

Chronic Disease

Description:

The Applied Epidemiology Fellow will be placed in the research and data dissemination section of the Division of Epidemiologic Studies. The division has collected and maintained high quality data on cancer incidence, adverse pregnancy outcome and occupational diseases and injuries, and therefore offers many opportunities for a fellow to gain on-the-job experience and develop competencies in the field of applied epidemiology. The division has previously hosted CDC Epidemic Intelligence Service (EIS) Officers and student interns and is committed to providing an exceptional, well-rounded experience for a CSTE/CDC Applied Epidemiology Fellow. The potential fellow will have the opportunity to work under the guidance of two experienced mentors on various projects using data from the division's three population-based registries, learn about surveillance systems in public health, program and surveillance system evaluation, and study design and data analysis for presentations and publications. The three EIS alumni – Dr. Tiefu Shen, Division Chief, Dr. Craig Conover, State Epidemiologist, and Dr. Sarah Schillie, Chronic Disease Epidemiologist – all have agreed to provide necessary support to the CSTE fellow. The division is located in Springfield, the capital of Illinois. Springfield has an approximate population of 113,000 and is located conveniently between Chicago and St. Louis, with Chicago 200 miles northeast and St. Louis 100 miles southwest, respectively. Springfield is the place of many historic Lincoln sites and offers hundreds of exciting events throughout the year.

Day-to-Day Activities:

By being part of the Division of Epidemiologic Studies, the fellow will have the opportunity to work with supervisors, coworkers, and external partners in many activities, including project planning, study protocol development, data analysis and dissemination, and manuscript preparation. Such activities include:

- Conducting detailed analyses of the state cancer incidence data, and interpreting and disseminating the results. The ISCR has collected state-wide cancer incidence data since 1986; a state cancer incidence update is conducted annually. Analyses will be performed using SEERxStat program; age-adjusted cancer incidence will be chronically calculated for overall and major cancer sites by gender, race, and Hispanic ethnicity.
- Conducting statistical analyses of cancer incidence data at the county-level. Each year, an analysis of cancer incidence for the 102 Illinois counties will be conducted using the most recent 5 years incidence data available. The analysis is aimed to facilitate county comparisons of cancer incidence.
- Conducting detailed analyses of the state cancer mortality data. Similar to the cancer incidence analyses, cancer mortality statistics are updated annually and age-adjusted rates are calculated and reported by gender, race, and Hispanic ethnicity for overall and major cancer sites.
- Performing special data analysis in response to technical requests from the public, academics, legislators, or media such as disease clusters.

- Participating in creating the ACCESS data files for the division's web-based cancer incidence query system.
- Performing data linkage between ISCR and other data sources such as the Illinois Breast and Cervical Cancer Control Program (IBCCP) and develop research projects based on linkage results.
- Participating in reviewing the Illinois Project for Local Assessment of Needs (IPLAN); serving on the IDPH's Data Release and Research Committee (DRRC).
- Attending monthly journal club meeting held at the Southern Illinois University Medical School.
- Attending webinars sponsored by the North American Association of Central Cancer Registries.

Potential Projects:

- Designing and carrying out studies using ISCR data: ISCR is the only source of complete population-based cancer incidence data for Illinois. Various research projects can be developed and conducted using the data to examine secular trends of specific cancer sites or disparities in cancer incidence or mortality.
- Conducting GIS projects of cancer incidence using ArcGIS: Over 90 percent of all cases in the ISCR database are geocoded at address level and 100 percent at ZIP centroid. Potential GIS projects include examining regional incidence differences of certain cancer sites and identifying cancer incidence patterns.
- Conducting researches linking ISCR and APORS databases: The division is the only institute in the United States that hosts both cancer and birth defect registries and therefore offers unique research opportunity. Tentative projects include examining incidence of adverse pregnancy outcomes and cancer in relation to paternal age and examining the relationship between Down syndrome and childhood cancers.
- Conducting a quantitative evaluation of the Coordinated Approach to Child Health (CATCH) elementary school-based obesity prevention program, controlling for potential confounding factors such as socioeconomic status and race/ethnicity.
- Describing the burden of work-related asthma in Illinois using existing data sources, and designing/implementing targeted interventions to reduce morbidity from work-related asthma.
- Determining the effect of the Smoke-free Illinois Act on the burden of select chronic diseases in Illinois, such as cardiovascular disease, stroke or chronic obstructive pulmonary disease.
- Produce surveillance and trend reports of adverse pregnancy outcomes.

Emergency Prep Role:

Participating in agency preparedness meetings; participating in preparedness meetings with external partners (eg LHDs, hospital association, EMS). Participating in exercises (eg earthquake, Biowatch), plan development and review.

Assignment Location:

Springfield, IL

Primary Mentor:

Fangchao Ma, MD, PhD
Senior Cancer Epidemiologist
Illinois Department of Public Health

Secondary Mentor:

Jane Fornoff, PhD
Prenatal Epidemiologist
Illinois Department of Public Health