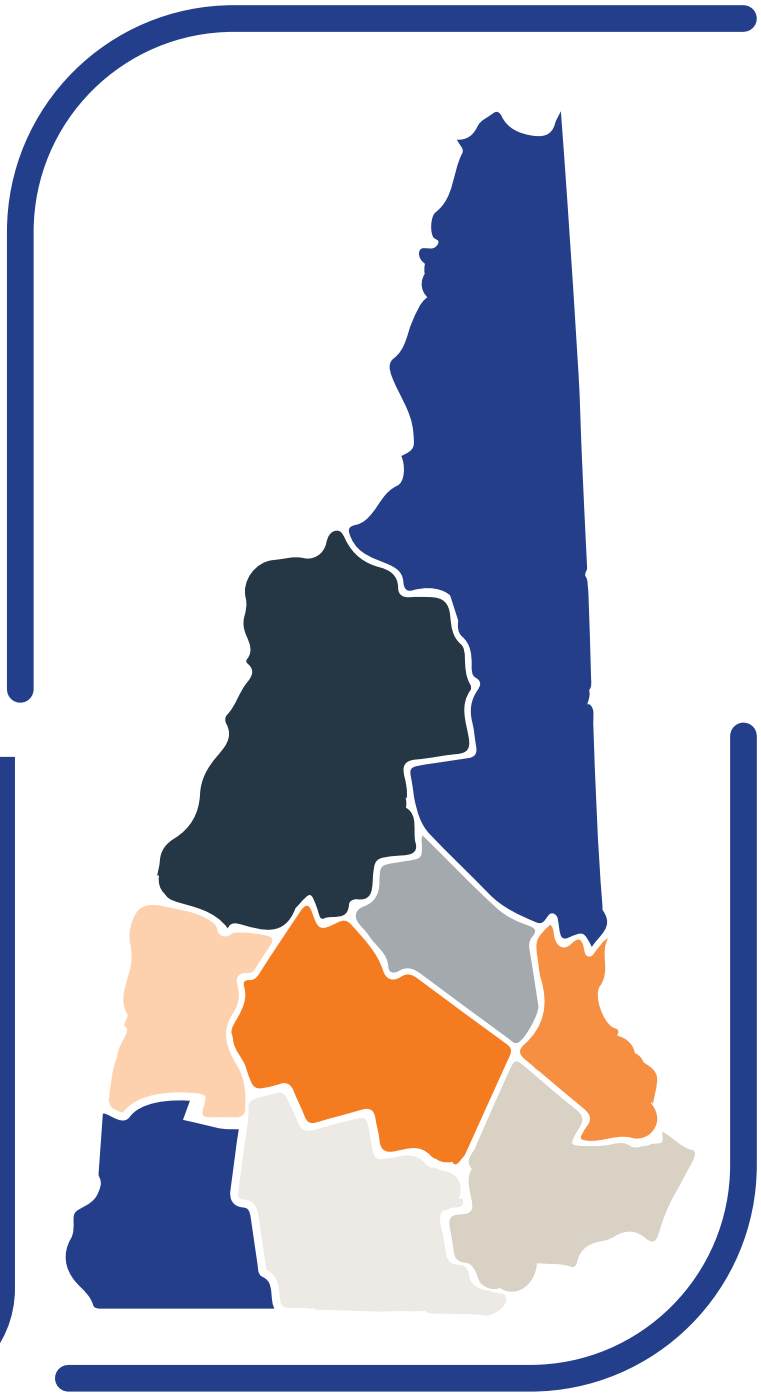
NH Occupational Health Surveillance Program



Occupational Injury and Illness in New Hampshire

Data Report to Inform Programs and Policies

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An electronic version of this report is available at iod.unh.edu/nhohsp

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Executive Summary

This report contains data and information on occupational injuries and illnesses in New Hampshire, which marks an important step on the path to a safer and healthier work environment for New Hampshire workers. The report format used is based on the Council of State and Territorial Epidemiologists (CSTE) and the National Institute for Occupational Safety and Health—Centers for Disease Control and Prevention (NIOSH-CDC) *"Occupational Health Indicators: A Guide for Tracking Occupational Health Conditions and Their Determinants."*[1] This guide was produced by the NIOSH-States Occupational Health Surveillance Work Group, which was created to make recommendations to NIOSH concerning fundamental State-based surveillance activities, beginning with recommendations to identify occupational injuries, illnesses, and hazards to be placed under surveillance by states. The resulting occupational health indicators have been utilized by many states to produce state occupational health surveillance reports.

Using the above framework, this report includes available New Hampshire data on many of the established occupational health injury and illness indicators, as well as indicators specific to New Hampshire's working population. Because New Hampshire does not participate in the Bureau of Labor Statistics Survey of Occupational Injury and Illness (SOII), we are unable to report on those indicators. The numbered indicators are aligned with the appropriate indicators in the CSTE/NIOSH Guide. These indicators illustrate the importance of collecting occupational health injury and illness data to inform prevention efforts aimed at eliminating or reducing work-related events.

What is an Occupational Health Indicator?

An occupational health indicator is a specific measure of work-related disease or injury, or a factor associated with occupational health such as workplace exposures, hazards, or interventions, in a specified population. These indicators can be generated by states to track trends in the occupational health status of the working population.

NH Report Highlights

NH's aging workforce is growing

Workers age 65+ make up a larger proportion of the workforce, nearly doubling in size from 3.9% in 2008 of all workers to 7.7% in 2018.

40 hours or more work weeks

NH workers are more likely to be working 40 hours or more per week, increasing from 61.8% in 2008 to 66.8% in 2018.

264 work-related fatalities

From 2000 to 2018 there were 264 work-related fatalities in NH, with 20 occurring in 2018.

1,735 work-related hospitalizations

There were over 1,735 work-related hospitalizations for persons age 16 years and older, where the expected payer is workers' compensation.

high risk for morbidity

In 2018, one in twenty NH workers were employed in industries at high risk for morbidity. One in seven are employed in high-risk occupations for morbidity.

high risk for asthma

More than one in seven adults with asthma reported they had been told by their healthcare provider that their asthma was work-related.

high risk for mortality

In 2018, one in seven NH workers were employed in occupations or industries at high risk for mortality.

Indicators to Watch

- **Work-related hospitalizations (Indicator #2) has been increasing steadily since 2015 (203 to 288) and merits close review in future years to assess whether the trend continues.**

- **Work-related deaths (Indicator #3), have, outside of 2017, shown a steady increase in the rate per 100,000 since 2012, increasing from 2 per 100,000 to 2.8 in 2018.**

- **Reported adult blood lead levels (Indicator #13) of 10 µg/dL or higher have increased 19%from 2012 (100) to 2016 (124), with those above 25 µg/dL more than doubling during the same time period from 12 to 27.**

- **Workers' Compensation (Indicator #19) data shows that the average benefits per covered worker is $167 less in 2018 than 2010, a 34% drop in coverage during a time of rapidly increasing health care costs.**

Introduction

According to the Bureau of Labor Statistics, there were 745,000 employed persons in New Hampshire in 2018, a growth of 33,000 since 2008. Among these in 2018, the percentage who report as being white has decreased from 95.9% in 2008 to 93.8% in 2018. Hispanic workers in 2008 were 1.8% of the workforce in New Hampshire and grew to 3.8% in 2018. When considering employment outcomes by gender, 72.1% of men were employed and 61.9% of women. The top five industries with the highest percentage of employees in NH in 2018 were as follows: Education and Health Services (23.5%), Wholesale and Retail Trade (13.5%), Professional and Business Services (12.3%), Manufacturing of Durable Goods (10.4%), and Leisure and Hospitality (8.4%).

Each year thousands of these workers are injured or become ill as a result of exposure to health and safety hazards at work. In New Hampshire, there were 31,065 workers employed in industries with a high risk for occupational morbidity in 2018, making up 5% of the workforce. There were 78,785 workers employed in occupations with a high risk for occupational morbidity, making up 13.9% of the workforce. There were 93,616 workers employed in industries with a high risk for occupational mortality in 2018. That is 14.4% of the workforce. Occupations with high risk of mortality employed 63,079 workers in 2018, which is 9.7% of the workforce in NH.

There were 20 fatal occupational injuries in New Hampshire for 2018. The total number of fatal occupational injuries nationally was 5,250 in 2018.[2] The Bureau of Labor Statistics reports that there were 2.8 million nonfatal workplace injuries and illnesses reported by private industry employers in 2019, unchanged from 2018.[3] These work-related events result in substantial human and economic costs, not only for workers and employers, but also for society as a whole. In 2018, work injuries cost Americans $1.1 trillion. That amounts to $1,100 per worker.[4 5] Workers' compensation in claims alone in New Hampshire cost approximately $209 million in 2018. That is an average cost of $322 per covered (non-agricultural) NH employee, down from $489 per worker in 2010. Some workers are not even covered by workers' compensation (farmers, domestic help, railroad workers, federal employees, etc.), and claims are often not filed by eligible workers. Furthermore, indirect costs to workers, employers, and society are not included in these figures.

Underreporting to OSHA of occupational injuries and illnesses has been documented within the occupational health academic field.[6 7 8] There are a number of reasons for this problem.[9] The long interval between exposure to hazardous substances and the development of disease has made it difficult to associate the exposures to the disease process. In addition, many diseases have

multi-factorial causes making it difficult to determine the exact role of workplace exposures. The failure of health care providers to recognize the association of the disease and workplace exposures and the failure to report work-related diseases also contributes to the underreporting (many diseases, such as asthma, may not appear any different in their presentation whether it is work-related or not). Developing a robust and comprehensive occupational health surveillance program is the key to uncovering the true magnitude and burden of work-related injury and disease in this country.

Work-related injuries and illnesses can be prevented with appropriate and targeted interventions.

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. Federal occupational health surveillance reporting requirements result in data gaps and shortfalls that do not accurately capture the true burden of occupational health and illness. This can result in an inaccurate view that occupational health and illness is on a downward trend.

What are Occupational Health Indicators?

Occupational health indicators can provide information about a population's health status with respect to workplace injuries and illnesses or to factors that can influence health. These indicators can either be measures of health (work-related disease or injury) or factors associated with health, such as workplace exposures, hazards or interventions, and socio-economic impact (see CSTE Occupational Health Indicators: A Guide for Tracking Occupational Health Conditions and Their Determinants for additional information). The indicators represent a core set of data that, if collected at the state level, would assist in the development of programs to prevent workplace injuries and illnesses. While analyzing these core data points is part of a fundamental surveillance program, it is expected that states use them in conjunction with other guidelines for state-based surveillance and as a complement to overall state and national goals to improve the health of the population.

The occupational health indicators are estimated from many data sources. They are meant to provide an overview and general assessment of the occupational health status of New Hampshire workers over a span of years for which data are available. Each data source has its strengths and limitations.

This report includes a State Employment Profile and many of the core occupational health indicators for New Hampshire based on the most recent data available for each indicator. No single data source is currently adequate to characterize occupational health profiles in the State.

Data Note

Data are specific to New Hampshire unless indicated otherwise. "Incidence" of a health condition refers to the number of new cases revealed or diagnosed during a specified time period. "Prevalence" refers to the number of cases existing at a specific time. "Morbidity" refers to a disease or symptom of a disease. "Mortality" refers to a health event resulting in death. Incidence, prevalence, morbidity, and mortality are often presented as rates: the number of events per 1,000, 10,000, or 100,000 population.

New Hampshire Employment Profile 2008 & 2018

There are an estimated 745,000 civil, non-institutional workers in New Hampshire. 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. The following data show the most recent demographic profile for New Hampshire.

Table 1 documents a few substantial shifts in New Hampshire's economic profile between 2008 and 2018, starting with the addition of 33,000 employed individuals, resulting in 745,000 employed individuals. Other shifts of note include:

- Residents are more likely to be working 40 hours or more per week – increasing from 61.8% to 66.8%. Correspondingly, they are less likely to be working less than 40 hours per week (dropping from 33.8% of those employed to 29.5% in 2018)
- Workers age 65+ make up a larger proportion of the workforce, increasing from 3.9% of all workers to 7.7%.
- Workers with some college or associate degree were less likely to be employed in 2018, dropping from 73.7% of this group being employed to 67%

Table 1. Employed Persons 16 Years or Older by Demographic Characteristics, NH, 2008 and 2018

Indicator	2008	2018
Total number of employed persons 16 years or older[1]	712,000	745,000
Percentage of workforce unemployed[1]	3.8%	2.6%
Percentage of employment self-employed[1]	7.6%	7.1%
Percentage of employment in part-time jobs[1]	19.9%	18.3%
Percentage of employment by number of hours worked per week[1, 2]		
<40 hours	33.8%	29.5%
40 hours	33.3%	38.1%
41+ hours	28.5%	28.7%
Percentage of employment by sex[1]		
Males	73.2%	72.1%
Females	63.2%	61.9%
Percentage of employment by age group[1, 3]		
16 to 17	2.1%	1.9%
18 to 64	93.9%	90.4%
65+	3.9%	7.7%
Percentage of employment by race[1]		
White	95.9%	93.8%
Black	1.1%	1.2%
Other	2.9%	5%
Percentage of employment by Hispanic Origin[1]	1.8%	3.8%
Percentage of employment by Education, Ages 25+[1]		
Less than a high school diploma	39.3%	NA
High school graduates, no college	64.7%	63%
Some college or associate degree	73.7%	67%
Bachelor's degree and higher	76.9%	74.9%
Percentage of employment by industry[1]		
Agriculture and Related	0.8%	0.6%
Construction	7.4%	8.2%
Education and Health Services	21.9%	23.5%
Financial Activities	6.7%	6.1%
Information	2.7%	2%
Leisure and Hospitality	8%	8.4%
Manufacturing – Durable goods	10.6%	10.4%
Manufacturing – Non-durable goods	3.2%	3.1%
Mining	0.1%	NA
Other Services	4.3%	4.2%

Indicator	2008	2018
Professional and Business Services	10.6%	12.3%
Public Administration	4.6%	3.9%
Transportation and Utilities	3.9%	3.8%
Wholesale and Retail Trade	15.3%	13.5%
Percentage of employment by occupation[1]		
Construction and Extraction	5.6%	5.7%
Farming, Fishing, and Forestry	0.4%	0.2%
Installation, Maintenance, and Repair	3.6%	2.8%
Management, Business, and Financial Operations	16.8%	18.2%
Office and Administrative Support	13.6%	10.2%
Production	6.6%	7%
Professional and Related Occupations	23.4%	25.2%
Sales and Related Occupations	10.9%	10.2%
Service	14.6%	16%
Transportation and Material Moving	4.6%	4.6%
Percentage of employment by disability[4]		
Living with a disability	43.5%	43.8%
Living without a disability	79.9%	82.6%
Note. Mean/median of unemployment: 20.7 / 8.6 weeks		

Data Sources: 1. BLS Geographic Profiles of Employment and Unemployment (https://www.bls.gov/opub/geographic-profile/archive.htm) 2. Will not equal 100% as the calculation is based on a denominator of 745,000 employed (2018) 3. NIOSH Employed Labor Force query system (for percentage of civilian employment by sex, age, race, and Hispanic origin) (https://wwwn.cdc.gov/wisards/cps/) 4. U.S. Census Bureau. (2007,2018). American Community Survey, 1-year estimates.

Occupational Health Indicators for New Hampshire

Indicator 2: Work-Related Hospitalizations (NH Hospital Data)

Introduction

More severe occupational injuries and illnesses may result in hospitalization. Since hospital discharge data are categorized by payer, it is possible to limit the data to just those patients whose discharges were billed to the state workers' compensation system. However, work-related hospitalizations are under-represented due to utilization of other payer sources (out-of-pocket or patient's private insurance, for example).

Calculation

Definition: Annual number of inpatient hospitalizations for persons aged 16 years and older; Annual crude rate of inpatient hospitalizations per 100,000 employed persons age 16 and older.

Numerator: Inpatient hospital discharges with primary payer coded as workers' compensation includes NH residents hospitalized out of state. Not age adjusted.

Denominator: Employed persons age 16 years or older for the same calendar year.

Data Sources: Hospitalization Data: NH Inpatient Hospital Discharge Data. Employment Data: BLS Geographic Profiles of Employment and Unemployment at: https://www.bls.gov/lau/rdscnp16.htm.

Data

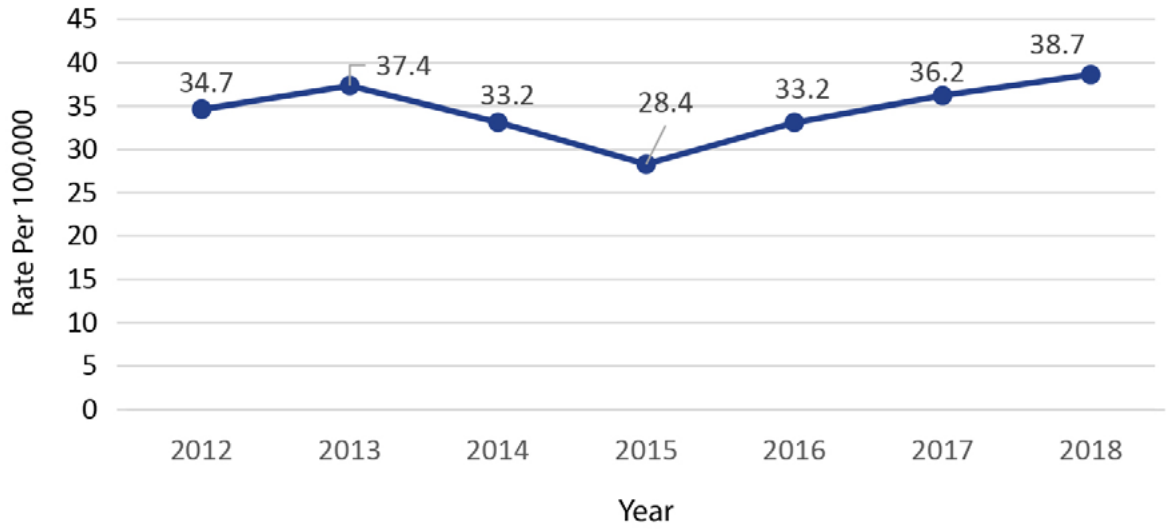
Over the years reviewed, the raw count of work-related hospitalizations has varied by 20 or more events per year. Between 2012 and 2018, hospitalizations ranged from a low of 203 in 2015 to a high of 288 in 2018.

Table 2. Number of Work-Related Hospitalizations, New Hampshire, 2012-2018

Year	Work-Related Hospitalizations
2012	242
2013	263
2014	235
2015	203
2016	242
2017	262
2018	288

While there was some yearly up and down variation in the count of hospitalizations, the rate per 100,000 employees did not change substantially during this period, with the rate in 2018 (38.7) similar to the rate in 2013 (37.4). However, this indicator will be worth monitoring closely in the future as the rate has consistently increased since 2015. The rate has increased by an additional 10 per 100,000 New Hampshire employees – indicating a potential worsening of worker safety across the State if this continues to climb.

Figure 1. Work-Related Hospitalizations, 2012-2018 Rate Per 100,000 Employees Ages 16+



Discussion

Individuals hospitalized with work-related injury and illnesses have some of the more serious and costly work-related adverse health outcomes. Documenting the burden of occupational injuries and illnesses that require hospitalization over time offers the opportunity to identify workers that continue to be at high risk and to target and evaluate the impact of prevention efforts over time.

Indicator 3: Fatal Work-Related Injuries

Introduction

One work related death is too many, and yet multiple New Hampshire workers die each year from injuries received at work. Data tracking the number of workplace deaths is from the Census of Fatal Occupational Injuries (CFOI) administered by the Bureau of Labor Statistics. CFOI gathers data for all states and is a reliable count (not estimate) of all traumatic injury deaths related to work.

Calculation

Definition: Annual number of fatal work-related injuries; annual crude fatality rate per 100,000 full-time equivalent workers (FTEs) aged 16 years and older

Numerator: Fatal work-related injuries reported to the Census of Fatal Occupational Injuries (CFOI)

Denominator: Full time equivalent workers based on total hours worked for all employees

Note: Counts lower than 10 events may not produce statistically reliable rates.

Data Sources: Census of Fatal Occupational Injuries, Bureau of Labor Statistics; NH: http://www.bls.gov/iif/oshwc/cfoi/tgs/2012/iiffi33.htm to https://www.bls.gov/iif/oshwc/cfoi/tgs/2018/iiffw33.htm.

US: NIOSH Employed Labor Force query system (https://wwwn.cdc.gov/wisards/cps/

Data

Work-related deaths in New Hampshire have remained under 25 per year since

2000, with some years as low as 6 (2009/2010) and the highest deaths, 22, occurring in 2016.

When calculated as a rate per 100,000 employees ages 16 and over, the rate climbed from 2012 to 2016 (from 2.2 to 3.2 per 100,000), dropped in 2017 to 1.6 due to the low incidence count that year, before climbing back up to 2.8 in 2018. The rate for New Hampshire has stayed below the US average over this period of time, which showed a rate of 3.5 per 100,000 employees across the US in 2018. (see Figure 2).

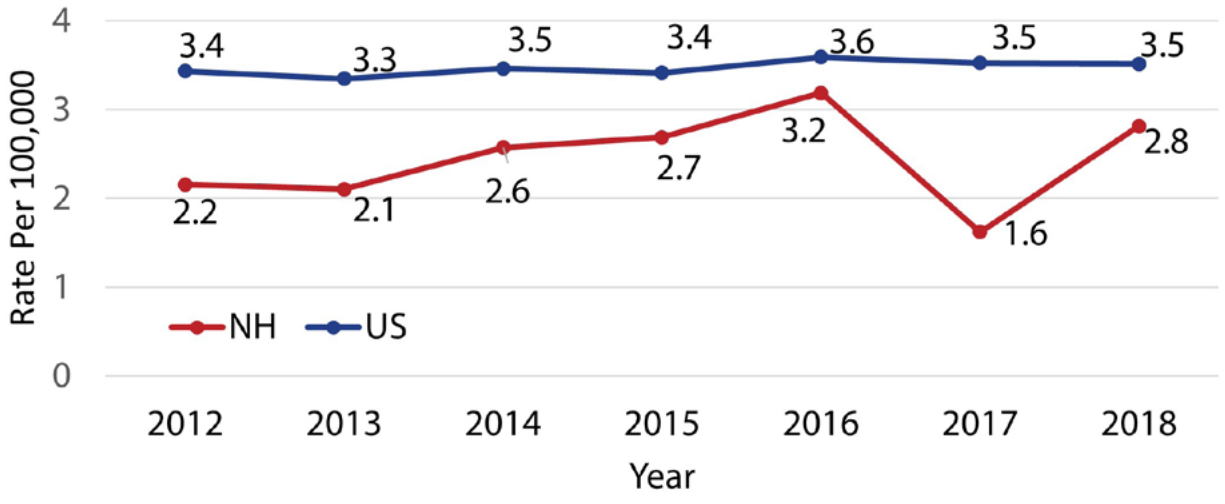
Discussion

Multiple risks contribute to work-related fatalities, including worker characteristics, industry, occupation, and activity at time of incident. Surveillance of work-related fatalities can identify emerging hazards and can lead to the development of new interventions and new or revised regulations to protect workers.

Table 3. New Hampshire Fatal Work Injuries, 2000 - 2018

Year	Fatal Work Injuries
2000	13
2001	9
2002	19
2003	19
2004	15
2005	18
2006	13
2007	14
2008	7
2009	6
2010	6
2011	9
2012	14
2013	14
2014	17
2015	18
2016	22
2017	11
2018	20

Figure 2. Fatal Work Injuries, 2012 - 2018 Rate per 100,000 FTE Employees Age 16+



Indicator 6: Hospitalizations for Work-Related Burns

Introduction

Work-related burns are not only extremely painful but also result in large amounts of lost work time. Hospital discharge data are useful to estimate the number of hospitalized burns in New Hampshire. Cases are identified by using standard diagnosis codes for burns with those injuries where the expected payer is workers' compensation.

Calculation

Definition: Annual crude rate per 100,000 employed persons age 16 and older. Excludes: unknown age, and sequelae and subsequent encounters.

Numerator: Hospital discharges with primary diagnosis of burn injury (ICD-9 code between 940 and 94999 and ICD-10-CM T20-T25, T26-T28, T30-T32) and with primary payer coded as workers' compensation. Includes NH residents hospitalized out of state. Not age adjusted.

Denominator: Employed persons age 16 years or older for the same calendar year

Note: Counts lower than 10 events may not produce statistically reliable rates.

Data Source: Hospitalizations: NH Inpatient Hospital Discharge Data.

Employment Data: BLS Geographic Profiles of Employment and Unemployment at: https://www.bls.gov/lau/rdscnp16.htm.

Data

The occurrence of work-related burns in New Hampshire is rare, accounting for 10 or less hospitalizations per year between 2012 and 2018. In 2017 it occurred only twice and in 2018, zero times. Expressed as a rate per 100,000 employed persons for 2012 and 2018, the rates are 1.4 and 0, respectively.

Table 4. Number of Work-Related Burn Hospitalizations, New Hampshire, 2012-2018

Year	Work-Related Burn Hospitalizations	
	Number	Rate
2012	10	1.4
2013	3	0.4
2014	10	1.4
2015	8	1.1
2016	6	0.8
2017	2	0.3
2018	0	0

Discussion

Work-related burns are some of the most devastating injuries affecting workers. Burns are, in fact, the most common cause of work-related hospitalization for young workers. Although burns requiring hospitalization are unusual events, they are painful, disabling, and generally expensive to treat. Surveillance of work-related burns is crucial to the recognition and prevention of these conditions. Occupational burn injuries are preventable with appropriate education, worker training, personal protective equipment (PPE), engineering and administrative controls, and safe work practices. Development of new prevention methods for these injuries, as well as evaluation of new intervention measures, could be possible with the information gathered by this indicator.

Indicators 9 and 10: Pneumoconiosis Hospitalizations and Mortality

Introduction

Pneumoconiosis refers to a group of interstitial lung diseases caused by the inhalation of certain dusts, including asbestos, silica and coal dust. The principal cause of any type of pneumoconiosis is work-place exposure, often taking many years to develop and be manifested, although in some cases – silicosis, particularly – rapidly progressive forms can occur after only short periods of intense exposure. When severe, the diseases often lead to lung impairment, disability, and premature death. From a public health perspective, these conditions are entirely man-made, and can be avoided through appropriate dust control.[10]

Unlike some of the other occupational health indicators based on hospital discharge data, work-relatedness for pneumoconiosis is not identified based on workers' compensation being the expected payer for hospital services. Instead, this indicator assumes most pneumoconiosis are work-related. For this reason, it may not accurately reflect recent respiratory exposures in the state. Because pneumoconioses are typically diseases of long latency, it may be many years before exposures lead to a hospitalization or death. Likewise, it may be years before changes in occupational exposures affect the number of cases.

Calculation for Indicator 9

Definition: Annual number of hospitalizations, NH residents (Includes NH residents hospitalized out of state); Annual crude rate per 100,000 resident population 15-years and older

Numerators: All Hospital Discharges with primary or contributing (secondary) diagnosis of the following:

Total Pneumoconiosis, ICD-9 Code = 500.0 through 505.9 and ICD-10-CM = J60 through J66.

Coal workers' pneumoconiosis, ICD-9 Code = 500 and ICD-10-CM = J60.

Asbestosis, ICD-9 Code = 501 and ICD-10-CM = J61.

Silicosis, ICD-9 Code = 502 and ICD-10-CM = J62.

Other and Unspecified pneumoconiosis, ICD-9 Codes = 503 through 505.99 and ICD-10-CM = J63 through J66.

Denominator: Resident population age 15 years and older per calendar year

Data Sources: Hospitalizations: NH Emergency Department and Inpatient Hospital Discharge Data

Population Count: NH: https://data.census.gov/cedsci

Data

Between 2012 and 2018, the total number of New Hampshire inpatient hospital discharges changed from 90 to 56. Of these, the prominent driver (accounting for 89% to 96% of hospitalizations) was patient exposure to asbestos. In calculating the rate for the population aged 15+, the 2017 age adjusted rate was 46.9 per 1,000,000, and, in 2018, 40.1.

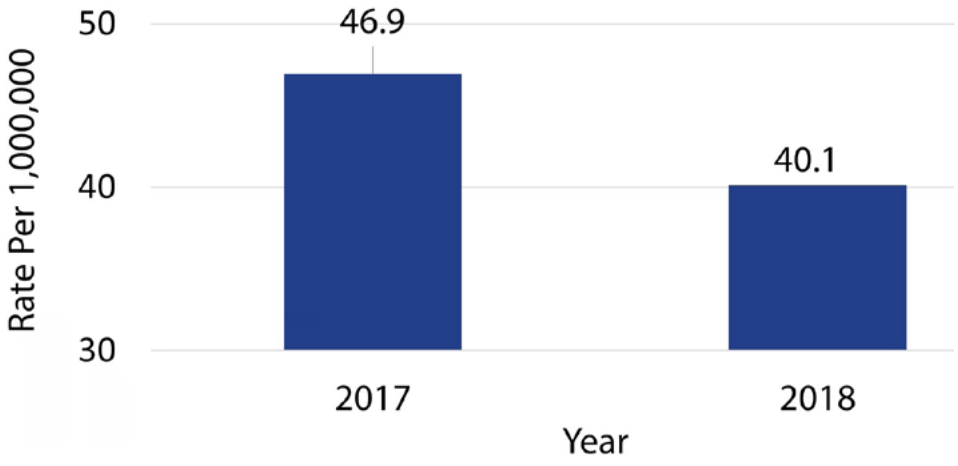
Calculation for Indicator 10

Definition: Annual number of deaths; Annual death rate (deaths per million residents); Annual age-standardized death rate (standardized by the direct method to the Year 2000 U.S. Standard population) (deaths per million residents)

Table 5. Number inpatient discharges from or with pneumoconiosis, age 15 and older

Year	Total	Inpatient coal workers' pneumoconiosis	Inpatient asbestosis	Inpatient silicosis	Inpatient other and unspecified pneumoconiosis
2012	90	1	80	7	2
2013	82	5	73	4	0
2014	100	3	91	7	1
2015	95	4	85	4	2
2016	68	1	64	2	1
2017	63	1	59	3	0
2018	56	0	54	1	1

Figure 3. Pneumoconiosis Inpatient Discharges, 2017-2018 Age Adjusted Rate Per 1,000,000 Population Ages 15+



Numerator: Deaths with ICD10 Codes between J60 and J66.8

Deaths with ICD-10 code of J60-J66 (ICD-9 code 500-505) as the underlying or contributing cause of death ("total pneumoconiosis")

Deaths with ICD-10 code of J60 (ICD-9 code 500) as the underlying or contributing cause of death ("coal workers' pneumoconiosis")

Deaths with ICD-10 code of J61 (ICD-9 code 501) as the underlying or contributing cause of death ("asbestosis")

Deaths with ICD-10 code of J62 (ICD-9 code 502) as the underlying or contributing cause of death ("silicosis")

Deaths with ICD-10 code in the range J63 – J66 (ICD-9 code range 503 – 505) ("other and unspecified pneumoconiosis")

Denominator: Resident population age 15 years and older per calendar year

Note: Counts lower than 10 events do not produce statistically reliable rates.

Data Sources: NH: NH Vital Records, Death Certificate Data

State population estimates from the U.S. Bureau of the Census American Community Survey

US: https://www.cdc.gov/mmwr/volumes/69/wr/mm6923a1.htm

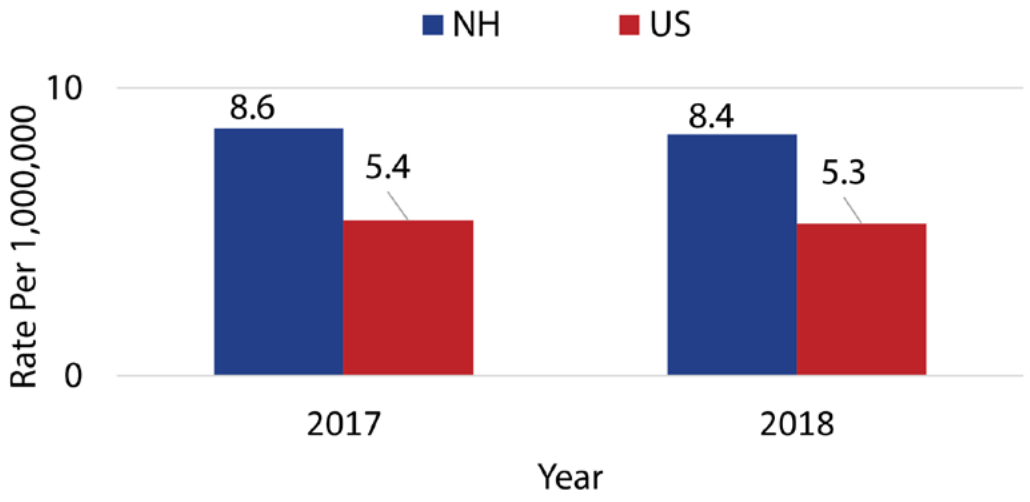
Data

The incidence of mortality from pneumoconiosis is low in New Hampshire, ranging from 2 deaths in 2006 and 2011 to a high of 13 deaths in 2015. Expressed as a rate per 1,000,000 residents aged 15+ in New Hampshire, the rate was 8.6 in 2017 and 8.4 in 2018. Across the US, mortality rates for pneumoconiosis are lower, at 5.4 and 5.3 per 1,000,000 respectively.

Table 6. New Hampshire Pneumoconiosis Mortality, Raw Count, 2000 - 2018

Year	Total
2000	6
2001	6
2002	6
2003	7
2004	5
2005	9
2006	2
2007	6
2008	4
2009	6
2010	8
2011	2
2012	5
2013	3
2014	5
2015	13
2016	8
2017	12
2018	12

Figure 4. Pneumoconiosis Mortality, 2017-2018 Age Adjusted Rate Per 1,000,000 Population Ages 15+



Discussion

Pneumoconiosis is largely determined by local industrial activities. Historically, New Hampshire's industries that have contributed to these diseases of the lung include, mining (silica primarily), automotive (primarily brakes), construction (milling, sawing, sandblasting, etc), and shipbuilding (primarily use of asbestos). Although the use of asbestos and asbestos products has dramatically decreased in recent years, they are still found in many residential and commercial settings and continue to pose a health risk to workers and others.

Control of occupational dust exposure is the single most effective means of preventing pneumoconiosis. Tracking of pneumoconiosis is essential for measuring progress towards elimination of the disease, as well as for targeting prevention and disease management programs.

Indicator 11: Acute Work-Related Pesticide-Associated Illness and Injury Reported to Poison Control Centers

Introduction

Pesticides are workplace chemicals purposely designed to harm certain life forms. Hence, the active ingredients can pose risk of an acute exposure if not carefully applied. Pesticide-associated calls to poison control centers (PCCs) give counts of the types of pesticides involved in workplace exposures. However, PCC calls are thought to capture only a small percentage of actual exposures, and generally do not record any long-range symptoms or health effects. The NIOSH/AAPCC (American Association of Poison Control Centers) criteria classifies 'pesticides' as: certain disinfectants, fungicides, fumigants, herbicides, insecticides, repellents, and rodenticides. While PCCs capture the types and active ingredients of a pesticide, the circumstance, occupation, and business and industrial identification associated with a call are not systematically known.

Calculation

Definition: Annual number of reported cases of work-related pesticide poisoning; Annual incidence rate of reported cases of work-related pesticide poisoning per 100,000 employed persons age 16 years or older

Numerator: Reported cases of work-related pesticide poisoning

Denominator: Employed persons age 16 years and older for the same calendar year

Note: Counts lower than 10 events do not produce statistically reliable rates

Data Sources: Poison Control Center Data and BLS Geographic Profiles of Employment and Unemployment (https://www.bls.gov/gps/home.htm)

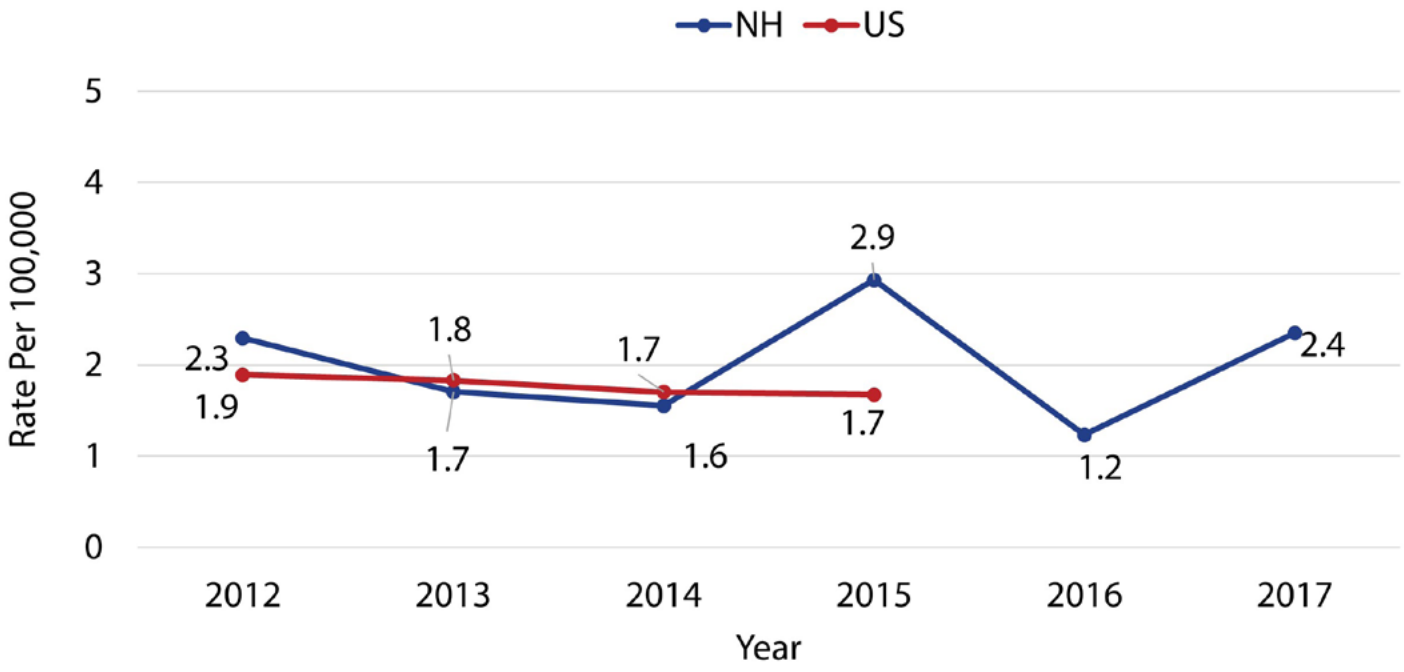
Data

As shown in Table 7, the number of illnesses or injuries due to pesticide exposure has tended to be very low relative to population counts, ranging from 3 to 21 per year, with 2015 showing the highest count. As displayed in Figure 5, the rate for this form of illness/injury has not changed substantially between 2012 and 2017 across New Hampshire (ranging from 2.9 per 100,000 residents age 16+ to 1.2), and was typically close to the US rate which dropped slightly from 1.9 per 100,000 employees age 16+ in 2012 to 1.7 in 2015.

Table 7. New Hampshire Pesticide Associated Illness / Injury, Raw Count, 2000 - 2017

Year	Total
2000	12
2001	9
2002	18
2003	7
2004	14
2005	3
2006	7
2007	8
2008	7
2009	5
2010	13
2011	12
2012	16
2013	12
2014	11
2015	21
2016	9
2017	17

Figure 5. NH & US Pesticide Associated Illness/ Injury, 2012-2017 Rate Per 100,000 Employed Ages 16+



Discussion

Pesticide poisoning is an important occupational health issue because pesticides are used in a large number of industries, which puts many different categories of workers at risk. While the majority of its uses are accounted for in agriculture, workers in other industries are at risk for exposure as well, including commercial applicators of pesticides for pest-control (and workers in pest-controlled buildings, such as teachers), retail workers (due to the availability of commercial pesticides), emergency responders such as fire-fighters and police officers (because they are often the first responders to emergency events and may be unaware of the presence of a poisoning hazard), and aircraft personnel (including flight attendants) due to use of pesticides for insect and disease control.

Tracking pesticide illness informs intervention efforts targeted toward better prevention strategies to protect many worker groups.

Indicator 12: Incidence of Malignant Mesothelioma

Introduction

Malignant mesothelioma, while relatively rare, is a fatal cancer largely attributable to workplace exposures to asbestos. Tracking malignant mesothelioma should be undertaken to document the burden of occupational disease, to design, target, and evaluate the impact of prevention efforts over time, and to identify previously unrecognized settings in which workers may continue to be at risk of asbestos exposure.

Calculation

Definition: Annual number of incident mesothelioma cases, Annual mesothelioma incidence rate (cases per million residents), and Annual, age-standardized, mesothelioma incidence rate (standardized by the direct method to the Year 2000 U.S. Standard population) (cases per million residents)

Numerator: Incident Cases with Mesothelioma (from the New Hampshire Cancer Registry)

Denominator: Resident population age 15 years and older per calendar year

Data Sources: State-wide Cancer Registry Data, 2012-2017

State population estimates from the U.S. Bureau of the Census American Community Survey

Data

In New Hampshire, counts per year are low (ranging from 10 to 24 per year) with limited variation over time. As a result, the rate per million residents has not substantively changed from year to year (ranging from 8.5 to 16.5 per one million residents ages 15 and over). Across the US, the rate decreased slightly overall from 12.1 per one million residents in 2012 to 11.1 in 2015 (last year available for the US).

Discussion

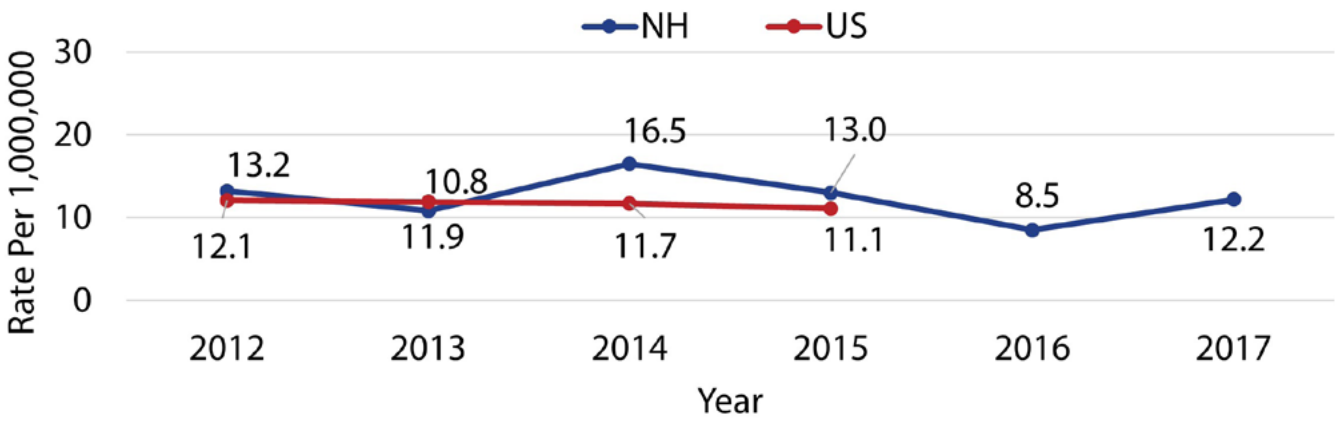
Incidence of mesothelioma has been fairly low since 2000, accounting for less than 25 events per year. Due to variation in these low numbers, we can expect to see the prevalence rate for New Hampshire vary somewhat from year to year. Similar to pneumoconiosis, mesothelioma has a long latency period (10–20 years) so current rates may not be indicative of current exposures.

Because mesothelioma is associated with asbestos exposure, the years of ship building and asbestos use in New Hampshire may have contributed to these higher incidence rates. While practices at the shipyards have since changed and we can expect the rate to decrease in the future, the initial exposure to unsafe working environments may continue to impact New Hampshire residents for years to come.

Table 8. New Hampshire Incidence of Malignant Mesothelioma, 2000 - 2017

Year	Total
2000	18
2001	14
2002	13
2003	14
2004	18
2005	10
2006	17
2007	23
2008	23
2009	11
2010	24
2011	20
2012	16
2013	14
2014	10
2015	18
2016	11
2017	20

Figure 6. NH & US Malignant Mesothelioma, 2012-2017 Age Adjusted Per 1,000,000 Residents Ages 15+



Indicator 13: Elevated Blood Lead Levels among Adults

Introduction

Lead poisoning among adults is primarily due to occupational or hobby-related exposure. Lead adversely affects multiple organ systems and can cause permanent damage. Exposure to lead in adults can cause anemia, nervous system dysfunction, kidney damage, hypertension, decreased fertility, and miscarriage. Workers bringing lead dust home on their clothing can expose their children to lead. The blood lead level (BLL) is the best biological indicator of recent lead exposure.

In 2015, NIOSH designated 5 µg/dL (five micrograms per deciliter) of whole blood, in a venous blood sample, as the reference blood lead level for adults. An elevated BLL is defined as a BLL ≥5 µg/dL. Previously (i.e. from 2009 until November 2015), the case definition for an elevated BLL was a BLL ≥10 µg/dL. The U.S. Department of Health and Human Services recommends that BLLs among all adults be reduced to <10 µg/dL. The U.S. Occupational Safety and Health Administration (OSHA) Lead Standards require workers to be removed from lead exposure when BLLs are equal or greater than 50 µg/dL (construction industry) or 60 µg/dL (general industry) and allow workers to return to work when the BLL is below 40 µg/dL. Data from the National Health and Nutrition Examination Survey (NHANES) show that the average BLL (geometric mean) of all adults in the United States in 2009–2010 was 1.2 µg/dL.[11] Individuals with ongoing elevated BLLs are at greater risk for adverse health effects and are an indication that long-term airborne lead exposure continues to be a problem in lead industries.

All elevated BLLs are reported to NH Division of Public Health Services. Cases presented below represent residents age 16 years or older (working age).

Calculation

Definition: Annual number of residents with elevated BLLs, Annual number of incident cases of residents with elevated BLLs. All reported state residents age 16 years or older, with a blood lead level of > 10, 25, and 40 µg/dL due to occupation. Prevalence and incidence were not calculated for this indicator.

Data Source: NH Department of Health and Human Services, Healthy Homes and Lead Poisoning Prevention Program, Reports of elevated BLLs from laboratories. NH Adult Lead Report at iod.unh.edu/sites/default/files/media/NHOHSP/Pubs/adultbloodleaddatabrieffinal3-3-16.pdf.

Data

Figure 7 shows the counts of elevated BLLs from 2009-2016. The majority of elevated cases are represented by BLL results between 10 and 24 (78% in 2016). Among all cases with a BLL >=10, counts dropped substantially from 180 in 2009 to 100 in 2012 before starting to rise to 124 by 2016. BLLs of 25 and higher have held relatively constant since 2009, though the recent spike in 2016 from 11 to 27 cases should be taken note of; suggesting a closer review of this indicator in future years. Table 9 illustrates the top three most common industries with elevated BLLs as Manufacturing (34%), Construction (32%), and Waste Management and Remediation (19%). All other industry areas made up 4% or less of elevated BLLs across New Hampshire.

Table 10 shows the BLL test results for the top 10 industry sub-categories, including

Figure 7. NH Elevated Blood Lead Levels, 2009-2016

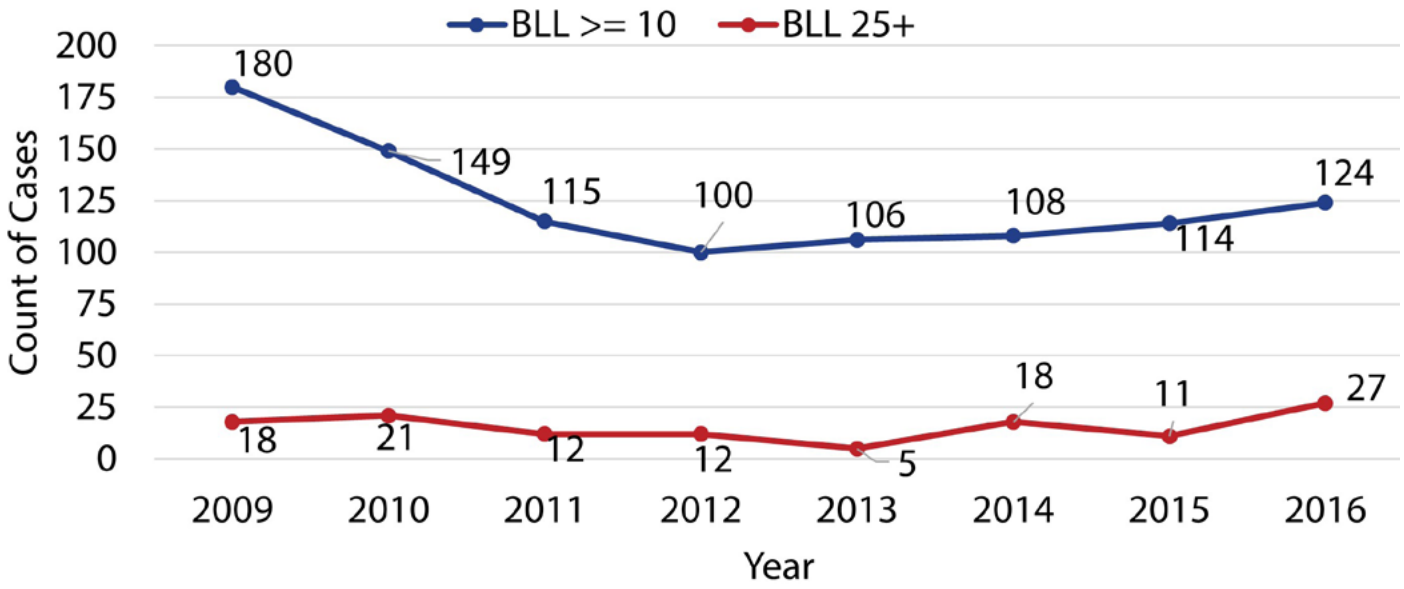


Table 9. Lead Test Results by General Industry, 2014-2016

NAICS General Industry	BLL Test Result (µg/dL)			Total Cases	Percent
	10 to 24	25 to 39	>=40		
Manufacturing	87	8	1	96	34.04%
Construction	70	16	4	90	31.91%
Waste Management & Remediation Services	43	8	2	53	18.79%
Wholesale Trade	8	2	0	10	3.55%
Arts, Entertainment, & Recreation	7	3	0	10	3.55%
Public Administration	4	1	0	5	1.77%
Transportation & Warehousing	3	0	0	3	1.42%
Educational Services	3	0	0	3	1.42%
Other Services (Auto Repair)	3	1	0	4	1.06%
Healthcare & Social Assistance	2	0	0	2	0.71%
Retail Trade	2	0	0	2	0.71%
Professional, Scientific, & Technical Services	1	0	0	1	0.35%
Utilities	1	0	0	1	0.35%
Real Estate Rental & Leasing	1	0	0	1	0.35%
Accommodation & Food Services	1	0	0	1	0.35%

retired individuals. At the time of testing, 50 adults were employed in Industrial Valve Manufacturing, 44 adults were employed as Painting and Wall Covering Contractors, and 44 adults were employed in Remediation Services. In addition, there were 8 individuals reported as Retired. Of these 8, two cases had additional notations of hobbies potentially responsible for the elevated BLL, hunting and firing range.

Discussion

Workers in New Hampshire continue to be at risk for adverse health effects from exposure to lead each year. Out of a total of nearly 8,000 individual adults tested for elevated blood lead levels during 2014-2016, analysis was limited to cases with BLLs at 10 µg/dL and above. This means that several thousand NH residents had BLLs between 5 µg/dL and 10 µg/dL, still higher than the CDC recommended level. Long-term lead exposure continues to be a problem for New Hampshire businesses and industries. OSHA rules impact those with BLLs > 40 µg/dL, however, no such regulation protects those with lower blood lead levels.

Table 10. Top 10 Industry Subcategories (Includes Retired)

NAICS Industry Text	BLL Test Result (µg/dL)		Total Cases
	10 to 24	>=25	
Industrial Valve Manufacturing	44	6	50
Remediation Services	34	10	44
Painting and Wall Covering Contractors	35	8	43
Small Arms, Ordnance, & Ordnance Accessories Manufacturing	25	1	26
Residential Remodelers	8	5	13
Residential Building Construction	9	4	13
Shooting ranges	7	3	10
Electronics parts, recyclable, merchant wholesalers	6	2	8
Highway, Street, & Bridge Construction	6	1	7
Non-ferrous foundry and machine shop	7	0	7

Indicators 14 - 16: Percentage of Workers Employed in Industries and Occupations at High Risk for Occupational Morbidity and Mortality

Introduction

Industries with high risk of morbidity or mortality are based on Bureau of Labor Statistics "total reportable cases incidence rates" for private sector workers during a given year. These industries traditionally have occupational injury and illness rates of more than double the overall national rate. The list of high-risk industries was constructed using an across-the board threshold for "high-risk" based on national data. It is possible that certain industries on this list are more, or less, risky in an individual state. Therefore, this indicator is not a direct estimate of how much risk workers in New Hampshire experience at work. It only provides an aggregate estimate of how many workers are employed in industries which, at the national level, have been deemed high-risk.[12]

A complete list of high-risk industry and occupation categories are provided in the Occupational Health Indicator Guide for Tracking Occupational Health Conditions and their Determinants. Note that indicators are independent of each other. So, for example, a secretary who works in the logging industry would be counted as working in a high-risk industry for mortality even though this person is at low risk of mortality from an occupational standpoint.

Calculation for Indicator 14

Definition: Number of employed persons in high morbidity risk North American Industry Classification System (NAICS) industries, and Percentage of employed persons in high morbidity risk (NAICS) industries.

Numerator: Employed workers, 16 years of age and older, in private sector industries at high-risk for occupational morbidity

Denominator: Employed persons age 16 years or older in all private sector industries for same calendar year

Data Source: U.S. Census Bureau County Business Patterns (CBP)

Data

In 2017, 31,719 New Hampshire workers were employed in industries at high risk for morbidity, accounting for 5.3% of the workforce. In 2018, 31,065 New Hampshire workers were employed in industries at high risk for morbidity, accounting for 5% of the workforce.

Table 11. Morbidity and Mortality by Industry and Occupation

Indicator	2017	2018
Percent employed in industries at high risk for morbidity	5.3%	5%
Percent employed in industries at high risk for mortality	13.8%	14.4%
Percent employed in occupations at high risk for morbidity	14.3%	13.9%
Percent employed in occupations at high risk for mortality	10%	9.7%

Calculation for Indicator 15

Definition: Average number of employed persons in 2014 SOII high-risk occupations, and Percentage of employed persons in 2014 SOII high-risk occupations

Numerator: Employed workers, 16 years of age and older, in private sector occupations at high-risk for occupational morbidity.

Denominator: Employed persons age 16 years or older in all private sector occupations for same calendar year.

Data Source: Bureau of Labor Statistics' Current Population Survey (CPS)

Data

In 2017, 79,046 New Hampshire workers were employed in occupations at high risk for morbidity, accounting for 14.3% of the workforce. In 2018, 78,785 New Hampshire workers were employed in occupations at high risk for morbidity, accounting for 13.9% of the workforce.

Calculation for Indicator 16

Definition: Number of employed persons in high mortality risk 2012 Bureau of the Census Industries; Percentage of employed persons in high mortality risk 2012 Bureau of the Census Industries;

Number of Employed persons in high mortality risk 2010 Bureau of the Census occupations; and Percentage of employed persons in high mortality risk 2010 Bureau of the Census occupations.

Numerator: Employed persons age 16 years or older, in private sector industries and occupations at high risk for occupational mortality.

Denominator: Employed persons age 16 years or older, in all private industries for the same calendar year

Data Source: NIOSH Employed Labor Force Query System (https://wwwn.cdc.gov/wisards/cps/)

Data

In 2017, 86,838 New Hampshire workers were employed in an industry at high risk for mortality, accounting for 13.8% of the employed population. During that same year, 63,194 New Hampshire workers were employed in occupations at high risk for mortality, accounting for 10% of the employed population. In 2018, 93,616 New Hampshire workers were employed in an industry at high risk for mortality, accounting for 14.4% of the employed population. During that same year, 63,079 New Hampshire workers were employed in occupations at high risk for mortality, accounting for 9.7% of the employed population.

Indicator 18: OSHA Enforcement Activities

Introduction

In 1970, Congress established the Occupational Safety and Health Administration (OSHA). The OSHA mission is to "assure so far as possible every working man and woman in the nation safe and healthful working conditions." This includes the authorization to conduct both referral and non-referral inspections on work sites. OSHA cannot inspect all 7 million workplaces covered by the OSH Act each year. The most hazardous workplaces need primary attention. OSHA, therefore, has established a system of inspection priorities in order to make the most positive impact on occupational safety and health, including , imminent danger, catastrophes and fatal accidents, employee complaints, and planned, or programmed, inspections in industries with a high number of hazards and associated injuries.

Calculation for Indicator 18

Definition: Annual number of establishments inspected by OSHA; Estimated percentage of all establishments under OSHA jurisdiction inspected by OSHA; Annual number of employees whose work areas were inspected by OSHA; and Estimated percentage of all employees under OSHA jurisdiction whose work areas were inspected.

Numerator: Total number of OSHA inspections

Total number of employed persons covered by OSHA inspections

Denominator: Estimated number of establishments under OSHA jurisdiction

Estimated number of employees under OSHA jurisdiction for the same calendar year

Data Sources: OSHA annual reports of total inspections conducted, and the number of workers covered by these inspections

Bureau of Labor Statistics' data on Covered Employers and Wages (commonly referred to as the ES-202/QCEW data http://www.bls.gov/cew/home.htm) for the number of workers employed and establishments in the public and private sectors

Data

Inspections of employees and establishments have varied substantively over the years with a recent sharp climb

Table 12. Estimated annual number and percentage of private sector establishments and employees in New Hampshire inspected under OSHA jurisdiction 2012–2017

Year	Establishments			Employees		
	Number of Inspections	Eligible for Inspections*	Percent Inspected	Number Inspected	Eligible for Inspection*	Percent Inspected
2012	370	46,625	0.8%	7,079	532,863	1.3%
2013	372	47,145	0.8%	9,408	539,608	1.7%
2014	377	47,600	0.8%	9,055	546,917	1.7%
2015	363	48,353	0.8%	11,742	557,866	2.1%
2016	279	49,065	0.6%	7,960	568,454	1.4%
2017	323	49,553	0.7%	8,308	574,620	1.4%

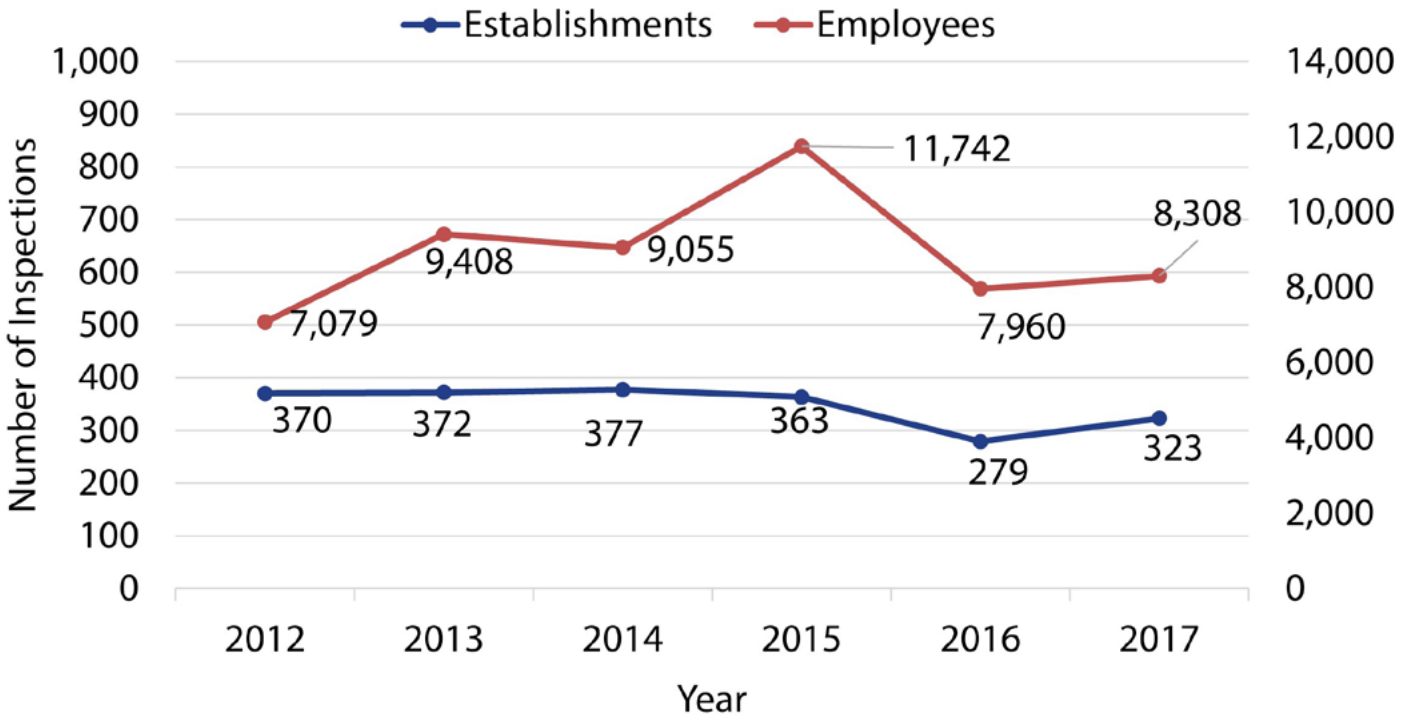
in the number of employees inspected between 2012 (7,079) to 2015 (11,742) before dropping again to 8,308 in 2017. During this same period, the number of establishments inspected has dropped from 370 (2012) to 323 (2017). When expressed as a percent, only 0.6% to 0.8% of establishments are inspected yearly and between 1.3% and 2.1% of employees are inspected.

Discussion

This indicator only measures enforcement activity. Because OSHA may conduct multiple inspections of the same establishment during the calendar year, the percentage of establishments inspected may be slightly overestimated. In addition, if OSHA conducts multiple inspections of the same worksite during the year, the number of workers covered by OSHA inspections may be over counted.

OSHA enforcement activities may correlate with workplace health and safety benefits, such as a reduction in the number of workplace injuries or illnesses. In some respects, OSHA enforcement activities may serve as a leading indicator of workplace safety, since the potential for a workplace to be inspected by OSHA may provide an incentive for employers to give more attention to workplace health and safety issues.

Figure 8. OSHA Inspections, 2012-2017



Indicator 19: Workers' Compensation Awards

Introduction

Workers' compensation claims are reviewed to establish whether the reported medical condition is work-related. Accepted claims represent known work-related injuries and illnesses and are often more severe cases. The total and average amounts of benefits paid provide an estimate of the burden of these events, which can help justify prevention programs and activities.

Calculation for Indicator 19

Definition: Total amount of workers' compensation benefits paid; and Average amount of workers' compensation benefits paid per covered worker

Numerator: Total amount of workers' compensation benefits paid

Denominator: Number of workers with workers' compensation coverage for the same calendar year

Data Source: National Academy of Social Insurance (https://www.nasi.org/research/workers-compensation)

Reports: Workers Compensation: Benefits, Coverage, and Costs.

Data

In 2010, workers' compensation awards to injured New Hampshire employees totaled $251,667,000. That is an average cost of $424 per covered New Hampshire employee. By 2018, the total amount of workers' compensation paid decreased to $209,489, with an average cost per covered worker also decreasing to $322. The benefits include payments for medical care and wage-replacement to workers or their surviving dependents. The number of workers covered by workers' compensation insurance has wavered between 2010 and 2018, beginning with 593,000 in 2010 and climbing up to 651,000 in 2018.

Discussion

This is a gross indicator of the burden of occupational injury and illness. It does not include human, noneconomic costs or economic costs associated with occupational injuries and illnesses. These data are more appropriate for evaluating trends within a state than for making comparisons between states because of differences in wages and medical costs, the compensation determination, industry types and risks, and policies on permanent disability payments. Even within a state, changes in policies, wages and medical care expenses must be considered.

As a part of this review, it is important to adjust costs based on inflation. The last column in Table 13 adjusts the benefits paid per covered worker based on the CPI-U for 2018. With this adjustment, workers benefits paid on average $167 less in 2018 than 2010, a 34% drop in coverage during a time of rapidly increasing health care costs.

Table 13. Workers' Compensation Benefits Paid per Covered Job, New Hampshire 2010-2018

Year	Workers' Compensation			
	Total Benefits Paid	Covered Jobs	Benefits Paid per Covered Worker	Benefits Paid per Covered Worker Adjusted by CPI-U for 2018
2010	$251,667,000	593,000	$424	$489
2011	$231,800,000	598,000	$388	$433
2012	$231,235,000	605,000	$382	$418
2013	$225,500,000	611,000	$369	$398
2014	$212,778,000	619,000	$344	$365
2015	$213,923,000	629,000	$340	$360
2016	$205,663,000	640,000	$321	$336
2017	$209,535,000	646,000	$324	$332
2018	$209,489,000	651,000	$322	$322

Indicator 21: Asthma among Adults Caused or Made Worse By Work

Introduction

NH has some of the highest rates of adult asthma in New England, affecting 13.2% of NH adults in 2017, which is up from 11.2% in 2011.[13]

Work-related asthma is asthma triggered by an exposure at work. Many asthma triggers can be found in the workplace. Over 300 known or suspected substances in the workplace can cause or worsen asthma. Avoiding triggers can prevent asthma from getting worse.[14]

The proportion of work-related asthma among persons with current asthma may differ within various industry and occupation groups. Estimating the burden of asthma caused or made worse by work can be useful to prioritize and guide prevention strategies within high-risk industries and occupations.

Calculation

Definition: Weighted estimate of the number of ever-employed adults with crrent asthma who report their asthma was caused or made worse by work; and Estimated percent of ever-employed adults with current asthma who report that their asthma was caused or made worse by work.

Numerator: Ever-employed adults with current asthma who report that their asthma was caused or made worse by exposures at work.

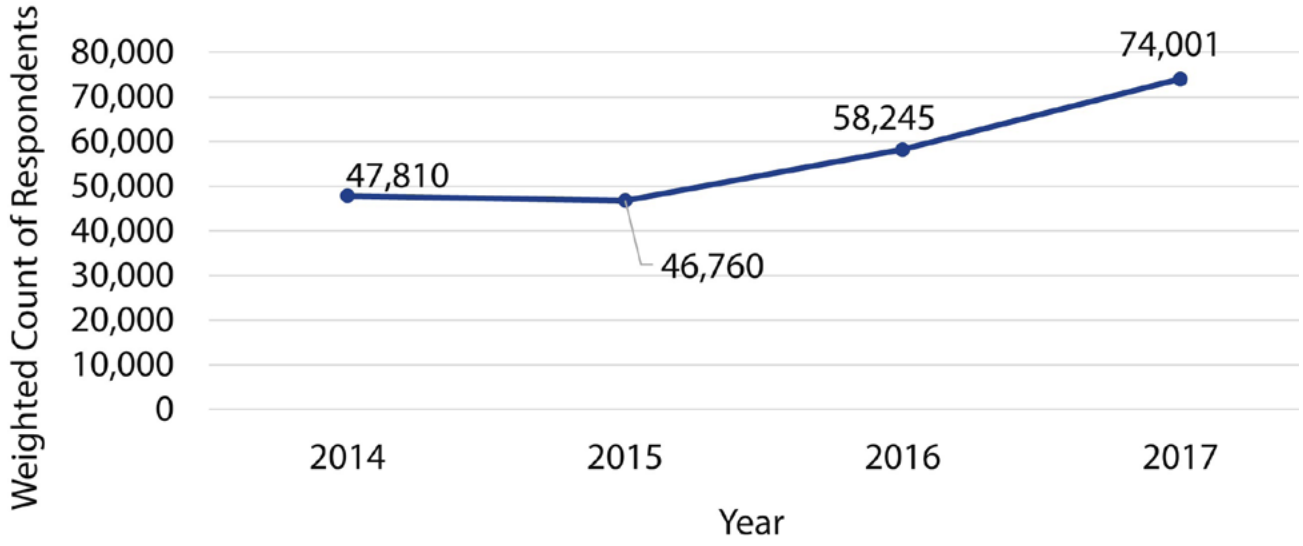
Denominator: Ever-employed adults (18 years or older) with current asthma.

Data

Based on results from the NH BRFSS survey, estimates on the number of individuals currently living with asthma has increased 55% from 2014 (47,810) to 2017 (74,001), see Figure 9.

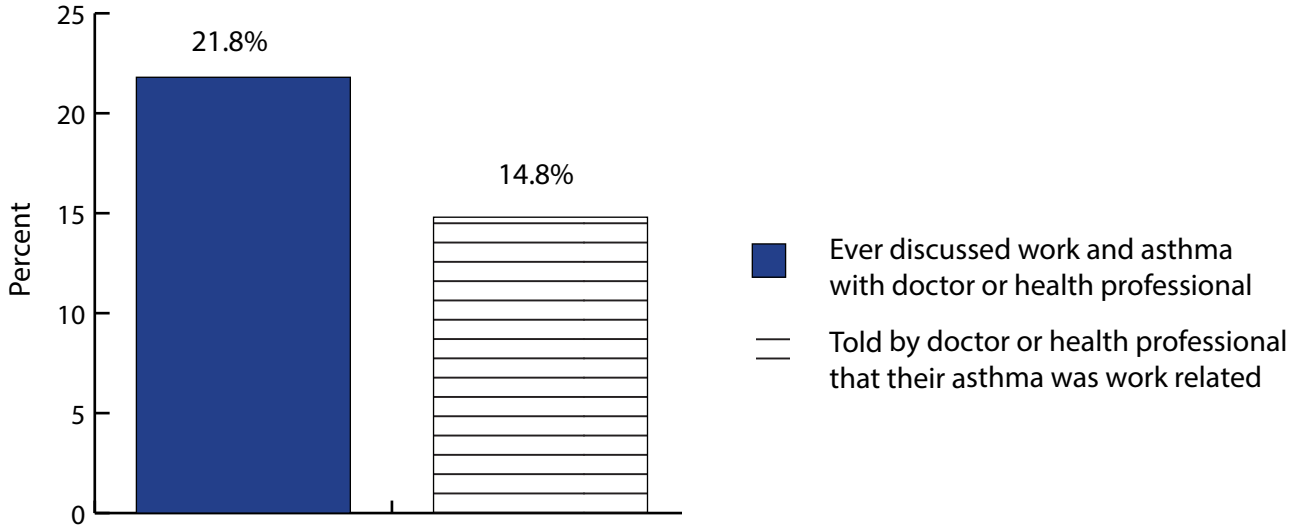
According to the combined results from

Figure 9. New Hampshire Current Asthma, 2014-2017



Data Source: NH Behavioral Risk Factor Surveillance System Survey Call Back Survey (BRFSS)

Figure 10. Work-Related Asthma



the 2014-2016 Asthma Call Back Survey, a little more than one in five (21.8%) reported that they had ever discussed work and asthma with their doctor or health professional. From the same data, 14.8% of adults reported they had ever been told by a doctor or other health professional that their asthma was work-related.[15]

Figure 11 provides a closer look at which occupations account for the most cases of asthma in the State. More than one in ten are involved in Healthcare Support (14%), Personal Care and Service (13%), Education, Training, and Library (12%), Healthcare Practitioners and Technical (11%), Office and Administrative Support (11%). About one in 14 are involved in Food Preparation (10%), Community and Social Services (9%), Sales (9%), Production (9%), Computers and Mathematical (8%), Architecture and

Engineering (8%), Management (8%), Transportation and Material Moving (7%), and Legal (7%). Other occupation areas account for one in 20 or less of asthma cases.

So, while those involved in Healthcare Support make up only 4% of those impacted by asthma across the State, members of this group were more likely than others (one in seven or 14%) to report occurrence of asthma.

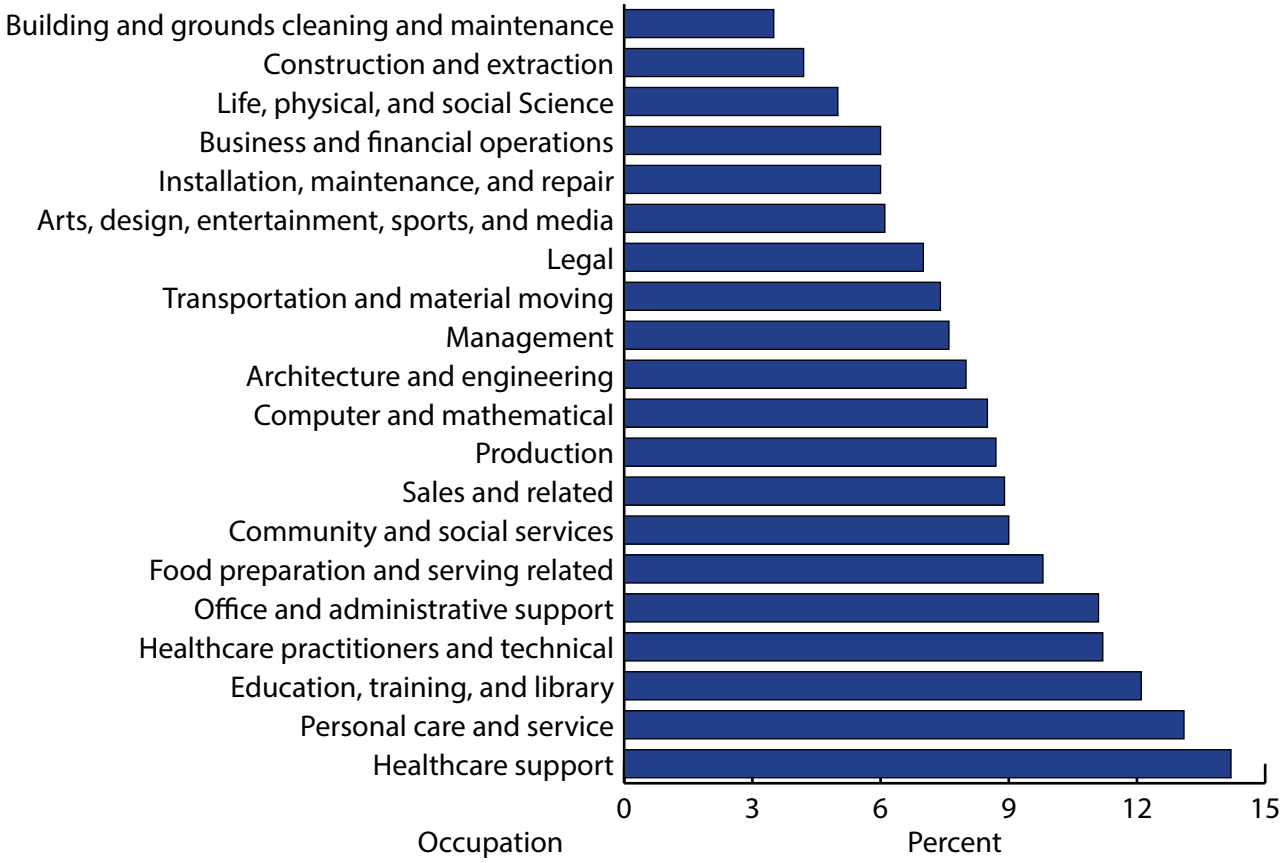
Considering industry, see Figure 12, more than one in ten workers from Accommodation and Food Services (13%), Educational Services (12%), Health Care and Social Assistance (12%), and Arts/ Entertainment/Recreation (10%) report that they currently have asthma.

Discussion

Asthma continues to be on the rise in New Hampshire. The three industries with the highest proportion of NH workers reporting current asthma include Accommodation and Food Services, Educational Services, and Healthcare and Social Assistance. Occupations with the highest prevalence for asthma include Healthcare Support, Personal Care and Service, Education, and Training and Library.

Service oriented occupations represented in our results are potentially exposed to a number of well-known asthma-related substances in the workplace, including disinfecting agents, cleaning products, mold, dust mites, pesticides, cosmetic products and bleaches. There are also

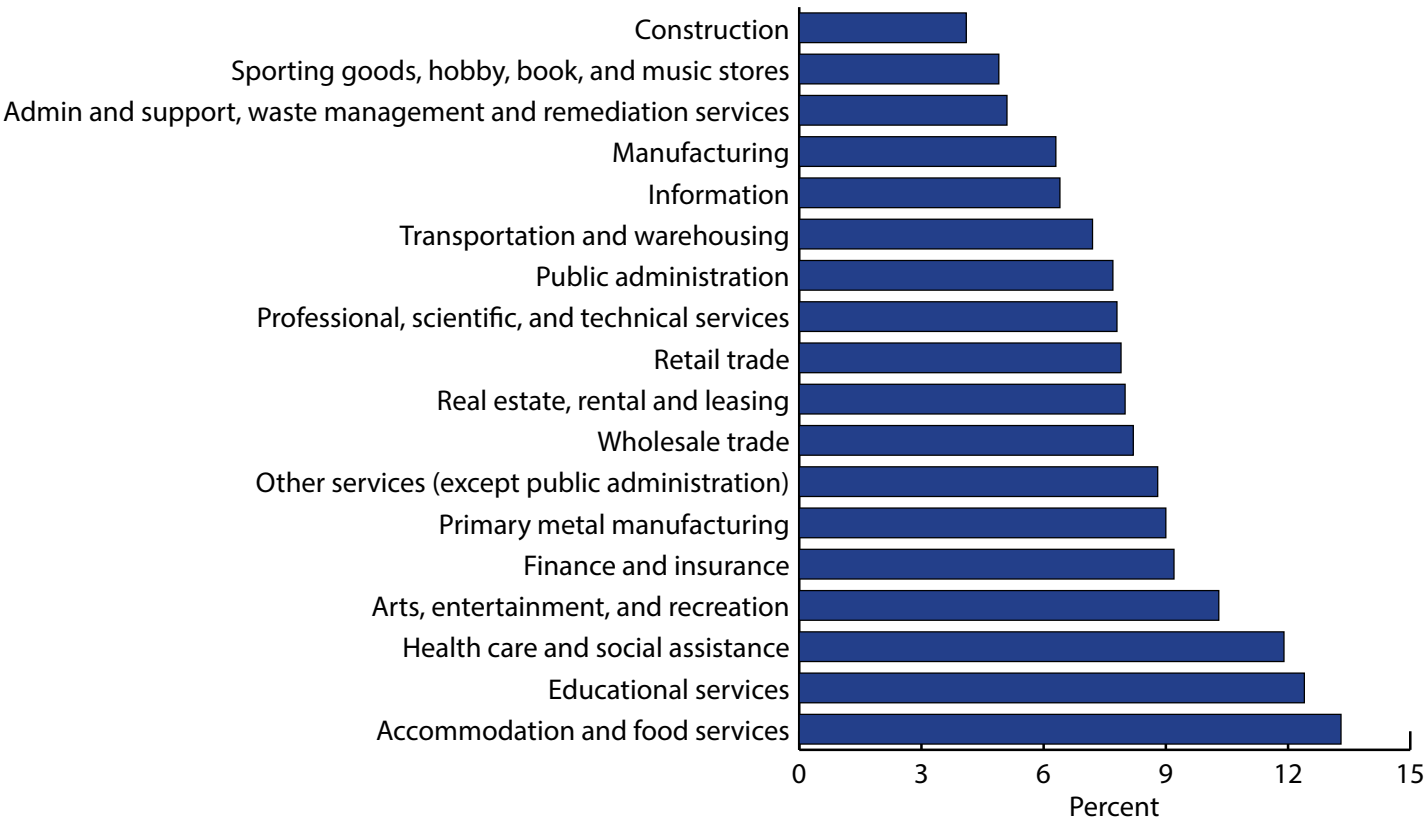
Figure 11. Percent of NH Workers Reporting Current Asthma by Occupation, BRFSS-ACB, 2014-2016



Data Source: NH Behavioral Risk Factor Surveillance System Survey Call Back Survey (BRFSS)

environmental substances that may be encountered at work that can make asthma symptoms worse, including tobacco smoke, air pollution, and allergens from plant pollen, animal dander, and perfumes. Workers who are exposed to both environmental and workplace irritants are at higher risk. In order to further investigate the relationship between asthma and work in the future, ensuring the capture of industry and occupation data in the BRFSS will be crucial. This information will help to expedite efforts to reduce exposures to asthmagens in workplaces where it is most prevalent. It can help improve prevention and control strategies to workers who, because of their occupation or the materials they handle, are at high risk for the burden of work-related asthma.

Figure 12. Percent of NH Workers Reporting Current Asthma by Industry, BRFSS-ACB, 2014-2016



Data Source: NH Behavioral Risk Factor Surveillance System Survey (BRFSS)

Conclusions

The indicators presented in this report provide an overview of the occupational health status of New Hampshire workers over a span of years. However, these data are far from complete and do not give an accurate picture of the true nature of occupational illnesses and injuries in New Hampshire. Due to the limitations inherent with data sources used, many of these measures are conservative estimates of work-related injury and illness in New Hampshire and nationally. Some trends suggest a decrease in many of the occupational injury and illness rates in New Hampshire, but due to chronic underreporting and lack of enforcement at the federal and state level, we are not always able to document the true incidence and severity of the problem.

Data are often unavailable to specifically identify the industries at highest risk and to document the type of industry or occupation a person might work in. Detailed information about subgroups of the working population at risk and how the injury occurred are also absent from these data systems. Many administrative datasets do not collect industry and occupation variables. Information about less common injuries and illnesses is also poorly estimated.

Given what we do know, however, we can at least identify higher risk populations and industries to target for prevention measures. We must be proactive as industries and jobs change in our State and vigilant in collecting accurate, timely and meaningful data to better inform our intervention efforts. We will continue to collaborate with our partners and key stakeholders to ensure that resources are invested in occupational health surveillance at the state level.

Recommendations

Interventions in the workplace should focus on a Total Worker Health approach, including the assurance of a safe and healthy place to work and the infrastructure to support a work-life balance that promotes employee well-being and contributes positively to the workplace.[16]

Numerous opportunities exist for further exploration and analysis to draw conclusions on risk factors and the status of occupational health and safety in New Hampshire. The collection and reporting of baseline data contained in this report improve the NH OHSP's ability to characterize the risks associated with preventable occupational injuries and illnesses, to work with our partners to plan and implement prevention strategies, and to recognize and respond to hazards and health conditions affecting New Hampshire's workforce. We will continue to build public health surveillance capacity by integrating occupational health and safety data and messaging into existing public health surveillance and outreach programs. We will also continue to work with our partners to use the occupational health indicators to investigate the demographic and occupational characteristics of vulnerable and hard to reach populations and to reduce occupational health injuries, illnesses, and conditions overall.

Workplace interventions should focus on a Total Worker Health approach...

References

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