Injury-Drug Overdose, Injury

California Department of Public Health, Injury and Violence Prevention Branch

Sacramento, California

Assignment Description

The Fellow will be placed jointly in two IVPB programs, the Overdose Prevention Initiative (OPI), which is funded by the Overdose Data to Action (OD2A) grant from the Centers for Disease Control and Prevention (CDC) and the California Violent Death Reporting System (Cal-VDRS) funded by the National Violent Death Reporting System (NVDRS) grant from CDC. Since 2017, CDC funding through OD2A (previously, Prevention for States and Enhanced State Opioid Overdose Surveillance grants) and NVDRS has been used to enhance mortality surveillance by implementing California’s involvement in the NVDRS and Statewide Unintentional Drug Overdose Reporting System (SUDORS) to compile detailed information on violent and drug overdose deaths for the purposes of public health prevention. These programs combine data from various data sources (i.e., vital records, coroners/medical examiners, toxicology laboratories, and law enforcement) that include detailed information on the deaths into a secure and de-identified database. These two programs are an essential part of IVPB injury surveillance and prevention activities and represent much of the data collection work conducted by the branch.

Surveillance activities for OD2A also include working with data from emergency department visits, hospitalization visits, California's prescription drug monitoring program, and death certificates. These data will be used to inform a multitude of prevention activities to combat the drug overdose epidemic. Cal-VDRS surveillance collects information on violent deaths including suicide, homicide, legal intervention, unintentional firearm deaths, and deaths of undetermined intent.

There may be additional opportunities to work with other programs in IVPB depending upon the Fellow’s interest. More information about IVPB programs and projects can be found at https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/SACB.

Day-to-Day Activities

The Fellow can expect to be invited to different program meetings to learn about the different areas of injury the branch focuses on. Fellows are encouraged to pursue their topic(s) of interest and can be integrated into the ongoing work based on the project needs and capacity. Due to the nature of injury epidemiology, many branch projects involve work between several programs and include teams of program and surveillance staff, the Fellow will have the opportunity to work closely with both program staff and epidemiology staff. IVPB consists of approximately 40 staff members including both epidemiologists and health educators. The branch has current Cal-EIS fellows that are being hosted and several staff members that are former Cal-EIS and CSTE fellows.

Working closely with their mentors, the Fellow will establish a plan of action for what projects they would like to accomplish during their fellowship. Fellows are encouraged to share their work through data briefs, reports, presentations, and seminars. The Fellow will be fully integrated into the branch and will attend regular staff meetings for the branch to learn about the administrative and political processes of a large state health department as well as surveillance staff meetings. There are also
numerous presentations, webinars, seminars, etc. available to attend as learning opportunities that are hosted by CDPH, CSTE, and other agencies and organizations (e.g. the Wednesday Speaker Series at the UC Center).

**Potential Projects**

**Surveillance Activity**  **Rapid Opioid Overdose Death Case Identification**

With approximately 2,400 opioid-related overdose deaths in 2018, California continues to face a serious public health crisis. The opioid epidemic in California is a dynamic phenomenon and has been dramatically changing since 2014, with major increases in both heroin and fentanyl-related deaths. Heroin-related deaths increased by 40% from 561 in 2014 to 785 in 2018 and fentanyl-related overdose deaths increased by over 700% from 97 in 2014 to 786 in 2018. This increasing involvement of illicit substances has aggravated the situation and created a new set of challenges for prevention and interventions and an increased need for more timely data. Through grant funds from CDC OD2A grant IVPB will collaborate with medical examiners/coroners in several high burden California counties to collect preliminary count data on suspected opioid overdose deaths. The goal of this effort is early detection and reporting of preliminary opioid overdose death count data within a month from the date of death. IVPB will work closely with CDC and local health departments to create a case definition to capture suspected opioid overdose cases within one month of the date of death. Data collected using the rapid opioid overdose death case definition will be analyzed with the confirmed opioid overdose cases to assess the sensitivity and specificity of the rapid case definition and the viability of using the rapid opioid overdose death case for rapid surveillance of opioid overdose deaths.

**Surveillance Evaluation**  **Unintentional Overdose and Violent Death Surveillance System Evaluation**

In 2018, nearly 5,000 unintentional drug overdose deaths and approximately 6,700 violent deaths occurred in California. Using preliminary death certificate data, an evaluation of CDPH’s unintentional drug overdose death and/or violent death surveillance systems would identify: (1) if all cases are being captured, (2) if cases could be identified sooner, and (3) what role amendments to the death certificate play in timeliness and quality of data for case identification. Understanding the strengths and limitations of these surveillance systems for fatal overdose and violent deaths could help improve the systems and inform data dissemination and prevention efforts aimed at reducing overdose and violent deaths.

**Major Project**  **Analysis of Drug Overdose or Violent Death Data**

Drug overdoses and violence are major public health problems that affect individuals, families, and entire communities and are preventable. In 2018, there were nearly 5,000 drug overdose related deaths and about 6,700 violent deaths among California residents. Data from NVDRS and SUDORS is available for analysis that can be used to identify circumstances related to these deaths such as associated risk factors (e.g., history of drug abuse, mental health problems, homelessness, relationship problems, life stressors) and answer research questions such as “What is the relationship between methamphetamine...”
and heroin use?’ or ‘What life crises are most common in victims of suicide?’ IVPB welcomes creative ideas that can maximize the benefits of this unique database in understanding the circumstances related to drug overdose and violent deaths in California.

Surveillance Activity Veteran Suicide Surveillance

California Assembly Bill 242 (2017) requires the CDPH to report on California veterans who died by suicide. According to the most recent data, of the 4,371 suicide deaths to California residents over the age of 18 years in 2018, 690 (15.8%) were among those who had served in the armed forces. Currently, this report is limited to data available on the death certificate where the definition of veteran status is identified by the answer to a single item asking whether the decedent was “ever in the United States Armed Forces”. This definition does not distinguish between current and former service members, nor does it identify those who saw active duty. Additionally, because we do not currently have population numbers for this specific group, we are unable to provide rates of suicide among this population. The goal of this surveillance project is to work closely with state and national veteran’s groups to align veteran definitions and population numbers. Data collected will be analyzed to monitor trends in suicide deaths to veterans in California with the purpose of leading to prevention efforts aiding this population.

Major Project Self-Harm Related Healthcare Visits

In 2017, there were over 4,000 Californians that died by suicide, additionally there were over 10,000 hospitalizations due to self-harm, and over 30,000 emergency department visits due to self-harm. Multiple years of statewide emergency department and hospitalization visit data are available for in-depth analyses on self-harm such as, better understanding co-morbidities, geographic and demographic differences, repeat visits related to self-harm, and estimated healthcare costs of self-harm visits. Mentors are welcoming of new and innovative projects to analyze and understand more about emergency department visits involving self-harm, in order to inform programs and prevention strategies that will make an impact on preventing self-harm and suicide. Fellows will be encouraged to prepare a data brief or report for dissemination.

Preparedness Role

In a large and diverse state like California, the Fellow will have the opportunity to serve in a variety of emergency situations. IVPB has worked with the Medical and Health Coordination Center (MHCC) at CDPH and the Fellow may have the opportunity to be involved in these efforts. The MHCC conducts regular trainings on the Incident Command System and Standardized Emergency Management System to prepare individuals to serve on incident response teams (IRTs). In the past, the MHCC has been opened for continuous situational awareness on the opioid epidemic and e-cigarette and vaping related lung injury. Fellows at IVPB are encouraged to attend the training and serve on one of the numerous IRTs in the MHCC. Further, previous fellows have taken part in community surveys in the field using the tools for Community Assessment for Public Health Emergency Response (CASPER), received general and
public health emergency preparedness trainings, outbreak response training, and served as members of various IRTs.

Previous department fellows have joined the field team for infectious disease surveillance related to the wildfires in 2018 northern California, conducting surveillance for norovirus and influenza-like illness in emergency shelters. Past fellows in the department have also participated in CASPERs related to the 2017 wildfires in Sonoma County, ongoing drought in the Sierra foothills in 2016, and the 2014 Napa County earthquake.

**Additional Activities**

In addition to the previously identified projects, other potential activities the fellow may be involved in include: analyses of opioid-related overdose victims’ occupation and industry, general injury surveillance, syndromic surveillance, or data visualization and dissemination activities related to the California Opioid Overdose Surveillance Dashboard ([https://cdph.ca.gov/opioiddashboard](https://cdph.ca.gov/opioiddashboard)).

**Mentors**

**Primary**  
Julie Cross Riedel PhD, MPH  
Research Scientist III; Principal Investigator, California Violent Death Reporting System

**Secondary**  
Natalie Demeter MPH  
Research Scientist II