

Injury, Substance Abuse

NC Division of Public Health, Chronic Disease and Injury Section

Raleigh, North Carolina

Assignment Description

The Chronic Disease and Injury (CDI) Section of the NC Division of Public Health (DPH) is committed to providing an exceptional, well-rounded experience for a CSTE/CDC Applied Epidemiology Fellow. As a national leader in chronic disease & injury prevention and control, we have a strong history of hosting CDC Prevention Specialists, UNC-Chapel Hill public health students, student interns, and Applied Epidemiology Fellows. This assignment will allow a Fellow to develop applied epidemiology competencies under the guidance of experienced mentors (one who has mentored 5 past CSTE fellows and was CSTE Outstanding Mentor of the Year in 2013) by engaging in both narrowly-focused and cross-cutting projects in injury epidemiology, with opportunities to gain experience in communicable disease, chronic disease epidemiology, maternal and child health, environmental public health, and public health preparedness.

Mentors will work with the Fellow to choose projects that fit with the Fellow's interests, fulfill the competency areas, and provide solid broad-based experience in applied injury or chronic disease epidemiology. These projects will involve the Fellow with staff across the Section, DPH, and from other states and CDC. Projects provide opportunities to present at national/state conferences and submit manuscripts to peer-reviewed journals. The Fellow will have opportunities to present to a wide range of audiences, learn how to communicate data/public health information effectively to different audiences, improve public speaking skills and present work to state advisory boards. The Fellow will also be mentored in handling data/technical assistance requests (e.g., from public, legislators, and media). Mentors are very willing to work with fellows to develop projects within Fellows' specific areas of interest or to help facilitate relationships with other partners/colleagues that will lead to these types of projects.

Mentors will also assist in pointing out aspects of current or proposed public health policies for which epidemiologic and other surveillance data can help drive/support these policies.

Day-to-Day Activities

Day-to-day activities will primarily depend on the nature of the project, experience and maturation of the Fellow. Initially, day-to-day activities will be strongly linked to one or more of the mentors as the Fellow gets oriented and acquainted to the programs and projects. As the Fellow develops capacity, more independent oriented activities will be expected. If new areas or projects are started, the mentors will work with the Fellow to get oriented and will check in to ensure progress toward reaching competencies is made. Communicating with past Fellows might illuminate anticipated daily activities over the course of two years. We would encourage potential applicants to reach out and speak with them about their NC CSTE experience.

Potential Projects

Surveillance ICD10 CM Transition Injury Surveillance Activity

This project will work closely with CDC, CSTE and other partners nationally working to better understand the impact of the transition from ICD-9-CM to ICD-10-CM (the way medical diagnoses get coded in healthcare systems). NC has a strong history of working collaboratively on surveillance quality improvement projects like this one. This project would take a specific look at several injury areas of interest and compare ICD-10-CM coded cases with past cases. SAS coding used to produce surveillance materials such as fact sheets and reports, as well as the format of those materials, are affected by the transition and will need to be updated to correspond with the changes introduced during the ICD-10-CM transition. This will fill several competencies. Depending on interest and capacity, this could also serve as the Fellow's major project.

Surveillance NC Reach Back (medical record reviews for injury data) Evaluation

The NC Hospital Association in conjunction with NC DPH recently updated the NC Hospital Emergency Surveillance System (NCHES). This system has historically been used for communicable disease surveillance (syndromic surveillance) to rapidly assess health events and better understand potential risk factors associated with specific diseases of interest. Over the course of the past 5 years, the Injury and Violence Branch has started to use the system to ensure that the injury data coding was as accurate as possible. A handful of pilot projects have utilized the reach back system. The fellow would utilize CDC Surveillance Evaluation Framework to evaluate the potential of the Reach Back system for injury related work. The system is under the purview of the Epi Section and we would partner with them to design an evaluation that works for both injury and Epi Section needs.

Major Project Expanding NC's Violent Death Reporting System

NC-VDRS is a CDC funded, state wide surveillance system on homicides, suicides and other violent deaths occurring in NC. NC-VDRS has been compiling violent deaths data from vital records, law enforcement and medical examiners since 2004. In 2013, the CDC launched a new web-based system to replace the state-based system and migrated all state data to the new system. The web-based system is in its infancy and states and CDC have been working to fix system bugs and other issues related to system operation. With attention still focused on operations, little time has been available to conduct comparability studies from the old to the new system. In addition, numerous old SAS programs will need to be updated or created anew to enable our program to provide timely data, reports and fact sheets. With a slightly different focus this project could serve as a surveillance evaluation or major project.

Additional Surveillance of Adverse Childhood Experiences (ACEs) for Violence Prevention Project

Adverse childhood experiences have been found to impact individual's health and well-being across the life course, and have a tremendous impact on future violence victimization and perpetration. The North Carolina Behavioral Risk Factor and Surveillance System (BRFSS) included the ACE module in 2012 and 2014. This project will analyze the survey results from the 2014 BRFSS ACE module to understand the prevalence of ACEs in North Carolina. The 2014 survey results could be combined with the results from 2012 ACE module to carry out more in-depth analysis into subgroups most impacted by ACEs in NC as well as to assess relationships between a history of ACEs and various health outcomes. Depending on interest and capacity, this could also serve as the Fellow's major project.

Surveillance Activity Linkage of overdose events across data systems

This project will work closely with the Substance Use Epidemiologist (housed in the IVPB) to link data from the Office of Emergency Medical Services (EMS data) and NC DETECT (Emergency Department data). Historically, these data sets have been used to individually assess the burden of overdoses in North Carolina in each of those systems. Many times, individuals who overdose refuse transport to the ED; linking these datasets would allow us to quantify how often this occurs. Depending on interest and willingness, this project could expand to a major project that would also include linkages to hospital discharge data and death certificate data to provide a more complete picture of what happens to individuals who experience an overdose in NC.

Preparedness Role

Like all NC Public Health employees, the Fellow will be trained on Incident Command using the federal FEMA curriculum. The Chronic Disease and Injury Section has a strong relationship with the Office of Public Health Preparedness and Response with the Epidemiology Section. If the Public Health Command Center is opened, based on need, requests will be made throughout DPH for volunteers to help manage the situation. Staff with specialized skills might be sought to help provide expertise for specific operations. Section epidemiologists, including CSTE fellows, have helped during hurricanes, floods, H1N1, food-borne outbreaks, injury outbreaks (contaminated heroin) and other disaster events. Roles, tasks and length of detail will be negotiated with the Fellow. The past five CSTE Fellows have all worked short-term details and had positive experiences. In fact, Nicole (Standberry) Lee was detailed to help with H1N1 for a brief period in spring 2008, which led to a full-time position after her Fellowship. And Fellow Anna Austin worked on a salmonella outbreak in southern NC (Oct 2014).

Formal training in outbreak investigation is available, and the Fellow will engage in at least one field investigation with the Communicable Disease Branch. The Fellow will take the DPH-required public health preparedness classes and will be included in Public Health Preparedness and Disaster Epidemiology Working Group efforts (CSTE Disaster Workgroup). Some potential public health

preparedness projects include analyzing data from post-hurricane community assessments to identify effects on acute injuries and chronic disease, and opportunities for involvement in response to emergency events like hurricanes.

Additional Activities

Falls Surveillance

Surveillance Activity

Falls a leading cause of both fatal and nonfatal in North Carolina, and the leading cause of injury death among adults ages 65 and older. Older adults in NC with chronic conditions or a disability are significantly more likely to report a fall. Partners at Healthy Aging NC, an initiative housed at UNC Asheville's NC Center for Health and Wellness, and the NC Falls Prevention Coalition have expressed interest in further exploring this relationship to target their prevention efforts. The NC BRFSS Survey includes questions on health conditions and self-reported falls and fall injuries, and can be analyzed to identify which chronic conditions place NC residents at greatest risk of experiencing a fall-related injury. In addition, ICD-10-CM codes outside of those used for regularly used for injury surveillance will need to be identified to capture these chronic conditions in the hospital discharge and emergency department data. Once these are identified these data sets will could also be used to assess this relationship.

Alcohol Morbidity Surveillance

Surveillance Activity/ Surveillance Evaluation

In 2017, the NC YRBS included the question "During the past 30 days what type of alcohol did you drink most often?" The same question will be included on the 2018 NC BRFSS. For this project the Fellow will analyze the results of this question and compare type of alcohol most often consumed among youth and adults. Additionally, should the Fellow wish to expand this project, they may complete a chart review using Emergency Department data to evaluate North Carolina's current case definitions for alcohol-related ED visits. The Fellow will also participate in CSTE's Alcohol Morbidity Workgroup to collaborate across states on these case definitions.

Sexual Violence Surveillance

Surveillance Activity

Questions related to sexual violence will be included in the 2018 NC BRFSS Survey for the first time since 2010. For this project, the Fellow will analyze the results from these questions to gain an understanding around how many North Carolinians have been impacted by sexual violence and who is most at risk for sexual violence. The project will work closely with the program manager of the Rape Prevention Education program housed in the IVPB to design and produce materials to distribute

findings from the analysis. These results will be distributed to stakeholders working in sexual violence prevention to inform and target prevention efforts.

Chronic Pain Surveillance

Surveillance Activity

A chronic pain question module will be included in the 2018 NC BRFSS Survey for the first time. For this project, the Fellow will analyze the results from these questions to assess prevalence of chronic pain and associated treatments, as well as demographics and other health outcomes associated with those experiencing chronic pain in North Carolina. The project will work closely with the Substance Use Epidemiologist housed in the IVPB to design and produce materials to distribute findings from the analysis. These results will be disseminated to local partners to aid them in their work to end the opioid crisis they are experiencing in their communities.

Mentors

Primary Susan Kansagra MD, MBA

Section Chief

Secondary Scott Proescholdbell MPH

Epidemiologist