

New Mexico Occupational Health Surveillance Annual Report

University of New Mexico School of Medicine, Department of Internal Medicine

Division of Epidemiology

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PROGRAM TYPE: Fundamental Surveillance

Major accomplishments

Project presentations:

- **Setting the Foundation for Work-related Asthma Surveillance in New Mexico: Results from the 2005 New Mexico BRFSS** - presented at the 2007 Council of State and Territorial Epidemiologists (CSTE) Annual Conference. We used BRFSS data to create a baseline report to inform health care providers, employers and workers about the status of asthma due to work in New Mexico and to emphasize the importance reporting cases to the New Mexico Occupational Health Registry (NMOHR).

Highlights: Adult New Mexican males who currently have asthma report a significantly higher percentage of work-related asthma (WRA) than do females who currently have asthma. Hispanics and non-whites who currently have asthma report having WRA in slightly (but not significantly) higher proportion than white, non-Hispanics. The rate of self-reported WRA in NM was comparable to that reported in Michigan for 2001.

Potential Outcomes: Although New Mexico has relatively little manufacturing, the rate of self reported asthma is comparable to a large manufacturing state such as Michigan. Surveillance for occupational asthma should consider a broad spectrum of the state's occupations and industries.

Intermediate Outcomes: The WRA analysis served as an opportunity to reach out to members of the NM chapter of the American Federation of Teachers (AFT). Claims data

from the workers' compensation insurer of the members of NM AFT were obtained and a summary of the data analysis was presented to the NM AFT Board in October 2007. Because asthma is of concern to educators in this state, cases with a respiratory component were examined in depth. Cases were mostly due to aggravation of existing asthma and were not new onset. Mold was frequently mentioned in association with asthma cases in the data set.

Publications/reports:

- **Occupational injury mortality: New Mexico 1998-2002.** Mulloy KB, Moraga-McHaley S, Crandall C, Kesler DO. Am J Ind Med. 2007 Dec;50(12):910-20. The study characterizes patterns of occupational injury fatalities in New Mexico for the 5-year period 1998-2002 and compared two different data sets (Census of Fatal Occupational Injury (CFOI) and New Mexico death certificate data) for their utility for occupational injury fatality surveillance. **Highlights:** The study confirms that NM injury mortality rates have remained high when compared to the US (4.4 to 7.6/100,000 employed persons 16 years and older compared to 4.0 to 4.6). Transportation injury was the leading cause of work-related injury fatalities (51%) in New Mexico from 1998-2002. Forty-seven percent of transportation related deaths in the study occurred in out-of state residents (36% ground transportation, 10% air transportation). However, only 30% of deaths occurred in out-of state residents for all injury causes. Nine percent of worker deaths in New Mexico occurred among non-US citizens; of those, six percent were among Mexican Nationals. The estimated fatality rate of non-US citizens ranged from 10.3 to 10.7/100,000 workers. Variables for race and ethnicity, citizenship status, state of residence, and county in which the fatality occurred were important variables available through death certificate data but were not available, or only partially available, through CFOI. **Potential Outcomes:** The findings that a large proportion of transportation fatalities occur among out-of-state residents is new and should be investigated further to determine the cause and help to guide intervention for prevention. In addition, further research is needed to explore limitations of the EMS system and the rural nature of the state and whether these are factors in the higher fatality rate in NM. Using both data systems enabled a better characterization of occupational injury mortality and priority-setting for prevention intervention for specific subsets of workers, such as self-employed and immigrant workers. **Intermediate Outcomes:** The investigation of occupational injury mortality has functioned as a bridge to important groups such as the NM Injury Prevention Coalition (NM IPC). The NM OH Surveillance Program has been actively assisting in the development of the NM IPC Strategic Plan in order to assure that occupational injuries are included in injury prevention efforts for the State.
- **Work-Related Pesticide-Associated Illness and Injury, New Mexico, 2001 - 2006.** Moraga-McHaley S, Kesler DO. New Mexico Epidemiology Report, December 7, 2007. **Highlights:** Work-related pesticide-associated illness and injury, as measured by calls to state poison control centers, is one of the occupational health indicators tracked by the CSTE/NIOSH state occupational health indicators workgroup. New Mexico has consistently had rates over twice the US annual average rates since 2000. In response, we conducted an in-depth analysis of our state's poison control center data and reported the findings through

the New Mexico Epidemiology Report, published and distributed through the New Mexico Department of Health (NMDOH). There were 176 work-related pesticide-associated calls received by the New Mexico Poison and Drug Information Center (NMPDIC) for the years 2001 through 2006. This was approximately 5.5% of all work-related calls received by the NMPDIC. The most frequently reported pesticides associated with a health effect were organophosphates (n=32), followed by pyrethroids (n=26), unknown insecticides (n=22), other herbicides (n=16) and carbamate only (alone) (n=12). The report excluded disinfectant pesticides.

Potential Outcomes: The pesticide surveillance data analysis revealed that the southwest region of New Mexico has the highest rate of calls to the poison center (4.7/100,000 workers) compared to the central (3.9), eastern (3.0) and western (2.4) regions. The elevated rates emphasize the need to focus surveillance in the southwestern region.

Intermediate Outcomes: The NM Occupational Health Surveillance Program is collaborating with CDC/CSTE fellow Jessica Hagan at the Epidemiology and Response Division of NMDOH to conduct a survey to assess pesticide exposures of agricultural workers in southwestern New Mexico. The project is funded by the New Mexico Office of Border Health; the NM Southern Area Health Education Center has been contracted to administer the surveys. Surveys of agricultural workers in Doña Ana, Luna and Hidalgo counties in New Mexico will determine participants' risk factor profiles associated with exposure to pesticides. Data will be used to disclose knowledge gaps in order to target educational interventions for agricultural workers and the healthcare workers that serve them. The pilot survey could provide the basis for a regional pesticide surveillance project of agricultural workers. Workers may cross interstate and international borders to work, become exposed while working, and seek medical treatment within the state of exposure or return to the state or country of origin for treatment which may delay treatment or affect prevention.

Plans for next year

- **Evaluation of the NMOHR:** A Utilization-Focused Approach evaluation plan was designed in late 2007 in order to disclose the reasons that health care providers are not reporting to the NMOHR. The focus of the evaluation will be on its utility to the primary intended users and results will be used to make improvements to the NMOHR reporting system so that reporting from health care providers will be increased. Results of the evaluation will be used to assist health care providers to overcome barriers to reporting.
- **Transition of the NM Occupational Health Surveillance Program to the NM Department of Health Epidemiology and Response Division:** In the coming year the role of principal investigator will shift from Denece Kesler, MD at the University of New Mexico to Michael Landen, MD, Deputy State Epidemiologist, NMDOH. The transition will serve to integrate OH surveillance activities more fully with other state public health efforts such as the environmental health and injury epidemiology programs. Dr. Kesler will maintain a role as co-investigator and will provide scientific and medical oversight to the program.