

Chronic Diseases, Chronic Diseases

Nebraska Department of Health and Human Services, Epidemiology and Informatics Unit / Division of Public Health

Lincoln, Nebraska

Assignment Description

Because of the tremendous public health and health care burden of chronic diseases, and because of the great potential for prevention and reduction of morbidity and mortality, Nebraska public health officials have prioritized the understanding of the epidemiology and control of chronic diseases in our population. As we increasingly focus our resources on controlling and reducing health care costs, we believe that all sectors of society will need and want a thorough understanding of the distribution and determinants of chronic disease in our population. We are extremely excited about the opportunity to supplement our current team with a Chronic Disease Epidemiology Fellow, and believe that such a resource will enable us to advance this agenda. For the qualified applicant we expect additional opportunities to be available at the completion of the fellowship.

The Nebraska Division of Public Health Epidemiology and Informatics Unit and Health Promotion Unit provides an ideal training opportunity to a Chronic Disease Epidemiology Fellow (FELLOW) with support of other epidemiologists within DPH. The Chronic Disease Prevention and Control Program receives CDC funding for State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health (DP13-1305) and State and Local Public Health Actions to Prevent Obesity, Diabetes, and Heart Disease and Stroke (DP14-1422PPHF14). A collaborative team including the Chronic Disease epidemiologist, Chronic Disease evaluator, a prevention team manager, nutrition coordinator, physical activity coordinator, lifestyle change coordinator, healthcare interventions coordinator, chronic disease self-management coordinator, chronic health intern, and communications intern work closely together on a daily basis. This group uses multiple databases to study a variety of chronic disease-related issues, and has published a wide variety of chronic disease reports, fact sheets, infographics, videos, success stories, maps and scientific journal publications.

The training and skill development of the fellow will be the primary responsibility of the senior epidemiologist. All team members will be at the disposal of the fellow to provide expertise in selected aspects of epidemiology, evaluation and programmatic activities. The fellow will be authorized to access and analyze data sets/surveillance systems in all of these areas.

Day-to-Day Activities

1) Develop a strong understanding of and familiarity with key chronic disease surveillance datasets; 2) identify acute and chronic conditions or other adverse outcomes in the population; 3) Design, manipulate and use databases for analysis of health problems; 4) Analyze and interpret data; and 5) Prepare written and oral reports or maps and presentations that communicate necessary information to professional audiences, policy makers, and the general population. The training goals for the Fellow will be defined by Centers for Disease Control and Prevention (CDC)/Council of State and Territorial Epidemiologists (CSTE) Applied Epidemiology Competencies (AECs). At the completion of the fellowship, the Fellow will function as a well-qualified Tier 2, mid-level epidemiologist and will be highly employable in a wide range of public health settings.

Potential Projects

Surveillance Chronic Disease Prevention and Control in Nebraska Activity

The Chronic Disease Prevention and Control Program in Nebraska has 9.75 full time staff and has been funded by competitive CDC Chronic Disease grants for over 17 years. This size of the program allows flexibility and would mean that the fellow would have the opportunity to work on a variety of projects, with the assistance of subject matter experts in a variety of chronic disease prevention and control areas. The priority project for the fellow would be studying the epidemiology of hypertension in Nebraska.

Surveillance Evaluation of Nebraska's Syndromic Surveillance System for Chronic Disease Evaluation Indicators and Risk Factors

Nebraska DHHS syndromic surveillance system involves the collection of electronic health record data from emergency, inpatient and outpatient facilities. Currently Nebraska DHHS syndromic surveillance system receives electronic health record data from 48 emergency departments, 24 inpatient facilities and 4 Federally Qualified Health Centers. The Chronic Disease Epidemiology Fellow will have the opportunity to conduct an evaluation of Nebraska DHHS syndromic surveillance system for the reporting of chronic disease indicators and risk factors using CDC's Updated Guidelines for Evaluating Public Health Surveillance Systems. The Fellow will 1) engage with stakeholders to participate in the evaluation, 2) describe the surveillance system, 3) design the evaluation, and 4) gather credible evidence of the surveillance system including the data quality, simplicity, representativeness, and timeliness. The Fellow will write a report summarizing the findings of the evaluation. Additionally, the Fellow will work with syndromic surveillance and chronic disease prevention staff to develop and calculate performance measures as it relates to chronic disease prevention program grant requirements.

Major Project Studying the epidemiology of hypertension in Nebraska

Hypertension is a risk factor for Cardiovascular Disease (CVD) and the single most important risk factor for stroke. Large variations in rates of HTN can be observed between rural and urban populations, with higher prevalence rates in rural populations. High blood pressure has been increasing in Nebraska over the past 25 years. CVD was the second leading cause of death among Nebraska residents in 2014, with 169 fewer deaths than cancer. Without proper action this number will continue to increase since the state's population is both increasing in size and aging. It has been suggested that determining the disease burden, the benefits of controlling the disease or reducing the risk of HTN, along with identifying the geographic variations in the management of HTN can help to identify strategies for improving HTN control.

As part of the CDC State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health funding, the Chronic Disease Prevention and Control Program has identified undiagnosed hypertension and hypertension control as a priority area and has worked closely with a variety of external partners to address this issue. Partners have included the Nebraska Division of Medicaid and Long-term Care, Nebraska QPP Coalition (Nebraska Blue Cross Blue Shield, Great Plains Quality Innovation Network, NeHII, Compass-PTN, San 2.0-APA, Tilligen-SURS, NRACC-PTN), the Nebraska Pharmacists Association, local public health departments, and private clinical transformation consulting businesses. In addition to conducting a detailed analysis of hospital discharge data and death data, the FELLOW will work with the Medicaid data analyst, and data from other available sources. The FELLOW would research other potential data sources to further define the problem to assist the Chronic Disease Prevention and Control Program in planning and evaluating interventions.

Additional Primary and secondary chronic disease prevention Project

Other priority areas for the Chronic Disease Prevention and Control Program are obesity, diabetes, heart disease, stroke, and primary chronic disease prevention such as nutrition, physical activity, school health, early childhood education, healthcare extenders (CHWS, Pharmacists), worksite wellness, and lifestyle change programs and secondary prevention such as chronic disease self-management programs. As time permits, there could be epidemiology and evaluation projects related to those areas.

Preparedness Role

The FELLOW will be expected to respond to acute and emergent problems related to chronic disease Epidemiology, including emergency response activities related to naturally occurring and intentional events which have actual or potential impact on injury morbidity/mortality. Nebraska's Bioterrorism Preparedness Program offers training and exercises to ensure Nebraska's preparedness in the event of an incident or attack involving biological, chemical, radiological or other agents of bioterrorism. The chronic disease fellow can access this training and participate in such exercises.

Mentors

Primary	Sandra Gonzalez PhD Senior Epidemiologist
Secondary	Ming Qu MPH Unit Administrator