Substance Abuse

Assignment Description

Because of the tremendous societal and public health burdens of substance abuse, 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 of substance abuse 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 adverse health outcomes as related to substance abuse in our population. Our agency's goal is to be the leading provider of this information.

We are extremely excited about the opportunity to supplement our current team with a Substance Abuse Epidemiology Fellow, and believe that such a resource will enable us to advance this agenda. For the qualified applicant we expect employment opportunities to be available at the completion of the fellowship. The Nebraska Office of Epidemiology provides an ideal training opportunity to a Substance Abuse Epidemiology Fellow (SA-EF). The Office's Health Surveillance Section links to the Substance Abuse Prevention Program to allow collaboration in the study of substance abuse epidemiology and in implementing prevention and control strategies. This team will include the State Epidemiologist (Primary Supervisor), Substance Abuse Epidemiologist (Secondary Supervisor), a CDC-assigned Career Epidemiology Field Officer (CEFO), an EIS Officer, three surveillance specialists, and the Nebraska Strategic Prevention Framework State Incentive Grant (SPF SIG) Project Director. The SA-EF will work as part of this team and will have access to multiple databases to study a variety of substance-abuse–related issues. The team members are located in close proximity to each other in various parts of our integrated Health and Human Services agency. The training and skill development of the SA-EF will be the primary responsibility of the State epidemiologist. All team members will be at the disposal of the SA-EF to provide expertise in selected aspects of epidemiology 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 an understanding of and familiarity with substance abuse surveillance datasets;
2) Refine data processing and data analysis skills;
3) Understand how to assess surveillance systems;
4) Acquire, analyze, and interpret data; and
5) Prepare epidemiology reports; and
(6) Understand the State's substance abuse prevention infrastructure and how epidemiological data can enhance prevention practice.

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

In addition to understanding ongoing projects and surveillance systems, the SA-EF will focus on three priority areas:
1) Develop a strategy for capturing and communicating the impact of alcohol-related medical costs in acute care medical facilities including emergency rooms;
2) Develop a tracking system that monitors intentional and unintentional overdose of prescription drugs; and
3) Develop a strategy for promoting alcohol use disorder as part of the routine provision of health care in emergency room and out-patient clinical practices.

Alcohol and Nebraska's Healthcare System: National research suggests that alcohol is a large contributor to the population's need for medical care and associated costs in the United States. Information related to alcohol associated medical care is included in some of the data available in Nebraska; however, the existing systems have several limitations and have been underutilized in understanding this issue. As an example, Nebraska hospital discharge data provide little information on the degree to which alcohol plays a factor in inpatient hospital stays. In addition, patients receiving care at Nebraska trauma centers are tested for alcohol and drugs in their system at the time of admission; however, such testing is done at the discretion of each trauma center. As a result, not all patients that should be tested actually are tested. Given such limitations, there is a need to identify new and innovative ways to collect information regarding alcohol as a contributing factor to medical encounters. The SA-EF will have the opportunity to expand the utilization of existing surveillance systems beyond current levels and will have the opportunity to identify and develop novel systems to capture information which is currently lacking.

The Office of Epidemiology in Nebraska has been a national leader in developing automated systems to acquire and message electronic health information provided by the state's health care facilities (e.g. Electronic Laboratory Reporting and Emergency Department Syndromic Surveillance). Using such existing infrastructure, the SA-EF could engage participating facilities to identify and capture real-time information regarding substance abuse and associated adverse health outcomes. To further enhance such surveillance efforts, Nebraska is currently considering adding alcohol poisoning (BA >0.08) to the state's list of reportable conditions.

Costs Associated with Alcohol in Nebraska: While healthcare, law enforcement, and other costs associated with alcohol abuse are available at the federal level, they are often limited in scope or outdated at the state level. Accordingly, more detailed and updated costs for alcohol associated outcome indicators are needed to provide added value to the field of alcohol prevention in Nebraska. The Substance Abuse Epidemiology Fellow will analyze existing data sources to identify information not currently being analyzed and will work to identify new data sources and develop systems including survey methodologies to gather information to better quantify alcohol-related medical treatment costs, law enforcement costs, and lost worker productivity and other costs associated with alcohol abuse in the workplace. These areas of concern have never been quantified in Nebraska so the Fellow will have an unprecedented opportunity to advance the capacity of the Nebraska Substance Abuse Prevention program. In the past, the program has conducted worksite wellness surveys but the collected information has not been analyzed extensively. The opportunity exists for the Fellow to develop methodologies to collect and evaluate additional worksite information. To better identify alcohol-related health-care costs, the Fellow will use existing emergency department surveillance records to identify emergency visits with mention of alcohol to gain access to records.

Prescription Drug Abuse in Nebraska: Prescription drug abuse is a growing problem across the United States and in Nebraska. Unintentional poisoning death rates have been increasing in Nebraska and are currently the second leading cause of unintentional injury death among Nebraskans aged 15–44 years. Despite these facts, the actual scope of the problem is largely unknown in Nebraska because existing data are extremely limited and currently underutilized. The later is the result of limited resources. Further, a data void exists because Nebraska does not have a state-operated medical examiner system and a prescription drug monitoring program. Expansion and better utilization of existing surveillance systems and the creation of new systems are needed to add value to substance abuse prevention efforts in Nebraska. Despite the importance of this problem, no current projects have been developed to address it because of the limited staffing in the Nebraska Substance Abuse Prevention Program. As such, the Fellow will provide a substantial opportunity to expand such activities. First, efforts will need to be made to determine if prescription drug information is captured in current systems and to assess the quality/usefulness of these data. Following this evaluation and assessment of prescription drug information in existing surveillance systems, the Fellow will analyze these data and use findings to better define the problem, and also generate recommendations to improve the quality of the data. The Fellow will also be expected to identify other potential data sources and be a key player in creating a prescription drug monitoring surveillance system. Opportunities exist to engage pharmacies statewide to develop an automated system to capture such information.

Program or surveillance system evaluation component: The SA-EF will work as part of Nebraska Substance Abuse Prevention team, and will be expected to assess and improve the quality of substance-related data (e.g., primarily alcohol and prescription drug abuse). By the completion of this fellowship, the SA-EF will be expected to be skilled in data processing and analysis, GIS, data linkage, data integration, and data management in real life situations. The SA-EF will also be expected to apply the criteria of “Updated Guidelines for Evaluating Public Health Surveillance Systems” (MMWR, July 27, 2001, Vol. 50 No. RR-13) in developing methodology to identify alcohol-related emergency room visits from existing surveillance systems and evaluate and assess this novel system by comparison to information contained in medical charts.

Preparedness Role

The SA-EF will be expected to respond to acute and emergent problems related to Substance Abuse Epidemiology, including emergency response activities related to naturally occurring and intentional events which have actual or potential impact on substance abuse and associated 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 injury fellow can access this training and participate in such exercises as appropriate.

Assignment Location:	Lincoln, Nebraska
Primary Mentor:	Bryan Buss, DVM, MPH CDC Career Epidemiology Field Officer Nebraska Department of Health and Human Services
Secondary Mentor:	Alison Keyser Metobo, MPH

Epidemiology Surveillance Coordinator

Nebraska Department of Health and Human Services