

ID: 76971783

Injury, Substance Use/Mental Health - Host Site Description

Utah Department of Health and Human Services

Assignment Location: Taylorsville, US-UT
Utah Department of Health and Human Services
Office of the Medical Examiner

Primary Mentor: Michael Staley, BA, MA, PhD
Epidemiology Manager I and Suicide Prevention Research Coordinator
Utah Department of Health and Human Services Office of the Medical Examiner

Secondary Mentor: Megan Broekemeier, BS, MPH
Drug Overdose Prevention Research Coordinator | Epidemiologist II
Utah Department of Health and Human Services Office of the Medical Examiner

Work Environment

Hybrid

Assignment Description

The fellow will be placed in the Utah Office of the Medical Examiner (OME) Epidemiology Program, a section within the Utah Department of Health and Human Services (DHHS). As a public health agency, the OME is responsible for conducting thorough medicolegal death investigations to understand the causes and circumstances of sudden, unexpected, and unnatural deaths. Furthermore, the OME Epidemiology Program is tasked with improving suicide and fatal drug overdose surveillance across the state. The ultimate goal is to inform public policy, public health approaches, and reduce untimely deaths in Utah.

The fellow will work closely with epidemiologists, forensic pathologists, death investigators, behavioral health experts, researchers and state and local public health partners on a portfolio of high-impact projects. These projects focus on suicide and drug overdose surveillance, suspected overdose system evaluation, analysis of next-of-kin interviews and fatality review data and mass fatality planning. The fellow will also support preparedness and response efforts for suicide and overdose.

Day-to-day activities will include:

- Data management and analysis using death investigation data, death certificate data, surveillance systems, fatality review data and interview data
- Developing tools for surveillance visualization and early detection of clusters
- Writing protocols, evaluation reports, and public health communications
- Attending regular meetings with cross-disciplinary teams and partner agencies
- Engaging individuals with lived experience to ensure findings are communicated respectfully
- Participating in real-time response activities and preparedness planning

The fellow will have the opportunity to engage in cross-sector collaboration, contribute to statewide overdose and suicide prevention efforts, and apply a strong health equity lens to all projects. This placement offers a unique opportunity to apply epidemiology skills in a forensic public health setting to directly impact the understanding and prevention of sudden and unexpected deaths in Utah.

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

The fellow will have access to a robust set of data systems, analytical tools and secondary data sources to support their projects and day-to-day work.

The primary data system is the Utah medical Examiner Database (UMED), the case management system used by the Office of the Medical Examiner. UMED contains comprehensive death investigation data, suspected overdose information, autopsy findings, toxicology reports and investigation narratives with death scene findings and information from informant interviews.

The fellow will also work with interview data collected from next of kin, which are stored in a secure REDCap database. These data include both structured and unstructured data elements, supporting mixed-methods analysis. The fellow will utilize the Fatality Information Data System (FIDS), which maintains recommendations and contributing factors identified during fatality reviews, to analyze fatality review data across fatality review teams in DHSS. The fellow will have access to the DHHS Internal Overdose Dashboard, which displays suspected fatal overdose data and other substance use indicators to inform and respond to substance use emergencies.

Statistical analysis software will be available including R, STATA, QGIS, NVIVO for data analysis and GIS-related tasks. The fellow will have the flexibility to use the tools that best align with their training and project needs. In addition to primary surveillance and investigation data, the fellow may access a variety of secondary data sources, including education records, medical records and law enforcement reports, as needed for specific projects. These data will be made available through existing data sharing agreements.

Projects

Surveillance Activity Title: Development of a Geospatial Surveillance System for Suicide Deaths

Surveillance Activity Description:

The fellow will lead the design and implementation of a surveillance system to monitor suicide deaths in near real-time. This system will incorporate geospatial visualization tools to identify hot spots and clusters. Data sources will include death certificate data and other medico-legal death investigation data. The fellow will collaborate with programs across the state health department (e.g., violence and injury prevention program, substance use and mental health, environmental public health tracking network) and local health departments to develop and implement the system.

Surveillance Activity Objectives:

- Develop a system architecture for real-time tracking and visualization
- Integrate multiple datasets with geocoding and data cleaning processes
- Coordinate with local and state partners to determine key use cases and required features
- Deliverables include a functioning system prototype, documentation and presentation of system to stakeholders

Surveillance Activity Impact:

The system will enhance situational awareness, enabling local and state partners to detect emerging patterns, coordinate targeted interventions and deploy resources to communities most affected by suicide. This collaborative tool will strengthen data-driven decision-making and cross-jurisdictional response efforts.

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Surveillance System Evaluation Title: Evaluation of the Suspected Fatal Drug Overdose Surveillance System

Surveillance System Evaluation Description:

The fellow will evaluate the Utah Office of the Medical Examiner's suspected fatal drug overdose surveillance system, assessing its accuracy, positive predictive value and effectiveness in identifying true overdose deaths. The evaluation will include an analysis of the case definition criteria and performance of the exponentially-weighted moving average (EWMA) model for aberration detection. The fellow will work closely with partners in the state violence and injury prevention program and share findings with local health departments that rely on the system for rapid notification and response.

Surveillance System Objectives:

- Validate suspected cases against certified overdose deaths
- Analyze which case definition criteria are most predictive
- Evaluate the effectiveness of the EWMA detection model
- Share results with public health partners and provide recommendations for system improvements
- Deliverables include a technical evaluation report and a summary briefing for stakeholders

Surveillance System Impact:

Improving the suspected overdose surveillance system will enhance the ability of local and state health departments to detect and respond to overdose threats. The findings will support evidence based improvements to the system and inform overdose response activities.

Major Project Title: Analysis of Next of Kin Interview Data Following Suicide or Fatal Accidental Overdose

Major Project Description:

The fellow will lead a comprehensive analysis of interview data collected from next of kin of individuals who died by suicide or accidental overdose. Responsibilities include collaborating with academic partners, obtaining IRB approval, developing an analysis plan and conducting quantitative and qualitative analyses. The fellow will engage individuals with lived experience and collaborate with state and local partners, including behavioral health and harm reduction programs, to ensure the findings are actionable and communicated in a respectful and meaningful way.

Major Project Objectives:

- Secure IRB approval and finalize a mixed-methods analysis plan
- Analyze data to identify contributing factors, trends and intervention opportunities
- Collaborate with local and state programs to interpret findings and align them with program needs
- Develop a summary report for public dissemination

Major Project Impact:

This project will provide rich contextual data to fill gaps in understanding of risk factors and events leading to suicide and overdose. The findings will inform statewide prevention and overdose strategies and community-level interventions.

Additional Project #1 Title: Statewide Analysis of Contributing Factors and Recommendations from Utah Fatality Review Teams

Project #1 Type: Major Project

Project #1 Description:

The fellow will lead a cross-cutting analysis of data from Utah's fatality review teams, including those focused on drug overdose, suicide, infant and child death, domestic violence and maternal deaths.

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These multidisciplinary teams maintain a list of standardized and unique recommendations along with contributing factors in the DHHS case management system for fatality reviews, Fatality Information Data System (FIDS). The fellow will work with team coordinators, data managers, and public health stakeholders to compile, standardize, and analyze this information to uncover common themes, emerging risks, and opportunities for coordinated prevention strategies.

Project #1 Objectives and Expected Deliverables:

- Analyze contributing factors and recommendations across different types of deaths and populations
- Identify trends, recurring systemic issues, and opportunities for alignment of prevention strategies
- Develop summary materials such as internal reports, presentation slides, and data briefs to share findings with review team members and decision-makers
- Optional deliverables include a policy brief, manuscript, or dashboard/tool for interactive data exploration

Project #1 Impact:

This project will amplify the collective insight generated by Utah's fatality review teams, helping to identify systemic contributors to preventable deaths and inform actionable, evidence-based solutions. By synthesizing recommendations across causes of death, the project supports improved cross-sector coordination, prioritization of upstream prevention strategies, and the development of unified messaging and interventions. The work has the potential to influence policy, enhance statewide prevention planning, and ensure that lessons learned through fatality review translate into meaningful change.

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

The fellow will refine a plan for conducting family interviews as part of the Family Assistance Center (FAC) operations during a mass fatality event. This protocol will incorporate an existing Victim Identification Program (VIP) form, a standardized tool to collect antemortem data from the family members of missing or deceased individuals to support identification efforts. The fellow will collaborate with state emergency management, local funeral directors who volunteer to conduct antemortem interviews, victim advocates, local health departments and other key stakeholders to ensure the plan aligns with the broader mass fatality response plan and reflects trauma-informed best practices. Deliverables include training material for interviewers and implementation guide nested within the Medical Examiner's mass fatality plan. Emergency preparedness will make up 5-10% of the fellow's workload.

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

The fellow will support state and local preparedness and response efforts for suicide and overdose clusters, spikes, and other substance use emergencies. This includes contributing to the refinement of aberration protocols and response plans, participating in real-time investigations and collaborating with local health departments, community partners, and other state health department programs (e.g., EMS, substance use and mental health, violence and injury prevention) to understand gaps in needs. Project objectives and expected deliverables:

- Support the development and testing of response protocols
- Participate in planning and conducting cluster investigations
- Evaluating response and investigations
- Coordinate data sharing, communication, and follow up actions with partners

Deliverables include updated response protocols and after-action reports. Cluster and outbreak investigation will make up 5-10% of the fellow's workload.