

Chronic Diseases/ Maternal and Child Health

Assignment Description

The Prevention Services Division (PSD) in the Colorado Department of Public Health and Environment offers rich opportunities to practice applied epidemiology and public health within its many integrated and collaborative programs that span the lifecourse. This assignment in chronic disease epidemiology will provide a CSTE/CDC Applied Epidemiology Fellow a well-rounded experience working in PSD, a national leader in chronic disease prevention and control, with mentorship from two expert applied epidemiologists. The Fellow will sit in the Epidemiology, Planning, and Evaluation (EPE) Branch and work closely with the healthy living and chronic disease prevention programs, with additional opportunities to work on projects related to maternal and child health (MCH), oral health, injury prevention, and the health impacts of recreational marijuana use depending upon the Fellow's interests. The Fellow will also be able to gain experience in responding to a multi-county or multi-state communicable disease outbreak and to participate in emergency preparedness and response trainings.

The Fellow would have the option of taking this fellowship in various directions. If the Fellow has a particular interest in a particular programmatic/disease area, then he/she could specialize in that area and work with the mentors to select appropriate projects. Secondly, the Fellow could take advantage of the integrated structure of the division, and select projects that address all of the applied epidemiology competencies but with topics that cross the full spectrum of chronic diseases (diabetes, cancer, etc.) and related risk factors (tobacco, obesity, etc.) with the potential to select projects and explore the fields of MCH, oral health, and injury prevention. A third option would be to capitalize on the transformations in the health system being wrought by health care reform and work with the mentors on a larger project to bring new sources of data online, integrating them into the public health surveillance system while gaining in-depth expertise in the cutting-edge field of chronic disease health information technology. Therefore, this fellowship fits either a fellow who already has education, training, and/or experience in chronic disease epidemiology or a fellow who is new to chronic disease epidemiology and wants to broaden their application of epidemiology to chronic disease.

Drs. Calanan and Gershman will share training and oversight responsibilities to meet at least the minimum requirements set-forth by the CSTE. Both mentors are readily available for informal communication as needed for the duration of the fellowship. They will provide conceptual and technical review of epidemiologic research and surveillance methods, and ensure project objectives are well-defined and attainable. After becoming familiar with department personnel, key partners, programs and organizational structure, it is expected that the Fellow will achieve a high-level of autonomy in initiating and executing designated activities.

Day-to-Day Activities

The centralized location of the EPE Branch in the Prevention Services Division promotes partnership and teamwork throughout the division and department. Numerous collaborations are necessary to collect, analyze, interpret, and disseminate data and evidence-based information to help inform public health programming. The Fellow will work collaboratively with partners to ensure that analyses and projects

are not conducted in isolation from intersecting efforts within the department and state-wide. Both mentors and other EPE Branch staff will work closely with the Fellow to ensure that he/she receives an appropriate orientation to the organization, the division, and the branch, including arranging opportunities to meet department staff and key partners and to shadow appropriate staff in order to facilitate the development of collaborative relationships.

The Fellow's day-to-day activities, learning opportunities, and challenging tasks will include:

- Attend weekly meetings with mentors (2-4 hours/week minimum).
- Develop and implement projects that address all of the applied epidemiology core competencies, which might include but are not limited to: design and conduct an evaluation of a surveillance system; enhance existing surveillance system(s) and/or contribute to development of new surveillance systems; data collection, analysis, and dissemination, including preparation of fact sheets, blog posts, oral presentations, and peer-reviewed manuscripts; develop recommendations for chronic disease program planning; work with chronic disease program staff to assist with the interpretation and use of relevant data; and evaluate a public health intervention.
- Communicate and collaborate with other PSD staff and internal and external partners (e.g., Office of Planning and Partnerships, Office of Health Equity, local health agency staff, and Colorado Health Institute) on projects.
- Gain proficiency in evidence-based public health, CDPHE Health Equity Framework, cultural competency, and other applied epidemiology competencies through reading, trainings, live or archived webinars, seminars at the University of Colorado School of Public Health, meetings, and conferences.
- Participate on a national workgroup (e.g., CSTE or National Association of Chronic Disease Directors subcommittees), if desired.
- Participate in the following meetings: Epidemiology Unit meetings (1/month), EPE staff meetings (1/month), EPE Learning Opportunities meetings (1/month), chronic disease and school health grant implementation team meetings (up to 3/month), PSD staff meetings (2/year), and Chronic Disease Surveillance Advisory Group meetings (as needed)
- Take daily 30-minute wellness break (e.g., participate in onsite yoga or pachanga class or bike/walk along the Cherry Creek path that runs by the health department facilities).

Potential Projects

Colorado is an exciting place to practice epidemiology. The state has embraced health care reform opportunities and is adding various new datasets to monitor health. The state has been home to an innovative pilot program with CDC in which chronic disease programs were aligned and integrated to improve their coordination with each other. And CDPHE created one of the first fully integrated epidemiology units, which serves all of more than 40 programs in Prevention Services Division, allowing staff to work across multiple disease and health areas.

The Fellow will work with the primary and secondary mentors to select projects that address the applied epidemiology core competencies and match the Fellow's interests while providing a well-rounded experience for the Fellow. The mentors will ensure that the Fellow will create at least one burden report or fact sheet, present a talk at one or more local or national conference in addition to the CSTE conference, and author a peer-reviewed manuscript. The Fellow can decide whether he/she prefers a generalized experience with exposure to several program areas or a specialized experience with more in-depth focus on a particular program area.

The following projects address numerous competencies of the fellowship and would involve collaboration with PSD staff, staff of other divisions of CDPHE, and external partners. As such, two or more of these projects are recommended for the Fellow.

- Plan and conduct an evaluation of the integrated chronic disease surveillance system, which has over 400 indicators across 8+ program areas, and develop a report that includes a prioritized list of recommendations for system revisions to present to key stakeholders. Choice of surveillance system for evaluation is ultimately dependent on the Fellow's interest, and could include a select portion of the integrated chronic disease surveillance system or another surveillance system, such as the surveillance system of the oral health program or injury program.
- Lead efforts to conduct the Colorado Oral Health Basic Screening survey, which includes measurement of child's height and weight by dental hygienists in public schools: obtain IRB approval, conduct school sampling, database development, data quality control, and data analysis and dissemination, including writing a final report and presenting results at a local meeting.
- Create a data analysis plan and analyze data from Colorado's The Health Attitudes and Behaviors Survey and its call back survey, Influential Factors of Healthy Living; present results to local public health professionals at Colorado Public Health Association conference and publish results in a peer-reviewed journal. Topics could include healthy food access, worksite wellness, health care provider engagement, chronic disease self-management, and/or marijuana use.
- Assist with implementation of the chronic disease data dissemination plan, including 1) being lead author on a series of fact sheets on chronic disease topics and ensuring that they are widely disseminated to public health partners; 2) contributing data-related posts and evidence-based information to PSD's publicly available blog; 3) facilitate a data-to-action discussion with partners; and 4) determining creative and useful means of disseminating epidemiologic and programmatic information, such as infographics.
- Collaborate with PSD's Health Systems Unit staff and serve as an epidemiology lead in working with Colorado's health information exchanges (Quality Health Network and Colorado Regional Health Information Organization) and Center for Improving Value in Health Care (the organization which administers the All Payer Claims Database) to bring new data systems to PSD and CDPHE and to integrate the new data systems into the existing surveillance system.

Many other exciting and challenging projects are available for the Fellow to lead or co-lead, including:

- Serve as lead epidemiologist for the healthy corner stores project by planning and implementing healthy food retail assessments in Weld County, evaluating the Weld County healthy food retail strategy, determining measures of community engagement related to healthy food retail to support the related work, and collecting and analyzing data to provide recommendations for the next area of the state to target for increasing access to healthy food retail.
- Participate in sugar-sweetened beverage reform efforts in the state by gathering data and information to contribute to presentation of a sustainable economic model for sugar sweetened beverage reform, including profitability/sales and calorie counts/health aspects.
- Participate in the evaluation of the CDPHE wellness program, develop a report and best practice documents, and revise and administer the assessment for other state agencies beyond CDPHE.
- Coordinate with University of Colorado School of Pharmacy and Regis University School of Pharmacy to expand on their analyses of client outcomes in chronic disease (hypertension and diabetes) management clinics in accountable care organizations and conduct a return on investment analysis.
- Provide epidemiologic expertise in the development of a survey instrument to collect data on practices of pharmacists related to medication management and counseling, analyze data, and create a report of results for internal staff and key partners.
- Prepare and conduct trainings or webinars for PSD program staff and partners on data interpretation and data to action.
- Update MCH indicator data for up to 10 counties to assist the local public health agencies in MCH planning efforts. Provide technical assistance and training to the local public health agencies as necessary.
- Serve as epidemiology lead to provide data to describe the population and maternal and child morbidity and mortality in Colorado for the annual MCH Title V Block Grant application process.
- Participate in the mental health and substance abuse needs assessment for the Maternal, Infant, and Early Childhood Home Visiting Program.
- Analyze the prescription drug calls to the Rocky Mountain Poison Center as part of the state's efforts to understand and decrease prescription drug misuse.
- Revise and then implement the oral health data dissemination plan after collecting input from key stakeholders, including the Oral Health Surveillance Advisory Group. Analyze and disseminate oral health data and information, such as a burden report on disparities in oral health and a fact sheet on the oral health of older adults.
- In collaboration with the Disease Control and Environmental Epidemiology Division and the department's Recreational Marijuana Task Force, conduct health impact studies and surveillance related to legal marijuana. Analyze data, disseminate results via reports or presentations at local meetings, and publish results in a peer-reviewed journal.

Preparedness Role

CDPHE operates a comprehensive training program in emergency preparedness through the Emergency Preparedness and Response Division and is equipped to implement a full-scale command center response in the event of a public health or environmental disaster. The department's capabilities are routinely exercised, such as during the Colorado flooding that occurred in the fall of 2013. The Fellow could participate in emergency response trainings or exercises routinely planned for regional epidemiologists. The Fellow will also have the opportunity to participate in response to at least one multi-county or multi-state communicable disease outbreak and/or exposure notification event related to inappropriate use of syringes or other devices. See the letter of support from the state epidemiologist, Lisa Miller, MD, MSPH.

Assignment Location:	Colorado Department of Health Denver, CO
Primary Mentor:	Renee Calanan, PhD, MS Lead Chronic Disease Epidemiologist
Secondary Mentor:	Ken Gershman, MD, MPH Epidemiology, Planning, and Evaluation Branch Director