

Chronic Disease

Assignment Description

The Bureau of Health Promotion (BHP) in the Kansas Department of Health and Environment (KDHE) is responsible for addressing the public health issues related to chronic diseases, injuries, disabilities and associated risk factors through its chronic disease, injury and disability prevention and control programs in collaboration with state and local partners. BHP is also responsible for building and maintaining the state's capacity for population based surveillance of public health risk behaviors, having developed an in-house, state of the art survey capability, providing of high quality data. It conducts the Kansas Behavioral Risk Factor Surveillance System (BRFSS) surveys, the Child and Adult Asthma Call Back Surveys, Adult Tobacco Surveys, Youth Tobacco Surveys and other population based health risk surveys that provide valuable surveillance data on a variety of chronic diseases, infectious diseases, injuries, disabilities, behaviors/risk factors, health care access and other public health issues that are pertinent to the state of Kansas. These surveillance data are widely used by health professionals for program planning, program evaluation and policy making at the state and local level. BHP employs 53 public health professionals (including nine epidemiologists) working in the bureau's chronic disease, injury and disability prevention and surveillance programs. BHP programs have strong partnerships with academia including the University of Kansas (including two medical school campuses) and Kansas State University. The BHP staff members collaborate extensively with the faculty and other partners for implementation of public health efforts in the state. This inter-disciplinary collaborative structure provides excellent opportunities for public health professionals to expand their knowledge and skills. Thus, the KDHE's Bureau of Health Promotion (BHP) offers an excellent opportunity for master or doctoral level trainees to gain practical experience in the field of chronic disease and injury prevention and control. Staff of the BHP are well suited to provide training for a Class IX CSTE fellowship participant in expanding his/her knowledge and skills related to chronic disease and injury epidemiology, surveillance, program planning and program evaluation.

BHP is committed to build and enhance the Kansas State Health Department's capacity to serve as the leader in addressing the chronic disease and injury related issues and in establishing the health surveillance systems necessary to provide high quality scientific information to inform evidence based strategies to improve the health of Kansans. To fulfill this commitment, BHP has developed strong chronic disease and injury prevention and population based surveillance programs that provide excellent continuous on-the-job training opportunities for the professional development of staff thus positioning them to serve as public health leaders. Individuals, including CSTE fellows, who want to pursue a career in the field of epidemiology and public health can take advantage of these training opportunities and enhance their professional knowledge and skills. The CSTE fellow assigned to BHP will be encouraged to determine the main analytic and evaluation projects that he/she wants to pursue for the fellowship through discussions with the mentors and will conduct activities required to complete these projects according to the fellowship guidelines.

Day-to-Day Activities

Fellow's day to day activities will include discussions with the mentors to determine main analytic and evaluation projects according to the fellowship guidelines, working on these projects and receiving feedback and guidance from the mentors, developing project reports/scientific papers, and

disseminating their project work by preparing and presenting in national and state conferences. Other routine activities will include:

- Participation in program staff meetings (based on the fellowship projects) where program activities are discussed to have overall understanding of the application of their project in context of the program activities.
- Participation in meetings conducted by the BHP program epidemiologists to share and discuss epidemiologic methodological and analysis techniques required to provide epidemiologic support to the programs.
- Participation in statewide partnership meetings convened by the BHP programs to develop skills to work in settings involving multiple partners.
- CSTE fellow will have the opportunity to participate and present in national and state conferences. Participation in monthly meetings that are organized to share epidemiologic and surveillance work done by different bureaus of the KDHE.

Potential Projects

Potential Data Analysis Projects:

- Analysis project for examining specific scientific question(s) using Kansas Adult and/or Child Asthma Call Back Survey database and development of paper(s)/report based on the analysis results. The database includes annual datasets for the surveys. The purpose of the annual adult and child surveys is to create a surveillance system for examining burden of asthma and factors related to its control in adult and child populations of Kansas. Survey data are linked with state's BRFSS data to identify disparities in socio-demographic, risk factor, chronic disease and disability subgroups. The project will provide opportunity to learn sophisticated statistical techniques for population based weighted data analysis and interpretation.
- Analysis of data from Kansas Child and Adult Asthma Call back Surveys, Kansas mortality database, Kansas hospital discharge database, and Kansas Medicaid datasets to examine the complete asthma profile in the state and development of Kansas Asthma Burden document. The project will provide opportunity to learn sophisticated statistical techniques for population based weighted data analysis and interpretation. - Analysis project for examining relationships between fitness, academic performance and other parameters among Kansas students using database for Kansas Fitness Information Tracking (KFIT) project. The project promotes physical education/physical activity programs in schools to assist students to set and work towards personal fitness goals. The schools utilize the Fitnessgram 9.0 tool to assess student's individual fitness and activity level. The analysis of data for this project will provide statistical skills for linking Fitnessgram dataset to KIDS database (state database with student information from all schools in the state) for conducting analyses for examination of relationships between fitness, academic performance and other parameters among Kansas students.
- Analysis of local Kansas BRFSS data to examine burden of any specific chronic disease focus are and its risk factors using database for Kansas BRFSS Expansion Project. This Expansion project has allowed us to increase the sample of Kansas BRFSS surveys in alternate years so as to have sufficient sample to produce reliable estimates for most of the individual counties and groups of counties with small population base. This project will also provide opportunity for the CSTE fellow to interact with local partners and assist in training/technical assistance sessions for providing skills to use the county level data in public health practice. The CSTE fellow will also be involved in discussions for creating a user-friendly electronic local data dissemination system.

- Analysis of data from Kansas BRFSS Surveys, Kansas mortality database, Kansas hospital discharge database, Kansas Medicaid and other databases to examine the burden of obesity and related factor of unhealthy nutrition and physical inactivity in the state and development of Kansas Obesity Burden document. The project will provide opportunity to learn sophisticated statistical techniques for analyses of variety of databases including population based weighted data analysis (information on eating behaviors, physical activity, and other pertinent information from the Kansas BRFSS and Kansas Youth Tobacco Survey (YTS) databases).
- Analysis of data for examining specific question(s) regarding tobacco use and related issues among the Kansas youth using the Kansas Youth Tobacco Survey (YTS) data.
- Analysis of data using Kansas Adult Tobacco Survey for examining specific question(s) regarding relationship between tobacco use and various factors among Kansas adults (knowledge, attitudes, and behaviors related to tobacco use and policies). The project will provide opportunity to conduct weighted data analysis including application of multivariate modeling techniques for weighted data. - Analysis project can be developed to examine relationship between any specific chronic disease of interest (e.g., diabetes, cardiovascular disease, arthritis, etc) and risk factors/behaviors or access to care by using the Kansas BRFSS datasets.
- Analysis project using the Kansas Arthritis Call Back Survey database to examine the enablers and barriers for delivering arthritis self management among population groups residing in vastly different geographic areas of the state with a wide range of variance in community infrastructures. This project will provide advanced analytical skills required for analysis of data obtained through call-back survey design. This project will also provide CSTE fellow an opportunity to understand how epidemiologic data can be used in designing a statewide public health program.
- Analysis project using the Kansas Injury Prevention Survey database to examine the relationship between injury occurrence and various risk/preventive factors in population subgroups of Kansas. This project will provide analytical skills to test research hypothesis using weighted population based data.

Potential Program or Surveillance Evaluation Projects:

- Chronic Disease Risk Reduction Grant Program Evaluation Project: The BHP awards grants to 45 local counties in Kansas for the purpose of reducing the burden of chronic disease through primary prevention activities (tobacco use prevention, physical activity and healthy eating habits). Logic models are used to guide the local grantees in selection of programmatic activities, output tracking, and designing and implementation of evaluation plans. The evaluation project for the grants program includes two major activities. The first is re-designing, testing, and implementing a state level output tracking system for the purpose of collecting local output data and aggregating it for trend analysis and required state and federal reports. The second is the design, implementation, and analysis of evaluation plans such that short term outcomes data may be aggregated across local programs to provide state level estimates. A significant challenge specific to Kansas is the coordination of local evaluation plans to integrate evaluation data collection for selected short term outcomes specified by the logic models so that sufficient power is attained to achieve state estimates. A data collection and management system as well as analytical protocols, analysis results and evaluation report are expected outcomes of this project.
- Chronic Disease Electronic Management Surveillance (CDEMS) Program Evaluation Project: Kansas Diabetes Control and Cardiovascular Health Programs currently collaborate with 85

primary care providers in the state of Kansas through the Quality of Care Program to establish a surveillance system (CDEMS System). The purpose of this surveillance system is to track improvements in the quality of care provided to the diabetes and hypertensive patients receiving care in these clinics. The CDEMS Program Evaluation Project will involve two major activities: (1) design and implement the evaluation methodology to: assess appropriateness of the data collected for informing the quality of care improvement efforts; develop analysis protocols to assess the quality of data collected; and compare the measures and indicators from CDEMS data system with other surveillance data systems, and (2) based on the evaluation results provide recommendations to strengthen the CDEMS System in improving the quality of care and expanding the system to state-wide level. This project will provide CSTE fellow an opportunity to design and conduct the evaluation of a surveillance system and provide recommendations for further strengthening and expansion of the system to assist in Diabetes and Cardiovascular Program efforts to improve the quality of care available to the Kansans.

Preparedness Role

In event of public health emergency, the fellow will work as a part of State Epidemiologic/Surveillance team and will participate in designing and conducting surveillance methodologies to track issues related to the emergency.

Assignment Location: Topeka, Kansas

Primary Mentor: Ghazala Perveen, MD, MBBS, PhD
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Kansas State Department of Health and Environment

Secondary Mentor: Charles Hunt, MPH
State Epidemiologist and Director of the Bureau of
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