervical cancer screening rates, and cervical cancer rates, model when North Dakota could eliminate cervical cancer.

Major Project Objectives:
Obtain data from ND Medicaid and two large insurers in North Dakota for cervical cancer and HPV screening rates. Analyze NDIIS data for HPV vaccination rates. Analyze ND Cancer registry data for cervical cancer rates. Perform modeling to estimate when North Dakota could eliminate cervical cancer. Provide suggested HPV vaccination and screening rates to eliminate cervical cancer at earlier dates.

Major Project Impact:
This data will inform messaging to healthcare providers and the public regarding HPV immunization and screening.

Additional Project #1 Title: Tribal Data Sharing
Project #1 Type: Surveillance Activity

Project #1 Description:
The North Dakota HHS's Public Health Division (PHD) is entering into data use agreements with the 5 tribes in North Dakota. Currently there is no dedicated personnel associated with this program. The Fellow will work with the HSP's Data Modernization Office (DMO), to help develop a systematic, ongoing collection, management, analysis, and reporting of all named level data to each of the tribal Offices.

Project #1 Objectives and Expected Deliverables:
This will require working with DMO, and the Community Engagement Unit.

1. Identifying platform for PHD identifiable data.
2. Working through protocol for obtaining tribal membership data from all participating tribes.
3. Creating governance around matching protocols and audit trails for using tribal data
4. Working with DMO to ensure secure data transfer
5. Ensuring Point of Contact at Tribes for sending data

Project #1 Impact:
The goal is to provide our tribal partners with the data they will need to improve health and wellness among their citizens.

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

Work with EPR and Tribal liaisons to develop and implement an exercise (in-person and virtual) that will help identify tribal preparedness during a VPD-related outbreak.

Please include activities and time allocation (required competency of fellowship).
1-3 months:

- Work with VPD program personnel and epidemiologist on exercise parameters
- Work with EPR and tribal liaisons for coordination, planning and timing
- Writing exercise and approvals

1-3 weeks:

- Setting up exercise, finding venue, inviting people, etc.
- Participate in the exercise, take notes
- Write up final report

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

As a small health department, should clusters or outbreaks occur (foodborne, respiratory, TB, etc) the fellow would work with the foodborne epidemiologist, immunization epidemiologist, TB epidemiologist, etc. to help support the outbreak investigation.

Please include activities and time allocation (required competency of fellowship).

Time allocation will be dependent on the outbreak/cluster: Our foodborne outbreaks may take a couple weeks whereas our HCV outbreak took months.
The fellow will participate in the following:

- data gathering
- case interviews
- analysis
- report write up