

Injury, Chronic Diseases

Kansas Department of Health and Environment, Bureau of Health Promotion

Topeka, Kansas

Assignment Description

The CDC/CSTE applied injury epidemiology fellow position will be located within the Bureau of Health Promotion (BHP) at the Kansas Department of Health and Environment (KDHE) in Topeka, KS. BHP employs more than fifty public health professionals, including six trained epidemiologists, and encompasses the agency's chronic disease, injury prevention and disability programs. The Bureau is responsible for building and maintaining the state's capacity for population-based surveillance of health risk behaviors. The fellow will work very closely with BHP's Kansas Injury Prevention and Control Program, the recognized state leader in injury prevention and control and a respected source for technical support, surveillance expertise, and program oversight. The fellow will also work closely with the Bureau's Surveillance, Epidemiology and Evaluation Section, which conducts the Kansas Behavioral Risk Factor Surveillance System (BRFSS) surveys, the Kansas Violent Death Reporting Surveillance System, the Child and Adult Asthma Call Back Surveys, Adult Tobacco Surveys, Youth Tobacco Surveys and other population based health risk surveys. These surveillance data are widely used by health professionals for program planning, evaluation and policy making at the state and local level.

Day-to-Day Activities

- Consult with mentors to design and receive feedback on project objectives, methodologies, analysis plans and products.
- Conduct statistical analyses using SAS 9.4.
- Create and disseminate injury data reports, fact sheets and/or peer-reviewed manuscripts
Create maps of injury data using ArcGIS software.
- Participate in relevant program staff meetings, including Injury Prevention and Control Program, Prescription Drug Overdose Prevention and Kansas Violent Death Reporting System staff meetings.
- Participate in monthly BHP Epidemiology Staff Meetings.
- Participate in monthly Syndromic Surveillance Workgroup Meetings.
- Participate in professional development opportunities, including workshops, webinars and national conferences - Engage in networking opportunities at statewide partnership meetings.
- Present scientific work at state and national conferences, including the Kansas Public Health Association Annual Conference, the CSTE Annual Conference, and Safe States Annual Meeting.

Potential Projects

Surveillance Activity Using the Kansas Violent Death Reporting System (KsVDRS) to Inform and Prevent Violent Deaths in Kansas

Kansas is funded by the CDC to collect surveillance data on the “who, when, where, and how” of violent deaths to provide insights on “why” they occur. To answer the questions surrounding these deaths, the KsVDRS: links records to describe in detail the circumstances that may contribute to a violent death; identifies violent deaths occurring in the same incident to help describe the circumstances of multiple victim homicides or homicides followed by the suicide of the suspect; provides timely preliminary information on violent deaths; and characterizes the relationship of the victim to the alleged perpetrator. Potential fellow activities include assisting with data collection and automatic upload of mortality data; using statistical software to analyze and characterize the KsVDRS data; providing recommendations for further strengthening and expanding the system to support prevention of violent deaths in Kansas; and developing technical documentations to analyze KsVDRS surveillance data.

Surveillance Evaluation Implementing and Evaluating Syndromic Surveillance (SyS) to Inform Injury and Violence Prevention with New ICD-10-CM Injury Case Definitions

Syndromic Surveillance provides real-time emergency department visit data for the purposes of improving monitoring, tracking and responsiveness to hazardous events and disease outbreaks. The rollout of the new ICD-10-CM framework requires modified SAS codes and injury case definitions to appropriately assess changes in current injury surveillance and evaluation trends. Potential fellow activities include 1) participating in national workgroups to examine the use and limitations of the new ICD-10-CM injury case definitions for injury surveillance within and across states 2) evaluating SyS data quality for injury and violence surveillance 3) developing syndrome definitions for injury and violence and 4) using SyS system for surveillance of injury and violence prevention (e.g., emergency preparedness, extreme-weather related events, sexual violence and suicide attempts). Specific evaluation activities could include assessing the completeness, consistency, specificity, quality and representativeness of ICD-10-CM injury surveillance data using the CDC evaluation framework.

Major Project Emergency Preparedness Project

The Injury Prevention and Disability Program is partnering with KDHE’s preparedness program to assess impacts of environmental disasters to the health and medical community. We are interested in knowing the medical impacts of the state’s top three environmental hazards which include tornados, floods and winter storms. A fellow could analyze various data sources to investigate related injuries, health outcomes, situational information, etc. for those injured after each major nature disaster. This information will help us inform the Kansas Hazard Mitigation Plan and jurisdiction risk assessment with the end goal to minimize the impact of future incidents.

Surveillance Activity Using Prescription Drug Monitoring Program (PDMP) data to Inform Opioid, Misuse, Abuse, and Overdose Prevention Efforts in Kansas

Drug poisoning deaths have increased dramatically over the last few decades, and are largely attributable to prescription drug abuse. Due to the emerging and complex field of drug abuse epidemiology there is an important need to work collaboratively with state- and local-level partners, analyze the most current data and stay knowledgeable with the latest and best practices. KDHE was recently awarded a three year CDC grant to advance and evaluate state-level prevention for opioid misuse, abuse, and overdose. The fellow will assist the program in their efforts to improve surveillance, analyze data and implement a prevention program to combat the prescription drug epidemic. Potential fellow activities include using de-identified prescription drug monitoring program data or real-time summary-level prescription drug data from the Kansas Tracking and Reporting of Controlled Substances to examine prescription behaviors at the region-, county-, city, and zipcode-level for differences in risk factors related to drug overdose deaths. Other activities include utilizing small-area estimation methods to appropriately report sparse estimates, assisting with analysis of vital statistics, emergency department visits, BRFSS, and PDMP data for surveillance indicators and collaborating with KDHE partners via engaging in subcommittees such as the PDMP, overdose and mental health subcommittee.

Additional Project Mapping the Burden of Injury and Violence in Kansas

In 2014, the Bureau of Health Promotion (BHP) at KDHE was awarded funding from the National Association of Chronic Disease Directors (NACDD) and CDC to enhance the ability of the agency to use GIS to support surveillance and prevention of heart disease, stroke and other chronic diseases. This opportunity has resulted in increased capacity within BHP to use ArcGIS software for mapping chronic disease and injury surveillance data, including mortality, hospital discharge, emergency department visit and health risk behavior data. Potential fellow activities include using SAS to analyze and ArcGIS to map injury and violence mortality and incidence surveillance data at the county and sub-county level, as well as identifying community resources for injury prevention and control partners and stakeholders.

Preparedness Role

In the event of a public health emergency, the fellow will work as part of a State Epidemiologic/Surveillance team and will participate in designing and conducting bio-preparedness methodologies and on outbreak investigations. Other activities can include table-top exercises, full scale exercises, and incident command training.

Additional Activities

- Cancer Prevention and Control: Participate in Comprehensive Cancer Control Regional Partnership activities related to prevention, early diagnosis, treatment & survivors' health issues.

- Physical Activity and Nutrition
 - Analyze the epidemiologic burden of obesity.
 - Analyze disparities related to risk factors and health consequences related to obesity using information from the Kansas Behavioral Risk Factor Surveillance System, vital statistics, hospital discharge data and the Kansas Youth Risk Behavior Survey.

- Tobacco Prevention & Control:
 - Assist the Tobacco Use Prevention and Control Program with the analysis of a Kansas Tobacco Quitline data to evaluate Quitline service delivery and effectiveness.
 - Examine utilization of the Medicaid benefit for tobacco cessation.
 - Utilize Geographic Information Systems (GIS) to examine disparities in the density of tobacco retail outlets located in proximity to schools.
 - Analyze various tobacco data sources, including Kansas BRFSS, Adult Tobacco Survey, Youth Tobacco Survey, vital statistics and hospital discharge, to create a tobacco burden document for Kansas.
 - Examine the utility of using poison control data to estimate the burden of tobacco related poisonings due to Electronic Nicotine Delivery Devices.

Mentors

Primary

Ghazala Perveen MBBS, MPH, PhD

Director of Science and Surveillance/Health Officer

Secondary

Fan Xion MPH

Kansas Data-Driven Prevention Initiative (DDPI) Epidemiologist