**Chronic Diseases, Maternal and Child Health**

**County of San Diego Health and Human Services Agency, Public Health Services-Maternal, Child, and Family Health Services Branch**

San Diego, California

**Assignment Description**

Maternal, Child, and Family Health Services is a large branch with two primary programmatic areas and the epidemiology unit. The fellow would primarily work with the Surveillance, Epidemiology, and Evaluation Unit and the team in the Chronic Disease and Health Equity Unit, which focuses on upstream chronic disease prevention through policy, systems, and environmental change as well as new focus areas in health systems integration and clinical-community linkages. All activities include collaboration with community and clinical partners.

We have a supportive workplace environment with professional staff including medical epidemiologists, epidemiologists, and statisticians. We also collaborate frequently with academic partners from our local universities, which include both a school of public health and a medical school. We work closely with our health care community and with researchers from the private sector.

**Day-to-Day Activities**

The fellow would work with a team of epidemiologists and program staff on surveillance and some evaluation activities. The position would involve collaboration with outside agencies and clinical partners as well as County Information Technology and the regional Health Information Exchange.

**Potential Projects**

**Surveillance Activity Framework for Chronic Disease Use Cases**

The Fellow will research and develop a framework for chronic disease use cases for the pilot Chronic Disease Surveillance System to include: heart disease (coronary heart disease, congestive heart failure, arrhythmias, etc.), stroke, diabetes, prediabetes, hypertension, elevated blood pressure. The County has developed a pilot Chronic Disease Surveillance System to collect individual-level EHR data from participating federally qualified health centers (FQHCs) and medical groups on first diagnosis of cardiovascular diseases and diabetes and associated risk factors. The first two FQHCs are scheduled to begin data submission in the winter/spring of 2020 to the pilot SharePoint site. Next steps include the development of use cases based on the Public Health Informatics (PHII) EHR toolkit section Optimizing Data Quality and Use tools and existing algorithms used in the Canadian Chronic Disease Surveillance System (CDSSS). The EHR Toolkit provides tools and instructions on the development of algorithms using clinical and diagnostic criteria. A recent CDC report on Leveraging Clinical Data for Public Health and Hypertension Surveillance available on the PHII website, provides detailed examples of how to use these tools in surveillance systems using aggregate data.
Surveillance Evaluation  Pilot Chronic Disease Surveillance System Evaluation

Utilize the Updated Framework for Evaluation of Public Health Surveillance Systems, to assess the pilot Chronic Disease Surveillance System in terms of the key areas of: usefulness, simplicity, flexibility, acceptability, sensitivity, predictive value positive, representativeness, timeliness, stability, informatics capability, and population coverage. The initial development of programs to determine representativeness through Iterative Proportional Raking have been completed and will be tested on BMI data collected by the County from 2011 through 2017 in the winter of 2020. With the initial FQHCs scheduled to begin transmitting additional chronic disease data in the winter/spring of 2020, the evaluation of the pilot system will lay the groundwork for the development of a transition plan for the migration of the pilot system to the regional Health Information Exchange to include data for all participating FQHCs, hospitals, and clinics. This project will be coordinated with the Surveillance Activity described above and the Fellow will work closely with the secondary mentor and other epidemiologists in the Epidemiology, Surveillance, Evaluation, and Research team.

Major Project  Chronic Disease Prevalence Estimates and Data Analytics/Data Dashboards

The first component of this project will utilize preliminary data from the pilot system to develop estimates of the prevalence of chronic diseases and conditions for the two participating FQHCs. The Fellow will explore differences within neighborhoods and population groups using traditional statistical analysis, GIS, spatial analytics, and other tools. The two FQHCs were recruited from geographically distinct areas of the county in order to minimize duplication of individuals in the data. The second component of this project will be to finalize analytics and build data dashboards for clinic partners. Dissemination of data and results to partners and stakeholders is an important component of local public health and helps build strong partnerships between public health and the clinical community. This part of the project will likely be ongoing throughout the fellowship since PHS anticipates beginning to expand the system during that time period.

Additional Project  Data Collection Tools for Program Evaluation

Develop several quantitative data collection tools for evaluation of the County’s new Healthy Works Heart Disease and Stroke Prevention grant. The County was recently awarded funding for Innovative State and Local Strategies to Prevent and Manage Diabetes and Heart Disease and Stroke (CDC-RFA-DP18-1817) for the heart disease and stroke component. The evaluation will include rigorous evaluation of two strategies to assess the effectiveness and impact of a) engaging patient navigators/community health workers in hypertension and hyperlipidemia management in clinical and community settings, or b) implementation of bi-directional referrals between community programs/resources and healthcare systems using 2-1-1 San Diego’s Community Information Exchange referral system. The Fellow will develop data collection tools for one of the strategies listed above, analyze the resulting data, and develop a brief evaluation report.
Additional Project: Develop a Data-driven Process for Maternal, Child, and Family Health Services (MCFHS) Integration

In conjunction with the Family Health and Preventive Services Unit, utilize data from the recent MCAH Needs Assessment to explore opportunities to integrate key program areas across programs from chronic disease to oral health to MCAH through the Life Course Health Development Framework. The MCFHS branch has recently received enhanced funding for tobacco control and oral health that includes areas of programmatic integration. The branch has begun efforts to integrate other programmatic areas as well, such as tobacco and nutrition (healthy retail), and more recently oral health and nutrition education. The Fellow will also assess the potential to use new clinical data sources to inform future branch-wide integration projects.

Preparedness Role

The fellow will serve in either the Operations Section or the Planning Section as a data team member, depending on the nature of the emergency. The fellow will complete training in Incident Command Systems (ICS) 100, 200, 700, and 800 online through the FEMA website to develop an understanding of the role of public health in emergency preparedness. The fellow will assist the PHPR branch in reviewing and updating the policies and procedures related to assisting individuals with chronic disease such as access to oxygen, access to dialysis, and ensuring access to medications. The fellow will also participate in an Emergency Preparedness exercise as described above. Additional opportunities to cross-train with epidemiologists in the Epidemiology and Immunization Services Branch will be explored in order to provide other epidemiologic support in the event of a disease outbreak. Public Health Services’ Emergency Preparedness activities are housed in the Public Health Preparedness and Response Branch (PHPR), while overall County activities are coordinated through the Office of Emergency Services. There are ample opportunities to train and participate in exercises to learn about Emergency Preparedness.

Additional Activities

Participate in Public Health Reaccreditation as a team member on Domain 1, Conduct and Disseminate Assessments Focused on Population Health Status and Public Health Issues Facing the Community. PHS received accreditation in 2016 and began the Reaccreditation process in summer 2018. The secondary mentor is a co-lead for Domain 1 and the Fellow will be a team member for that Domain.

Mentors

Primary: Thomas Coleman MD, MS
   Medical Director

Secondary: Deidre Browner MPH
   Senior Epidemiologist