

Final Progress Report

New Mexico Occupational Health Surveillance Program

Grant No. 6 U60OH011360-04-03

July 1, 2015-June 30, 2021

Submitted by the

New Mexico Department of Health

Epidemiology and Response Division

September 24, 2021

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List of Terms and Abbreviations

NMOHSP: New Mexico Occupational Health Surveillance Program

OHI: Occupational Health Indicators

NM DOT: New Mexico Department of Transportation

NM DPS: New Mexico Department of Public Safety

NM WCA: New Mexico Workers Compensation Administration

SENM STEPS: South East New Mexico Service Transmission Exploration Production

NMPDIC: New Mexico Poison and Drug Information Center

NM DOH: New Mexico Department of Health

NM OSHA: New Mexico Occupational Health & Safety Bureau

BVRHS: New Mexico Bureau of Vital Records and Health Statistics

OMI: New Mexico Office of the Medical Investigator

ASSP: American Society of Safety Professionals

ENOC: Environmental and Occupational Notifiable Conditions

IDEB: Infectious Disease Epidemiology Bureau

MSHA: Mining Safety and Health Administration

Abstract

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Over the course of the grant period, New Mexico Occupational Health Surveillance Program (NMOHSP) was able to expand data access to allow the calculation all occupational health indicators (OHIs), both mandatory and optional. Annual monitoring of the OHIs facilitates comparison across years and can indicate areas where intervention may be warranted. NMOHSP is currently working on a new website with New Mexico Public Health Tracking Program that will allow the public to access OHI data via an interactive portal.

NMOHSP identified an excess burden of injury and death in the oil and gas industry. Many of these deaths occurred on the roadway. Data from NM Department of Transportation (NM DOT), NM Department of Public Safety (NM DPS), and NM Workers Compensation Administration (NM WCA) were obtained and reviewed to identify the circumstances of these injuries and fatalities. In partnership with SENM STEPS, an organization of oil and gas industry safety professionals in the southeast corner of the state, NMOHSP ran a series of public service announcements over the radio, encouraging drivers statewide to wear their seatbelts and drive carefully.

NMOHSP provided critical guidance during the state's COVID-19 response efforts. The program has been closely involved in the collection of employer and occupation data for all COVID-19 cases in the state. Data on the occupation and industry of COVID-19 cases was made available to the Governor via an interactive dashboard and was used for briefings of state officials before public press conferences. This data was also used to help guide New Mexico's COVID-19 vaccination strategy, both in the planning stages and to monitor progress during implementation.

In 2020 and 2021 there was an increase in the rate of calls to New Mexico Poison and Drug Information Center (NMPDIC) regarding workplace exposure to disinfectants. NMOHSP formed a partnership with NMPDIC and the NM Asthma Program to address this issue. In May and June 2021, this collaboration aired a public service campaign on cable television and internet streaming services educating citizens statewide on the risk of occupational asthma and acute exposure to cleaners.

Section 1

Significant or Key Findings

Over the course of the grant period, New Mexico Occupational Health Surveillance Program (NMOHSP) was able to obtain the needed data to expand contribution of Occupational Health Indicators (OHIs). As of the 2017 indicators, NMOHSP can calculate and provide all requested OHIs, both mandatory and optional.

Prior to the COVID-19 pandemic, NMOHSP placed extra focus on the oil and gas industry. In particular, transportation related deaths among oil and gas workers. Data from NM Department of Transportation (NM DOT), NM Department of Public Safety (NM DPS), and NM Workers Compensation Administration (NM WCA) were obtained and reviewed to identify the circumstances of injuries and fatalities in this burgeoning industry.

During the COVID-19 pandemic, NMOHSP has provided critical guidance to the state's response efforts. The program has been closely involved in guiding the collection of employer and occupation data for all COVID-19 cases in the state. Early in the pandemic, while automated data systems were still being developed, NMOHSP stepped in to provide NM Department of Health and NM Occupational Health & Safety Bureau (NM OSHA) thrice weekly reports on employers with more than one COVID-19 case amongst their workers. NMOHSP also monitored COVID-19 deaths and provided NM OSHA with a report for any case where transmission may have occurred in the workplace.

In 2020 and 2021 NMOHSP identified an increase in the rate of calls to New Mexico Poison and Drug Information Center (NMPDIC) regarding workplace exposure to disinfectants. We believe this is the result of many workplaces instituting cleaning programs and/or using stronger agents to combat COVID-19 transmission. Qualitative review of the call documentations supports that theory, though the work has not been formalized.

Translation of Findings

Annual monitoring of the OHIs allows comparison across years and can indicate areas where intervention may be warranted. NMOHSP is currently working on a new website with New Mexico Public Health Tracking Program that will allow the public to access OHI data via an interactive portal.

Data collected on injuries and deaths in the oil and gas industry led to a partnership with SENM STEPS, an organization of oil and gas industry safety professionals in the southeast corner of the state. With their expertise and cooperation, and in partnership with NM DOT, NMOHSP ran a series of public service announcements over the radio, encouraging drivers statewide to wear their seatbelts and drive carefully.

Data on the occupation and industry of COVID-19 cases was made available to the governor via an interactive dashboard and was used for briefings of state officials before public press conferences. This data was also used to help guide New Mexico's COVID-19 vaccination strategy, both in the planning stages and during implementation to monitor progress.

The observation that there had been an increase in NMPDIC calls related to disinfectant misuse informed a partnership between NMOHSP, NMPDIC, and the NM Asthma Program. In May and June

2021, we aired a public service campaign on cable television and internet streaming services educating workers throughout the state on the risk of occupational asthma. The campaign both informed the public what symptoms to monitor for and provided information on how to contact NMPDIC for acute exposures.

Research Outcomes/Impact

The expansion of data collection and analysis to encompass all the OHIs provides a potential avenue to guide and prioritize intervention. Newer indicators can now be evaluated for trend over the next few years to help target future interventions.

The implementation of an ad campaign on road safety was an intermediate outcome of NMOHSP's targeted work on oil and gas industry injuries and deaths. Due to fluctuations in the oil and gas industry in the state, and the impact of the pandemic, it proved difficult to evaluate the effectiveness of this intervention, so end outcomes are not currently available for this project.

The central involvement of NMOHSP in collecting employer related data from COVID-19 cases led to several intermediate outcomes as well as some end outcomes. On an intermediate level, the employer related data and its translation into industry level information was of great interest to state officials as they were making decisions on vaccine distribution and evaluating progress. As of July 14, 2021, New Mexico is reporting 63.8% of adults fully vaccinated, which places the state eighth in the United States. Although it would be difficult to disentangle the specific contribution of NMOHSP's work to this ranking, the data NMOHSP stewarded via training, monitoring and quality control was certainly used as part of the effort and should be counted as an end outcome of the program. Over the next few years, NMOHSP also plans to use this data to generate industry specific guidance and tools to help combat transmission of infectious disease in the workplace.

An intermediate outcome of NMOHSP monitoring alerts sent by NMPDIC was the implementation of the public service ad campaign about safe disinfectant use, occupational asthma, and how to contact NMPDIC in the event of an acute exposure. It is still too soon to evaluate the impact of the campaign, but we intend to attempt that in the next few months by monitoring alerts to see if there is qualitative evidence of impact.

Section 2

Scientific Report

Background

The New Mexico Occupational Health Surveillance Program (NMOHSP) was established as worker health surveillance system beginning in 2002. Since that time, the scope of surveillance has expanded steadily. The primary function of the program is the collection and analysis of data. In addition to using federal data sources on occupational health and safety, NMOHSP also requests and compiles data from several state data systems and sources. The results of this data collection and analysis inform outreach efforts via the dissemination of data, presentations to employers and employees and case investigation and management activities.

Specific Aims

The NMOHSP set six Specific Aims to target efforts over the 2015-2021 grant period. They are as follows:

1. Refine data collection, analysis and reporting methods for overall surveillance and for occupational health indicators.
2. Enhance and increase the use of acute case-based investigations
3. Continue to investigate occupational health fatalities
4. Conduct focused surveillance and investigation of injuries in oil and gas and transportation
5. Develop partnerships within the regulatory community, health care and industry to address the causes of the identified injuries and to implement solutions
6. Evaluate the impact of efforts made to mitigate oil and gas-related injuries

Methodology

NMOHSP uses multiple avenues to obtain data in order to increase capture of occupational injuries, illnesses and deaths.

In the state of New Mexico, all occupational illnesses and injuries are reportable. The administrative code that describes reporting requirements for occupational health (NMAC 7.4.3.12) is thus quite broad, but also specifically mentions some conditions of interest (asbestosis, coal worker's pneumoconiosis, hypersensitivity pneumonitis, mesothelioma, noise induced hearing loss, occupational asthma, occupational burn hospitalization, occupational injury death, occupational pesticide poisoning, occupational traumatic amputation, and silicosis.) Ideally, this would mean that NMOHSP would receive direct physician reports for any occupational health concern that leads a worker to seek medical attention. In practice, health care providers have many reportable illnesses to remember on top of treating patients, and often do not realize they should report these cases to NMOHSP. Because of this, NMOHSP leverages numerous other data sources in order to obtain as much information as possible.

NMOHSP has data sharing agreements with New Mexico Workers' Compensation Administration (NM WCA), New Mexico Vital Records & Health Statistics (BVRHS), New Mexico Tumor Registry, New Mexico Occupational Health and Safety Bureau (NM OSHA), New Mexico Hospital Inpatient Discharge Database, and New Mexico Emergency Department Database. These are datasets that are obtained via regular data transfers. Additionally, NMOHSP uses publicly available data from sources such as the Census of Fatal Occupational Injuries (CFOI), the Survey of Occupational Illness and Injury (SOII), the Fatality

Analysis Reporting System (FARS) and the National Transportation Safety Board's Aviation Accident Reports. Last but not least, NMOHSP receives real time alerts from the New Mexico Poison and Drug Information Center (NMPDIC) when a caller reports exposure to a potential toxin in the workplace, and receives quarterly batches of autopsy reports from the New Mexico Office of the Medical Investigator (OMI) on potential occupational deaths.

Active case investigations are a smaller part of NMOHSP's surveillance strategy, but are important because they are investigations that would otherwise not be done. The reporting sources that lead to an NMOHSP investigation include NMPDIC alerts, media reports on occupational exposures, injuries, deaths or illnesses, and HL7 messages reporting elevated blood lead levels in adults. Case investigations involve requesting additional information from providers, reviewing these available data sources and then contacting the case, employer and/or a representative to obtain further information that may be useful in understanding the event and preventing future occurrences.

To conduct focused surveillance and investigation of oil and gas and transportation injuries, NMOHSP initiated partnerships with the SENM STEPS program—an occupational health and safety organization predominantly made up of oil and gas industry professionals—and the Four Corners Chapter of the American Society of Safety Professionals (ASSP). Both Southeast and Northwest NM have large numbers of oil and gas workers. NMOHSP also worked on establishing data sharing partnerships with the New Mexico Department of Transportation (NM DOT) and the New Mexico Department of Public Safety (NM DPS) in order to get data on roadway injuries and deaths in New Mexico workers. These were the primary partnership focuses for the grant period in order to work towards specific aims 4 through 6. With the assistance of these four partners, it was determined that a good starting point for intervention was roadway safety as oil industry worker injuries and deaths often occurred on the road.

Results & Discussion

During the grant period, NMOHSP experienced two major challenges that impacted all parts of the project.

Firstly, the program experienced a great deal of turnover during the grant period. There were three different Occupational Health Epidemiologists and three different Health Educators. For the majority of the grant period, the program only had one team member rather than the intended two.

Secondly, the COVID-19 pandemic struck New Mexico in mid-March 2020, while the current Occupational Health Epidemiologist was still getting oriented to the position. The response effort required many hours of contribution from all Department of Health staff, including NMOHSP's Epidemiologist.

For the sake of clarity, more targeted results and discussion are presented below by specific aim:

- **Refine data collection, analysis and reporting methods for overall surveillance and for occupational health indicators.**

Surveillance of occupational health notifiable conditions continued throughout the grant period. Cases ascertained via NMPDIC alerts, OMI autopsy reports, news media monitoring, and lab/provider reporting were entered into the Environmental and Occupational Notifiable Conditions (ENOC) database. Early in the grant period, laboratory results began to enter ENOC automatically via Health Level Seven (HL7) electronic reporting. ENOC entry for cases is done as soon as feasible in the

course of an investigation. NMOHSP has begun the process of identifying and proposing improvements to ENOC, and determining what training documents might be needed to enhance uniformity of data. We intend to continue this work into the new grant period.

In late 2019, we met with representatives from New Mexico's infectious disease and environmental health programs to discuss the Health Level 7 (HL7) reporting of laboratory results, and how to improve capture of relevant laboratory data. Elevated cadmium and chromium tests were added to the list of HL7 reports that should be ported directly into ENOC for review and investigation.

NMOHSP has also been able to expand contributions to the Occupational Health Indicators. As of the 2017 round of data reporting, NMOHSP provides all requested OHIs—both optional and required.

With the advent of the COVID-19 pandemic, much of NMOHSP's day to day work was redirected to focus on COVID-19 response. NMOHSP worked with the Infectious Disease Epidemiology Bureau (IDEB) to improve collection of employer and occupational data for COVID-19 cases. Since early 2021, the NMOHSP has provided expertise and guidance to a team of agents working to assign NAICS codes to all COVID-19 cases where there is sufficient employer data to determine industry. We have conducted trainings and assisted in the development of training material for contact tracers and case investigators to improve quality of I/O data collected during case interviews.

- **Enhance and increase the use of acute case-based investigations**

Calls to NMPDIC where the caller reports being exposed to a potentially toxic substance in the workplace trigger an immediate notification to NMOHSP via National Poison Center's automated alert system. These alerts allowed for timely responses to multi-exposure events or severe exposures resulting in hospitalizations and/or deaths. Case/multi-exposure investigations that have resulted from this work include: an ocular burn that happened at a fracking site in 2016, a series of separate cases of workers drinking from unlabeled soda bottles containing corrosives in 2017, a mercury spill that potentially exposed 5 workers in 2018, and a sodium bisulfate leak at a technology company that exposed several contractors in 2020. We implemented a new protocol for investigating these alerts in 2019. This protocol allowed us to better triage calls so that investigations could be targeted to the most crucial cases first. Additionally, the protocol provides guidance on when and how to report information to NM OSHA in order to best balance patient confidentiality with prevention of additional injury.

Monitoring media can occasionally make us aware of occupational mortality days to weeks before we receive a report from our other sources. Occasionally we also learn details of an injury if it occurred in a particularly notable way—for example, in 2020 we learned of an injury case that occurred when a zoo worker was bitten by a hyena.

NMOHSP has worked over the grant period with the Mining Safety and Health Administration (MSHA), and NM OSHA on a handful of cases as requested and appropriate. Assisting these agencies in investigating cases, evaluating how they happened, and providing education to employees and employers allows us to not only prevent recurrences but also builds our relationship with regulatory agencies.

Our relationship with NM OSHA allowed us to work closely during the COVID-19 pandemic. We provided NM OSHA with reports on COVID-19 cases in employed individuals, and continue to work with them and other Bureaus within the Department of Health to ensure a smooth transfer of all relevant information on cases in employed individuals. In New Mexico, a single case in a worker that was at work during their infectious period triggers a rapid response headed by NM OSHA. NMOHSP has been a critical part of ensuring that NM OSHA has full, accurate data on cases and their employers.

- **Continue to investigate occupational health fatalities**

This task was maintained throughout the grant period and is ongoing. We continue to receive a quarterly data transfer from OMI containing autopsy reports for potential occupational deaths. Our working relationship with OMI has allowed us to request autopsy reports be included using a very broad definition of 'occupational death'. In future, we hope this will allow us to do some work on things like 'natural' deaths that occur in the workplace, suicides in the workplace, and other deaths that occur in the workplace but may not be traditionally included in statistics on occupational fatalities.

We also received annual data from NM OSHA on deaths that were reported to them and investigated. COVID-19 has slowed the acquisition of data from NM OSHA, since they have been heavily involved in response activities. We expect normal data transfer to resume shortly.

During the COVID-19 pandemic, we have monitored COVID-19 fatalities and reported cases to NM OSHA when the decedent was working during the period when they were infected and where there was no confirmed community exposure otherwise.

- **Conduct focused surveillance and investigation of injuries in oil and gas and transportation**

Prior to the grant period, analysis of occupational fatalities in 2013 in New Mexico indicated that out of the 44 deaths, 12 (27%) involved oil and gas work and 8 of these also involved transportation. This lead NMOHSP to propose a more focused analysis of our existing data. In September 2016, an Epidemiology Report was produced titled "Occupational-Related Transportation Fatalities in New Mexico, 2013 and 2014." This report provided more complete transportation data based on strengthened partnerships with NM Department of Public Safety and NM Department of Transportation.

For several years, NMOHSP was able to obtain data from NM DOT NM DPS and analyzed it to ascertain if each fatality was occupational. Cases that had not previously been reported via other channels were collected and entered into ENOC. Due to staff turnover at our partner agencies in the last few years, we are currently behind on this data and are working to re-establish contacts in these two departments.

Throughout the project period, deaths and injuries in the oil and gas industry (particularly from transportation related incidents) remained a concern. Like many states, roadway crashes are an important contributor to occupational mortality and morbidity.

NM WCA has provided us with data from 2011 through the first quarter of 2021. For cases that involve an Indemnity claim, we receive a NAICS Code. This has allowed us to gather data on non-

fatal injuries in the oil and gas industry and transportation industry. We are in the process of negotiating the possibility of receiving employer name from WCA, which may allow us to identify industry for non-Indemnity WCA reports and thus evaluate the less severe incidents so we can intervene where possible and appropriate before someone is seriously injured or killed.

Working on oil and gas industry projects presents some unique challenges. NMOHSP is housed in Santa Fe, which is relatively central in New Mexico. Our oil and gas regions lie in the far Northwest and Southeast corners of the state. Effective collaboration and partnership building often requires face-to-face meetings and the distance often requires overnight trips to accomplish this. We generally attend one of SENM STEPS' quarterly meetings each year in person.

- **Develop partnerships within the regulatory community, health care and industry to address the causes of the identified injuries and to implement solutions**

During this study period we were able to work with NM DOT and NM DPS as new partners to obtain several years' worth of data. We are currently working to re-establish contact with these agencies due to the departure of our data contacts. However, our relationship with NM DOT led to cooperation on a radio public service announcement campaign in 2018. Due to time constraints for message formulation and production, NM DOT allowed us to re-use messages that they had aired previously with NM DOH acknowledgment. In the three-month period, the radio ads were aired more than 3500 times. Each message reached over one million people ages 18 years and older. It is estimated that 65% of the NM population heard at least one of the messages in the three months that they were aired.

We were able to establish a Memorandum of Understanding with NM WCA wherein they provide us with data four times a year, and which gives us permission to link WCA data to other data sources for a complete analysis of occupational-related injuries and deaths. The data transfers have occurred regularly and without interruption.

As previously mentioned, our work with SENM STEPS has strengthened our efforts in the oil and gas industry in southeast NM.

In late 2020 we provided a presentation to the Four Corners chapter of the American Society of Safety Professionals. This was well received, and they requested us to return in spring 2021 to give a presentation on talking to employees about COVID-19 vaccination. After that presentation, we were approached by a trainer for the U.S. Equal Employment Opportunity Commission who was in attendance, asking if we would be willing to present on that topic in future trainings. Although a date has not yet been proposed, we look forward to that possibility.

After identifying an increase in the rate of alerts related to cleaner exposures, we worked with NM Asthma Program and NMPDIC on an ad campaign educating the public on the connection between use of disinfectants and cleaners and asthma, focusing particularly on work exposure. This campaign ran on social media, internet streaming sites, and cable television in New Mexico during May and June 2021.

Working on COVID-19 response efforts together has greatly strengthened our partnership with NM OSHA. We have worked to ensure that NMOHSP's investigation efforts enhance NM OSHA's work

rather than stepping on their toes. This has led to increased respect and cooperation between our agencies.

The primary challenge with this goal was staff turnover, not just in NMOHSP, but also in our partnerships. We have experienced delays in some data acquisition and collaborative projects in situations where our best contact in another agency or organization left their position.

- **Evaluate the impact of efforts made to mitigate oil and gas-related injuries**

We met with stakeholders in the SENM STEPS group on February 22, 2018 to lay the groundwork for reducing occupational fatalities in south east NM. We have had several meetings with NM OSHA and the New Mexico Oil and Gas Association (NMOGA) to discuss how to improve safety and reduce injuries and fatalities in this industry. NM was one of three states (Colorado, and Wyoming are the other two) in collaboration with NIOSH, which created an oil and gas workgroup. Goals of this workgroup included, but were not limited to, creating a gold standard in oil and gas industry occupational injury data collection to have consistent data among states, creating a multi-state effort in reducing oil and gas injuries and fatalities, and developing resource sharing among states. NM, along with other states, has provided aggregated Workers' Compensation claims data to NIOSH to present at the OSHA Oil and Gas Conference in December 2018 in Texas. COVID-19 response constraints have prevented participation in this effort recently, but we hope to reconnect with our partner states.

The preliminary Fatality Analysis Reporting System (FARS) data for 2019 was just made available in October of 2020. FARS is a publicly available nationwide census of motor vehicle traffic crashes that involve fatalities provided by the National Highway Traffic Safety Administration. We have begun processing this data for New Mexico to see if there was any change in the rate of fatal crashes compared to prior years. Although we cannot discern oil & gas industry crashes vs. other occupational crashes, FARS does include a variable to identify if a driver involved in a crash was working at the time.

In terms of challenges, other than previously mentioned oil and gas industry factors, this is also a changing industry in New Mexico. Oil and gas expanded rapidly, then experienced a brief crash early in the COVID-19 pandemic. It remains to be seen what the long-term impact of regulation, pandemic, and the New Mexico economy might be. Changes in the industry as a whole could impact the effectiveness of efforts, as well as complicate attempts to evaluate that impact.

Conclusion

NMOHSP has faced some hardships during the grant period, in the form of staff turnover and the COVID-19 pandemic. Despite these two hindrances, NMOHSP made good progress across all program goals. Four months into the response, NMOHSP's epidemiologist had transitioned COVID-19 activities into areas that overlapped with NMOHSP goals. We have provided a great deal of work and expertise to the response efforts in the areas of occupational health—including both prevention of transmission in the workplace, and targeting of vaccination efforts to individuals in higher risk professions.

The last six years have seen improvements and expansions of the program to allow more comprehensive coverage of New Mexico's population. With the addition of a Spanish/English bilingual Health Educator in May 2021 we have also increased our ability to communicate with workers in our

state. Our thriving partnership with NM OSHA has been a great asset to the state during the pandemic, and we look forward to leveraging it to effect even greater improvements for worker safety and health in the future.

Publications

Reports and Publications

- Crawford, C. (2020). COVID-19 Occupational Fatality Report. Internal Report submitted to NM OSHA weekly, May 15, 2020-October 31, 2020.
- Crawford, C. (2019). Occupational Injury Fatalities Per 100,000 Full-Time Equivalent Workers New Mexico and U.S., 2001-2017 [Slide]. In Health Status of New Mexico 2019.
- Lam, S. (2018). Occupational Injury Fatalities Per 100,000 Full-Time Equivalent Workers: New Mexico, 2001-2016 and US, 2006-2016 [Slide #162]. In Health Status of New Mexico 2018. Accessible at <https://nmhealth.org/data/view/general/2230/>
- Lam, S. (2018). Occupational Health. In 2018: The State of Health in New Mexico (pp. 74-78). Accessible at <https://nmhealth.org/publication/view/report/4442/>
- Lam, S. (2017). Occupational Injury Fatalities Per 100,000 Full-Time Equivalent Workers: New Mexico, 2001-2015 and US, 2006-2015 [Slide #148]. In Health Status of New Mexico. Accessible at <https://nmhealth.org/data/view/general/2094/>
- Valdo, D; Krapfl, H; Wilkerson, D. Occupational Exposure to Hydrofluoric Acid at Refinery in Artesia, NM (March, 2017). Internal report of investigation from incident in February 2016, with recommendations.
- Irobi, E. O. (2015). Workplace Fatalities in New Mexico, 2013, released August 7, 2015.
- 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.

Presentations

- Crawford, C. (2021). Talking About Vaccine Hesitancy. American Society of Safety Professionals, Four Corners Chapter. Virtual Meeting. March 18, 2021. (Oral)
- Crawford, C. (2020). Occupational Health Surveillance: Bridging the Gap, Data In Action Virtual Conference. November 13, 2020. (Oral)
- Crawford, C. (2020). New Mexico Occupational Health Surveillance Program Introduction. American Society of Safety Professionals, Four Corners Chapter. Virtual Meeting. October 15, 2020. (Oral)
- Valdo, D. (2018). ERD: Environmental Health Epidemiology Bureau. New Mexico/Southern Colorado Community Health Representative Association Winter Meeting. Santa Fe, NM. December 6, 2018. (Oral)
- Valdo, D. (2018). Noise-induced Hearing Loss. Mena's Coachwork. Santa Fe, NM. November 1, 2018. (Oral)
- Lam, S. (2018). Roadway Safety Integrated Project in New Mexico. 11th Annual WestON Meeting. Denver, CO. September 13, 2018. (Oral)

- Lam, S. (2018). Update on NM Occupational Health Surveillance Program. Southeast New Mexico Service Transmission Exploration Production Safety Network (SE NM STEPS). Hobbs, NM. July 18, 2018. (Oral).
- Lam, S. (2018). Occupational Health Surveillance Program: Advisory Committee Meeting. Albuquerque, NM. June 7, 2018. (Oral)
- Valdo, D. (2018). Occupational Asthma. Jicarilla Apache Tribal Conference Center. Dulce, NM. May 16, 2018. (Oral)
- Lam, S. (2018). Occupational Asthma. Jicarilla Apache Nation Health and Fitness Center. Dulce, NM. May 9, 2018. (Oral)
- Valdo, D. (2018). ERD: EHEB. American Society of Safety Engineers 42nd Conference. Albuquerque, NM. April 12, 2018. (Oral)
- Valdo, D. (2018). ERD: Environmental Health Epidemiology Bureau (EHEB). Diné College: Environmental Health Program. Shiprock, NM. April 11, 2018. (Oral)
- Lam, S. (2017). Injury fatalities in oil and Gas, New Mexico. Southeast New Mexico Service Transmission Exploration Production Safety (SENM STEPS) Network Quarterly Safety Meeting. Hobbs, NM. July 18, 2017. (Poster presentation).
- Valdo, D. (2017). Lead Exposure in Adults. Bogan Bros. Painting Co., Albuquerque, NM. May, 4, 2017. (Oral)
- Krapfl, H. (2017). Workplace Fatalities in NM, 2013-2014. Southeast New Mexico Service Transmission Exploration and Production Safety Network, Carlsbad, New Mexico. April 19, 2017. (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
- 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).

Public Service Announcement Campaigns

- Crawford, C; Vazquez-Houdek, N; Kakos, J; (2021) Disinfectants & Occupational Asthma. Ad campaign statewide via cable television and digital platforms. May 14, 2021-June 30, 2021.

Cumulative Inclusion Enrollment Table

See Appendix 1.

Inclusion of gender and minority study subjects

See Appendix 1.

Inclusion of children

The surveillance program does not exclude working children under the age of 21. During the grant time period, there were 12,571 workers compensation claims filed for workers under the age of 21. There were an additional 5 cases from NMPDIC, and one fatality. The study is relevant to conditions affecting children in that older children may enter the workforce and thus be subject to occupational injuries and illnesses.

Materials available for other investigators

NMOHSP is in the process of updating our website, and thus up-to-date materials are not currently accessible. Copies of presentations are available upon request. NMOHSP hopes to have our materials available online again by 10/31/2021.