

Maternal and Child Health/Chronic Diseases

Assignment Description

WCHD serves a jurisdiction (Winnebago County) that is a microcosm of the State of Illinois both demographically and economically. An epidemiology Fellow embedded in WCHD will experience a diversity of epidemiological applications in all aspects of public health practice as well as opportunities for specific research projects applying epidemiological principles.

The epidemiology Fellow will be located in the Office of Health Planning and Policy Development under the direct supervision of the public health administrator. The Office of Health Planning and Policy Development works across the entire Winnebago County Health Department Service Centers.

Focus on maternal and child health epidemiology; WCHD provides case management, WIC, and high risk nursing and women's health interventions serving approximately 50% of the communities pregnant and parenting families. Primary work would evaluate racial / ethnic, age and geographic distribution of birth outcomes community-wide and for current and historic caseload, through retrospective case-control (exploratory and analytic) study methodology, evaluate the potential association of service (i.e. contacts) type and frequency with outcomes for like risk.

Day-to-Day Activities

Provide descriptive and analytical epidemiological input into maternal and child health programmatic services and investigate patterns / trends associated with birth outcomes, which would help identify local protective and risk factors that could help target outreach, educational and intervention services. Evaluate chronic disease patterns and overall mortality rates by zip code and census tract and work with the County's GIS System to map results. Carry out review and refinement of existing ESSENCE Surveillance data for weekly reports throughout the influenza season (i.e. from October to April). Monitor syndromic surveillance data in ESSENCE comparing local to a regional picture. Assist in outbreak investigations. Other routine activities would include participation in the following meetings:

- Attend a bi-weekly progress meeting with mentors.
- Periodically (i.e. monthly or bi-monthly) update leadership weekly staff meetings on projects, findings and ideas for other potential assessments.
- Participate on Quality Council to aid in evaluation methodology for routine QI projects (at least monthly, sometimes more frequently).
- Participate in quarterly infectious disease committee meetings with partner agencies.
- Meet every other month with each service Center Director to review potential projects and data/analytical needs.
- Participate in face-to-face or teleconference meetings of the statewide Health Information Exchange and face-to-face quarterly meetings of the Regional Health Information Exchange Workgroup.
- Accompany Administrator to the University of Illinois Research Committee meetings (quarterly).

- Participate in trainings periodically available through UIC / SPH (Chicago) related to the application of epidemiological interest.
- Participate in Northern Illinois Public Health Consortium bi-monthly meetings and their infectious disease and epidemiology workgroups (workgroups meet every month to every other month).

Potential Projects

The Epi Fellow will have the opportunity to work on a variety of projects depending on his / her interest. There are a number of WCHD research needs that are available for consideration, as follows:

- As a follow up to a recently completed research project to identify prenatal delivery system utilization barriers, WCHD, UICOM and UIC Center for Research on Women and Gender (CRWG) are in the midst of assembling additional data that would facilitate the development of an application for a research grant to NIH (Exploratory Research – R21). The proposal would evaluate evidence-based interventions in partnership with both the health system providers and the target population (i.e. high risk pregnant moms). This research opportunity would provide experience in designing data collection tools (i.e. to address poor birth outcomes) and to collect and assist in analyzing data gathered. This project is important enough to WCHD in addressing community health needs that such work is likely to be carried out with or without the support of the NIH grant.
- Utilizing the Winnebago County death database (11 year period) and CDC Wonder online database, evaluate chronic disease patterns and overall mortality rates by zip code and census tract. Work with Winnebago County's GIS system to map results for total death rate and cause-specific rates and map results. Results of these assessments would be presented both informally and formally with management, program staff, and community groups. There is an opportunity to work with the Rockford Health Council's workgroup on chronic disease prevention and more closely with WCHD's *We Choose Health* initiative and the partnership of organizations working together to improve chronic disease outcomes in the community.
- WCHD is currently working in partnership with the Rockford Health Council (coalition of community stakeholders focused on health improvement) to conduct the next iteration of the community's health needs assessment, health prioritization and evidence-based intervention strategies to address identified priorities. The Epi Fellow would have an opportunity to work with the currently functioning healthy community study workgroup providing the leadership for this next assessment.
- WCHD's service Centers support a broad range of interrelated public health interventions / services. Each of these Centers and service areas require ongoing evaluation to identify changing needs, trends, and to assure improving outcomes. This must be supported by intervention-based evaluation that could benefit from more intense epidemiological focus. Both descriptive as well as analytical input from programmatic database assessment would be most helpful to assisting in more targeted interventions. Each of WCHD's service Centers are lead by a Master's prepared Center Director and would be eager to work with the Epi Fellow.

- Two of the three emergency departments in the community are linked to a syndromic surveillance system (John Hopkins University developed ESSENCE). This system covers 45 hospital emergency departments across northern and northeast Illinois. The system provides an opportunity to assess a large database in terms of its utility in better understanding emergency department demands and trends and variability of such information in comparison to the rest of the region. This surveillance system also is the foundation for weekly influenza surveillance in the community. The Epi Fellow would have an excellent opportunity to refine the existing surveillance system for optimum application in tracking influenza. This would also provide presentation opportunities to working committees and perhaps even to Grand Round gatherings at each of the health systems in the community (three).

Preparedness Role

The Epi Fellow will provide support services within the Planning Section of the Incident Command Structure in any emergency. The Epi Fellow would participate in routine Incident Command meetings and trainings. WCHD utilizes the Incident Command Structure to respond to any cluster of unusual illnesses or communicable disease outbreak or environmental health investigation. Epidemiological input is central to any such response. WCHD has been recognized originally in 2004 and renewed in 2009 as NACCHO Project Public Health Ready (PPHR). It is the intent of WCHD to apply for third round recertification through PPHR (in 2014-2015). The Epi Fellow would assist by updating the outbreak response plan and aid in trainings and exercises to practice skill development in this.

Assignment Location: Winnebago County Health Department
Rockford, Illinois

Primary Mentor: Martin MacDowell, DrPH, MBA, MS
Associate Professor and Associate Director Health Professions Education

Secondary Mentor: J. Maichle Bacon, MPH, CPHA, RS
Public Health Administrator