

**NEW MEXICO DEPARTMENT OF HEALTH
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**Final Progress Report
New Mexico Occupational Health
Surveillance: Fundamental Program**

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List of Terms and Abbreviations

CFOI	Census of Fatal Occupational Injury
CSTE	Council of State and Territorial Epidemiologists
EHEB	Environmental Health Epidemiology Bureau
ENOC	Environmental Notifiable Conditions Database
ERD	Epidemiology and Response Division
NIOSH	National Institute for Occupational Safety and Health
NMDOH	New Mexico Department of Health
NMOHR	New Mexico Occupational Health Registry
NMOHSB	New Mexico Occupational Health and Safety Bureau (a.k.a. NM-OSHA)
NMOSHP	New Mexico Occupational Health Surveillance Program
NMDOT	New Mexico Department of Transportation
NMDPS	New Mexico Department of Public Safety
NMPDIC	New Mexico Poison and Drug Information Center
OIICS	Occupational Illness and Injury Coding System (BLS)
OH	Occupational Health
OSHA	Occupational Safety and Health Administration
UNM	University of New Mexico
WRA	Work Related Asthma

Abstract

On-the-job illnesses and injuries of New Mexico's workers are costly to employers, workers and taxpayers. To better understand the work-related health problems in order to recommend effective prevention measures, the New Mexico Occupational Health Surveillance Program (NMOHSP) tracks illnesses and injuries that New Mexicans encounter at work. The NMOHSP conducts surveillance by collecting work-related illness and injury data from multiple sources for standardized state-based surveillance using occupational health indicators and by conducting focused surveillance of specific illnesses, injuries or industries. The Program also maintains the New Mexico Occupational Health Registry (NMOHR) of health care provider reports of notifiable conditions that are required under New Mexico Administrative Code 7.4.3.12 to be reported to the State.

The NMOHSP has been formally conducting state-based occupational health surveillance for over 13 years. In that time the program has made enormous progress. Initially, occupational health surveillance was basic, focusing on the collection, analysis and interpretation of the National Institute of Occupational Safety and Health (NIOSH)/Council of State and Territorial Epidemiologists (CSTE) occupational health indicators (OHIs). Over time, the NMOHSP has moved to a comprehensive surveillance model that combines population-based surveillance using existing datasets and case-based surveillance predicated on the state's codified occupational notifiable conditions. This surveillance system maximizes the program's resources while operating on the budget of fundamental state-based surveillance grantees.

In order to determine rates of fatalities among workers in New Mexico, partnerships with a variety of existing and new agencies were leveraged. Most importantly, the New Mexico Department of Transportation (NM DOT) and the New Mexico Department of Public Safety (NM DPS) were added as partners which provided key data for calculating workplace fatalities in New Mexico for 2013. Specifically, fatalities by industry indicated that oil and gas-related and transportation were the top two high-risk industries for workplace fatality.

Collaborations continued with existing partners. One highlight of an existing collaboration is with the New Mexico Poison and Drug Information Center (NMPDIC), which resulted in a presentation at the 2015 Annual Meeting of the North American Congress of Clinical Toxicology in San Francisco. The presentation was about a probable case of green tobacco sickness from occupational preparation of e-cigarette products.

NMOSHSP conducted one investigation during this period. There was a collaboration with the NMPDIC on a case report of a male who was exposed to radiation from Iridium-129 while working for a pipeline inspection company in the southeast region of NM.

The work done in the last year will build upon the solid foundation to expand worker health surveillance within the Health Department and to increase the awareness of occupational health to partner programs. It also launches the work in the oil and gas industry and the focus on fatalities associated with transportation.

SECTION I

Significant or Key Findings

The focus of the 2015-2016 grant funding was to continue to monitor worker illness and injury prevalence; identify the best practices for the prevention of illnesses and injuries; work with partners to implement identified best practices; evaluate the results of prevention measures; and continuously evaluate and improve the program. Additionally, in order to enhance the capacity of the NMOSHSP beyond that of a Fundamental Program, surveillance on injury and illness due to the extraction of oil and gas was initiated. Since the grant cycle in this case was only one year, the activities were initiated but not completed. However, great strides were made in particular with the collaborations with NMDOT and NMDPS. Because traffic crash fatalities do not fall under the NMOHSB, the NMDPS and NMDOT were approached to obtain data. NMOHSP initiated collaboration with NMDPS specifically regarding data collection of real-time occupational-related transportation fatalities; this resulted in an agreement to provide data. By effectively communicating with all of the six state zonal officers, NMOHSP has set up data reporting and retrieval immediately after the occurrence of any fatality. A partnership was also established with NMDOT regarding timely retrieval of occupational-related transportation fatalities. This is a milestone because these data have never before been obtained directly from NMDOT and NMOSHSP has concluded that this data source provides more detail than what was obtained through the Census of Fatal and Occupational Injury (CFOI) data.

NMOHSP continued its partnership with the Asthma Control Program which also resides in the EHEB. OHSP Health Educator worked with the NM Asthma Control Program to print and distribute *Cleaning Products and Work-Related Asthma* to Nor Lea General Hospital in Lovington, NM. August, 2015. Lovington, NM is in the southeast portion of the state, where some of the highest asthma hospitalization rates in the state occur.

The Environmental Notifiable Conditions Database (ENOC) began to be used to collect occupational notifiable conditions. Entries of NMPDIC data into ENOC began in October 2015. Thus, NMOHSP now has an efficient way to pull occupational health cases from a database.

NMOSHSP conducted one investigation during this period. There was a collaboration with the NMPDIC on a case report of a male who was exposed to radiation from Iridium-129 while working for a pipeline inspection company in the southeast region of NM. Ultimately, it was discovered that the worker had not been wearing protective clothing (lead shield).

Translation of Findings

As a result of a report on workplace fatalities in New Mexico (nmhealth.org/data/view/newsletter/1725/) which found New Mexico has an oil and gas fatality rate that is 3.1 times higher than the rate in the United States, two recommendations were made: 1) bring in more partners to address the factors involved in these fatalities. 2) increase partnerships with organizations such as the NMDOT and the NMDPS. Both of these recommendations were fulfilled. There have already been preliminary conversations between NMOHSP, NMOSHA and New Mexico Oil and Gas Association (NMOGA), with the intent to identify opportunities for collaboration and prevention. NMOHSP also partnered with NMDOT and NMDPS to obtain data which will enhance transportation-related surveillance of workplace

fatalities. The data reporting from NMDPS to NMOHSP will be on the day of fatality. Some data variables such as truck driver's name, age, accident location, county, time, and date will also be included. These data will in turn be entered into NMOHSP ENOC database.

Research Outcomes/Impact

Because this was only a one-year grant cycle, there has not been enough time yet to see improvements in occupational safety and health as a result of activities. However, preliminary analyses that include NMDOT and NMDPS data for 2014 suggest that seat belt use is a large factor in occupational transportation fatalities. Increasing seat belt use will be an important area to explore for potential interventions.

SECTION II

Scientific Report

Background

NMOHSP has been formally conducting state-based occupational health surveillance for over 14 years. Since the initial capacity building was undertaken, the NMOHSP has expanded goals to promote the use of surveillance data by stakeholders for illness and injury prevention. The NMOHSP is unique in its focus of outreach to underserved tribal communities and settled migrant populations.

Specific Aims

The primary goal of the New Mexico Occupational Health Surveillance Program is to continue surveillance activities and build upon the occupational illness, toxic exposure, hazard, and injury surveillance program for the State of New Mexico. Specific goals are to 1) collect and analyze data 2) identify work-related disease, injury and exposure trends, 3) set program priorities and 4) develop prevention and outreach through the state. Additionally, NMOHSP had the goal to increase capacity by investigating the root causes of injury and illness in the oil and gas sector of oil and gas.

Methodology

The NMOHSP is designed to capture all occupational illnesses and injuries; however, emphasis is specific to the following conditions as outlined by NMAC 7.4.3.12:

- (a) asbestosis;
- (b) coal worker's pneumoconiosis;
- (c) hypersensitivity pneumonitis;
- (d) mesothelioma;
- (e) noise induced hearing loss;
- (f) occupational asthma;
- (g) occupational burn hospitalization;
- (h) occupational injury death;
- (i) occupational pesticide poisoning;
- (j) occupational traumatic amputation;
- (k) silicosis;
- (l) other illnesses or injuries related to occupational exposure.

Population under surveillance are all workers who incur illness or injury within the state of New Mexico, regardless of their residency or employment status (i.e. self-employed or wage and salary workers).

1. Data sources are as follows:
 - a. Physician/Health Care Provider (HCP) reports to the NMOHR
 - b. New Mexico Workers' Compensation Administration
 - c. New Mexico Poison and Drug Information Center
 - d. New Mexico Vital Records and Health Statistics
 - e. New Mexico Tumor Registry
 - f. New Mexico Occupational Health and Safety Bureau
 - g. New Mexico Health Policy Commission Hospital Inpatient Discharge Data
 - h. U.S. Department of Labor, Bureau of Labor Statistics databases Census of Fatal Occupational Injuries and Survey of Occupational Illness and Injury
 - i. other identified databases.
2. Data collection periodicity is as follows:
 - a. NMOHR individual physician reports are to be collected from January 1, 2004 until the NMOHR is terminated.
 - b. Surveillance using aggregate data from existing databases captures data from January 2000 onward, until the NMOHR is terminated.
 - c. Record capture from existing databases is agreed upon by individual database holders and the NMOHR.

Results

Collaborations continued with existing partners. At the national level, partnerships with NIOSH SENSOR pesticide, silicosis and asthma activities continued. At the state, local and tribal level we continued to partner with the NM Asthma Control Program (NMACP), Environmental Public Health Tracking Program, Injury and Behavioral Epidemiology Bureau and the Tribal Epidemiologist within the NMDOH; Occupational Health Safety Bureau (OHSB) in the New Mexico Environment (NMED); NM Department of Agriculture; University of New Mexico (UNM) School of Medicine and New Mexico State University; tribal epidemiology partners within the Navajo Nation and Albuquerque Area Southwest Tribal Epidemiology Center; the NM Center on Law and Poverty, local chapters of American Society of Safety Engineers and the American Industrial Hygiene Association. We have collaborated with these partners and many others to disseminate data and information about surveillance activities, and to conduct outreach for prevention and to conduct investigations of worker illness and injury. NMOHSB is a member of the New Mexico Oil and Gas Association Alliance (NMOGA) and has committed to collaborate in an advisory capacity with the NMOHSP on our prevention efforts and assist with raising awareness about our findings within the oil and gas industry. A collaboration with the New Mexico Poison and Drug Information Center (NMPDIC) resulted in a presentation at the 2015 Annual Meeting of the North American Congress of Clinical Toxicology in San Francisco about a probable case of green tobacco sickness from occupational preparation of e-cigarette products. A member of the NMACP also participated in the analysis of these data.

The following summarizes the major outputs and products developed in 2015-2016:

Presentations

- **Irobi, E. O.** (2016). Comparative Analysis of Transportation Fatalities in New Mexico, 2013-2014. New Mexico Quarterly Epidemiology Meeting, Santa Fe, New Mexico. February 18, 2016. (Oral).

- **Irobi, E. O.** (2016). Comparative Analysis of New Mexico Workplace Fatalities, 2013 and 2014. CSTE National Conference, Anchorage, Alaska, June 19-23. Poster presentation.

Workshops and Conferences

- Improving Worker Safety and Health among American Indians/Alaska Natives: Partnership Workshop, August 2015, Aurora, CO.
 - OHSP Health Educator attended workshop in person. The workshop provided partnership opportunities and discussion related to improving Worker Safety and Health among American Indians/Alaska Natives.
- **The 8th Annual WestON Meeting, September 2015, Denver, CO**
 - OHSP Epidemiologist attended in person and the OHSP Health Educator attended the meeting through the internet. The WestON meeting is an opportunity for state and federal public health professional and academic colleagues to learn about and share ideas for establishing and improving epidemiological capacity to track, investigate and prevent work-related injuries, diseases, and hazards. Apart from other meeting highlights and discussion, Edward Irobi discussed partnership with CDC/NIOSH staff that have on-going projects with the National Indian Health Board (NHIB). This partnership was important due to our new worker safety and health initiative among American Indians/Alaska natives in NM.
- **2016 SENSOR-Pesticides Winter Workshop, March 2016, Seattle, Washington**
 - OHSP Epidemiologist attended in person. The purpose of the meeting was to collaborate and engage with other state surveillance programs about pesticide-related issues.
 - Annually, NM OHSP uses the SENSOR-SPIDER software to analyze incidents of occupational pesticides exposures in New Mexico. This usually involves detailed analysis of patient's demographics, medical record pertaining to exposures, and summary of such events.
- **NM OHSP Advisory Group Meeting, April 2016, Albuquerque, NM**
 - The meeting was held on April 19, 2016 to update the advisory group on OHSP activities, including the focus on oil and gas fatalities and the progress made thus far.
- **CSTE National Conference, Anchorage, Alaska, June 19-23, 2016**
 - OHSP Epidemiologist attended in person and made a poster presentation, title "Comparative Analysis of New Mexico Workplace Fatalities, 2013 and 2014".
- **Occupational-related webinars attended:**
 - NIOSH: Sedentary Work: Implications and Interventions for Worker Safety and Health (7/13)
 - AgriSafe Network:
 - Saskatchewan Farm Injury Cohort: Lessons learned from eight years of collaboration (7/16)
 - Hearing Program Adapted to Agriculture (7/22)
 - Rural Roadway Safety (9/21)
 - Prevention of Farm Related Injuries Related to Lifting, Twisting, & Turning (11/13)
 - Center for Protection of Workers Right (CPWR):

- Health and Safety Considerations for Powered Hand-tools Used in Construction (7/28)
- A Case-Control Study of Airways Obstruction among Construction Workers (10/14)
- Cold Weather Solutions (12/9)
- Council of State and Territorial Epidemiologists (CSTE):
 - Climate Change and Occupational Health (9/29)
- Children Safety Network (CSN):
 - Work-related Injuries Are Happening to Youth (10/27)

Databases

- **Environmental Notifiable Conditions Database (ENOC)**
 - Entries of NMPDIC data on new database, ENOC, began in October 2015.
- The SPIDER software was recently installed by NMOHSP and used for the analysis of 2013 NM occupational-related pesticide data, which has been summarized.
- Data collection and analysis of 2014 and part of 2015 occupational fatalities from the Office of the Medical Investigator (OMI) was done.

Outreach and Products

- **Email Distribution**
 - The OHSP produced and disseminated the Summer 2015 e-bulletin to the OHSP listserv of stakeholders, providers and others interested in occupational health in NM. E-bulletin was sent on August 24, 2015 and can be accessed at <http://eepurl.com/bfitKD>.
- **Educational Materials** (nmhealth.org/go/ohsp)
 - OHSP Health Educator worked with the NM Asthma Control Program to print and distribute *Cleaning Products and Work-Related Asthma* to Nor Lea General Hospital in Lovington, NM. August, 2015.
- **Quarterly Reminders**
 - Contacted sites/clinics to report occupational notifiable conditions to OHSP.

New Partnerships

- **Navajo Nation OSHA**
 - OHSP met with Navajo Nation OSHA in December 2015 to establish partnership to explore the occupational injury/fatality burden among American Indians.
- **New Mexico Department of Public Safety**
 - NMOHSP initiated collaboration with New Mexico Department of Public Safety regarding data collection of real-time occupational-related transportation fatalities has made great progress. By effectively communicating with all of the six state zonal officers, NMOSHP has set up data reporting and retrieval immediately after the occurrence of any fatality. The data reporting to NMOHSP will be on the day of fatality. Some data variables such as truck driver's name, age, accident location,

county, time, and date will also be included. These data will in turn be entered into NMOSHSP ENOC database.

- **New Mexico Department of Transportation**
 - NMOHSP recently established a partnership with the New Mexico Department of Transportation (NMDOT) regarding timely retrieval of occupational-related transportation fatalities. This partnership has enabled NMOHSP to be able to collect occupational-related transportation fatalities on a timely manner than before. This is a milestone because these data have never before been obtained directly from NMDOT and NMOSHSP has concluded that this data source provides more detail than what was obtained through the Census of Fatal and Occupational Injury data.

Discussion and Conclusions

The NMOHSP is forging relationships with internal and external partners throughout the state in order to strengthen surveillance of occupational injuries and fatalities with an emphasis on high-risk industries such as oil and gas. Epidemiologic investigations of work-related illnesses are conducted based on reports and in collaboration with partners as NMOHSP becomes aware of them. As other collaborative responses are undertaken in the future, the process will be improved and communication among agencies will be strengthened.

Publications

- Irobi, E. O. (2015). Workplace Fatalities in New Mexico, 2013, released August 7, 2015. Available on the OHSP website: nmhealth.org/data/view/newsletter/1725/. In order to determine rates of fatalities among workers in New Mexico, partnerships with a variety of existing and new agencies were leveraged. Fatalities by industry indicated that oil and gas-related and transportation were the top two high-risk industries for workplace fatality.
- Warrick, B; Seifert, S; Smolinske, S; **Irobi, E;** & Jaramillo, G. (2015). Probable case of Green Tobacco Sickness from occupational preparation of e-cigarette products. The 2015 Annual Meeting of the North American Congress of Clinical Toxicology in San Francisco, California. Abstract. This was also in collaboration with NMACP; the health educator participated in the synthesis and analysis of data.

Cumulative Inclusion Enrollment Table

See Appendix I.

Inclusion of Gender and Minority Study Subjects

See Appendix I.

Inclusion of Children

The surveillance program does not exclude working children under the age of 21. However, there were no children involved during the grant period.

Materials Available for Other Investigators

Please see links in sections I and II to reports. Other resources can be found on the NMOSHSP webpage: <https://nmhealth.org/about/erd/eheb/ohsp/>