

ID: 70283115

Chronic Disease, Substance Use/Mental Health - Host Site Description

County of Marin Department of Health & Human Services

Assignment Location: San Rafael, US-CA
County of Marin Department of Health & Human Services
Division of Public Health

Primary Mentor: Lee Ann Prebil, PhD, MPH
Epidemiology Program Manager
County of Marin, Department of Health and Human Services, Public Health Division

Secondary Mentor: Karina Arambula, MPH
Epidemiologist
County of Marin, Department of Health and Human Services, Public Health Division

Work Environment

Hybrid

Assignment Description

The Fellow will be located in the Epidemiology Program of the Marin County Department of Health and Human Services (HHS) located in the San Francisco Bay Area. We are a generalist epidemiology program with both communicable and non-communicable disease epidemiologists who function within dynamic local public health jurisdiction.

The epidemiology team meets twice weekly in a hybrid meeting. Monday weekly meetings provide an opportunity for staff to enumerate the goals for the week and the steps they will take to achieve them. An additional monthly all Epidemiology staff meeting takes place with the Health Officers, where epidemiology team members hear about organizational priorities and use this time to present their work. The Fellows and interns also have a monthly meeting with the Epidemiology Program Manager and Health Officers where they learn more about the health department and have time to do a more in-depth presentation of their projects. The Fellow will work on project teams with colleagues in the epidemiology team as well as others in HHS, and will meet routinely based on ongoing projects. Some of the groups that have worked with fellows in the past include the Communicable Disease team, the Community Health & Disease Prevention Team, Behavioral Health, Suicide Prevention, Healthy Eating Active Living, and Division of Aging. The fellow will have routine meetings with mentors to discuss projects, receive support and feedback, and address any challenges. The cadence of these meetings will start weekly, and may change depending on Fellow and project needs.

Fellows will engage in independent work and team-based project work, where they will be responsible for the spectrum of applied epidemiology activities, including literature review, data collection, data cleaning, data analysis, data visualization, creation of dashboards and websites, oral and written presentation of findings, and collaboration with internal and external colleagues.

Describe Statistical and Data Analysis Support, Such as Databases, Software, and Surveillance Systems Available to the Fellow

The Fellow will have project-specific access to multiple databases including death, birth, emergency department, hospital discharge, Emergency Medical Services (911), state based reportable communicable disease registry, Vaccination Registry, Wastewater surveillance, California Health Interview Survey (CHIS), California Health Kids Survey (CHKS), and Health Information Exchange (HIE) population health management data.

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Available software includes Stata and R, though R is predominately used. Tableau, PowerBI, and ArcGIS are used for data visualization and data translation for policymakers and public. Various free trainings in data analysis and the conduct of applied epidemiology analysis and data visualization are provided by the California Department of Public Health in conjunction with UC Berkeley.

Projects

Surveillance Activity Title: Develop and Expand a Surveillance System that Assesses Cancer Incidence and Prevalence

Surveillance Activity Description:

Marin County has had an interesting history with cancer surveillance, and at one point was considered among the highest California counties for both breast cancer incidence and prevalence. The Marin County population has also seen elevated levels of other cancers among its population. Cancer has been the second leading cause of death among Marin residents and first among decedents less than 75 years old in recent years (2017-2021). Surveillance of all types of cancer has been limited since the COVID-19 pandemic and the fellow will be asked to revitalize and further develop a surveillance system that will track cancer incidence and prevalence in the county. Findings will be explored by cancer type, different demographic strata, including but not limited to race/ethnicity and geography. The Fellow will be asked to identify specific cancers which are at higher than expected levels and that need to be flagged for additional investigation. Follow-up action steps will be identified, and the Fellow may be asked to present findings to stakeholders.

Surveillance Activity Objectives:

The Fellow will create a surveillance system and protocol for maintaining and updating surveillance system at routine intervals. Where possible, the Fellow will work with the Information Services and Technology team to automate processes for maintenance. The Fellow will also present action steps for further investigation, if needed. Findings will be presented to leadership and colleagues in Epidemiology teams, and any relevant findings will be presented to community stakeholders.

Surveillance Activity Impact:

Given Marin County's history with higher than expected breast cancer and melanoma incidence, it is imperative that we continue to evaluate for any other cancer concerns. A better understanding of cancer and communities most affected can lead to more effective prevention policies and improved access to care for those most affected.

Surveillance System Evaluation Title: Evaluation of Hepatitis C Surveillance System

Surveillance System Evaluation Description:

The hepatitis C surveillance system is under development using various existing data systems in response to a public health need to more accurately track the prevalence and incidence of hepatitis C in the local community to better inform outreach, screening, treatment, and prevention efforts. The system will also include sharing hepatitis C data and goals publicly through a dashboard. Using the CDC Surveillance System Evaluation guidelines, the AEF Fellow will work with current epidemiology staff, communicable disease prevention team (including nurses, and other local providers), to assess the effectiveness and success of the surveillance system. The Fellow may also work to improve internal and external dashboards.

Surveillance System Objectives:

The Fellow will produce a report that will describe how the surveillance system has been an effective and successful at tracking the prevalence and incidence of disease in the community, identify strengths, and opportunities for improvement. The findings will be presented internally to leadership, and community stakeholders. Findings can also be presented externally at conferences.

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Surveillance System Impact:

With a more effective hepatitis C surveillance system, public health policy makers can better partner with community providers to provide more informed intervention and prevention strategies, particularly among vulnerable communities such as people experiencing homelessness and those who are incarcerated in a jail or prison.

Major Project Title: Tracking the Health Outcomes of Chronic Alcohol Use

Major Project Description:

While Marin consistently fares well when it comes to many health outcomes and metrics, the county tends to fare poorly for any substance- related metrics, and more specifically, alcohol-related metrics. Historically, a high proportion of adult Marin residents have reported high levels of binge drinking and Marin youth have reported easy access to alcohol. While we have seen relatively low levels of acute alcohol toxicity in mortality outcomes, we need to better track health outcomes associated with chronic alcohol use. A prior Fellow adapted the CDC's alcohol-related disease index (ARDI) measure for our county population. Our goal is to better assess how chronic alcohol use has contributed to mortality, and we would like to build on that effort.

The fellow will be asked to review Emergency Department (ED), Emergency Medical Services (EMS), hospitalization, Behavioral Health and Recovery Service (BHRS) Division service records, and death certificate records to review for alcohol related outcomes. Additionally, the fellow will be asked to look at factors that contribute to increased alcohol-related outcomes, in many sectors, including the built environment, like mapping out alcohol outlet density in our community.

Major Project Objectives:

The Fellow will build on the work of the previous fellow and produce what will initially be an internal countywide dashboard with notable alcohol-related health outcomes, stratified by various demographic characteristics (i.e.. sex, age category, race/ethnicity, geography). The Fellow will track indicators using emergency department, emergency medical services (from 911 calls), hospitalization, BHRS service records, and mortality data. Applicable findings can be shared with HHS colleagues and leadership to help inform local policies. As this is a newer effort, the fellow will work with the Epidemiology team to create a protocol for updating and maintaining these data going forward.

Major Project Impact:

The downstream goal of this effort will be to reduce the number of alcohol-related health outcomes among Marin residents. However, this work could have greater upstream efforts, such as informing local prevention policies. Marin County's proximity to the region known as wine country has influenced a culture of permissiveness when it comes alcohol sales and consumption. A better understanding of the public health impacts of chronic alcohol use will lead to better informed decisions among community leaders at all levels. HHS and community partners will be better able to target their prevention efforts, and work with community members most affected.

Additional Project #1 Title: Unhoused Residents' Use of Health Care in Marin County

Project #1 Type: Surveillance Activity

Project #1 Description:

Newly available data from the health information exchange (HIE) make it possible for the first time to characterize patterns of healthcare utilization patterns in our unhoused population, providing information that will help to understand the circumstances under which this population intersects with the healthcare community. Understanding these patterns will allow us to better target services to this population as well as to provide supports for local providers to be better equipped to optimize service. Data from a panel of clients currently enrolled in a homelessness case management system will be gathered and consolidated by the HIE from various local providers.

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The Fellow will analyze these data to be able to describe patterns and types of health care encounters, including primary care, Emergency Medical Services (911), hospitalizations, and emergency department visits. This project will involve collaboration with the Deputy Health Officer, who oversees healthcare in the homeless population, as well as staff from the Homelessness and Coordinated Care Division of MCDHHS.

Project #1 Objectives and Expected Deliverables:

The Fellow will analyze the HIE panel data for this cohort to produce an internal-facing dashboard describing the reasons, frequencies and types of encounters with health care, as well as how those vary by various demographic characteristics (e.g., sex, age category, race/ethnicity, and geography). Applicable findings will be shared with HHS colleagues and leadership to help inform local policies. A subset of the data may also be used to create a public-facing dashboard as appropriate. As this is a newer effort, the fellow will work with the Epidemiology team to create a protocol for updating and maintaining these data going forward.

Project #1 Impact:

Data on the health care experiences of individuals who are unhoused are siloed and not connected to the providers of case management services. An understanding of the reasons and locations of encounters with health care will enable Marin County Public Health to better develop and target services to best maintain the health of this vulnerable population. This project will also be one of the first conducted using data from the HIE, so will contribute to the advancement of our knowledge and skills for using this new data source.

Please Describe the Fellow's Anticipated Role in Preparedness and Response Efforts – Include Activities and Time Allocation (Required Competency of Fellowship)

The Fellow would take ICS online or in-person training to be able to support the Marin County Public Health Preparedness Program in developing and conducting community events for emergency response to disasters. The Fellow would have the opportunity to participate in tabletop and functional exercises, conducted at the Emergency Operations Center, in which the role of the epidemiologist is drilled in a variety of scenarios. Together with the epidemiology team, the fellow will support data collection and monitoring associated with infection detection and vaccination efforts. Recent local wildfires and associated Public Safety Power Shutoffs (PSPS) have led to mass displacements into shelters and have increased the need for shelter based outbreak detection and response. In a real disaster, all staff are considered disaster relief staff. Much like their colleagues, the Fellow will be invited to actively participate in the response, as appropriate. The Fellow will have the opportunity to participate in the development of enhanced surveillance related to large scale emergencies, including outbreak detection systems and CASPER-type needs assessments.

Please Describe the Fellow's Anticipated Role in Cluster and Outbreak Investigations – Include Activities and Time Allocation (Required Competency of Fellowship)

AEF Fellows at our host site have been involved in investigating and leading outbreak investigations. Their role will largely depend on the type of outbreak. At our agency, epidemiologists lead foodborne outbreak investigations, and the fellow may be asked to lead or co-lead this type of investigation. For investigations of outbreaks at facilities, schools and other group living situations, the fellow will work closely with the communicable disease team to identify the extent of the outbreak and to gather and analyze data to help inform future prevention efforts.