Project Title:
Visualizing injury data for action: Development of a data processing and dashboard framework for firearm injury and violence prevention in King County, WA

Project Description:
Problem statement: Historically our local injury data has been in the format of static reports including the release of two reports in 2013 summarizing population-level surveillance data: Gun Violence in King County (Feb 2013) and Impacts of Firearms on King County’s Children (Nov 2013). Since 2018, our injury data team in the Assessment, Policy Development & Evaluation Unit (APDE) at Public Health Seattle & King County has worked to update both content and design of the previously released 2013 reports and are engaged in building partnerships to expand data sources for injury surveillance, including firearm injuries and suicide. Presently, our existing dashboard is resource intensive to update, requiring manual data processing, and does not contain near-real time data sources.

Proposed methods: Our APDE injury data team is proposing to modernize our data pipeline by utilizing in-house datasets, developing a data workflow that incorporates data processing, analysis, and creating an interactive visualization, as well as explore the automation of these steps. We are proposing a dashboard framework redesign that incorporates summarized morbidity and mortality data to provide a more comprehensive picture across the injury severity spectrum: emergency medical services (EMS), emergency department (ED) visits, hospital discharge, and vital records. The development of the redesigned dashboard will include creating R scripts to automate analysis and preparation of data from a variety of different data sources for visualization in Tableau and hosted on our agency’s Tableau server. The redesign will include user experience and health equity considerations. The proposed Data Science Team members include a blend of early and mid-career staff that work collaboratively with our violence and injury prevention program staff.

Expected outcomes: By reporting data across the injury spectrum and including near real-time data sources, this project addresses the data modernization initiative’s goals of improved coordination of people and systems and accelerating data for action. The proposed project allows us to continue to build partnerships with our EMS for data sharing and collaboration. Having a data dashboard, compared to static reports, would improve the timeliness of providing data to partners and the development of R scripts would help to reduce staffing burden of updating the data so that we can focus on data interpretation and communication to aid in information utility. The redesigned data dashboard will be utilized by internal and external stakeholders, and we plan to gather feedback on usability to improve actionability.