

**New Hampshire Occupational Health Surveillance Program:  
Fundamental Grant #1U600H009853**

**Final Progress Report (2010-2015)**

**TITLE: Establishment of the New Hampshire Occupational Health Surveillance  
Program (NH OHSP)**

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## **Abstract**

The NH OHSP was established as a new surveillance program within NH Division of Public Health Services. Existing data sets were explored and new data sets were developed to meet the NIOSH-CSTE (National Institute for Occupational Safety and Health and Council of State and Territorial Epidemiologists) parameters of occupational health surveillance.

Two significant studies conducted in 2008 and 2015 used questions added to the NH BRFSS about work-related injury and payer source. In both studies, we found that nearly 50% of survey respondents who were injured at work seriously enough to warrant medical attention, did not utilize the workers' compensation insurance system to pay for their medical care. Our results were comparable to the results of a 2007 study of 10 states where the proportion of self-reported work-injured persons for whom medical treatment was paid by workers' compensation ranged from 47% to 77% (median 61%). Data from the most recent study was considered in the Final Report of the Commission to Recommend Reforms to Reduce Workers' Compensation Costs in New Hampshire. As a result, the Commission recommended legislation to provide authorization for the NH Insurance Department to develop a database of workers' compensation claims in the State All Payer Claims Database, filling a critical gap in occupational injury and illness surveillance systems.

Another significant finding from our surveillance efforts resulted from a study of NH immigrant workers about their working conditions and knowledge of workers' compensation. Of the 229 immigrants surveyed who worked or had worked in the U.S., 62% reported they had no knowledge of workers' compensation insurance should they be injured as part of their job. As a result of our immigrant survey study, the NH Coalition of Occupational Safety and Health (COSH) focused its training to new immigrants participating in the ESOL (English for Speakers of Other Languages) program on worker rights and access to workers' compensation insurance when injured on the job.

As a result of our collaboration with the Healthy Homes program, our Asthma and Cleaning Products fact sheet was translated into four languages and adopted into the electronic medical record system of a large community health center, where many of our immigrant population are cared for. A new salon safety fact sheet was shared with the NH Board of Barbering, Cosmetology and Esthetics and used in training sessions for two major beauty schools in the state.

Findings from our in-depth studies can be used to guide future investigation, surveillance, and intervention activities or improvements in workplace safety programs. While there is not necessarily direct adoption of NH OHSP findings in the workplace, the information and data produced is critical when informing prevention strategies and promoting policy changes to better protect workers overall. A more educated stakeholder population is more successful in implementing prevention strategies and effecting policy change.

Without NIOSH funding to build and sustain the NH OHSP, there would be little recognition for the importance of data to guide and inform actions by our key stakeholders in better protecting workers from unsafe and unhealthy working conditions.

## Section 1

### *Significant (Key) Findings*

The NH OHSP was established as a new surveillance program within NH Division of Public Health Services. Existing data sets were explored and new data sets were developed to meet the NIOSH-CSTE (National Institute for Occupational Safety and Health and Council of State and Territorial Epidemiologists) parameters of occupational health surveillance. Our growing expertise allowed us to conduct many in-depth studies including (but not limited to): additional analysis of work-related commercial motor vehicle crashes (Department of Safety crash reports); farm injuries in the hospital discharge data; and occupational poisonings (reported to the Northern New England Poison Center) utilizing narrative data. We also analyzed 6 years of data to better characterize lower adult blood lead levels (2009-2014), added injury questions and industry and occupation (I/O) fields to our Behavioral Risk Factor Surveillance System (BRFSS) survey (2011-2013), added fields for industry and occupation to the poison center data; and worked with partners to create a merged data set of hospital discharge and emergency medical services information to further explore traumatic work-related injuries. Results of our analyses were published in two comprehensive data reports (including NH demographic and workforce characteristic data) and in a variety of topic-based issue briefs and fact sheets, shared via the NIOSH Clearinghouse.

In collaboration with our BRFSS Coordinator and the Cancer Prevention and Control program, we analyzed cancer screening behaviors by industry and occupation. We also worked with the Chronic Disease Program to analyze data and write an issue brief on BRFSS chronic disease indicators by industry and occupation. We collaborated with the Healthy Homes Program to continue research on adult blood lead issues, specifically documenting prevalence of lower blood leads by industry, and to develop outreach materials on asthma and cleaning products and nail and hair salon products.

Successful partnerships with NIOSH include providing industry and occupation text to NIOSH for the National Occupational Mortality Surveillance (NOMS) program (using NH data to populate NOMS), and participating in the NIOSH BRFSS Industry and Occupation Workgroup focused on facilitating use of industry and occupation questions on states' BRFSS surveys. In progress is an analysis of 2011 data among 3 states (NH, MA, and WA), and analysis of 2012 by NIOSH of all states that included industry and occupation on the survey.

Significant findings resulted from two studies conducted in 2008 and 2015 using questions added to the NH BRFSS about work-related injury and payer source. In both studies, we found that nearly 50% of survey respondents who were injured at work seriously enough to warrant medical attention, did not utilize the workers' compensation insurance system to pay for their medical care. Our results were comparable to the results of a 2007 study of 10 states where the proportion of self-reported work-injured persons for whom medical treatment was paid by workers' compensation ranged from 47% to 77% (median 61%).<sup>1</sup>

Another significant finding from our surveillance efforts resulted from a study of NH immigrant workers about their working conditions and knowledge of workers' compensation. Of the 229 immigrants surveyed who worked or had worked in the U.S., 62% reported they had no knowledge of workers' compensation insurance should they be injured as part of their job.

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<sup>1</sup> Centers for Disease Control and Prevention. Proportion of Workers Who Were Work-Injured and Payment by Workers' Compensation System---10 States, 2007. Morbidity and Mortality Weekly Report. 2010 July 30; 59(29): 897-900.

Finally, the NH OHSP participated in the state-wide development of a web-based interactive system for direction and outcome measures, or WISDOM, which involves creation of both numerator and denominator data from a variety of data sources, including hospital discharge, workers' compensation, Census and Bureau of Labor Statistics. These indicator dash boards allow the user to make a variety of queries within an indicator or topic.

### ***Translation of Findings***

Data from occupational health surveillance efforts can be used to identify priority areas for prevention strategies. These efforts increase our knowledge and understanding of the true burden of work-related injuries and illnesses, and allow state agencies and stakeholders to better prioritize and direct resources. These data are used by state stakeholders to influence safety practices and minimize workplace risks. Collaboration with state and national partners result in building awareness and educating various public health groups about the importance of occupational health as an integral part of public health (being a voice on various committees devoted to broader public health issues), and advising on important topics including the health and safety of worker populations such as emergency responders and immigrant workers. As a result of our surveillance activities, there is increased knowledge about occupational poisonings, adult blood lead exposures, utilization of workers' compensation insurance, and prevalence of disease outcomes by where a person works and what kind of job they have. Findings from our in-depth studies can be used to guide future investigation, surveillance, and intervention activities or improvements in workplace safety programs. While there is not necessarily direct adoption of NH OHSP findings in the workplace, the information and data produced is critical when informing prevention strategies and promoting policy changes to better protect workers overall. A more educated stakeholder population is more successful in implementing prevention strategies and effecting policy change.

### ***Outcomes/Impact***

Data from our most recent study on underutilization of workers' compensation (BRFSS injury questions) was considered in the Final Report of the Commission to Recommend Reforms to Reduce Workers' Compensation Costs in New Hampshire. As a result, the Commission recommended legislation to provide authorization for the NH Insurance Department to develop a database of workers' compensation claims in the State All Payer Claims Database, filling a critical gap in occupational injury and illness surveillance systems.

As a result of our immigrant survey study, the NH Coalition of Occupational Safety and Health (COSH) focused its training to new immigrants participating in the ESOL (English for Speakers of Other Languages) program on worker rights and access to workers' compensation insurance when injured as part of the job. As a result of our collaboration with the Healthy Homes program, our Asthma and Cleaning Products fact sheet was translated into four languages and adopted into the electronic medical record system of a large community health center, where many of our immigrant population are cared for (most likely to have cleaning jobs). The salon safety fact sheet was shared with the NH Board of Barbering, Cosmetology and Esthetics and used in training sessions for two major beauty schools in the state.

The potential for an occupational health surveillance program at the state level to inform worker safety and health education, prevention and intervention activities, policy and legislation, and partnership development is vast. Without NIOSH funding to build and sustain the NH OHSP, there would be little recognition for the importance of data to guide and inform actions by our key stakeholders in better protecting workers from unsafe and unhealthy working conditions.

## Section 2

### *Scientific Report*

#### **Background and Aims**

Work-related injuries and illnesses are preventable, and control of occupational hazards is the most effective means of prevention. Research has shown that relationships exist between the demographic characteristics of workers and the risk of occupational illness or injury. Understanding the basic characteristics of the New Hampshire workforce is vital to assessing possible occupational health risks for New Hampshire's workers.

Public health surveillance is the “ongoing, systematic collection, analysis, and interpretation of health-related data essential to the planning, implementation, and evaluation of public health practice, closely integrated with the timely dissemination of these data to those responsible for prevention and control.” The goals of public health surveillance for occupational illness and injury are to identify and define the magnitude and distribution of the problem, track trends, and target specific industries or work processes that require prevention strategies. Data are also needed to measure the effectiveness of prevention activities and to identify areas that need further investigation. Successful approaches to making the workplace safer begin with having the most accurate and current occupational health surveillance data, which are necessary to understand the root causes of the problems that lead to occupational injury and illness. However, in the United States many of the public health reporting systems are fragmented, do not have data compatible systems, and many do not capture occupational information. In addition, federal occupational health surveillance reporting requirements result in data gaps and shortfalls that do not accurately capture the true nature of occupational health and illness. This results in an inaccurate view that occupational health and illness is on a downward trend.

These trends suggest a decrease in many of the occupational injury and illness rates in New Hampshire as well, but due to a lack of dedicated resources for occupational health surveillance combined with underreporting and lack of enforcement at the federal and state level, we have been unable to document the true incidence and severity of the problem. Data are often unavailable to specifically identify the industries at highest risk. Detailed information about subgroups of the working population at risk and how the injury occurred are also absent from these data systems. Information about less common injuries is poorly estimated.

The New Hampshire Occupational Health Surveillance Program (OHSP) builds on the State's capacity for integrated collection of occupational injury and illness data and tests the ability to knowledgeably apply these data in a number of applications. Growing the capability to design local occupational safety and health prevention strategies and increase their quality and effectiveness is an intentional product of an improved surveillance system. This enhanced surveillance has resulted in the identification of occupational safety and health hazards particular to New Hampshire, prioritizing the numerous hazards and issues needing to be addressed, and provided key targeting demographics in the design and execution of local interventions and programs. An improved and integrated surveillance system provides information to key occupational health stakeholders, to researchers and to policy makers to better understand the magnitude of occupational injury and illness, the interrelationship of causal factors inside and outside the workplace, and the necessary data to build outcome measures for progress towards state and national goals.

The overall objectives of the NH OHSP are to:

- Establish the NH Occupational Health Surveillance Program (NH OHSP) within the Division of Public Health Services, Bureau of Public Health Statistics and Informatics
- Collect, analyze, and interpret surveillance data, addressing the utility and limitations of existing databases for collecting and analyzing occupational illnesses and injuries
- Develop new data sources and additional indicators
- Identify priority occupational safety and health conditions in the state
- Disseminate data on the magnitude of occupational injuries and illnesses
- Integrate activities with existing NH public health surveillance systems
- Work with occupational safety and health stakeholders to recommend prevention strategies and interventions

## **Methodology**

Methods in conducting occupational health surveillance included a variety of descriptive epidemiological studies, risk analyses, integrating occupational health surveillance activities with mainstream public health programs, and hazard communication (including interviews on workplace health and safety topics).

These studies involved some manual data collection, data base development, data cleaning, and merging of data elements across databases. Analysis included evaluation of utility of each data source to provide meaningful statistics on work-related injury and illness in New Hampshire.

- Data analysis on 6 to 8 year trends (2000/2002-2007/2008) of 16 of the 20 core NIOSH/CSTE indicators, plus data on indicators “modified” to utilize existing data.
- Immigrant survey report on working conditions and knowledge of workers’ compensation.
- Poison center data studies – Descriptive study of 10 years of occupational calls to the Northern New England Poison Center, data linkage project with hospital discharge data (to explore ICD-9 coding accuracy and final documentation of work related poisoning/exposure, and a lessons learned study to define contributing factors to workplace poisoning exposures.
- BRFSS Studies included: Work with NIOSH on adding industry and occupation questions to 2013 and 2014 survey (currently 3 years of I/O data), collection of work related injuries and payer source, (with I/O analysis), analysis of chronic disease outcomes and behaviors in healthcare workers compared with all other workers, and analysis of asthma prevalence by occupation and industry. Also collaborated with the Cancer Prevention and Control program to analyze cancer screening behaviors by industry and occupation, and the Chronic Disease Program to write issue brief on BRFSS chronic disease indicators by industry and occupation.
- Secondary analysis study of emergency medical services (EMS) data for work-related traumatic injuries, focused on primary impression, location, and mechanism of injury; and a data linkage project underway to link EMS data to hospital discharge data for work-related injuries.
- Exploration of NH Department of Safety crash data to better understand commercial vehicle crashes.
- Adult Blood Lead Epidemiology Surveillance – Analyzed prevalence of elevated adult blood lead levels (2009-2013) to better characterize lower blood leads in working adults (particularly by age and industry).
- Secondary analysis of NH Department of Labor workers’ compensation first reports of injury for its utility in enhancing the state’s occupational health surveillance system. In-depth studies focused on injuries in the construction industry.

- Occupational mortality studies in collaboration with the Division of Vital Records Administration: Explored NH mortality data for patterns of occupational mortality 2002 to 2007 (using NIOSH coded data); and performed risk analysis of tree cutting fatalities (4 work-related fatalities in 2012).
- Worked with the Communicable Disease Control and Surveillance Section to develop and update the “Protect Yourself from Ticks Where you Work” fact sheet.
- Worked with Dartmouth College Leadership Program to research and recommend requirements for radiation safety education for staff operating fluoroscopy equipment.
- Dartmouth Hitchcock Medical Center (DHMC) Joint Project: Developed parameters for using Electronic Report of Injury (EROI) data for prevention of employee injuries.
- Interviews and articles about worker safety and health issues published by the Northern New England Poison Center, the State Employees Union, the National Safety Council’s magazine “Safety + Health,” local newspapers, NIOSH eNews, and CDC’s BRFSS Newsletter.
- Developed a formal Communications Plan – Included survey of stakeholder group to determine how they prefer to receive occupational health information and via what format/venue. Piloted use of plan with adult lead surveillance project.

## Results

The NH OHSP was established as a new surveillance program within NH Division of Public Health Services. Existing data sets were explored and new data sets were developed to meet the NIOSH-CSTE (National Institute for Occupational Safety and Health and Council of State and Territorial Epidemiologists) parameters of occupational health surveillance. Our growing expertise allowed us to conduct many in-depth studies (listed above) on important worker safety and health topics that will provide the basis for future intervention research in the future.

Results of our analyses have been published in two comprehensive data reports (including NH demographic and workforce characteristic data) and in a variety of topic-based issue briefs and fact sheets, shared via the NIOSH Clearinghouse. See Publications section below.

In collaboration with our BRFSS Coordinator and the Cancer Prevention and Control program, we analyzed cancer screening behaviors by industry and occupation. We also worked with the Chronic Disease Program to analyze data and write an issue brief on BRFSS chronic disease indicators by industry and occupation. We collaborated with the Healthy Homes Program to continue research on adult blood lead issues, specifically documenting prevalence of lower blood leads by industry, and to develop outreach materials on asthma and cleaning products and nail and hair salon products. As a result of this collaboration, our Asthma and Cleaning Products fact sheet was translated into four languages and adopted into the electronic medical record system of a large community health center, where many of our immigrant population are cared for (most likely working in the cleaning industry). The salon safety fact sheet was shared with the NH Board of Barbering, Cosmetology and Esthetics and used in training sessions for two major beauty schools in the state.

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Data from the most recent study on underutilization of workers' compensation (BRFSS injury questions) was considered in the Final Report of the Commission to Recommend Reforms to Reduce Workers' Compensation Costs in New Hampshire. As a result, the Commission recommended legislation to provide authorization for the NH Insurance Department to develop a database of workers' compensation claims in the State All Payer Claims Database, filling a critical gap in occupational injury and illness surveillance systems.

Other results from exploration of industry and occupation fields in the BRFSS are as follows:

- ✓ We learned that while healthcare workers in New Hampshire reported more promising prevalence of health behaviors when compared with the rest of the employed New Hampshire adults, they specifically need to improve their influenza vaccination coverage, currently at 60.7% which is lower than preferred vaccination coverage among adults in general (80.0%).
- ✓ An analysis of current asthma prevalence by industry found a significantly higher proportion of working adults with current asthma employed in Education Services (13.6%) compared with the average proportion for New Hampshire adult workers with current asthma. Industries with the highest numbers of workers with current asthma included Health Care and Social Assistance; Wholesale or Retail Trade; and Educational Services. The occupations with the highest proportion of New Hampshire workers reporting current asthma included Education; Training and Library; Service; and Community and Social Service.

Another significant finding from our surveillance efforts resulted from a study of NH immigrant workers about their working conditions and knowledge of workers' compensation. Highlights from the study are:

- 366 immigrants completed surveys, and 299 (63%) reported working in the U.S. now or at some point in their lives.
- 229 were surveyed about their experience working in New Hampshire.
- The most common reported job/industry categories were factory, cleaning, food service, farming, service, construction and retail.
- 62% of all respondents were not aware of workers' compensation.
- 29 respondents, or about 10% of those who have worked in the U.S., noted they had been injured at work. Common body parts affected included hands, fingers, wrists, backs, knees, feet, elbows, and abdominal regions.
- Of the 229 respondents who reported working in the U.S., 69% reported that they always or sometimes maintain tiring or painful positions at work.

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<sup>2</sup>Centers for Disease Control and Prevention. Proportion of Workers Who Were Work-Injured and Payment by Workers' Compensation System---10 States, 2007. Morbidity and Mortality Weekly Report. 2010 July 30; 59(29): 897-900.

As a result of this immigrant survey study, the NH Coalition of Occupational Safety and Health (COSH) focused its training to new immigrants participating in the ESOL (English for Speakers of Other Languages) program on worker rights and access to workers' compensation insurance when injured as part of the job.

Finally, the NH OHSP contributed to the state-wide development of a web-based interactive system for direction and outcome measures, or WISDOM, which involves creation of both numerator and denominator data from a variety of data sources, including hospital discharge, workers' compensation, Census and Bureau of Labor Statistics. These indicator dash boards allow the user to make a variety of queries within an indicator or topic.

## **Discussion**

Data from occupational health surveillance efforts can be used to identify priority areas for prevention strategies. These efforts increase our knowledge and understanding of the true burden of work-related injuries and illnesses, and allow state agencies and stakeholders to better prioritize and direct resources. These data are used by state stakeholders to influence safety practices and minimize workplace risks.

Collaboration with state and national partners result in building awareness and educating various public health groups about the importance of occupational health as an integral part of public health (being a voice on various committees devoted to broader public health issues), and advising on important topics such as the health and safety of worker populations such as emergency responders and immigrant workers. As a result of our surveillance activities, there is increased knowledge about occupational poisonings, adult blood lead exposures, utilization of workers' compensation insurance, and prevalence of disease outcomes by where a person works.

Findings from our in-depth studies can be used to guide future investigation, surveillance, and intervention activities or improvements in workplace safety programs. While there is not necessarily direct adoption of NH OHSP findings in the workplace, the information and data produced is critical when informing prevention strategies and promoting policy changes to better protect workers overall. A more educated stakeholder population is more successful in implementing prevention strategies and effecting policy change.

## **Conclusions**

The potential for an occupational health surveillance program at the state level to inform worker safety and health education, prevention and intervention activities, policy and legislation, and partnership development is vast. Without NIOSH funding to build and sustain the NH OHSP, there would be little recognition for the importance of data to guide and inform actions by our key stakeholders in better protecting workers from unsafe and unhealthy working conditions.

## ***Publications***

### **Reports**

- Occupational Injury and Illness in New Hampshire: a Status Report, Data to Inform Programs and Policies, 2009, 2011, and 2015
- Occupational Health Surveillance Immigrant Survey Report, February 2013

- Poison Center Data for Occupational Poisoning Exposures from 2005 to 2011, July 2013
- Occupational Poisonings: Lessons Learned from Poison Center Narratives, February 2015

## Issue Briefs

- BRFSS Issue Brief: Work Related Injuries 2011, June 2011
- Improving Occupational Health Surveillance through a Dashboard for the Healthcare Industry, Summer 2012
- Traumatic Injury at Work Issue Brief, November 2013
- Health Behaviors of New Hampshire Healthcare Workers, NH BRFSS, April 2014
- Asthma Prevalence among New Hampshire Workers, Behavioral Risk Factor Surveillance System, 2011-2012, November 2014
- Utilization of the NH Behavioral Risk Factor Surveillance System (BRFSS) to Better Understand Under-Reporting of Work-Related Injuries, June 2011

## Fact Sheets, Hazard Alerts, and News Articles

- NH Methylene Chloride Fact Sheet, Summer 2012
- Mesothelioma as an Occupation-Related Cancer in New Hampshire, Winter 2012
- Poisonings at work: An interview with Dr. Karla Armenti by the Northern New England Poison Center, 2012
- Asthma and Cleaning Products, What Workers Need to Know, August 2013
- (English) (Spanish) (French) (Nepali) (Swahili)
- Heat Illness at Work Can Be Deadly, July 2013
- Tree Work Can Be Fatal, July 2013
- Protect Yourself from Ticks Where You Work! June 2014
- Removing Snow from Rooftops is Dangerous! Winter 2014
- Respirator Awareness in the Healthcare Setting, April 2014
- Healthy Body, Healthy Lungs-What Salon Workers Need to Know About Their Risk for Work-Related Asthma, July 2015
- Several NIOSH eNews articles under Partner Activities
- Set up direct RSS feed of all publications to NIOSH Clearinghouse

## Presentations

- *How to set up an Advisory Committee*, CSTE Occupational Health Subcommittee meeting, November 2010, Austin, Texas
- *2008 NH Behavioral Risk Factor Surveillance System: Estimating workplace injuries and workers' compensation claims using a first-time supplement, and Methods and results of a NH study of unintended, workplace chemical exposures: Subsequent strategies for surveillance-based prevention using poison center data*, APHA Annual Meeting, November 2010, Denver, CO
- *Using state-wide EMS data for occupational health surveillance*, CSTE Occupational Health Subcommittee meeting, March 9 and 10, 2011, Washington D.C.
- *Using state-wide EMS data for surveillance of work-related asthma*, NIOSH Sponsored meeting on Work-Related Asthma, March 21 to 24, 2011, Oakland, CA

- *Using state-wide EMS data for occupational health surveillance*, Northeast States Occupational Health Surveillance conference, May 2011, Farmington, Connecticut
- *Characterization of adult blood lead levels below 25 mcg/dL in the New Hampshire Adult Blood Lead Epidemiology and Surveillance (ABLES) Program, and Integrating industry and occupation into health and exposure surveillance: Industry and occupation coding*, CSTE Annual Meeting, June 2011, Pittsburgh, Pennsylvania
- *Characterization of Adult Blood Lead Levels in the New Hampshire Adult Blood Lead Epidemiology and Surveillance Program (ABLES)*, APHA Annual Meeting, Washington, D.C., November 2011
- *Building Successful Partnerships*, Occupational Health Surveillance Partners Meeting, December, 2011, Orlando, FL
- *The use of electronically reported occupational injury data to populate a dashboard to improve occupational health surveillance in the health care setting in New Hampshire*, American College of Preventive Medicine Annual Meeting, February, 2012, Orlando, FL (Alicia Zbehlik).
- *Occupational health surveillance in New Hampshire: Using the BRFSS to better understand work as a factor in health*, CSTE Annual Meeting – June 2012, Omaha, NE
- *Filling the data gaps on minority health: A survey to better understand health disparities at work*,
- *Linking Poison Center Call Data to Hospital Discharge Data, the Reality of Under-Reporting and ICD-9 Coding Accuracy*, NH Research Group, Concord, NH, April 2012
- *Exploring New Hampshire Workers' Compensation Data for its Utility in Enhancing the State's Occupational Health Surveillance System*, NIOSH Workers' Compensation meeting, Washington, D.C. June 2012
- *Analysis of the 2009-2011 NH TEMSIS for Occupational Health Surveillance: Filling in the Gaps*, CSTE, Pasadena, CA, 2013
- *Characterization of farm injuries in New Hampshire from 2001 to 2009 utilizing external cause of injury codes in the hospital discharge data*, CSTE 2014 – Nashville, 2014
- CSTE Annual Meeting, Boston, 2015:
  - *Utilization of the New Hampshire Behavioral Risk Factor Surveillance System (BRFSS) work related injury data to better understand under-reporting to the workers' compensation system*
  - *Exploring the utility of the New Hampshire Behavioral Risk Factor Surveillance System (BRFSS) industry and occupation data for promoting seasonal flu vaccination at worksites*
  - *Roundtable: Practical Issues in Exploring Industry and Occupation in the BRFSS*
- Annual Invited Guest Lectures: Keene State College, Health Sciences course, Dartmouth Institute for Health Policy and Clinical Practice, Master of Public Health Program, Environmental and Occupational Health, and University of New Hampshire, Department of Health Management and Policy, College of Health and Human Services, Environmental Health Introduction course

## **Data Sets**

The NH Division of Public Health Services provides data for analysis to users upon request. These include the NH Hospital Discharge Data, Vital Records Data (birth and death data), the Behavioral Risk Factor Surveillance Survey Data, and the NH State Cancer Registry Data. Procedures are in place for providing confidential data for research when required criteria are met. All released data have documentation that shows the conditions under which the data were collected, what the data represent, the extent of the data's completeness and accuracy, and any potential limitations on their use.

### ***Other materials available for other investigators***

Public data are available via the web-based interactive system for direction and outcome measures or WISDOM query tool which involves creation of both numerator and denominator data from a variety of data sources, including hospital discharge, workers' compensation, cancer registry, Census and Bureau of Labor Statistics. These indicator dash boards allow the user to make a variety of queries within an indicator or topic. We have produced several WISDOM occupational health indicator dash boards for public use allowing the user to make a variety of queries within an indicator or topic. Data points are presented by counts and rates and by gender and geography where possible. WISDOM is used as a tool for educating stakeholders from academia, nonprofit organizations, advocacy groups, etc. on workplace injuries and illnesses and other employment, demographic and/or exposure/hazard data that warrant targeted attention for prevention purposes.

### ***Inclusion of gender and minority study subjects***

New Hampshire's population has become more racially and ethnically diverse over the past 20 years. The rate of population change by race and ethnicity has not been the same across all New Hampshire communities. New Hampshire still has a predominately white, non-Hispanic population with just over 97.3% of residents reporting race/ethnicity as white, non-Hispanic on the 1990 US Census and 95.1% in the 2000 Census, 92.3% in the 2010 Census. Employment statistics available through the BLS website show that the percentage of New Hampshire workers that are white has dropped from 97.4% in 2001 to 92.3% in 2008, then increased to 95.1% in 2011. Hispanic workers in 2003 were 1.6% of the workforce in New Hampshire and 1.7% in 2008 and remained at 1.7% in 2011.

Every effort has been made to include minorities in our surveillance efforts.

52.1% of New Hampshire's employed workers in 2011 were male and 47.8% were female. Among the total civilian non-institutional population in 2011, 70.0% of men and 61.7% of women were employed. Every effort has been made to include workers of both genders in surveillance projects.

In 2011, 3.7% of New Hampshire workers were between the ages of 16 and 19 years of age. Every effort has been made to include youth workers in our surveillance efforts.