

North Carolina: Annual Report of Accomplishments and Impacts
July 1, 2011 – June 30, 2012

Fundamental Program/OHI

Sheila Higgins, Principal Investigator, (919) 707-5940, sheila.higgins@dhhs.nc.gov

Major Accomplishments and Outputs

Program objectives:

- Collect and analyze occupational illness and injury data using existing data sets (OHIs)
- Compile and disseminate data to occupational health stakeholders and partners
- Identify opportunities for interventions to prevent work-related injuries and illnesses
- Establish and maintain an advisory committee
- Strengthen state network of key state partners that can use data and support program goals
- Assess gaps in program expertise and resources and develop strategies to eliminate gaps

NC completed 18 OHIs and the data was submitted to CSTE in June 2012. Review of data has resulted in establishment of at least two priority focus areas: farm and transportation-related injury. Occupational heat-related illness is also a focus area. North Carolina has access to data from 98% of emergency departments using the North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NCDETECT). Methods to identify and calculate rates of work-related heat injury, using emergency department data, were developed but need to be validated. Methods to identify farm injury, using emergency department data, are being developed.

The program completed an annual statewide data summary report containing a subset of the OHIs entitled *Occupational Health Update 2009* @ <http://epi.publichealth.nc.gov/oii/pdf/OccupationalTrends2009.pdf>. Indicators included: Employment Demographics; Non-fatal Work-Related Injuries and Illnesses Reported by Employers; Work-Related Hospitalizations; Fatal Work-Related Injuries; and, Economic costs of Occupational Injuries and Illnesses. Excerpts from this report are given to the State Health Director for the annual Public Health Report to the NC Medical Society. The report is posted to the Branch website and shared at advisory group meetings.

Indicator data was used to educate NC DPH epidemiologists on occupational health surveillance in NC in the form of a presentation given to the members of the Epi Evaluation Team that meets monthly. Indicator data was also utilized to contribute to an issue of the North Carolina Medical Journal that focused on agricultural health. This journal is read by physicians, professionals in many other health care fields, by policymakers, by academic researchers and their students, and by a large number of interested lay persons. NC Division of Public Health partnered with the NC Agromedicine Institute to highlight agricultural health issues in a forum that would reach individuals that could potentially support farm injury surveillance and other policy change needs. Article authors evaluated the strengths and weaknesses of data sources in NC that contain farm injury data.

NC conducts two targeted surveillance programs that focus on workers: NC Pesticide Incident Surveillance Program and the ABLES program. Data from the NC Pesticide Incident Surveillance Program was shared with NIOSH SENSOR Pesticides Program for two journal article submissions that addressed pesticide exposures of concern. Surveillance data from these programs was also used to generate 2 fact sheets: Target Shooting and Your Health and Pool Chemicals and Your Health.

An occupational surveillance advisory committee meets twice a year. Meetings were held in November 2011 and May 2012. Members consist of academia, regulatory, safety education, the local OSHERC, occupational health nursing, public health epidemiology, and specialty groups to include the State Safety Manager, the East Carolina University Agromedicine Institute, and the Carolina Collaborative for Research on Work and Health (CCRWH) at UNC Chapel Hill. Goals of the group are to: strengthen relationships and collaboration with OH agency partners; share surveillance data with those who can use it and make an impact; and, discuss OH issues important to state. The advisory group was used as a forum in May 2012 to discuss climate change and heat-related illness. A heat alert (NCOSHA) and tools (USDOL) to calculate the heat index and protect employees were shared with advisory group members to include the state safety manager. The president of the NC Chapter of the National Safety Council posted these materials to their website and the NC Agromedicine Institute posted these on their Agrisafe list serve.

The surveillance program established other important relationships to foster collaboration. Relationships were established with advocacy groups in order to reach migrant workers. These groups include: the NC Cooperative Extension Services, Latino Affairs Facilitator, Association of Farmworker Opportunity Programs (AFOP), and Association of Mexicans in North Carolina. In an effort to build surveillance capacity in unfunded states and strengthen regional collaboration on OH issues, the PI continues to be a co-coordinator of the new SouthON initiative (South Eastern States Occupational Network). The first annual meeting was conducted in December of 2011 and the group recently submitted a grant to obtain funds for annual meetings for 3 years. The second annual meeting is tentatively planned for December 2012. Raleigh has been designated as a location for one of three future meetings.

The NC State-Based program evaluated other injury and illness data sources for use in occupational surveillance. Data sources such as the NC Trauma Registry and NEMESIS were evaluated for utility, strengths and limitations. In order to be ready for natural or man-made disasters and ensure there is capacity to monitor and protect emergency responders, a protocol was developed for Public Health that outlines steps to conduct basic emergency responder surveillance utilizing existing databases and processes. Parts of the protocol are available for immediate use, some parts are still in progress. An application was submitted to the NC state BRFSS coordinator in August 2011 to add I/O questions to the "state module" and was rejected.

Significant potential outcomes include the following. The program has initiated basic surveillance and identified priority focus areas. Findings and tools have been shared with public health colleagues, the general public, stakeholders, and policy makers to help raise awareness of the purpose and mission of the Occupational Surveillance Unit and communicate trends and workplace risks of concern. Information shared could impact workplace risk if used.

Publications

CDC (2011). Acute illness and injury from swimming pool disinfectants and other chemicals - United States, 2002-2008. MMWR; 60 (39).

Higgins S., Barros T., Garrison H. (2011). Injury and death on the farm: improving prevention through improved surveillance. North Carolina Medical Journal. November/December, 72 (6): 461-465.

Hudson N., Kasner E., Beckman J., Mehler L., Schwartz A., Higgins S., Prado J., Lackovic M., Mulay P., Mitchell Y., Larios L., Walker R., Waltz J., Moraga-McHaley S., Roisman R., **Calvert G.** (2012). Characteristics and magnitude of acute pesticide-related illnesses and injuries associated with pyrethrin and pyrethroid exposures - 11 states, 2000-2008. American Journal of Industrial Medicine (In Press).

CDC (2011). North Carolina adds occupational health objective to statewide public health objectives. NIOSH E NEWS, October.

Higgins, S. (2011) Acute pesticide illness and injury surveillance in NC 2007 – 2009. Epi Notes. Summer issue. Raleigh NC: NC Division of Public Health. www.epi.state.nc.us/epi.
