

ID: 58522670

Injury, Substance Use/Mental Health - Host Site Description

Minnesota Department of Health

Assignment Location: Saint Paul, US-MN
Minnesota Department of Health
Injury and Violence Prevention Section

Primary Mentor: Kari Gloppen, Doctor of Philosophy, social welfare (statistics); Master of Public Health, health behavior and education; Bachelor of Arts, psychology & social work
Epidemiologist Supervisor Senior
Minnesota Department of Health

Secondary Mentor: Stefan Gingerich, Master of Science, epidemiology; Bachelor of Music Education
Epidemiologist senior
Minnesota Department of Health

Work Environment

Hybrid

Assignment Description

The Fellow will join the SEA unit of the Injury and Violence Prevention Section (IVPS) at the MDH offices in downtown Saint Paul or working remotely. The IVPS supports programs that help reduce the risk of injury and violence and leads the surveillance of injury and violence (including substance use) for the state. The Fellow will be mentored by the SEA unit manager and senior epidemiologist for suicide, homicide, and firearm injury within IVPS. The Fellow will have the opportunity to work with colleagues within MDH, including the State Epidemiologist, as well as the Department of Human Services and other state and local partners.

We anticipate the Fellow's anticipated day-to-day activities to include:

- Attending internal and external committee/workgroup meetings.
- Meeting with mentors and project teams.
- Staying current on project issues by reading journal articles, attending webinars and other training activities. MDH has an epidemiology community of practice where the Fellow can join other staff in sharing their work, getting comments and input, and learning about other work happening throughout the agency.
- Developing analysis plans; devising study methodology; collecting, editing and revising data; conducting analyses; writing, publishing and presenting reports; and submitting plans for potential program and policy change at the local, state and organizational levels.
- Collaborating closely with external partners, including hospital staff, medical examiners, local public health practitioners and more.

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

The Fellow will have access to the MN Violent Death Reporting System Database (MNVDRS), MN State Unintentional Drug Overdose Reporting System (MNSUDORS), syndromic surveillance, MN Hospital Discharge Data, MNSTAR EMS data, MN Vital Records, MN State Trauma System Data, and more databases. The Fellow will also have access to SAS, R, SPSS, LinkSolv, IVEWare, ArcGIS, Tableau, and other software, as needed.

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Projects

Surveillance Activity Title: Syndromic Surveillance Notifications for Suicidality

Surveillance Activity Description:

Minnesota statewide syndromic surveillance management resides in the Injury and Violence Prevention Section and holds data on treated cases of suicide attempt as well as drug overdose and infectious disease. As such, we have an opportunity to rapidly identify changes in patterns of suicide attempt. This work has been slowed by lack of staffing to thoroughly analyze and disseminate findings from this data. This project would entail building an understanding of Minnesota's syndromic surveillance data to identify how to disseminate the information most effectively for the purposes of suicide awareness and prevention. Possible partners with this work would be county and city public health departments, school districts, and public safety organizations. The Fellow would work with these partners and IVPS staff to identify data products that may be helpful to them in understanding and responding to changes in suicide attempts and suicide ideation in their respective jurisdictions. Following the launch of that product or products, the Fellow would be expected to share lessons learned with IVPS and MDH colleagues so that similar projects could be considered for different health outcomes.

Surveillance Activity Objectives:

Objectives of this project include:

- Gaining experience with a real-world dataset
- Gaining experience with software tools to organize and analyze data
- Gaining experience with software tools to generate professional reports
- Improving collaboration and partnership skills with colleagues outside of public health
- Deliverables from this project
- Identify the best way to disseminate suicide data to partners, e.g. format, frequency
- Create a report or dashboard for each partner to understand suicide attempt and ideation prevalence and changes over time
- Written report or presentation to public health colleagues to use this project as a framework for other, similar uses of syndromic surveillance

Surveillance Activity Impact:

Upon receiving reports of current and recent suicide attempt and ideation in their respective jurisdictions, each partner would be better equipped to provide timely interventions for their populations. For example, if a school district was notified that there was a recent increase in suicide ideation in the zip codes or cities in which their students live, they may be able to provide group reminders or individual support encouraging students to seek help if they're experiencing suicidal thoughts. In addition, other social services departments or groups could also be notified so that a concerted response to mental distress could be launched.

Surveillance System Evaluation Title: Evaluating MNSTAR EMS data for surveillance of outcomes related to alcohol use, substance use, and non-fatal self-harm.

Surveillance System Evaluation Description:

Work is being done at a state level to develop methodologies to incorporate and integrate the ambulance/emergency medical services (EMS) data (from the MNSTAR data system) into surveillance systems to identify alcohol-related harms, drug overdose, and nonfatal suicide more fully. This project would evaluate the usefulness of these data at a local level. Based on the findings, recommendations would be made to system administrators to educate providers on the minimum data set/variables needed in a system to allow for these data to be used in surveillance at a regional or state level.

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Surveillance System Objectives:

Project objectives:

- Gain experience in completing an evaluation of a surveillance system.
- Gain experience with a complex administrative data system
- Project deliverables
- Written evaluation report, describing findings and recommendations for improving the data for use as a surveillance system.
- Presentation, including slides, of the evaluation and results, for MDH and EMS staff.

Surveillance System Impact:

MDH is currently implementing comprehensive suicide prevention and drug overdose initiatives in various communities throughout the state, and local partners such as hospital and clinics have requested having EMS data to better track the incidence of suicidal ideation/attempts and overdose in the region. The findings of this effort will assist us in evaluating the effectiveness of our prevention programming.

Major Project Title: Evaluating the accuracy of the intent of firearm injuries in hospital discharge data

Major Project Description:

As a default, firearm injuries treated in hospitals are currently coded as unintentional. The CDC ICD-10 Coordination and Maintenance Committee is currently evaluating changing this default (<https://www.cdc.gov/nchs/data/icd/Topic-packet-September-2023-Final.pdf>) as research evidence indicates that 28% of assaultive injuries are misclassified as unintentional. Additional misclassification also occurs, significantly reducing the usefulness of hospital discharge data for public health agencies. For this project, the Fellow would work with IVPS colleagues to identify hospital-based partners to evaluate the accuracy of firearm injury intent indicators in hospital discharge data by comparing intent indicators to notes and other detailed information in medical records. Methodology from previous studies in other localities would be used to inform the development of this project. The Fellow would identify how many hospital partners would or could participate and whether this project would be considered a pilot or if it could be broad enough for generalizability in Minnesota. Presentations, internal reports, and scientific journal publications would all be considered for disseminating the information as the findings may be informative and important contributions to public health and public safety literature.

Major Project Objectives:

Objectives of this project include:

- Gaining experience with a complex administrative data set
- Improve professional network and partnership skills with diverse range of colleagues
- Contribute to understanding of hospital data misclassification
- Deliverables of this project include
- Internal and external presentations of project/analysis findings
- Peer-reviewed publication of analysis findings
- Recommendations of how to interpret hospital discharge data on firearm injuries

Major Project Impact:

The reports and deliverables generated by this project could be used to inform the continuing work of the ICD-10 Coordination and Maintenance Committee. If changes are made to the default rules of firearm injury coding, the analysis could understand how such changes may have played out in a real-world setting. Users of Minnesota hospital discharge data, including hospital systems, public health agencies, researchers, and others would have a better understanding of how to use and interpret firearm-related data. The improved understanding of these data would allow more appropriate and focused public health and public safety interventions.

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**Additional Project #1 Title: Assessing the impact of COVID-19 on violent deaths in Minnesota
Project #1 Type: Major Project**

Project #1 Description:

The COVID-19 pandemic affected literally every aspect of human society and its effects on suicide, homicide, and other violent deaths are not fully understood. The Minnesota Violent Death Reporting System (MNVDRS) contains data indicating whether a violent death was related to COVID-19 in some way. For this project, the Fellow would examine these COVID-related deaths (primarily suicide) and analyze them for patterns that differentiate those deaths from other deaths of the same manner. All cases in the MNVDRS contain detailed narrative descriptions, which would allow the Fellow to conduct qualitative analysis and/or text analysis to identify patterns and possible points of intervention should future pandemics or other disasters arise.

Project #1 Objectives and Expected Deliverables:

Objectives: Conduct qualitative analysis of narratives for violent deaths related to COVID-19 in Minnesota;
Expected Deliverables: Generate written report and presentation(s) summarizing methods, results, and recommendations of this analysis

Project #1 Impact:

To prepare for future pandemics, public health agencies must understand the full scope of the pandemic phase of COVID-19. This project will contribute to that understanding and potentially identify gaps in pandemic preparedness related to mental health and social supports that may have contributed to excess mortality.

**Additional Project #2 Title: Building Capacity for Surveillance of Cannabis Injury and Misuse
Project #2 Type: Surveillance Activity**

Project #2 Description:

Having become legal for recreational use in Minnesota in 2023, cannabis and cannabis-containing products have increasing potential for misuse and injury for Minnesota residents, particularly youth. MDH is responsible for monitoring any potential negative effects of cannabis use in Minnesota and the IVPS will continue to be involved in surveillance and prevention activities. However, the recency of these activities means that a Fellow would be in good position to sit at the forefront of helping MDH develop cannabis surveillance activities, such as identifying and executing analyses of a case definition for hospital-treated cannabis-related injury. In addition, a Fellow may help define and evaluate other data sources, such as EMS data, for their usefulness in identifying cannabis-related harms.

Project #2 Objectives and Expected Deliverables:

Objectives: assess current data sources that may permit monitoring of cannabis use, misuse, injury, and other adverse outcomes; assess capacity for developing surveillance products for cannabis use, misuse, and injury; begin development of case definitions for cannabis-related surveillance activities;
Deliverables: reports describing the capacity of IVPS to conduct cannabis-related surveillance activities; draft case definitions, including data sources, for cannabis-related surveillance activities.

Project #2 Impact:

Cannabis use, its potential harms and benefits, cannot be understood without high-quality, reliable data and information. This project would begin surveillance activities and lay the foundation for public health understanding of cannabis use in Minnesota.

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

The Fellow would have several opportunities to become involved in emergency preparedness efforts, including table-top exercises. Specifically, IVPS provides leadership for the COVID Long-Term Surveillance (LTS) efforts, activated in 2020 and expanded since, with more than 15 investigation topics identified so far. The Fellow could get involved in these investigations. For example, some of the injury and violence-related topics include COVID-19 impact on mental health, drug overdose, violent deaths, motor vehicle crashes; the impact of COVID on care for people with a traumatic brain injury or spinal cord injury; COVID-19 related worker's comp claims. These projects are designed to help understand the longer-term impacts of the COVID-19 pandemic. Time allocation would be .05 FTE.

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

Dr. Ruth Lynfield is our state epidemiologist, and she will assist with connecting the fellow with a cluster/outbreak investigation. Potential activities include developing a working case definition, identifying cases in a systematic way, conducting case investigation interviews, developing and testing hypotheses about transmission, etc. within the outbreak.

In addition, IVPS is regularly notified of potential clusters of suicide or drug overdose. Again, working with Dr. Lynfield and other MDH colleagues, the Fellow would be involved in some capacity to assist with such investigations. Time allocation would be .05 FTE.

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

It is well known that the burden of COVID is not evenly distributed throughout Minnesota and among population groups. The Fellow will use existing COVID and other datasets (e.g., hospital discharge data, syndromic surveillance) to conduct community-level surveillance, assessing the current distribution of COVID and changes that may occur. Among those groups, analyses will assess the impact of COVID on alcohol and other drug use, injury, and violence. Findings will be summarized in reports, and recommendations will be developed for state and local organizations to address the long-term impacts of COVID, particularly among communities at greater risk. A manuscript describing the findings will be drafted for peer-reviewed publication. Time allocated will be .15 FTE.

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

Health equity is of paramount importance to MDH. As such, there are numerous health equity-related projects in which the Fellow may play a role. The health equity community of practice meets monthly and includes staff from different areas of MDH presenting and discussing equity-related work they are doing. The MDH Center for Health Equity has developing standards related to demographic data collection and work is ongoing to ensure that all programs are collecting demographic data in ways that can help us understand and address inequities in our state. Both the IVPS and the division it sits in, Health Promotion and Chronic Disease Prevention, have health equity workgroups that are very active at both the level of promoting equity and inclusion within our workplace, as well as in how we work with partners, communities, and present our data. In all our work we strive to use a health equity lens and be mindful of how the ways we do our work can impact equity and inclusiveness.