ID: 88179903
Injury - Drug Overdose, Injury - Host Site Description
Florida Department of Health

Assignment Location: Tallahassee, US-FL
Florida Department of Health
Department of Health/Division of Public Health Statistics and Performance Management

Primary Mentor: Blake Scott, Ph.D., MPH
Program Manager
Florida Department of Health

Secondary Mentor: Alexis DiBlanda, MPH
Injury Epidemiologist
Florida Department of Health

Work Environment
100% In-person

Assignment Description

The fellow will be placed within the Division of Public Health Statistics and Performance Management in the Bureau of Public Health Research at the Florida Department of Health, a unit responsible for managing and analyzing population-based data to inform statewide policy, program planning, and evaluation. This Division supports programs across the Department by maintaining core surveillance datasets (e.g., vital statistics, hospital and emergency department data, syndromic surveillance), producing analytic reports and dashboards, and providing methodological expertise for epidemiologic studies and evaluations.

Day to day, the fellow will work as a contributing member of the OD2A and Injury Surveillance teams, spending most of their time conducting data management and statistical analysis using large administrative and surveillance datasets, drafting technical summaries, and preparing tables, figures, and maps for internal reports and presentations. They will advance major projects such as the motor vehicle injury analysis and hurricane-attributable injury work, as well as focused overdose and drowning surveillance activities. Routine activities will include coding in SAS or R, documenting methods, meeting with mentors and project collaborators, and preparing materials for leadership briefings, dashboards, and partner communications. During hurricane season or in response to specific events, the fellow may also spend a portion of their time reviewing near real-time ESSENCE data for injury and drowning patterns, supporting situational awareness and post-event analyses.

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

The fellow will have access to a rich set of analytic tools and data systems within the Division of Public Health Statistics and Performance Management. They will routinely work with large, person-level databases including vital statistics (birth and death certificates), hospital discharge and emergency department visit datasets, syndromic surveillance (ESSENCE), and, where appropriate, EMS and Medical Examiner data. Statistical analysis and data management will primarily be conducted using software such as SAS and/or R, with additional use of Excel, ESRI software, internal query tools and public dashboards (e.g., FLHealthCHARTS) to support exploratory analysis and data visualization. The fellow will also benefit from established data dictionaries, codebooks, and shared programming resources maintained by the Division, as well as secure network environments that support handling of confidential health data in compliance with Department policies and applicable privacy regulations.

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Projects

Surveillance Activity Title: Characterizing Overdose Mortality Across Florida Medical Examiner Districts Using SUDORS and Complementary Surveillance Data

Surveillance Activity Description:
This project will use the State Unintentional Drug Overdose Reporting System (SUDORS) to describe and compare overdose mortality across Florida's 25 Medical Examiner Districts. The fellow will analyze SUDORS data to quantify district-level trends in overdose deaths by substance type, demographic characteristics, and key circumstances surrounding deaths. To provide complementary context, the project will also summarize Vital Statistics, EMS, and hospital data for the same geographic areas and time periods, examining patterns separately in each dataset rather than through record linkage. These parallel analyses will support a more global understanding of overdose burden within and across districts while preserving the independence of each data source. Results will be synthesized into district-level narrative profiles and an aggregate statewide report that can be shared with Medical Examiner offices and partner agencies. Products will support Florida's OD2A program and collaborators, including the Department of Children and Families, by informing policy discussions, prioritization, and targeted implementation of prevention and harm reduction strategies. Findings will also be used to suggest enhancements to the FLHealthCHARTS' Substance Use Dashboard and to align its content more closely with the Florida Medical Examiners' public dashboard of Drugs Found in Deceased People.

Surveillance Activity Objectives:
-Describe overdose mortality trends and patterns in each of the 25 Medical Examiner Districts using SUDORS.
-Independently summarize Vital Statistics, EMS, and hospital overdose-related data by district to complement SUDORS findings.
-Develop standardized narrative templates and district-level summaries for feedback to Medical Examiner offices.
-Produce a written aggregate report and visualizations suitable for leadership briefings and partner meetings.
-Generate recommendations to enhance the FLHealthCHARTS' Substance Use Dashboard based on project findings.

Surveillance Activity Impact:
The project will provide actionable, district-specific overdose intelligence to support more precise targeting of prevention, treatment, and harm reduction resources. It will also strengthen data-informed collaboration between OD2A, Medical Examiners, and partner agencies, improving Florida's overdose surveillance and response capacity.

Surveillance System Evaluation Title: Evaluating the Validity of Florida's Syndromic Surveillance (ESSENCE) for Emergency Department Overdose Visits

Surveillance System Evaluation Description:
This surveillance evaluation project will assess the performance of Florida's ESSENCE syndromic surveillance system for monitoring overdose-related emergency department (ED) visits by comparing it to finalized ED visit data from the Agency for Health Care Administration (AHCA). For a defined time period, the fellow will compare ESSENCE overdose visit counts to corresponding AHCA records, examining overall agreement as well as differences by key demographic strata (e.g., age, sex, race/ethnicity, geography). The evaluation will focus on core surveillance system attributes, including data completeness, timeliness, and representativeness of ESSENCE relative to AHCA's finalized dataset. The project will also consider system burden and utility for the OD2A program, documenting how well ESSENCE data support ongoing overdose surveillance compared to retrospective AHCA data, which become available months later. Findings will inform how OD2A uses ESSENCE for overdose monitoring and where refinements in data quality checks or analytic methods may be needed to improve validity and usefulness.

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Surveillance System Objectives:
-Quantitatively compare ESSENCE overdose ED visit counts with AHCA finalized visit data for the same period.
-Evaluate system attributes (e.g., completeness, timeliness, agreement, and demographic representativeness) of ESSENCE relative to AHCA.
-Assess validity across population groups and identification of high-burden communities.
-Produce a written evaluation report with methods, results, and recommendations, plus summary tables/figures for leadership.
-Develop a brief technical guidance document for OD2A staff on the appropriate interpretation and use of ESSENCE overdose indicators.

Surveillance System Impact:
This project will clarify how accurately ESSENCE reflects overdose-related ED utilization, strengthening confidence in its use for overdose surveillance. It will also guide improvements to Florida's overdose surveillance strategy, enhancing the state's ability to detect and characterize emerging overdose trends.

Major Project Title: Ten-Year Motor Vehicle Injury Burden in Florida: Deaths, Hospitalizations, and Emergency Department Visits

Major Project Description:
In this major project, the fellow will conduct a comprehensive analysis of motor vehicle-related injuries in Florida over a 10-year period, using death certificate data from the Florida Department of Health Bureau of Vital Statistics and hospital admission and emergency department (ED) visit data from the Florida Agency for Health Care Administration. The fellow will focus on motor vehicle occupants, motorcyclists, pedal cyclists, pedestrians, and other motor vehicle traffic-related injuries, calculating numbers and rates of ED visits, hospitalizations, and deaths by injury type. Using statistical software such as SAS or R, the fellow will develop and apply coding and analytic skills to compare injury burden across demographic groups and to examine factors associated with these injuries, including seasonal variation, time of day or arrival, injury location characteristics, vehicle type (for fatalities), length of stay, payer type, and costs for hospital and ED encounters. Results will be synthesized into tables, figures, and narrative summaries and shared with internal and external stakeholders through at least one oral presentation to Department leadership and partners and, where feasible, a conference poster or presentation.

Major Project Objectives:
-Describe 10-year trends in ED visits, hospitalizations, and deaths for major motor vehicle-related injury categories.
-Compare motor vehicle injury burden across key demographic groups and relevant temporal, clinical, and contextual factors.
-Produce a comprehensive analytic report (tables, figures, narrative) summarizing findings and implications.
-Develop and deliver an internal stakeholder presentation and at least one abstract suitable for a professional conference.

Major Project Impact:
This project will provide actionable insight into which populations and injury types bear the greatest burden of motor vehicle injury in Florida. Findings will support Department programs and external coalitions in targeting and tailoring injury prevention strategies.

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Additional Project #1 Title: Near Real-Time Drowning Cluster Detection in Florida Using Syndromic and EMS Data
Project #1 Type: Other

Project #1 Description:
Drowning is a major public health concern in Florida, particularly among children ages 0-4 and individuals with autism spectrum disorder. In this project, the fellow will use syndromic surveillance data (ESSENCE) and emergency medical services (EMS) data to identify potential clusters of drowning and near-drowning events over the course of one year. The fellow will define the population of interest, specify inclusion criteria and timeframes, and apply appropriate epidemiologic and basic spatial/temporal methods to detect unusual concentrations of events, while considering potential sources of bias such as variable coding practices or incomplete location data. The fellow will then propose an epidemiologic investigation approach and select study designs (e.g., descriptive or ecological analyses, case-series) that are most appropriate for exploring factors that may contribute to drowning risk in affected communities. Findings will be translated into a draft response and communication plan to support injury prevention partners.

Project #1 Objectives and Expected Deliverables:
-Define the population of interest and surveillance case criteria for drowning and near-drowning in ESSENCE and EMS data.
-Conduct descriptive and cluster analyses over a one-year period, stratified by age, geography, and other relevant factors.
-Identify and discuss potential biases and limitations in the data and analytic approach.
-Recommend an appropriate epidemiologic study design for follow-up investigation of identified clusters.
-Produce a concise analytic summary and a draft response/communication plan for use by injury prevention and child safety partners.

Project #1 Impact:
This project will strengthen Florida's capacity to detect and understand emerging drowning patterns in near real time. It will support earlier, more targeted prevention and outreach efforts for communities and populations at highest risk.

Additional Project #2 Title: Hurricane-Attributable Injuries and Medical Encounters in Florida, 2004-2023
Project #2 Type: Other

Project #2 Description:
This project will expand on existing work by the Florida Department of Health's previous Disaster Epidemiologist, which has identified hurricane-attributable fatalities from 2004-2023 and described associated demographics and circumstances of death. Building on that foundation, the fellow will identify hurricane-related injuries in Florida's hospital admission and emergency department (ED) visit datasets and analyze the demographic characteristics and mechanisms of injury among affected patients. Additional encounter-level characteristics, such as seasonal variation, time of arrival, length of stay, payer type (insurance), and cost, will also be examined. Because Florida experiences more hurricanes than any other state and there is a critical gap in surveillance of non-fatal hurricane-related injuries, this work will address an important need. Understanding who is injured, how, where, and when these injuries occur will provide actionable information to refine hurricane preparedness messaging and response strategies.

Project #2 Objectives and Expected Deliverables:
- Identify and define hurricane-related injury encounters in statewide hospital admission and ED visit datasets for 2004-2023.
-Describe demographic patterns, mechanisms of injury, and key encounter characteristics (time of arrival, length of stay, payer, and cost).
-Compare patterns across storms, regions, and selected time periods to identify high-risk populations and contexts.

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-Produce a written analytic report with tables, figures, and a concise executive summary for health department leadership.
-Develop key messages and data summaries to inform hurricane preparedness and response materials for internal and external partners.

Project #2 Impact:
This project will fill a major knowledge gap on non-fatal hurricane-related injuries in Florida, complementing existing mortality analyses. The findings will help state and local partners target preparedness and response efforts to the populations, settings, and circumstances where hurricane-related injuries are most likely to occur.

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

The fellow will play a meaningful, but focused, role in Florida's hurricane preparedness and response activities, with a portion of their time dedicated to disaster-related projects alongside core overdose and injury work. Over the course of the fellowship, they will allocate time to developing and executing the drowning cluster analysis and the hurricane-attributable injury project, building familiarity with ESSENCE, EMS, hospital, and vital records data in the context of disasters. During hurricane season, the fellow may be formally activated to assist with near real-time review of ESSENCE data for injury and drowning signals, supporting situational awareness for the Department's incident command or emergency operations structure. In the post-storm period, they could be deployed (either virtually or in person) to help characterize hurricane-related ED visits, hospitalizations, and injuries, and to contribute to after-action reports and data-informed recommendations. Together, these activities will position the fellow as a flexible analytic resource who can shift a defined portion of their time, particularly during active events, from routine analytic work to targeted preparedness and response support.

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

The fellow will take an active role in cluster detection and monitoring using ESSENCE syndromic surveillance data, applying epidemiologic methods to identify and characterize potential outbreaks throughout the year. Through the drowning cluster analysis project, they will routinely follow ESSENCE signals for drowning and near-drowning events in near real time, defining case criteria, establishing surveillance timeframes, and tracking patterns by age group, geography, and season to detect unusual concentrations among high-risk populations like children ages 0-4 and individuals with autism. During hurricane season or major storm events, the fellow will extend this expertise to monitor ESSENCE for hurricane-related injury clusters, providing timely situational awareness on mechanisms, demographics, and trends to inform response coordination. This ongoing cluster monitoring will build the fellow's skills in bias assessment, study design selection, and rapid data interpretation, positioning them as a key resource for the Department's outbreak investigation and early warning activities.