Project Title:
Dashboard of Infectious Diseases Among Persons Experiencing Homelessness in San Diego County

Project Description:
According to the San Diego Regional Task Force on Homeless (SDRTFH), in 2022 San Diego County is home to approximately 8,427 Persons Experiencing Homelessness (PEH). San Diego County has experienced outbreaks that have significantly impacted our PEH community: the 2017-2018 hepatitis A outbreak had 592 cases with 20 deaths, and the 2021 Shigellosis outbreak had 53 cases in PEH. Outbreaks of respiratory illnesses have also occurred in temporary shelters. We are interested in utilizing data science and visualization programs to create a tool that will improve our detection and response to disease occurring in our PEH community.

Our proposed project for DSTT is a Tableau dashboard displaying infectious disease data among PEH in San Diego County. Existing data sources will be utilized in innovative ways to create the dashboard. The dashboard will integrate interview, lab, and medical record data collected by the Epidemiology and Immunization Services Branch (EISB). Data will be exported from our electronic communicable disease registry (WebCMR) into an Access database for import, cleaning, and analysis in SAS, SPSS, or other program we hope to learn. Our team will prepare a data set of cases reported as PEH during case investigation. This data set will then be imported into Tableau for data visualization and analysis. Our goal is to visually display the burden of diseases affecting our PEH community at any given time. Data exports can be refreshed on a routine basis so that the dashboard consistently presents near real-time information.

The inclusion of multiple data sources will allow for stratification within the dashboard by demographics, geographic location, setting of homelessness, exposures of interest, and health outcomes. Depending on the focus of the epidemiologist, the dashboard will allow for efficient following of trends in disease burden over time, identification of common exposures or locations that could indicate a cluster or outbreak, detection of significant changes in disease activity potentially associated with subgroups of the population, and summary of health outcomes. Because of the diverse background and areas of focus of the epidemiologists on our team, we will be able to ensure the dashboard reflects data comprehensively so that multiple teams can utilize the same tool for their response.

Additionally, we hope to partner with SDRTFH to incorporate data on the overall PEH population in San Diego; integrating data from SDRTFH will allow us to prepare rates of infection to further highlight where public health action should focus.