COVID-19

San Bernardino County Department of Public Health, Communicable Disease Section
San Bernardino, California

Assignment Description

The CSTE fellow will work directly with San Bernardino County Department of Public Health (SBCDPH) Communicable Disease Section (CDS) program to monitor infectious disease trends and develop a sustainable plan to address the burden of unique communicable diseases within the County, specifically focusing on addressing high priority areas including 2019 novel coronavirus (COVID-19). CDS is responsible for tracking, monitoring, and assessing communicable diseases that arise throughout the county. CDS reduces the spread of communicable disease by investigating reported diseases, conducting contact tracing, implementing control measures, providing health education, tracking disease trends, and identifying potential sources of disease outbreaks.

Additionally, CDS aims to reduce vaccine-preventable diseases by improving immunization practices in physician offices and clinics and by encouraging vaccinations across the lifespan and monitoring how well schools and childcare centers comply with immunization laws. CDS also works to reduce the spread of STDs by bringing partners together from various organizations to participate in the Community STD Task Force. Community engagement efforts assist in promoting awareness and education of preventable diseases, such as HIV and Congenital Syphilis.

Further, CDS collaborates closely with the Preparedness and Response Program (PRP) within DPH, preparing for natural and man-made disasters, disease threats, and dispensing of medical countermeasures. PRP works collaboratively with other emergency responders, healthcare facilities, and residents in order to serve the community. PRP focuses on planning the response to disease threats, such as influenza pandemics, bioterrorism, and health hazards associated with natural disasters. CDS also works in close collaboration with the Research, Assessment, and Planning (RAP) office for externally requested epidemiological analysis projects. The RAP unit is charged with carrying out research requests, evaluating program activities, assessing departmental plan goals and objectives, and documenting performance outcomes for measures defined by the state and federal agencies as well as the program leadership. Staff are trained to study patterns of frequency, as well as causes and effects of disease and social determinants of health within the community. Staff provide evidence-based decision-making support to program and executive leadership through the development of data collection mechanisms and the analysis and reporting of primary and secondary data sources. Data cleaning and preparation, creation of surveys, map making and spatial analysis, reports preparation, and visualization development are all essential tasks of the team required to examine health issues, social factors that impact health, and program and community outcomes from services and policies of the health department.

Day-to-Day Activities

Day-to-day activities will vary depending on communicable disease morbidity. Training on investigation, surveillance, and contact tracing of all infectious diseases, including COVID-19, will be segmented throughout the first year and will be conducted daily. Training topics will begin on data analysis and management, followed by STD and HIV training modules aimed to equip the fellow in conducting
routine investigations. This module will be followed by a thorough training of vaccine-preventable diseases (VPDs). To fully train the fellow on communicable diseases, modules to follow will include enteric diseases, animal bites and rabies, outbreak investigations, vector-borne diseases, and respiratory illnesses. When there is a report of a healthcare-associated infection (HAI) including COVID-19 and influenza-like illness outbreak investigation, the fellow will lead planning and outreach efforts with close mentorship. Additional tasks will include the development of weekly reports that summarize communicable disease issues within our county. Weekly reports include vector-borne disease notifications for internal and external partners in order to provide direction for additional environmental sampling and surveillance. Weekly influenza-like illness reports that summarize data through multiple channels will also be produced. Additionally, the fellow assist in developing monthly reports on communicable diseases and develop action plans based on findings. The fellow will also produce reports and abstract data from medical records for epidemiological review in collaboration with CDPH.

**Potential Projects**

**Surveillance Activity**  
**COVID-19 Cluster Analysis**

As ongoing healthcare facility outbreaks of COVID-19 continue to emerge throughout the nation and adjacent states and counties, it is an important function of CDS to maintain thorough follow-up and assessment activities. Since February 2020, SBC DPH has conducted over 35,500 rRT-PCR tests for 2019-SARS-nCOV and identified 3,311 confirmed COVID-19 case-patients, including 150 deaths. San Bernardino has been identified as a priority area from CDPH for COVID-19 response due to challenges from the persistent rise in cases associated with healthcare facilities and congregate settings. The fellow will conduct enhanced surveillance activities and assessments that include analysis on clinical and demographic data, risk factors, and produce recommendations on additional prevention and control measures. Additionally, it is expected that the fellow provides pertinent information to key stakeholders through presentations as needed. Analyzed data will be used for targeted COVID-19 vaccination campaigns, as vaccines become available, among at-risk populations for the duration of the CSTE fellowship placement.

**Surveillance Evaluation**  
**COVID-19 Surveillance Triage System Evaluation**

All reports of 2019 novel coronavirus (COVID-19) are reported through the California State-wide Surveillance system known as the California Reportable Disease Information Exchange (CalREDIE). A vast majority of cases are reported through the electronic laboratory reporting (ELR) system directly linked to CalREDIE and triaged from the Disease Incident Staging Area (DISA) to CDIs. All confirmed cases and outbreaks of COVID-19 are investigated by CDIs. So much is still being learned about this novel coronavirus and as more information becomes available protocols and policies and guidance for healthcare partners must be updated and made immediately accessible to all entities involved. The fellow will be directly involved in case and contact investigations and assessment of protocols and policies to evaluate the effectiveness of communicable disease surveillance and investigation activities in San Bernardino County.
Major Project  COVID-19 Case and Contact Management System

CalREDIE is designed to be a surveillance system used to report, investigate, and manage cases and contacts of infectious disease among resident populations. All confirmed cases of COVID-19 and their contacts are investigated to identify additional cases and risk of exposure of at risk populations. Contact tracing is the systematic identification and monitoring of all persons who might have been exposed to someone diagnosed with COVID-19. Because these individuals are at increased risk of infection and continuing the spread of SARS COV-2, contacts may require quarantine, self-monitoring, and/or active monitoring by SBCDPH for 14 days (CDC guidelines). The fellow will be expected to conduct investigations, identify cases/contacts in high risk occupations and coordinate responses with Infection Preventionist, CDS, Loma Linda University Medical School Residents, California Department of Public Health (CDPH), and affected healthcare facilities and congregate settings. The fellow will also perform data abstraction from medical records, employ evidence-based methods to examine morbidity and mortality for COVID-19, and determine intervention areas.

Additional Project  Skilled Nursing Facility Outreach and Assessment

The fellow will participate in the assessment and development of plans, policies, and protocols guiding COVID-19 outbreak response and testing at healthcare facilities and congregate settings. Plans will include resources for procurement of test kits and PPE, staff training, addressing staffing shortages, reporting, infection control practices, and coordination of response with SBCDPH.

Preparedness Role

The fellow will join in on functional exercises coordinated by the Preparedness and Response Program (PRP) within SBCDPH as well as lead a competency-based surge capacity training on emergent infectious diseases including COVID-19. The fellow must also participate in HIPAA Competency, CalREDIE, Case Investigation, Contact-Tracing, Recovery, and basic Incident Command System trainings.

Mentors

Primary  Erin Gustafson, MD, MPH
Medical Director/Assistant Health Officer

Secondary  Diana Ibrahim, MPH, BS
Program Coordinator