

Behavioral Health, Substance Abuse

Chicago Department of Public Health, Epidemiology and Substance Use

Chicago, Illinois

Assignment Description

This fellow will sit in both the Office of Epidemiology and Research and the Substance Use Program. Their dual location will be beneficial as they will be steeped in the work of each program and will benefit from their mutual support and knowledge. Tamara Rushovich, the primary mentor and an epidemiologist, will work to ensure that the fellow is fully integrated into the Office of Epidemiology and Research - from involvement in projects and professional development opportunities, to social/team building activities. Additionally, Allison Arwady, the secondary mentor and Chief Medical Officer, oversees programs across the department (including substance use, mental health, communicable disease and emergency preparedness), and is uniquely positioned to involve the fellow in exciting work occurring across the department and to get support for the fellow's projects if needed.

Day-to-Day Activities

CDPH is fundamentally committed to pursuing public health through the lenses of health equity, social justice, and anti-racism. The fellow will be provided training in topics such as Trauma 101, health equity, and undoing racism and will be encouraged to conduct and complete their projects with these values in mind. The Office of Epidemiology and Research works hard to conduct analyses that focus on unearthing and shedding light on societal inequities and structural and root causes of health, with which the fellow will play a key role in assisting. The fellow's day-to-day activities will be determined by their goals and interests and will be defined by the long-term and short-term projects. The fellow will work closely with the substance use program, which oversees delegate agencies that provide substance use treatment services as well as Office of Epidemiology and Research, which conducts surveillance and provides data and analytic support to CDPH offices and programs. As CDPH wants to give the fellow experience in the full breadth of public health at the local level, the fellow will have numerous opportunities for participation on internal and external committees according to the fellow's interests and agency needs.

Daily activities, particularly early in the Fellowship, will center on the fellow's evaluation of the opioid overdose surveillance system which will orient the Fellow to the various datasets available at CDPH. The fellow will work with Tamara Rushovich, MPH, Epidemiologist (Primary Mentor) and Allison Arwady MD, MPH, Chief Medical Officer (Secondary Mentor) on a daily basis and will become fully integrated into the epidemiology program and substance use program. Within the first few months, the fellow will receive, as needed, training in GIS and SAS software, as spatial associations and identification of areas of high burden will be a featured element of most projects. Under supervision of the Chief Medical Officer and Epidemiologist, the fellow will perform analyses that will allow the department to better understand the local opioid epidemic and better design interventions and target funding.

With progressive gains in experience and exposure to emerging issues impacting substance use and behavioral health, the fellow will be encouraged to identify additional projects of interest. The fellow will be immersed into the daily activities of CDPH and will be an active member of both the Substance Use and Epidemiology teams. The fellow will also have the opportunity to work with the Public

Health Emergency Preparedness and communicable disease programs to gain exposure to a diverse range of epidemiologic projects.

The fellow's experience at CDPH will be characterized by engagement with multiple stakeholders in substance use and behavioral health. Such collaborations include other divisions within CDPH, other local area health departments, the Illinois Department of Public Health, academic institutions, community-based organizations, and advocacy groups. The fellow will have multiple opportunities to present ongoing and completed work in local and national forums, and will be supported in writing and submitting the completed long-term project for peer-reviewed publication.

Potential Projects

Surveillance Understanding the Intersection of Opioids and Hepatitis C Virus (HCV). Activity

Currently at CDPH, the HCV surveillance system is being built up and the data is being examined greater detail. This provides an opportunity for the fellow to conduct some novel analyses for the department. For this project the fellow will work closely with epidemiologists in the CDPH Communicable Disease programs to understand associations between opioids and HCV. While some preliminary investigation at CDPH has been done in this area, the fellow would have the opportunity to conduct new analyses to understand the intersection of new HCV cases and opioid use and overdose. The fellow will work closely with the HCV epidemiologist to analyze newly reported cases of HCV and understand the prevalence of opioid use among them. The fellow would also work with new data on perinatal HCV cases in Chicago to understand any associations and risk factors associated with opioid use.

Surveillance Evaluating Opioid Overdose Surveillance Evaluation

At the Chicago Department of Public Health, we have worked closely with the Cook County Medical Examiner to gain a detailed understanding of the opioid-related overdose deaths occurring in Chicago. We know, however, that deaths only represent the tip of the iceberg when thinking about this epidemic. We are working to triangulate several datasets that provide information about non-fatal opioid-related overdoses - ESSENCE, ED Discharge data, and EMS data. Each of these datasets provide information about non-fatal opioid overdoses: EMS data give information about first response, ESSENCE about chief complaint in the ED, and ED discharge, about coded diagnoses after care has been completed. These three datasets should be congruent, but each provides somewhat disparate information - including different total number of overdoses and hospitals experiencing highest burden. This project would entail the fellow doing a deep dive investigation into each dataset and attempting to understand the difference in what is being captured. The fellow will visit an ED and work with the EMS and ED staff to really understand the nuances of each dataset and identify the discrepancies.

Major Project Understanding circumstances surrounding opioid-related overdose deaths

For the major project, the fellow will work to analyze untapped data to better understand the circumstances surrounding opioid overdose deaths occurring in Chicago, beyond what is reported in annual surveillance reports. This will include analyzing variables such as location of death, comorbidities present, and route of administration. This project will involve working closely with the Cook County Medical Examiner's Office as well as potentially analyzing new data from the State Unintentional Drug Overdose Reporting System (SUDORS). Because Illinois recently awarded funding under the Enhanced State Opioid Overdose Surveillance (ESOOS) grant, the state has only just begun entering and receiving data back from SUDORS. Currently the SUDORS database as well as the Illinois Violent Death Reporting System (IVERS) are managed by Lurie Children's hospital as a bona fide agent of the Illinois Department of Public Health. The SUDORS dataset contains rich and detailed data around toxicology, circumstances of death, comorbidities, and many other factors associated with fatal opioid-related overdose. CDPH has a strong history of collaboration with Lurie Children's on many other public health projects and is excited to pursue a partnership in this area as well. The fellow would have the opportunity to analyze these new SUDORS data for Chicago, to understand risk factors associated with fatal opioid-related overdose beyond what we already know from the medical examiner data set alone. The fellow will also be encouraged to include data that helps to highlight the root causes of opioid overdose death and the role that structural determinants such as systemic racism, past and current policies, and institutional inequities play. This will likely include a review of existing literature on the topic and linking opioid overdose deaths with datasets from other programs or departments.

Additional Community Engagement and Opioid Overdose Data Project

CDPH has access to several rich quantitative datasets that have been used to understand fatal and non-fatal opioid-related overdose. However, little has been done to engage the broader Chicago community to disseminate these data, gather feedback on these data, and collect qualitative data from Chicago community groups and residents. The fellow will have the opportunity to help present quantitative findings from epidemiologic analyses and conduct listening sessions with community-based organizations and residents to better direct and inform the content our future analyses and data reports. The fellow will have the opportunity to work closely with the CDPH community engagement program, the substance use program, and the Health Chicago 2.0 behavioral health action team.

Surveillance Analysis of Mandatory Reporting of Opioid Overdose by Hospitals Activity

In 2018, Illinois began requiring hospital emergency departments to report all opioid-related overdoses to the Illinois Department of Public Health. This new dataset will provide valid data on all of the opioid overdoses occurring among Chicago residents and allow CDPH to understand non-fatal overdoses in greater detail and with greater timeliness. The fellow will be able to analyze overdoses to understand where and who are experiencing the greatest burden. This analysis will be disseminated in epidemiology briefs and reports.

Preparedness Role

The fellow will have the opportunity to work closely with the Public Health Emergency Preparedness (PHEP) Team on a specific project. Because Dr. Arwady, secondary mentor, also oversees the PHEP program, it will be easy to immerse the fellow in a specific project of their choosing and as needed by the team. As one example, the Emergency Preparedness team is involved in large outbreak situations including those related to substance use, like surges in opioid overdose deaths or other substance-related “outbreaks”. Last year, for example, CDPH first identified bleeding problems in multiple residents after using synthetic cannabinoids, an outbreak linked to contaminated product that led to more than 160 hospitalizations across Illinois and 4 deaths. Every year, the preparedness program also prepares the healthcare system for the many substance-related ED visits and hospitalizations seen with large music festivals (e.g. Lollapalooza) in Chicago. The CSTE fellow would have the opportunity to participate in similar outbreak investigations and/or to help develop plans and preparedness activities for these or other large-scale events.

Additional Activities

The fellow will have the opportunity to be involved with all of the activities that occur within the Office of Epidemiology and Research. These include monthly “All-Epi meetings”, GIS Seminars, GitLab learning sessions, staff development opportunities, local conferences, and more. As interested, the fellow will also have opportunities to be involved with departmental work such as reviewing RFP applications, contributing to grant applications, completing data requests, and serving on internal department committees (e.g. the cultural leadership team).

Mentors

Primary	Tamara Rushovich MPH Epidemiologist
Secondary	Allison Arwady MPH, MD Chief Medical Office