

## A. COVER PAGE

<b>Project Title:</b> Mississippi Occupational Health Surveillance Program	
<b>Grant Number:</b> U 60 OH010918-05	<b>Project/Grant Period:</b> 7/1/2015 - 3/31/2022
<b>Reporting Period:</b> 7/1/2015 - 3/31/2022	<b>Requested Budget Period:</b>
<b>Report Term Frequency:</b> Final	<b>Date Submitted:</b> 07/29/2022
<b>Principal Investigator Information:</b> Nelson Atehortua De la Pena  <b>Email:</b> nelson.atehortua@msdh.ms.gov	<b>Recipient Organization:</b> Mississippi State Department of Health

**Final RPPR Responses for U600H010918**  
**Mississippi State Department of Health Occupational Health Grant**

**Accomplishments**

**1. What are the major goals of the project?**

The major goals of the project were to

- (1) compile, analyze, and interpret data
- (2) identify work-related injury, illness, and exposure trends
- (3) develop Mississippi State Department of Health Occupational Health Surveillance Program (MSDH OHS) priorities
- (4) develop recommendations, prevention, and outreach activities throughout Mississippi (MS)

The overarching objectives of the Mississippi OHS Program were to

- (1) Establish the MSDH OHS Program within the MSDH Office of Health Data and Research
- (2) Compile, analyze, and interpret surveillance data for 21 occupational health indicators utilizing existing data sources
- (3) Explore the development of new data sources and state-specific indicators
- (4) Identify the burden of occupational health and safety conditions within Mississippi
- (5) Disseminate audience-specific occupational health and safety surveillance information
- (6) Establish and maintain an Occupational Health and Safety Advisory Committee
- (7) Work with other public health entities, advisory committee, and stakeholders to set program priorities and recommend prevention and intervention strategies

**2. Have the major goals changed since the initial competing award or previous report?**

The major goals have not changed since the initial competing award.

**3. What was accomplished under these goals?**

In this initial application, MSDH outlined specific objectives for each major goal.

- Successfully received sub-award to conduct occupational heat-related illness research from the University of Kentucky (July 2019)
- Industry and Occupation Optional Module was included in the Mississippi Behavioral Risk Factor Surveillance System questionnaire each year from 2015 to 2021

- Developed an electronic database for the Adult Blood Lead Epidemiology and Surveillance (ABLES) system to actively identify industries and occupations with a high risk of exposure (November 2019). The database contains nearly 4,500 records of adults whose blood lead levels were tested between 2012 and 2020.
- Established an Occupational Health and Safety Advisory Committee (October 2017). The OHS Advisory Committee meetings provided opportunities to develop and maintain partnerships with other public health entities and stakeholders, such as MSDH Vital Statistics, the MS Hospital Discharge Data System, MS Cancer Registry, MS Behavioral Risk Factor Surveillance System Program, MSDH Office of Epidemiology, University of Mississippi Medical Center (UMMC), Mississippi Workers Compensation Commission (MWCC), and Mississippi Department of Employment Security (MDES).
- Committee members were drawn from various agencies and organizations and included those with backgrounds in epidemiology, medicine, academia, poison control, cancer, and lead prevention, among others. The Committee was expanded to include representatives from the Mississippi Workers Compensation Commission (MWCC) and Mississippi Department of Employment Security (MDES) (December 2019).
- Published reports of the 21 occupational health indicators for the years 2013, 2014, and 2015 on the MSDH website, where they can be accessed by the public.
- Partnered with the University of Mississippi Medical Center (UMMC) to produce a report of hospital visits due to asthma by zip code. The report, entitled “Spatial Analysis and Visualization of Asthma Incidence Data by Industry and Occupation” was received from UMMC in March 2022 and is under program review.
- The OHS Advisory Committee meetings provided opportunities to develop and maintain partnerships with other public health entities and stakeholders, such as MSDH Vital Statistics, the MS Hospital Discharge Data System, the MS Cancer Registry, the MS Behavioral Risk Factor Surveillance System Program, the MSDH Office of Epidemiology. In addition, a partnership between MSDH and the Department of Preventive Medicine at UMMC resulted in the creation of an asthma surveillance report.
- OHS Program staff attended at least 11 local, regional, or national meetings and conferences between 2015 and 2020.
- OHS Program staff presented at least 6 local, regional, or national meetings and conferences between 2016 and 2020.

**4. For this reporting period, is there one or more Revision/Supplement associated with this award for which reporting is required?**

There is no revision or supplement associated with this award.

**5. What opportunities for training and professional development has the project provided?**

Nothing to report.

**6. How have results been disseminated to communities of interest?**

Reports have been published on the MSDH OHS webpage. Results have also been shared through presentations at conferences and through meetings of the OHS Advisory Committee.

**7. What do you plan to do for the next reporting period to accomplish the goals?**

N/A

**Products**

**1. Are there publications or manuscripts accepted for publication in a journal or other publication during the reporting period resulting directly from the award?**

Yes

**Publications**

- Mendy, V. L., Vargas, R., Ogungbe, O., & Zhang, L. (2020). Hypertension among Mississippi workers by sociodemographic characteristics and occupation, Behavioral Risk Factor Surveillance System. *International Journal of Hypertension*, vol. 2020, Article ID 2401747. <https://doi.org/10.1155/2020/2401747>
- Thompson, R. A., Sanderson, W. T., Westneat, S., Bunn, T., Lavender, A., Tran, A., Holsinger, C., Flammia, D., Zhang, L., & He, Y. (2019). Perceptions of opioid and other illicit drug exposure reported among first responders in the southeast, 2017 to 2018. *Health Science Reports*, 4(3). <https://doi.org/10.1002/hsr2.335>

**Reports published on MSDH website**

- He, Y., & Zhang, L. (2018, August). Mississippi Occupational Health and Safety Surveillance Report 2018. <https://msdh.ms.gov/msdhsite/static/resources/7852.pdf>
  - This report is published on the Occupational Health Surveillance Program portion of the Mississippi State Department of Health website.
- Chong, M., & Zhang, L. (2019). Annual Measures of Worker Health and Safety for Years 2013-2015. <https://msdh.ms.gov/msdhsite/static/resources/8098.pdf>
  - This report is published on the Occupational Health Surveillance Program portion of the Mississippi State Department of Health website.

### Presentations

- Zhang, L. (2016, March 8). QuickTakes - Occupational Heat-Related Illness in Mississippi. Presentation at the 5th Annual Southeastern States Occupational Network (SouthON) Meeting. New Orleans, Louisiana.  
[https://cdn.ymaws.com/www.cste.org/resource/resmgr/SouthOn/2016\\_SouthON\\_Final\\_Agenda.pdf](https://cdn.ymaws.com/www.cste.org/resource/resmgr/SouthOn/2016_SouthON_Final_Agenda.pdf)
- Tippianni, S. R., Vargas, R., & Zhang, L. (2016, June 22). Prevalence of Cigarette Smoking By Industry and Occupation Among Mississippi Adults. Presentation at the 2016 CSTE Annual Conference. Anchorage, Alaska.  
<https://cste.confex.com/cste/2016/webprogram/Paper6782.html>
- He, Y. (2018, April 5). Survey of Work-Related Opioid Exposure among First Responders in Mississippi. Presentation at the 7th Annual Southeastern States Occupational Network (SouthON) Meeting. Savannah, Georgia.  
[https://cdn.ymaws.com/www.cste.org/resource/resmgr/southon/SouthON\\_2018\\_Agenda.pdf](https://cdn.ymaws.com/www.cste.org/resource/resmgr/southon/SouthON_2018_Agenda.pdf)
- He, Y., Vargas, R., & Zhang, L. (2018, June 12). Factors Associated with Worksite Wellness Policy and Activities: Findings from 2014 Mississippi Worksite Survey. Abstract presented at 2018 CSTE Annual Conference. West Palm Beach, Florida.  
<https://cste.confex.com/cste/2018/meetingapp.cgi/Paper/10250>
- He, Y., & Zhang, L. (2018, June 12). Binge Drinking by Occupations: Findings from Mississippi Behavioral Risk Factor Surveillance System, 2015-2016. Abstract presented at 2018 CSTE Annual Conference. West Palm Beach, Florida.  
<https://cste.confex.com/cste/2018/meetingapp.cgi/Paper/10267>
- Zhang, L. (2019). Synopsis of goals and objectives of the MS OHS Program presented at the 2019 Mississippi Public Health Association Conference. Jackson, Mississippi.

### Conferences/Meetings attended by OHS Program staff

- 2015 CSTE Occupational Health Surveillance (Cincinnati, OH)
- 2016 CSTE Annual Conference (Anchorage, AL)
- 2017 Annual Meeting for Occupational Health Surveillance Programs (St. Paul, MN)
- 6<sup>th</sup> Annual Southeastern States Occupational Network (SouthON) Meeting, April 2017 (Nashville, TN)
- 2017 CSTE Annual Conference, June 2017 (Boise, ID)
- 2018 SouthON Annual Meeting for State Occupational Health Surveillance Program (Savannah, GA)
- 2018 CSTE Annual Conference (West Palm Beach, FL)
- 2019 National Vital Statistics System/Center for Health Statistics meeting

- 2019 NIOSH Winter Meeting (Miami, FL)
- 2020 Annual SouthON (Birmingham, AL)
- NIOSH/CSTE Occupational Health Winter Meeting (Denver, CO)

**2. Identify technologies or techniques that have resulted from the research activities. Describe the technologies or techniques and how they are being shared.**

None to report.

**3. Have inventions, patent applications, and/or licenses resulted from the award during this reporting period?**

No.

**4. Identify any other significant products that were developed under this project.**

ABLES database

**5. If the initial research plan addressed, or the terms of award require, a formal plan for sharing final research data, etc., describe the progress in implementing that plan. If the sharing plan is fully implemented, provide a final statement on data sharing.**

The initial research plan outlined the program's approach for disseminating and sharing occupational health and safety-related information. The following describes the final statements on data sharing for each approach.

- The MSDH OHS Program website was used to share data and information with the general population of Mississippi. This method of dissemination has been implemented.
- Surveillance reports and data requests were used to share information with data users, policy makers, the Advisory Committee, and key partners and stakeholders. This method of dissemination has been implemented. Reports are available to these audiences on the MSDH website and were shared with Advisory Committee members during meetings. In addition, the MSDH Office of Data Governance has implemented an online data request form through which data users can request occupational health data.
- Peer-reviewed journal articles and professional presentations were used to share information with a national audience, as well as key partners and stakeholders. This method of dissemination has been implemented.
- The Occupational Health and Safety Advisory Committee received information about the program's efforts and findings. This method of dissemination has been partially implemented; the Committee was formed in 2017 but has not been active in approximately 1 year.

- The Occupational Health and Safety Resource Guide was intended to be used to share information with the Advisory Committee, data users, and key partners and stakeholders.

## **Participants**

### **1. What individuals have worked on the project?**

Dr. Lei Zhang

Dr. Ying He

Talia Sanders

Vernesia Wilson

Mary Wesley

Patricia Bennett

Danielle Brown

Dr. Nelson Atehortua de la Pena

Rodolfo Vargas

Dr. Ellen Agho

Stephanie McLeod

Mina Qobadi

Jermaine Bailey

DeGarrette Tureaud

### **2. Is the individual's primary affiliation with a foreign organization?**

No.

### **3. Will there be, in the next budget period, either (1) a reduction of 25% or more in the level of effort from what was approved by the agency for the PD/PI or other senior/key personnel designated in the Notice of Award, or (2) a reduction in the level of effort below the minimum amount of effort required by the Notice of Award? If yes, provide an explanation.**

N/A

### **4. Are there, or will there be, new senior/key personnel? If yes, upload biosketches and other support for all new senior/key personnel.**

No.

- 5. Has there been a change in the active other support of senior/key personnel since the last reporting period? If yes, upload active other support for senior/key personnel whose support has changed and indicate what the change has been.**

Yes – Dr. Nelson Atehortua De la Pena became the new PI in March 2022, after the last reporting period.

- 6. Are there, or will there be, new other significant contributors? If yes, upload biosketches.**

No.

- 7. Will there be a change in the MPI (Multi-PI) Leadership Plan for the next budget period? If yes, upload a revised MPI Leadership Plan that includes a description of the changes.**

No.

### **Impact**

- 1. What is the impact on physical, institutional, or information resources that form infrastructure?**

- Increased awareness of occupational health and safety indicators and surveillance data
- Increased capacity for other Mississippi occupational safety and public health workforce
- Findings and results of the project have been introduced to various public health and safety professionals throughout the state.
- The periodic reporting of findings to staff, key stakeholders and NIOSH provided an opportunity for discussion on the success of strategies and program improvement. These results were used to promote occupational health and safety surveillance to drive public health action and improve lives Mississippi's workforce.
- Collaboration between the MSDH OHS and internal and external partners increased during the duration of the grant.
- Creation of the ABLES database will allow for future analysis to track occupational health and safety indicators

- 2. What dollar amount of the award's budget is being spent in foreign countries?**

\$0



## **Changes**

### **1. Actual or anticipated challenges or delays and actions or plans to resolve them.**

The MSDH OHS Program was established in 2015; however, due to staffing shortages and a transition in OHDR leadership, it has not been fully operational for approximately 1 year.

COVID-19. The COVID-19 pandemic has proven to be a challenge in a number of ways. Not only has it increased the workload of employees of public health agencies like MSDH, but it has also caused processes to move more slowly than usual. Similarly, it has also impeded the ease with which we are able to engage our stakeholders and data users. The pandemic has also created challenges related to data collection and reporting.

Changes in Personnel. All current members of the OHDR OHS team have been in their positions for less than a year, and all staff members who have historical (pre-2021) knowledge of the MSDH OHS program have left the agency. Further, there was a gap of approximately 1 year in which the OHDR did not have a director, and a gap of approximately 1 year in which the OHS program did not have any staff members. For these reasons, it has been difficult to maintain ongoing data collection, analysis, and reporting of occupational health data.

### **2. Significant changes to human subjects, vertebrate animals, biohazards, and/or select agents.**

No.

## **Special Reporting Requirements**

### **1. Address any special reporting requirements specified in the award terms and conditions in the Notice of Award (NoA) or Funding Opportunity/Announcement (FOA).**

N/A

### **2. Does the project involve human subjects?**

No.

### **3. Is the research exempt from federal regulations?**

No

### **4. Does this project involve a clinical trial?**

No.

- 5. Are there personnel on this project who are or will be newly involved in the design or conduct of human subjects research?**

Yes

- 6. Does this project involve human embryonic stem cells?**

No.

- 7. Does this project involve vertebrate animals?**

No.

- 8. If there are changes to the project/performance sites displayed, edit as appropriate.**

Not applicable. No changes were made since Dr. Atehortua became the new PI/PD when the program expired.

- 9. Foreign components.**

Not applicable.

- 10. Is it anticipated that an estimated unobligated balance (including prior year carryover) will be greater than 25% of the current year's total approved budget?**

No.

- 11. Provide an explanation for unobligated balance.**

There is an unobligated balance because we did not have any key personnel to work on the grant for a period of time due to the COVID-19 pandemic and a shortage of staff.

- 12. If authorized to carryover the balance, provide a general description of how it is anticipated that the funds will be spent.**

N/A