Occupational Disease in Connecticut, 2020

This report covers data for 2018
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State of Connecticut Workers' Compensation Commission,
Stephen M. Morelli, Chairman,
As part of the Occupational Disease Surveillance Program, in cooperation with the Connecticut Department of Labor and the Connecticut Department of Public Health

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A. Executive Summary

This report focuses on occupational *disease* reports for 2018 and recent trends in reported cases. It does not address traumatic occupational *injuries*; data for Connecticut injuries can be found at the national Bureau of Labor Statistics at https://www.bls.gov/iif/oshstate.htm. Occupational diseases are typically harder to detect than injuries, since they often occur over longer periods of time, and can have multiple (including non-occupational) risks. Therefore, this report uses data from three primary sources as a way of establishing a more complete picture of occupational disease: Workers' Compensation First Report of Injury cases (WCC), physicians' reports under the Occupational Illnesses and Injury Surveillance System (OIISS), and the Bureau of Labor Statistics/Connecticut Dept. of Labor Annual Survey (BLS/CTDOL).

Table A-1: Summary of Diseases Reported by Systems, 2016-2018

Type of Disease	BLS/CTDOL			WCC			OIISS (Physicians)			Unique Cases*		
	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
Lung & poisonings	200	100	200	315	301	433	133	155	241	431	431	621
Lead **							330	292	268	330	292	268
Skin	500	400	300	193	222	183	158	168	118	313	348	273
Musculoskeletal***	***	***	***	2,916	2,501	2,429	633	562	603	3,430	2,918	2,869
Infectious				1,155	1,398	1,194	1513	1365	1148	2,408	2,384	2,148
Hearing loss	300	200	400	105	103	81	12	12	15	115	111	92
Other***	1,300	900	1,000	770	810	895	238	208	195	978	973	1057
Total**	**2,300**	**1,700**	**1,800**	**5,454**	**5,335**	**5,215**	**3,017**	**2,762**	**2,588**	**8,005**	**7,457**	**7,328**

Sources: BLS: Bureau of Labor Statistics/CTDOL survey; WCC: CT Workers' Compensation Commission (First Report of Injury)
OIISS: Occupational Illnesses and Injury Surveillance System (physician reports)
*Unique cases are the combined total of workers' compensation cases and physician reports, adjusted for cases reported to both systems
**Laboratory reports of adult blood lead levels are from the Connecticut Adult Blood Lead Epidemiology and Surveillance program
*** Musculoskeletal Disorders (MSD) definitions vary somewhat between systems. MSD is included in the "other" category for BLS/CTDOL data
****BLS data sometimes does not sum to total due to rounding errors in the survey reporting

Table A-1 summarizes the data from the three different sources for the last 3 years. The BLS/CTDOL survey rounds to the nearest 100, so the subcategories do not always sum exactly to the total and yearly changes should be viewed with caution. The OIISS draws from physician reports for known or suspected occupational illnesses and are required of all physicians but in practice are mostly from the network of occupational health clinics (and therefore are likely to over-represent illnesses from those hospitals).

Approximately 1,800 cases of occupational diseases were reported under the BLS/CTDOL survey, 5,215 through the workers' compensation first report of injuries and 2,588 for OIISS (including lead reports) for 2018. The number of reports in 2018 increased 6% from 2017 in the BLS system, decreased by 2% for workers' compensation, and decreased 6% for physicians' reports. Reports from workers' compensation and physicians combined (adjusting for matching cases reported to both systems) totaled 7,328 unique reports (including the 268 lead poisoning cases from laboratory reporting), a decrease of 2% from the previous year. Statistically adjusting for estimated unreported cases produces an estimate of approximately 25,500 cases of occupational illnesses in Connecticut for 2018 (Table B1).

Musculoskeletal disorders (MSD) such as Carpal Tunnel Syndrome and tendonitis dominated the workers' compensation reports, accounting for 47% of reports (26% of the physician reports, excluding lab-based lead cases). MSD has not been broken out by BLS since 2002, but MSD cases are presumed to be the main portion of the "other illness" category, which is by far the largest BLS category. **Respiratory diseases and poisonings,** which include respiratory conditions and lung disease such as asthma, as well as poisonings such as from

carbon monoxide and lead, accounted for 8% of cases for workers' compensation and 10% of physician reports. **Infectious diseases**, which include bloodborne diseases such as HIV and hepatitis, Tb, scabies, Lyme disease (and including exposures as well as diagnosed disease) accounted for 23% in workers' compensation but 49% of physician reports (infectious disease is categorized under "other disease" in BLS; also, needlesticks and other bloodborne exposures with lost time are counted under injuries rather than illness in BLS). "Other diseases", which includes infectious diseases and MSD in BLS, physical hazards such as heat and cold exposures, allergies, cancer, and others in Workers' Compensation and physician reports, accounted for 17% (WC) and 9% (physicians). **Skin conditions** accounted for 4% (WC) and 5% (physicians). **Lead poisoning** is tracked separately and is based on laboratory reports to the Connecticut Department of Public Health; very few of those cases are reported to the other systems.

There was an overall illness rate of 14.1 cases per 10,000 workers based on the BLS survey, 9% higher than the previous year. The CT rate was 8% lower than the average national rate of 15.4. The highest specific sector rate was for local government at 38.4 cases per 10,000 workers, followed by manufacturing at 30.8 and health care at 20.6. Workers' Compensation was somewhat similar, with the highest rates for Government (77.6), Manufacturing (44.2), and Trade (31.2).

Overall (based on Workers' Compensation reports), 50% of reports were for women, but this varied by type of case, with a higher proportion than average for infectious diseases (66% women) but lower for all other types of illness. Based on workers' compensation reports, occupational illnesses occurred more in older workers, with almost half (46%) involving workers between 40 and 59 years old (Table D-2), with 21% involving workers in their 30's, and 18% in their 20's. Based on physician reports where **race and ethnicity** were known, 16% of cases were black and 12% Hispanic.

The most common specific diagnoses for musculoskeletal disorders were epicondylitis (tennis elbow) with 18% of the cases, carpal tunnel syndrome (10%), nerve disorders (10%), strains and sprains (9%), and tenosynovitis (8%). The most common specific **causes** (aside from the commonly used terms "repetition" or "cumulative") for MSD in workers' compensation reports were lifting and carrying, tool use, computer use and data entry, and pushing or pulling.

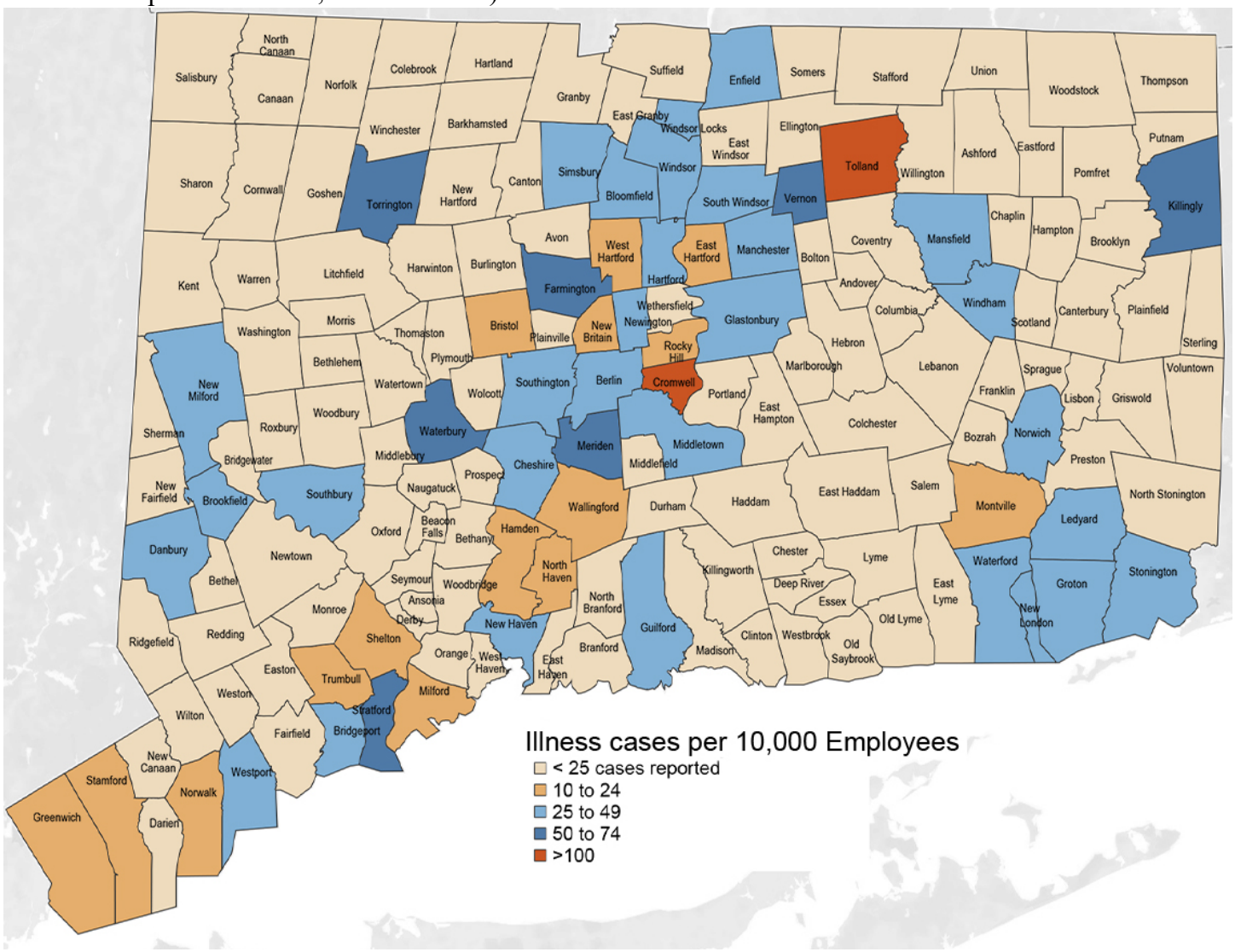
Nonspecific respiratory illnesses were the most common type of condition, with 26% of reports, followed by asthma or reactive airways dysfunction syndrome (RADS) with 8%, cough (7%), poisonings such as from carbon monoxide, lead, or mercury (5%) and asbestos disease or exposures (5%). Exposures associated with respiratory conditions included fumes (including gas, carbon monoxide, metals, and lead), chemicals (including solvents, cleaning chemicals, paint, and oil), mold or indoor air quality, and smoke.

Infectious disease and exposures, based on workers' compensation reports, included 995 reports of potential exposure to bloodborne pathogens (including reports of exposure to HIV/AIDS and Hepatitis C), including 369 needlesticks or sharps exposures, accounting for 83% of all infectious disease reports. There were 72 reports of tick bites, rashes from tick bites and/or a diagnosis of Lyme disease attributed to occupational exposures. There were 30 cases of tuberculosis infection, usually determined by PPD conversion (which is a skin test based on immune response) or based on exposure to patients or clients with TB.

Rates of illness varied widely by **municipality** based on workers' compensation reports. Often the highest rates appear to be related to having large employers in high rate industries. There were 54 towns and cities with at least 25 cases of occupational disease reported to workers' compensation, and the overall state mean (average) was 31.2 cases per 10,000 employees. For towns with at least 25 cases, Cromwell had the highest rate at 123 cases per 10,000 employees, almost 4 times higher than the state average. Cromwell was followed by Tolland (117), Vernon (72), Killingly (68), Meriden (57), Stratford (57), Waterbury (55), Torrington (51), and Farmington (50).

Figure A-1, a map of the rates by town is below, with rates listed in Table D-6. The map is based on 25 or more cases (prepared by Connie Cox Cantor at the Center for Population Health of UConn Health).

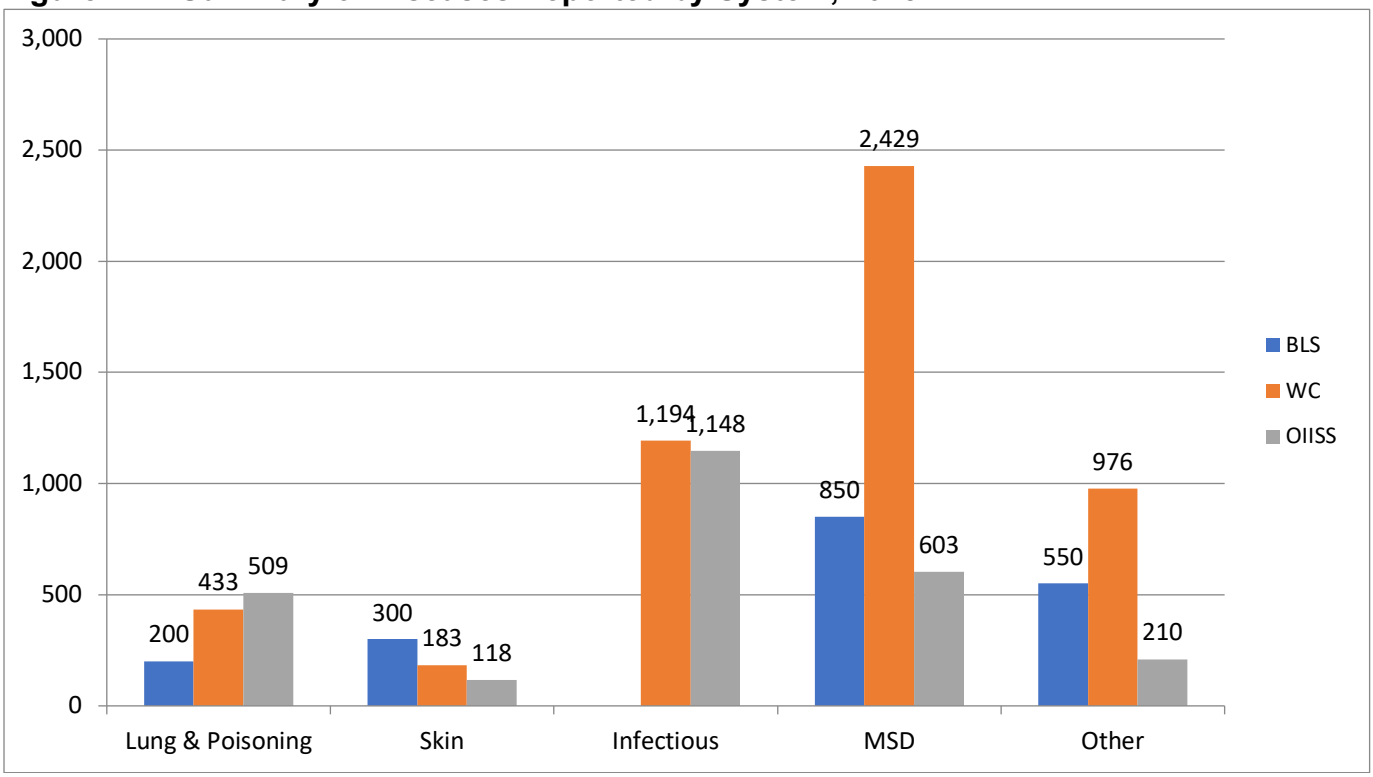
Figure A-1: Map of Occupational Illness Rates by Town, 2018 (map prepared by Connie Cox Cantor, Center for Population Health, UConn Health)



B. Summary of Diseases

Figure B-1 shows the totals by disease category for 2018 for three reporting systems: the Bureau of Labor Statistics/CT Dept. of Labor (BLS) survey; Workers' Compensation (WC) First Reports of Injury; and the Occupational Illnesses and Injury Surveillance System (OIISS) which are physician reports. Categories have been combined to make comparisons as close as possible; however, differences in the three systems' definitions make comparisons incomplete. For example, Workers' Compensation only requires reporting for lost-time or restricted duty cases, while the other two reporting systems require all occupational illnesses to be reported, although the BLS data is based on a sample of employers. Although all physicians are legally required to report occupational disease, only a small minority report, usually from the occupational health clinic network. Lead reports from the laboratory reporting system are combined into "lung and poisoning" for the OIISS. The BLS/CTDOL system discontinued collecting "repetitive trauma" as a category in 2002, so MSD has been estimated based on the proportion of "other illness" in the 2001 dataset, which was 85%. See Appendix 1 for a complete description of methods.

Figure B-1: Summary of Diseases Reported by System, 2018



Notes: BLS=Bureau of Labor Statistics/ConnOSHA survey; WC=Workers' Compensation First Report of Injury Database; OIISS= Physicians reports from the Occupational Illnesses and Injury Surveillance System combined with laboratory reports of lead poisoning. MSD for the BLS database was estimated using prior proportions from "other" (85%) since they are no longer broken out by BLS.

The Workers' Compensation database showed the highest number of cases, with 5,215 total cases reported, followed by the physicians' reporting/laboratory database with 2,588 cases, and by the BLS survey with 1,800. There is a low amount of overlap between these systems, so total cases are higher than these figures might indicate (see section below on case matching estimates).

Case Matching and Total of Unique and Estimated Cases of Occupational Illness

There is a fairly low number of cases that are reported to both workers' compensation and by physicians although in theory they should generally be reported to both. In order to get a better estimate of the total number of cases of occupational illness in Connecticut, cases were matched by name, employer, and type of illness for the WC and OIISS reports (Table B-1). This allows a sum of unique cases that were reported to at least one of the two systems and an estimate of cases that were not reported to either. Individual level BLS/ConnOSHA data

from their survey was not available for matching, and lab-based lead reports did not have enough detail to match, so BLS and lead reports are not included.

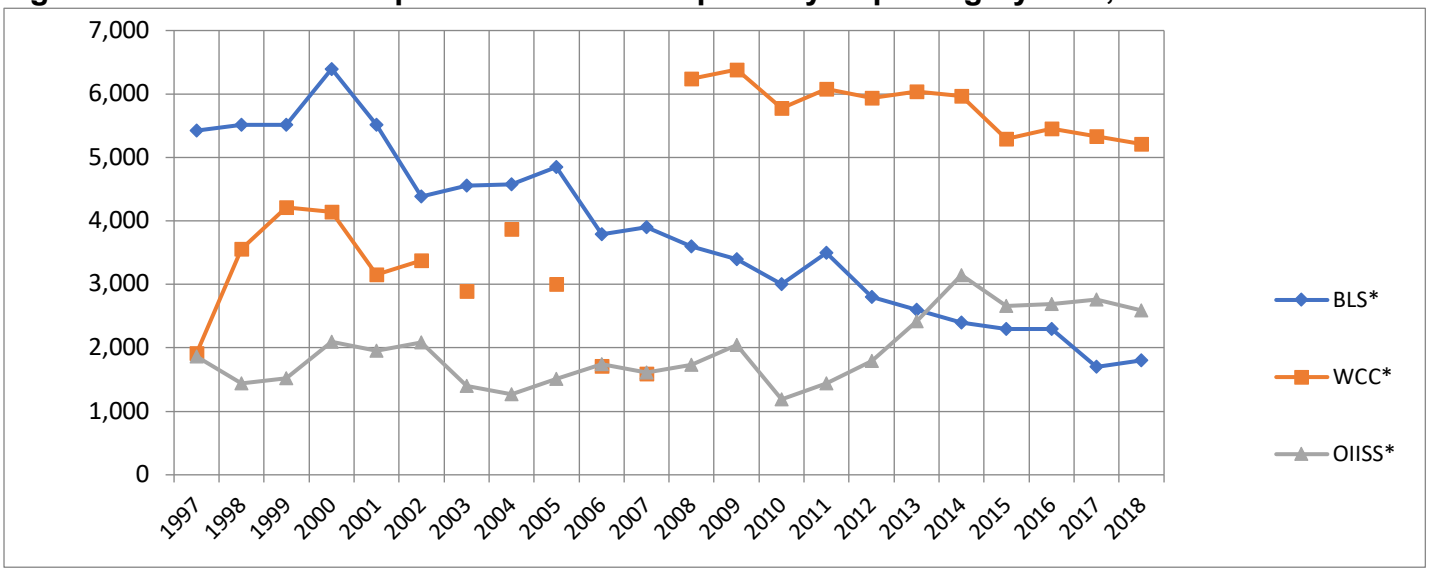
Table B-1: Matched, Unique, and Estimated Total Cases of Occupational Illness, CT, 2018

Illness Type	Matched	WC Only	OIISS Only	Unique Cases	Estimated Unreported	Estimated Total
Infectious	194	1,000	954	**2,148**	4,918	**7,066**
Lung	53	380	188	**621**	1,348	**1,969**
MSD	163	2,266	440	**2,869**	6,117	**8,986**
Other	33	862	162	**1,057**	4,232	**5,289**
Skin	28	155	90	**273**	498	**771**
Hearing loss	4	77	11	**92**	212	**304**
Total*	**475**	**4,740**	**1,845**	**7,060**	**18,411**	**25,471**

*Total is different than the sum of the categories due to rounding errors in estimating subcategories. Does not include lab-reported lead cases.

There was a total of 475 cases that were reported to **both** workers' compensation (WC) and by physicians to OIISS; 1,845 cases were reported only to the physician report system, and an additional 4,740 cases were reported only to the workers' compensation system. This gives a total of 7,060 unique cases that were reported to at least one of the two systems, with approximately 2,100 infectious cases, 600 lung cases, 3,000 musculoskeletal (MSD) cases, 300 skin conditions, 100 hearing loss cases, and 1,000 "other" cases. Using a statistical method called "capture-recapture" analysis, an estimate was made of the unreported cases (cases not reported to either workers' compensation nor by physicians), which was about 18,500 cases. When combined with the unique cases, this provides an estimate of approximately 25,500 occupational illness cases in Connecticut for 2018.

Figure B-2: Trend in Occupational Disease Reports by Reporting System, 1997-2018



Notes: BLS= Bureau of Labor Statistics/CTDOL survey; WCC= Workers' Compensation First Report of Injury; OIISS= Occupational Illness and Injury Surveillance System (physician reports).

***Notes:**

BLS figures starting in 2002 not comparable to prior years due to changes in data collection.

WCC data was not complete for 2003 and 2005-2007.

OIISS was not complete for 2010 and did not include most bloodborne infectious diseases/exposures in 2011.

Longer term trends in number of reports are complex (Figure B2) and should be interpreted with caution due to some changing definitions as well as incomplete data for some years (see notes for figure). BLS trends generally were declining then leveling since 2015; Workers' Compensation data generally declining since 2008 (the Workers' Compensation database appears incomplete in 2003 and 2005-2007); and physician reports (OIISS) fluctuating but generally increasing since 2010 with a peak in 2014 and then a slight drop and leveling since 2015.

C. Bureau of Labor Statistics/Connecticut Dept. of Labor Surveys

In cooperation with the U.S. Bureau of Labor Statistics (BLS), the Connecticut Department of Labor's (CTDOL) Office of Research conducts an annual survey of employers for job-related injuries and illnesses; data on **injuries** in Connecticut can be accessed through the national Bureau of Labor Statistics website at https://www.bls.gov/iif/oshstate.htm. Our report focuses on **illnesses** and includes data from CTDOL that is not published in that report. Since these statistics are based on a survey rather than a census, numbers and rates are estimated and rounded. The Connecticut Department of Labor acknowledges that the BLS/CTDOL survey under-counts occupational diseases, particularly chronic diseases, since these are frequently not recognized nor reported.

Occupational Illnesses in 2018

There were approximately 1,800 reported cases of occupational illnesses in 2018 (Table C-1 and Figure C-1) with an overall rate of 14.1 per 10,000 workers, a 9% increase from the prior year.

Table C-1: Occupational Disease by Type, BLS/CTDOL 2017-2018

	2017		2018		% Change in Rate
	Cases	Rates	Cases	Rates	
Respiratory	100	1.1	200	1.4	27%
Skin	400	2.9	300	1.9	-34%
Hearing Loss	200	1.9	400	3.0	58%
Poisonings		0.4			
Other*	900	6.7	1,000	7.8	16%
Total	**1,700**	**12.9**	**1,800**	**14.1**	**9%**

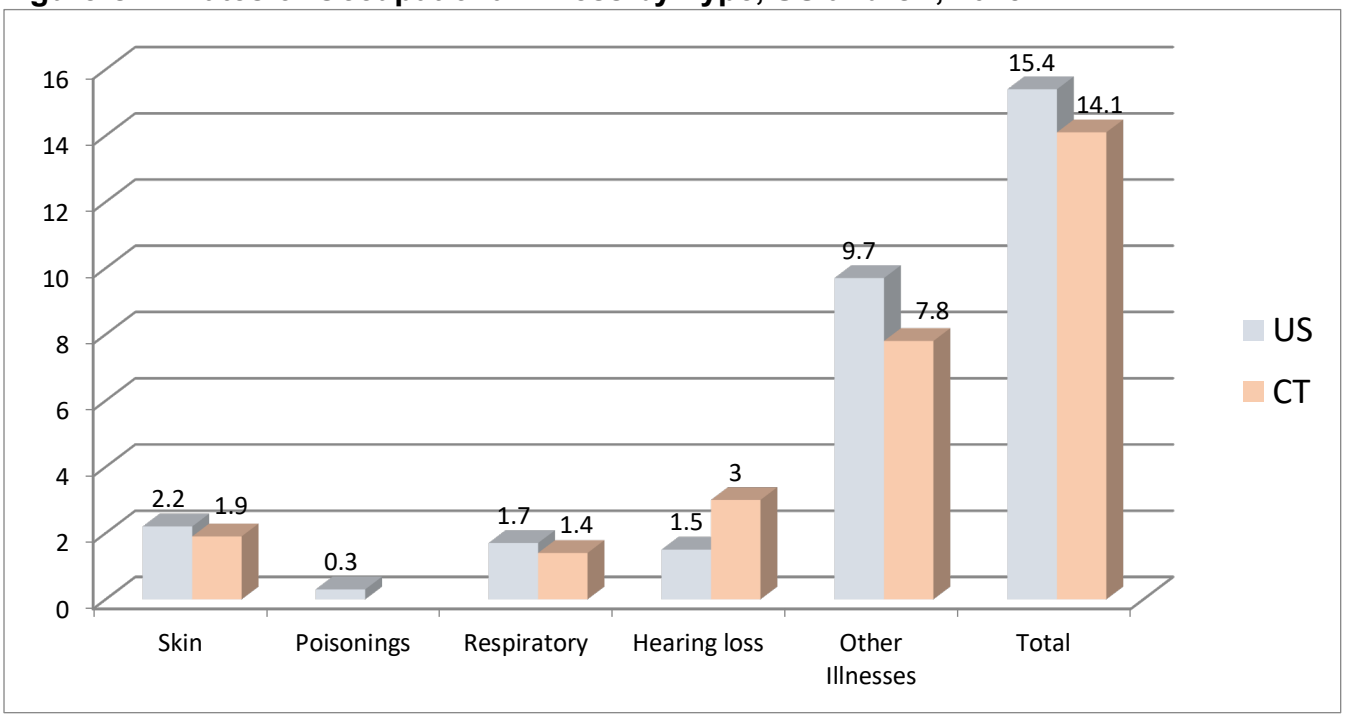
Source: BLS/CTDOL; Rates are per 10,000 workers, adjusted for hours worked. The data includes public sector. Blanks indicate numbers that are too small or unreliable to publish. Total Illnesses may differ from sum due to rounding errors.
*Musculoskeletal disorders (MSD) is categorized under the "Other" category by BLS.

Overall rates for Connecticut in 2018 were lower than the U.S., driven primarily by lower rates of Other Illnesses, which includes repetitive trauma (Figure C-1). The overall Connecticut rate (14.1 cases per 10,000 workers) was 8% lower than the U.S. rate of 15.4. Rates increased in 2018 for both Connecticut and the U.S.

Connecticut's illness rate of 14.1 cases per 10,000 workers ranked 20th highest out of 43 states with publishable data (19 states had higher rates and 23 had lower rates). Maine had the highest rate of 30.5 and the Delaware had the lowest at 7.2. Private sector rates for occupational illness were 11.9 in Connecticut and 12.6 nationally. Connecticut's public sector rate was 32.0; the U.S. public sector rate was 34.0.

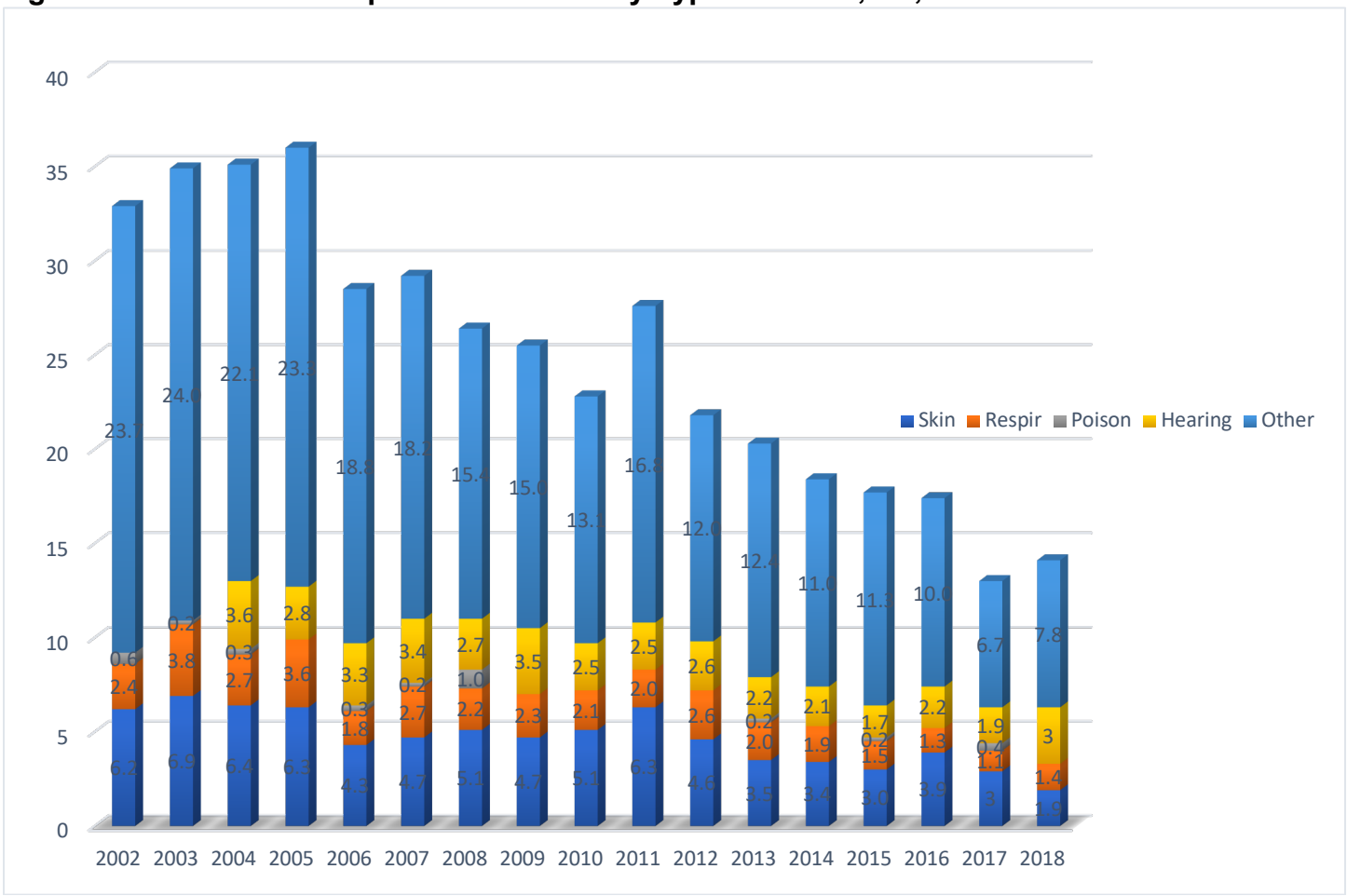
In Connecticut, the rate of illnesses increased slightly from 2002-2005, then generally decreased through 2018 with the exception of 2011 (Figure C-2).

Figure C-1: Rates of Occupational Illness by Type, US and CT, 2018



Source: BLS and CTDOL. Rates per 10,000 workers, adjusted for hours worked.

Figure C-2: Rates of Occupational Disease by Type and Year, CT, 2002-2018



Source: BLS and CTDOL. Rates per 10,000 workers, adjusted for hours worked.

Illnesses by Industry

Numbers and rates by industry sector for 2018 are presented in Table C-2. Overall, the adjusted rate was 14.1 cases of occupational illness per 10,000 CT workers, 9% higher than the 2017 rate of 12.9. The overall private sector rate was 11.9, with a government rate of 32.0 (almost triple the private sector rate).

Table C-2: Illness Rates per 10,000 Workers by Industry and Type of Illness, CT, 2018

	Total		Skin		Respiratory		Poison		Hearing		Other	
	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.
All industries including state and local government	14.1	1.8	1.9	0.3	1.4	0.2	--	--	3.0	0.4	7.8	1.0
Private industry	11.9	1.4	1.4	0.2	0.9	0.1	--	--	3.2	0.4	6.5	0.8
Goods-producing	26.7	0.6	2.0	--	1.4	--	--	--	13.8	0.3	9.6	0.2
Natural resources and mining	--	--	--	--	--	--	--	--	--	--	--	--
Agriculture, forestry, fishing and hunting	--	--	--	--	--	--	--	--	--	--	--	--
Mining, quarrying, and oil and gas extraction	--	--	--	--	--	--	--	--	--	--	--	--
Construction	5.6	--	--	--	--	--	--	--	--	--	--	--
Manufacturing	30.8	0.5	2.4	--	--	--	--	--	18.7	0.3	9.4	0.1
Service-providing	8.5	0.8	1.3	0.1	0.7	0.1	--	--	0.7	0.1	5.8	0.6
Trade, transportation, and utilities	8.0	0.2	1.1	--	--	--	--	--	--	--	5.8	0.1
Wholesale trade	--	--	--	--	--	--	--	--	--	--	--	--
Retail trade	6.8	0.1	1.4	--	--	--	--	--	--	--	4.9	0.1
Transportation and warehousing	20.4	0.1	--	--	--	--	--	--	--	--	14.5	0.1
Utilities	--	--	--	--	--	--	--	--	--	--	--	--
Information	15.5	--	--	--	--	--	--	--	--	--	--	--
Finance, insurance, and real estate	1.4	--	--	--	--	--	--	--	--	--	--	--
Finance and insurance	1.6	--	--	--	--	--	--	--	--	--	--	--
Real estate and rental and leasing	--	--	--	--	--	--	--	--	--	--	--	--
Professional and business services	3.3	0.1	--	--	--	--	--	--	--	--	1.6	--
Professional, scientific, and technical services	4.1	--	--	--	--	--	--	--	--	--	1.8	--
Management of companies and enterprises	--	--	--	--	--	--	--	--	--	--	--	--
Administrative and support and waste management and remediation services	3.1	--	--	--	--	--	--	--	--	--	--	--
Educational and health services	18.2	0.4	3.1	0.1	1.8	--	--	--	--	--	13.0	0.3
Educational services	7.1	--	--	--	--	--	--	--	--	--	--	--
Health care and social assistance	20.6	0.4	3.7	0.1	2.1	--	--	--	--	--	14.6	0.3
Leisure, entertainment, and hospitality	5.3	0.1	--	--	--	--	--	--	--	--	--	--
Accommodation and food services	--	--	--	--	--	--	--	--	--	--	--	--
Other services (except public administration)	--	--	--	--	--	--	--	--	--	--	--	--
State and local government	32.0	0.5	6.4	0.1	5.8	0.1	--	--	1.7	--	18.0	0.3
State government	19.1	0.1	11.0	0.1	--	--	--	--	--	--	6.7	--
Local government	38.4	0.4	4.1	--	8.3	0.1	--	--	2.3	--	23.7	0.2

Source: CTDOL; Rates are adjusted for hours worked and are per 10,000 full-time workers. Number of cases are in thousands (i.e 0.2 means 200 cases). Blanks indicate too little data for reliable estimates. Detailed subcategories with no publishable data are omitted.

The highest specific sector rate was for Local Government at 38.4 cases per 10,000 workers. Local Government was followed by Manufacturing at 30.8, Health Care at 20.6, and Transportation and Warehousing at 20.4. Specific conditions varied by which sector was highest, though these are difficult to evaluate since so many sectors had too few cases in the sample to generate a meaningful rate.

Lost-Time Illnesses

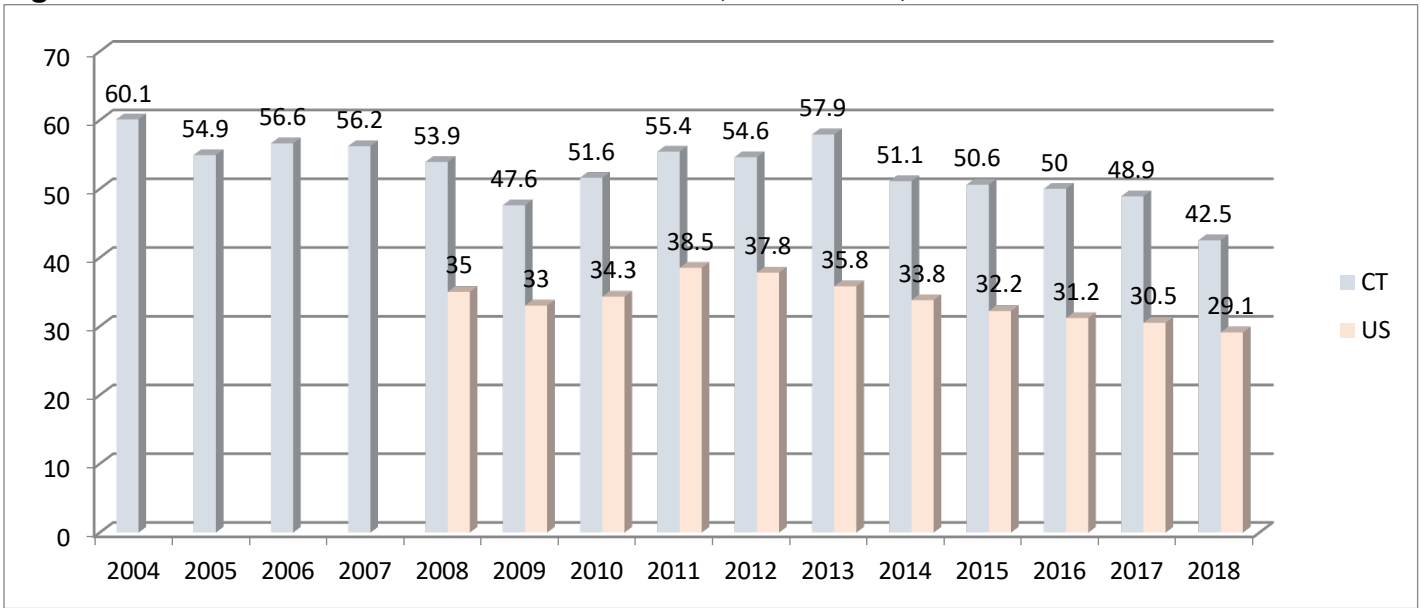
BLS obtains additional data for the subset of cases that result in lost worktime and provides additional detail on specific conditions and causes. The following draws from this data for conditions that are more chronic in nature (usually classified as occupational illness). Restricted work cases are not included in this data, which is about half again the number of lost worktime cases.

Musculoskeletal Conditions

The rate of musculoskeletal disorders (MSD) with lost time was 13% lower than the previous year at 42.5 cases per 10,000 workers (Figure C-3). The Connecticut rate is 46% higher than the national MSD rate of 29.1. MSD rates in Connecticut have generally decreased over the last five years. National rates for all private and public employees have only been available since 2008.

Musculoskeletal conditions are the most common category of specific injury and illness conditions and is a category that includes both chronic conditions and sprains and strains from overexertion. BLS defines this fairly complex category as "includes cases where the nature of the injury or illness is pinched nerve; herniated disc; meniscus tear; sprains, strains, tears; hernia (traumatic and non-traumatic); pain, swelling, and numbness; carpal or tarsal tunnel syndrome; Raynaud's syndrome or phenomenon; musculoskeletal system and connective tissue diseases and disorders, when the event or exposure leading to the injury or illness is overexertion and bodily reaction, unspecified; overexertion involving outside sources; repetitive motion involving microtasks; other and multiple exertions or bodily reactions; and rubbed, abraded, or jarred by vibration."

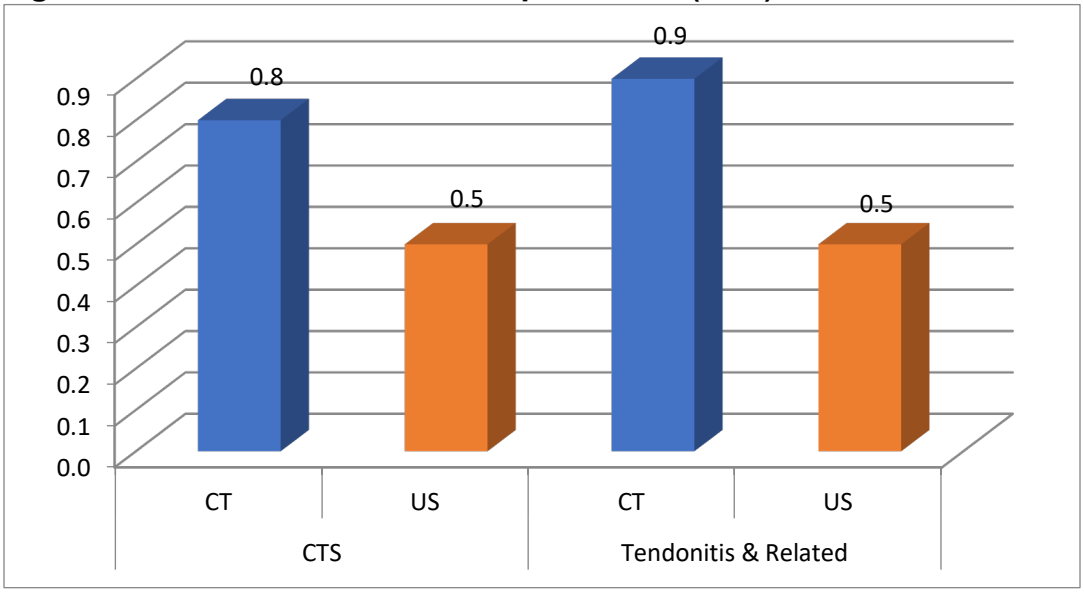
Figure C-3: Rates of Musculoskeletal Disorders, CT and US, 2004-2018



Source: U.S. Bureau of Labor Statistics (Customized Tables); http://data.bls.gov
Rates are cases per 10,000 full time employees, public and private

T**endonitis** was the most common specific lost-time illness in CT, with a rate of 0.9 cases per 10,000 workers in 2018 (Figure C-4), and 0.8 cases per 10,000 of **Carpal Tunnel Syndrome** (CTS). The rate of CTS in CT was 60% higher than the national rate and 80% higher for tendonitis. CTS had a very high number of lost work days, with a median of 41 days of lost time per case (compared to 8 days for all cases of injury and illness) in CT. Tendonitis (and related soft-tissue disorders) was also high at 14 days, and musculoskeletal disorders had 13.

Figure C-4: Rates of Lost-time Carpal Tunnel (CTS) and Tendonitis, US & CT, 2018



Source: BLS Website http://www.bls.gov customized tables, private and public, cases per 10,000 full time employees.

Connecticut lost time cases coded as "**repetitive motion**" for cause increased slightly to 2.9 cases per 10,000 workers from 2.7 in the previous year. Grasping objects was the largest specific cause of repetitive motion (Table C-3). The CT rate was 53% higher than the national rate of 1.9. Repetitive motion lost time cases in CT had a median of 33 days away from work.

Table C-3: Illnesses involving Repetitive Motion by Type, 2017-2018

Repetitive Motion Injuries	**2017**	**2018**
Microtasks (unspecified)	0.7	0.6
Typing and computer	0.9	0.5
Tools	0.5	0.7
Grasping, placing, moving	0.5	0.9
Hand use (not tools)	0.1	0.1
Multiple types of repetitive motions	0.1	0.2
Other microtasks	0.2	0.3
All repetitive with microtasks (total)	**2.7**	**2.9**

D. Workers' Compensation First Report of Injury Data

There was a total of 5,215 reports in the Workers' Compensation First Report of Injury Database for 2018 (Table D-1), a 2% decrease from 2017, with a 18% decrease in skin disorders and 15% decrease in infectious diseases but with a 44% increase in lung disorders, and a 7% increase in "other illnesses"; Musculoskeletal Disorders (MSD) were almost unchanged with a 3% decrease.

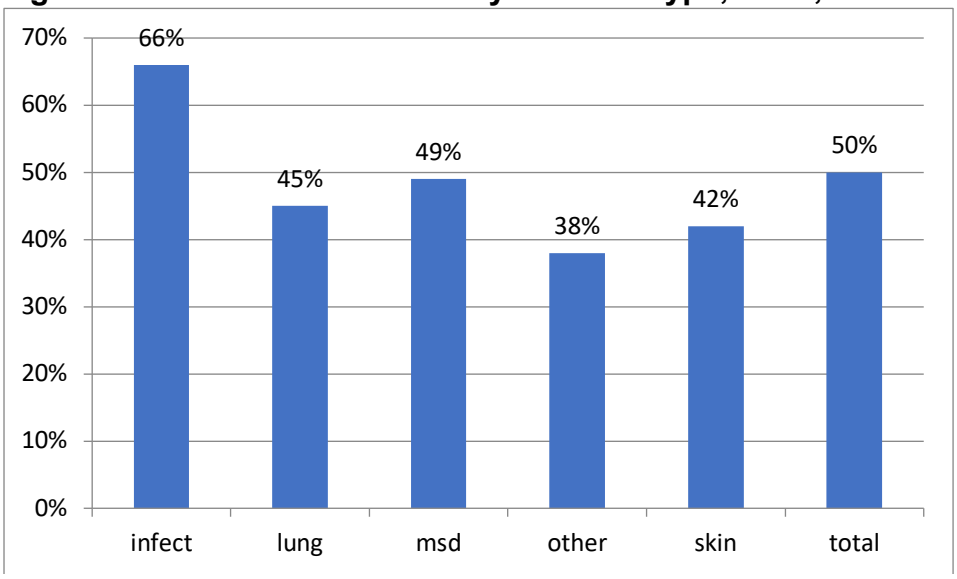
Approximately half (47%) of the reports were due to chronic musculoskeletal disorders (MSD) such as carpal tunnel syndrome and tendonitis. Infectious diseases accounted for 23% of the cases, lung diseases (including nonspecific respiratory illness and chronic lung conditions such as asthma and asbestos-related illnesses and exposures) 8%, skin disorders 4%, and "Other Illnesses" (which includes heart conditions, stress cases, noise-induced hearing loss, and other conditions), 19%.

Table D-1: Occupational Disease by Type, WCC, 2017-2018

	2017	2018		
Illness type	**Cases**	**Cases**	**% of Total**	**% Change**
Musculoskeletal Disorders (MSD)	2,501	2,429	47%	-3%
Infectious Disease	1,398	1,194	23%	-15%
Lung Disorders	301	433	8%	44%
Skin Disorders	222	183	4%	-18%
Other Illnesses	913	976	19%	7%
Total	**5,335**	**5,215**	**100%**	**-2%**

Overall, 50% of reports were for women, but this varied by type of case, with a higher proportion than average for infectious diseases (66% women) but lower for all other types of illness (Figure D-1).

Figure D-1: Percent of Women by Disease Type, WCC, 2018



Reported occupational illnesses occurred more in older workers, with almost half (46%) involving workers between 40 and 59 years old (Table D-2), with 21% involving workers in their 30's, and 18% in their 20's.

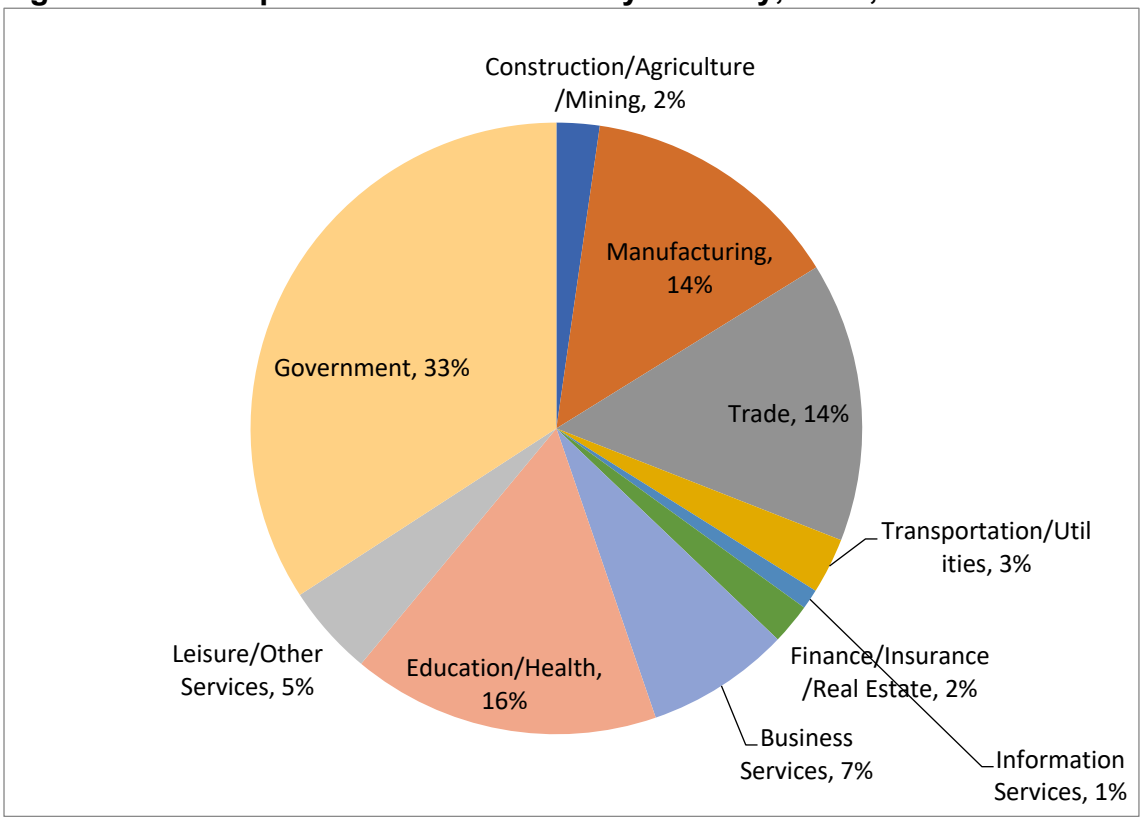
Numbers and rates of occupational illnesses by industry sector are presented by major North American Industry Classification System (NAICS) classifications in Figure D-2 and Table D-3. Ninety-eight percent (98%) of

reported cases were able to be coded for major industry sector. The largest sectors in terms of overall numbers were Government (33%), Education/Health (16% of all cases; there are also health and education cases classified under government, such as employees in public schools), Manufacturing (14%), and Trade (14%).

Table D-2: Occupational Illness by Age, 2018

Age Range	Cases	Percent
Under 20	39	1%
20-29	935	18%
30-39	1,068	21%
40-49	1,084	21%
50-59	1,301	25%
60-69	693	13%
70+	61	1%
Unknown	34	
Total	**5,215**	

Figure D-2: Occupational Illness Cases by Industry, WCC, 2018



The number of illnesses by industry may be compared to the size of employment in those industries to understand which industries are at higher risk for illness. Table D-3 shows these figures, excluding cases where the industry was unknown. Overall, the rate of illness is 31.2 cases per 10,000 workers, a decrease of 2.5% from the 32.0 cases per 10,000 in 2017. The highest employment rates by industry sector were for Government (77.6, 149% higher than the overall rate) and Manufacturing (44.2 or 42% higher), with all other sectors at or below the average rate.

Table D-4 provides the detail of industry sector by type of condition. Patterns of illness by industry differed by the type of illness, although Government was relatively high in all categories. Table D-4 is based on **numbers** of cases and not **rates**, so they are not adjusted for employment size in the different sectors (rates are shown in Tables D-3 and D-5).

Table D-3: Cases of Occupational Disease by Major Industry Sector, WCC, 2018

NAICS Sector	Cases	Case %	Employment	Emp. %	Rate
Construction/Agriculture/Mining	116	2%	64,041	4%	18.1
Manufacturing	710	14%	160,500	10%	44.2
Trade	755	14%	242,310	14%	31.2
Transportation/Utilities	151	3%	53,866	3%	28.0
Information Services	54	1%	31,734	2%	17.0
Finance/Insurance/Real Estate	110	2%	123,655	7%	8.9
Business Services	389	7%	221,027	13%	17.6
Education/Health	832	16%	326,812	20%	25.5
Leisure/Other Services	246	5%	224,616	13%	11.0
Government	1,745	33%	224,852	13%	77.6
Unknown	107	2%			
Total	**5,215**	**100%**	**1,673,867**	**100%**	**31.2**

Notes: Employment is adjusted for hours worked. A small number of reports that could not be coded for industry are categorized as unknown. Rates are illnesses per 10,000 workers. Total employment and percent do not equal the sum of components due to rounding errors. *Government sector includes cases that could alternately be classified under health and education (i.e. public schools). NAICS is the North American Industry Classification System.

Local Government had a high number of cases in almost all categories of illnesses. **Infectious diseases** were concentrated in Local Government (45%) and Education/Health (31%). **Lung diseases** were concentrated in Local Government (45%), State Government (11%), and Education/Health (10%). **Musculoskeletal disorders** (MSD) were spread across Manufacturing (23%), Trade (21%), and Education/Health (13%). **Skin disorders** were spread across Local Government (26%), Education/Health (22%), Trade (14%), and Manufacturing (13%). **"Other" illnesses**, including heart conditions and hypertension, stress, and hearing loss cases (see below) were most common in Local Government (28%), Trade (19%) and Manufacturing (12%).

Table D-4: Type of Disease by Industry Sector, WCC, 2018

	Other		Lung		Infectious		MSD		Skin		**Total**	
Construction/Agric/Mining	24	**3%**	4	**1%**	4	**0%**	81	**3%**	3	**2%**	116	**2%**
Manufacturing	114	**12%**	36	**9%**	4	**0%**	533	**23%**	23	**13%**	710	**14%**
Trade	178	**19%**	30	**7%**	13	**1%**	508	**21%**	26	**14%**	755	**15%**
Transport/Utilities	28	**3%**	4	**1%**	14	**1%**	102	**4%**	3	**2%**	151	**3%**
Information Services	9	**1%**	1	**0%**	0	**0%**	41	**2%**	3	**2%**	54	**1%**
Finance/Insurance/RE	23	**2%**	6	**1%**	3	**0%**	76	**3%**	2	**1%**	110	**2%**
Business Services	55	**6%**	17	**4%**	113	**10%**	191	**8%**	13	**7%**	389	**8%**
Education/Health	87	**9%**	42	**10%**	363	**31%**	300	**13%**	40	**22%**	832	**16%**
Leisure/Other Services	73	**8%**	26	**6%**	11	**1%**	123	**5%**	13	**7%**	246	**5%**
Local Government	264	**28%**	191	**45%**	531	**45%**	202	**9%**	47	**26%**	1,235	**24%**
State Government	102	**11%**	65	**15%**	128	**11%**	208	**9%**	7	**4%**	510	**10%**
Subtotal	**957**	**100%**	**422**	**100%**	**1,184**	**100%**	**2,365**	**100%**	**180**	**100%**	**5,108**	**100%**
Unknown	19		11		10		64		3		107	
Total	**976**		**433**		**1,194**		**2,429**		**183**		**5,215**	

Table D-5: Specific Industry Sectors with over 25 Cases of Occupational Disease, WCC, 2018

Specific Industry Sector	NAICS	**2018**	Employment	**Rate**	2017	Change
Computer and Electronic Product Manufacturing	334	**96**	10,931	**87.8**	121	-21%
Local Government		**1,235**	145,761	**84.7**	1,220	1%
State Government		**510**	60,994	**83.6**	590	-14%
Electric Power Generation	221	**38**	5,172	**73.5**	37	3%
Non-store Retailers	454	**60**	8736	**68.7**	31	94%
Electrical Equip, Appliance, Component Manuf	335	**46**	8,072	**57.0**	42	10%
Food and Beverage Stores	445	**238**	42,804	**55.6**	272	-13%
Hospitals	622	**309**	58,330	**53.0**	387	-20%
Transportation Equipment Manufacturing	336	**232**	45,619	**50.9**	224	4%
Telecommunications	517	**36**	7,264	**49.6**	18	100%
Food Products	311	**39**	8,145	**47.9**	30	30%
Chemical Manufacturing	325	**33**	7,761	**42.5**	28	18%
Couriers and Messengers	492	**34**	8,315	**40.9**	28	21%
Merchant Wholesalers, Nondurable Goods	424	**82**	21,140	**38.8**	76	8%
Fabricated Metal Product Manufacturing	332	**114**	29,715	**38.4**	127	-10%
General Purpose Machinery Manufacturing	333	**46**	13,045	**35.3**	34	35%
General Merchandise Stores	452	**99**	28,245	**35.1**	82	21%
Administrative and Support Services	561	**274**	84,980	**32.2**	276	-1%
Nursing and Residential Care Facilities	623	**192**	60,714	**31.6**	179	7%
Misc. Retail Stores	453	**29**	9,690	**29.9**	23	26%
Accommodation	721	**33**	11,768	**28.0**	36	-8%
Non-residential Construction	236	**30**	10,887	**27.6**	29	3%
Merchant Wholesalers, Durable Goods	423	**82**	31,866	**25.7**	79	4%
Transit and Ground Passenger Transport	485	**33**	14,339	**23.0**	24	38%
Motor Vehicle Dealers	441	**48**	21,756	**22.1**	50	-4%
Clothing and clothing accessories	448	**34**	16,415	**20.7**	35	-3%
Personal and Laundry Services	812	**45**	22,290	**20.2**	26	73%
Physician Offices	621	**187**	92,630	**20.2**	175	7%
Educational Services	611	**99**	58,228	**17.0**	121	-18%
Membership Associations and Organizations	813	**25**	16,786	**14.9**	24	4%
Specialty Trade Contractors	238	**60**	41,157	**14.6**	79	-24%
Credit Intermediation & Related Activities (Banks)	522	**34**	23,464	**14.5**	37	-8%
Professional, Scientific, and Technical Services	541	**94**	96,341	**9.8**	66	42%
Social Assistance	624	**44**	56,910	**7.7**	47	-6%
Food Services and Drinking Places	722	**77**	117,451	**6.6**	96	-20%
Insurance Carriers and Related Activities	524	**28**	57,435	**4.9**	36	-22%

Table D-5 shows those specific industry subsectors (3-digit NAICS code) that reported 25 or more cases of occupational illness in 2018, ordered by the highest ***rate*** of illness. Local Government and State Government do not show detailed sector (such as Education or Health) since the data did not provide reliable detail. The highest rates were in Computer and Electronic Product Manufacturing (87.8 cases per 10,000 workers), Local Government (83.6), State government (86.2), Electric Power Generation (73.5), and Non-store retailers (68.7). Rates for sectors listed below Nursing and Residential Care Facilities are below the average overall state rate of 31.2 per 10,000 workers (the high number of cases for those subsectors is primarily because they employ large numbers of workers).

Illnesses by Town/Municipality

Occupational illnesses were coded by the town where the illness occurred (typically the town where the employer is located). Table D-6 (and Figure A-1 in the Summary section) show the rates of illness per 10,000 employees per town (based on total employment by town of employment, provided by the CT Dept. of Labor) for all towns and municipalities with at least 25 cases of occupational illness reported in 2018. The table is ordered by rates, with the highest rates first. Rates of illness varied widely by municipality; often high rate towns appear to have large employers in high rate industries. The overall state average was 31.2 cases per 10,000 employees.

For towns with at least 25 cases, Cromwell had the highest rate at 123 cases per 10,000 employees, almost 3 times higher than the average rate of 31. Cromwell was followed by Tolland (117), Vernon (72), Killingly (68), Meriden (57), Stratford (57), Waterbury (55), Torrington (51), and Farmington (50).

Table D-6: Illnesses by Town/Municipality, 25 or more cases, WCC, 2018

Town	Cases	Employment	Rate per 10,000	Rank
Cromwell	94	7,671	123	1
Tolland	43	3,676	117	2
Vernon	61	8,478	72	3
Killingly	61	9,025	68	4
Meriden	133	23,246	57	5
Stratford	142	24,926	57	6
Waterbury	221	39,841	55	7
Torrington	76	14,828	51	8
Farmington	161	32,264	50	9
Manchester	135	27,667	49	11
Middletown	134	27,576	49	10
South Windsor	63	14,265	44	12
Windsor	118	26,966	44	14
Groton	123	28,126	44	13
Westport	65	15,255	43	15
New Milford	34	8,124	42	16
Stonington	31	7,681	40	17
Windsor Locks	51	13,145	39	19
Windham	39	10,144	38	20
Mansfield	44	11,586	38	18
Brookfield	27	7,276	37	23
Newington	61	16,528	37	21

Cheshire	61	16,845	36	22
Simsbury	29	8,351	35	25
Berlin	40	11,725	34	24
Waterford	37	11,157	33	27
Guilford	26	7,903	33	28
Southington	55	16,851	33	26
New London	44	13,674	32	29
Southbury	25	7,879	32	30
Connecticut	**5,215**	**1,673,867**	**31**	**CT Average**
Hartford	342	109,780	31	31
Bloomfield	59	19,534	30	33
Bridgeport	126	42,033	30	32
Norwich	52	17,390	30	34
Enfield	55	18,461	30	35
Danbury	127	43,591	29	36
New Haven	241	83,424	29	37
Glastonbury	45	17,187	26	38
Ledyard	27	10,680	25	39
Trumbull	36	15,688	23	40
Montville	29	12,755	23	41
Bristol	49	22,346	22	42
Shelton	53	24,534	22	43
Rocky Hill	37	17,157	22	44
Milford	57	27,616	21	45
West Hartford	59	28,830	20	46
New Britain	51	24,942	20	47
North Haven	38	18,680	20	48
Greenwich	66	34,443	19	49
East Hartford	63	33,496	19	50
Wallingford	52	27,983	19	51
Norwalk	81	44,503	18	52
Hamden	33	20,607	16	53
Stamford	79	76,350	10	54

*****Lower rank indicates higher rates of illness (i.e. the town ranked first has the highest rate of illness). Ranks are based on the towns with at least 25 cases of illness reported for the year. Employment figures are based on the town of employment. The Connecticut rate is the average of all towns, not just those with 25 or more cases.

Musculoskeletal Disorders (MSD)

"Musculoskeletal disorders" is the currently-used term for conditions also known as cumulative trauma disorders or repetitive strain injuries. There were 2,429 cases of MSD reported to Workers' Compensation in 2018, a 3% decrease from 2017 (Table D-7). MSD accounted for just under half (47%) of the reported occupational diseases to Workers' Compensation. MSD do not include cases for conditions determined to be injuries caused from sudden events (this is a different definition than that used by BLS/CTDOL for lost time MSD, which includes some acute injuries). Most cases for the lower back are not included (since the descriptions of back conditions are typically insufficient to be able to distinguish between acute injuries and cumulative back injuries) unless they specifically noted that they were due to repetitive exposures.

Strains and sprains (which do not include acute strains or sprains such as those from single events/accidents) was the most common category of MSD, with 71% of reports (Table D-7) coded for that general category. Carpal Tunnel Syndrome (CTS), which is a very debilitating pinching of the median nerve at the wrist, accounted for 10% of total MSD reports. Other nerve-related problems (with descriptions of numbness or tingling) accounted for an additional 5% of cases. Tendon-related problems including tendonitis and tenosynovitis, epicondylitis ("tennis elbow" or "golfer's elbow"), trigger finger, and rotator cuff accounted for 3% of cases. A large number of cases did not have a specific description other than inflammation, swelling, or pain.

Table D-7: Musculoskeletal Disorders (MSD) by Type, WCC, 2017-2018

	2017	2018		
MSD Type	**Cases**	**Cases**	**%**	**Change**
Sprain/strain	1,756	1,718	71%	-2%
Carpal Tunnel Syndrome	263	255	10%	-3%
Numbness	91	118	5%	30%
Tendonitis/tenosynovitis	38	34	1%	-11%
Trigger finger	29	25	1%	-14%
Epicondylitis	13	20	1%	54%
Ganglion cyst	16	15	1%	-6%
Rotator cuff	7	9	0%	29%
Arthritis/bursitis	11	9	0%	-18%
Other/Unknown	279	226	9%	-19%
Total	**2,503**	**2,429**	**100%**	**-3%**

Almost three-quarters (73%) of the cases of MSD were in the upper limbs of the body such as hands, arms, elbows, and shoulders (Table D-8). Another 14% were for the lower extremity (legs, knees and feet), and 7% for the neck, upper back, and torso (note that lower back cases were excluded from these figures unless they explicitly indicated they were due to cumulative exposures).

Causes of conditions were often incomplete, overlapping, and not consistently coded nor described. Approximately 80% of MSD cases had enough description to show some cause. Of the MSD that could be classified (Table D-9), the most frequently mentioned cause was the broad category of "repetitive" (29% of cases). This term is often used as a general description to describe any chronic musculoskeletal problem. Repetitive motion was followed by lifting and carrying (19%), pushing or pulling (12%), tool use (including references specifically to pneumatic tools or vibration exposure; 9%), and computing and clerical tasks (8%).

Table D-8: Musculoskeletal Disorders by Part of Body, WCC, 2018

Part of body	Cases	Percent
Lower Arm, Wrist, Hand	1,021	42%
Upper Arm, Shoulder, Upper Extremity	560	23%
Legs, Knees, and Feet	336	14%
Elbow	195	8%
Neck, Back, Torso	169	7%
Multiple	132	5%
Other/Unknown	16	1%
Total	**2,429**	**100%**

Table D-9: Musculoskeletal Disorders (MSD) with Identified Cause, WCC, 2018

Cause of MSD	Reports	%
Repetitive	574	29%
Lifting/carrying	373	19%
Push/Pull	228	12%
Tools/vibration	180	9%
Computer/clerical	155	8%
Reaching	71	4%
Bending/kneeling/crawling	61	3%
Assembly	48	2%
Walking/running/moving	38	2%
Machine	32	2%
Twisting	30	2%
Grasping/gripping/squeezing	27	1%
Climbing	25	1%
Driving	23	1%
Patient care	22	1%
Sitting/standing	18	0.9%
Cleaning/mopping/sweeping	14	0.7%
Shoveling	13	0.7%
Scanning/cashier	9	0.5%
Selecting/sorting/inspecting/packing	7	0.4%
Posture	5	0.3%
Sub-Total	**1,953**	100.0%
Unknown/other	**476**	
Total	**2,429**	

Infectious Diseases

There were 1,194 reports of infectious diseases or exposures in the database for 2018 (Table D-10), a 15% decrease from the previous year. Infectious disease reports include both actual disease and exposure to infectious agents. There were 995 reports of exposure to bloodborne pathogens (including reports of exposure to HIV/AIDS and Hepatitis C), accounting for 83% of all infectious disease reports and a 3% decrease from the previous year. These included 369 needlestick injuries or cuts from sharps or surgical instruments that may have resulted in exposure to a patient's blood, 473 reports of exposures to human bites (cases were excluded if they specifically indicated the skin was not broken), and 153 reports of skin or eye exposure to blood or bodily fluids. There were additional reports of exposure to "spit" or "sputum" that are not reported here, since risks tend to be extremely low from such exposures. Diseases that can be contracted through blood and body fluid exposures include hepatitis B and C and HIV.

Human bites are considered to be relatively low risk exposures in terms of bloodborne disease transmission. Exposure to blood and fluids are somewhat higher risk (especially if the worker has open wounds or sores). Sharps (i.e. scalpels) and needlesticks are considered the highest risk (especially if they are deep cuts or injections). Incidents concerning prisoners or clients (including special needs students) accounted for the vast majority of human bites as well as some of the other bloodborne exposures. The data does not have consistent information on whether the source patient is known to be infected with a bloodborne illness such as HIV or hepatitis, so many of these reported incidents will have little or no actual risk of disease transmission. However, preventive efforts focus on universal precautions, so it is important to reduce these incidents regardless of whether patients/clients are known to be infected.

Table D-10: Infectious Diseases and Exposures by Type, WCC, 2017-2018

	2017		2018		
Illness	**Cases**	**%**	**Cases**	**%**	**Change**
Bloodborne: Human bite	461	33%	473	40%	3%
Bloodborne: Sharp and needlestick exposures	378	27%	369	31%	-2%
Bloodborne: Blood/body fluids	192	14%	153	13%	-20%
Lyme Disease/Tick bite	86	6%	72	6%	-16%
Other infectious	43	3%	41	3%	-5%
TB/PPD conversion/exposure	197	14%	30	3%	-85%
Meningitis exposure	7	0%	21	2%	200%
Scabies/lice	17	1%	13	1%	-24%
MRSA/staph/strep	8	1%	12	1%	50%
Rabies	12	1%	8	1%	-33%
Chicken pox, measles, whooping cough	2	0%	2	0%	0%
Total	**1,403**	**100%**	**1,194**	**100%**	**-15%**

There were 72 reports of tick bites, rashes from tick bites and/or a diagnosis of Lyme disease attributed to occupational exposures, a 16% decrease. There were 30 cases of tuberculosis infection (usually determined by PPD conversion, a skin test based on immune response to TB) or exposure to clients with TB; this was a large decrease of 85% from 2017. In addition, there were 21 reports of meningitis exposure or illness, 13 cases of scabies or lice exposures/illnesses, 12 reports of exposure or cases of MRSA (Methicillin-resistant Staphylococcus aureus, or staph infection that responds poorly to antibiotics) or other staph or strep infections, 8 cases of exposure to rabies, and 2 cases of chicken pox, measles or whooping cough.

Court decisions have broadened the definition of compensable disease under Workers' Compensation to include exposures, particularly where exposure requires medical treatment such as prophylactic treatments for

tuberculosis (TB) and AIDS (HIV) exposures. It is often difficult to determine whether the first report of injury was actual disease or only exposure (for example, actual Lyme disease or only a report of a tick bite).

Respiratory Illness and Poisonings

There were 255 cases of respiratory illnesses (mostly nonspecific respiratory illness from relatively acute chemical or biological exposures) for 2018 (Table D-11), a 42% increase from 2017. In addition, *chronic* lung disease such as asbestos-related illnesses, asthma, and lung cancer are addressed in the following section. There were 47 cases of poisonings from carbon monoxide, other gases, mercury, or lead, a 194% increase from the previous year.

Chemical exposures were the most common cause of respiratory illness, (42% of cases) followed by smoke or fire (16%), general indoor air quality (IAQ) or mold (11%), and dust or fumes (6%). There were 34 cases of poisoning from exposure to carbon monoxide or other gases and fumes, 5 reports of lead poisoning, and 8 other poisonings or exposure in 2018.

A large number of respiratory cases (at least 25) were from emergency personnel responding to a large fire at an auto recycling facility which resulted in exposures to smoke, chemicals, and runoff. In addition to the more general categories of smoke and mold, specific substances were reported as connected to the respiratory cases: broken fluorescent light, cleaning chemicals and/or bleach (10 cases), fentanyl from a police suspect (2), liquid CO2, dry ice and resin in a spray booth, ammonia, refrigerant, hair salon chemicals (2), degreasing fluid, chemicals at a transfer station (3), vaporized fiberglass, vaping fumes, Peridox RTU, acid, brake cleaner, antifreeze, illegal drugs (2), solvents, paint (2), chlorine, fire extinguisher chemicals (3), vinyl repair glue, perfume, spray adhesive, gasoline (3), varnish, sealant, pepper spray (2), acetaldehyde, glycol, and coolant.

Table D-11: Respiratory Conditions and Poisonings by Cause, WCC, 2017-2018

Cause	2017		2018		
Respiratory	**Cases**	**%**	**Cases**	**%**	**Change**
Chemical Exposure	60	33%	107	42%	78%
Smoke, Fire	36	20%	42	16%	17%
IAQ/mold/odor	17	9%	28	11%	65%
Dust/fumes	38	21%	16	6%	-58%
Other Respiratory	32	17%	62	24%	94%
Respiratory subtotal	**183**	**100%**	**255**	**100%**	**39%**
Poisoning					
Carbon monoxide/gas	15	94%	34	72%	127%
Lead	0	0%	5	11%	
Other Poisoning	1	6%	8	17%	700%
Poisoning Subtotal	**16**	**100%**	**47**	**100%**	**194%**
Total Respiratory and Poisoning	**199**	**100%**	**302**	**100%**	**53%**

Chronic Lung Conditions

There were 131 cases of chronic lung conditions in 2018, a 28% increase from the previous year (Table D-12). These included asbestos-related diseases and exposures, occupational asthma, and other chronic lung diseases. Acute respiratory illnesses are classified under respiratory conditions and poisonings (above).

Asbestos

There were 41 reports of asbestos-related disease or exposures in 2018, a very large increase (almost 200%) from the prior year. The descriptions of the cases often make it difficult to determine whether the cases are actual disease or current exposure to asbestos; the notations may be either describing historic exposures that contributed to current disease, or current exposures that raise the risk of future disease. Cancers, including those caused by asbestos, are noted below (under "other illnesses"). See also separate data from the Occupational Health Indicators project in relation to asbestosis and mesothelioma deaths in the Summary of Disease section above. Asbestos exposure is known to increase the risk of lung disease and cancer. If disease occurs as a result, it often appears between 10-40 years after exposure. Diseases caused by Asbestos exposure are known to be under-reported by traditional surveillance sources such as Workers' Compensation.

Table D-12: Chronic Lung Diseases by Type, WCC, 2017-18

Illness	2017	2018	Change
Asthma/bronchitis	20	29	45%
Asbestos-related	14	41	193%
Allergies	4	11	175%
Other chronic lung	64	50	-22%
Total	**102**	**131**	**28%**

Other Chronic Lung Conditions

There were 29 occupational asthma cases reported in 2018 (a 45% increase from the previous year), 11 lung-related allergies, and 50 other chronic lung conditions. The causes mentioned for asthma and other chronic lung conditions were construction and other dust (18), indoor air quality and mold (14), food allergies (4), illegal drugs (3; law enforcement), bleach and cleaning chemicals (3), exertion (3), copper dust, nail salon chemicals, pepper spray, chlorine, raw silver dust, color samples, gasoline, paint, aqua seal, acid fumes, pesticides perfumes, and plants.

Skin Conditions

There were 183 skin conditions in the database in 2018 (Table D-13), a decrease of 18% over the previous year. These included 56 cases of contact dermatitis from poison ivy or other plants (31% of all skin cases).

Table D-13: Skin Diseases by Cause, WCC, 2017-2018

Category	2017	2018	%	Change
Poison Ivy/plants	79	56	31%	-29%
Chemical	42	31	17%	-26%
Soap/Cleaning	24	10	5%	-58%
Allergic	19	9	5%	-53%
Gloves/Latex/clothing	10	9	5%	-10%
Rash/Other/Unknown	48	68	37%	42%
Total	**222**	**183**	**100%**	**-18%**

There were 31 cases of skin conditions caused by chemicals, as well as 10 additional cases attributed specifically to cleaning chemicals. There were 9 cases caused by allergic reactions to clothing, gloves, or latex, and 9 other allergic skin conditions. There were 68 cases of poorly defined skin conditions, frequently just described as rashes. In addition to cleaning chemicals, bleach and latex, specific substances associated with skin conditions included coolant (3), dog dander (2), cement (2), fiberglass, salt, drain cleaner, weed control chemicals, ink, Mykrostat, dust, mold, and standing in water.

Stress and Heart Conditions

Heart and Hypertension

There were 308 cases involving heart conditions, stroke, chest pain, hypertension, or stress in the database for 2018 (Table D-14), a 2% increase from the previous year. Reports noted 167 cases of heart attacks, myocardial infarctions or acute heart events and 6 reported strokes or blood clots, often associated with emergency care at a hospital. There were 19 cases that described the condition as hypertension or "heart and hypertension" (the usual legal term for heart or hypertension cases that are covered under workers' compensation for police and fire fighters).

Approximately one-half of the heart cases appeared to involve police or firefighters or other municipal and state employees who are frequently covered under heart and hypertension laws that presume those conditions to be work-related for Workers' Compensation purposes. Though not generally well described, causes of the heart cases included exertion (5 cases), violence (4) and stress (5).

Table D-14: Heart, Hypertension and Stress Conditions by Type, WCC, 2017-2018

Category	2017	2018	%	Change
Heart attack/severe symptoms	149	167	54%	12%
Hypertension	27	19	6%	-30%
Stroke/clots	15	6	2%	-60%
Stress/anxiety/depression	110	116	38%	5%
Total	**301**	**308**	**100%**	**2%**

Mental Stress

Table D-15: Stress Conditions by Cause, WCC, 2017-2018

Sources of Stress Conditions	2017	2018	%
Violence/robbery/trauma/auto accident	33	35	30%
Harassment/hostile work environment	19	16	14%
Supervisor/co-worker/customer	11	13	11%
Excessive work demands	6	2	2%
Unknown/other	41	50	43%
Total	**110**	**116**	**100%**

There was a total of 116 stress-related claims in the database in 2018, a 5% increase over the previous year. Approximately one third (30%) of the cases where cause was noted referred to violence or post-traumatic stress disorders after violence (Table D-15), 16 cited either harassment or a hostile work environment, and 13 noted conflicts with supervisors, co-workers, or customers.

Stress cases included customer complaints or conflicts, having audio clips or photo posted about a worker, co-worker abuse, threatening letters from a student, being in or observing a motor vehicle accident (6), a student throwing a chair, being involved with or observing a police shooting (2), finding a boss dead in the office, observing juveniles threatening to jump from a ledge, being struck by students or supervisor (4), sexual assault (2), getting stuck in an elevator, a co-worker seizure, new procedures while being under-staffed, suicidal thoughts, and panic attacks (8).

Stress-related claims that are not also associated with a physical injury are typically not compensable under the Workers' Compensation statute, so it is likely that there are additional unreported (non-compensable) cases. It should be noted that this report is based on First Reports of Injury for compensation, and the number of cases that were ultimately awarded compensation was not determined.

Other Occupational Diseases

Hearing Loss

There were 81 reports of hearing loss in 2018 (Table D-16), a 21% decrease from the previous year. Of these cases, 24 appeared to be caused by acute (single incident) noises or injuries such as rifle training, tire blowouts, chain saw, a car blower next to the ear, getting hit by a baseball, a disconnected air hose, alarms, trumpet players, dragging a pallet, drill hose explosion, backfires, and a battery explosion. Of all the hearing loss cases, most were from manufacturing (48 cases), in particular transportation equipment manufacturing (41 cases), as well as schools/police/firefighting/government (22 cases).

Table D-16: Other Occupational Illnesses, WCC, 2017-2018

Type of illness	2017	2018	%	Change
Chemicals in eye	78	99	15%	27%
Hearing loss	103	81	12%	-21%
Dizziness/fainting/seizure	142	154	23%	8%
Cold/heat related conditions	65	73	11%	12%
Allergic	73	68	10%	-7%
Cancer	13	9	1%	-31%
Other conditions	138	184	28%	33%
Total	**612**	**668**	**100%**	**9%**

Other Disease Conditions

There were 154 reports of workers becoming dizzy, fainting, or seizures, an 8% increase. Some of these are likely from pre-existing conditions that occurred while at work (such as epilepsy or diabetes) and some of these were accompanied by an injury from a fall. Some may reflect more serious conditions such as heart attacks but are just described based on initial symptoms.

There were 99 reports of chemical exposures to the eyes (this does not include other physical acute eye injuries such as particles or dust), a 27% increase. There were 73 reports of temperature-related problems from heat or cold, a 12% increase from the previous year. There were 68 cases of allergic reactions reported in addition to those noted above under respiratory and skin conditions, a 7% decrease. There were 9 cases of cancer reported, which included asbestos-related cancers. There were 184 "other" conditions that were difficult to classify, usually due to incomplete information.

E. Occupational Illnesses and Injury Surveillance System (OIISS)

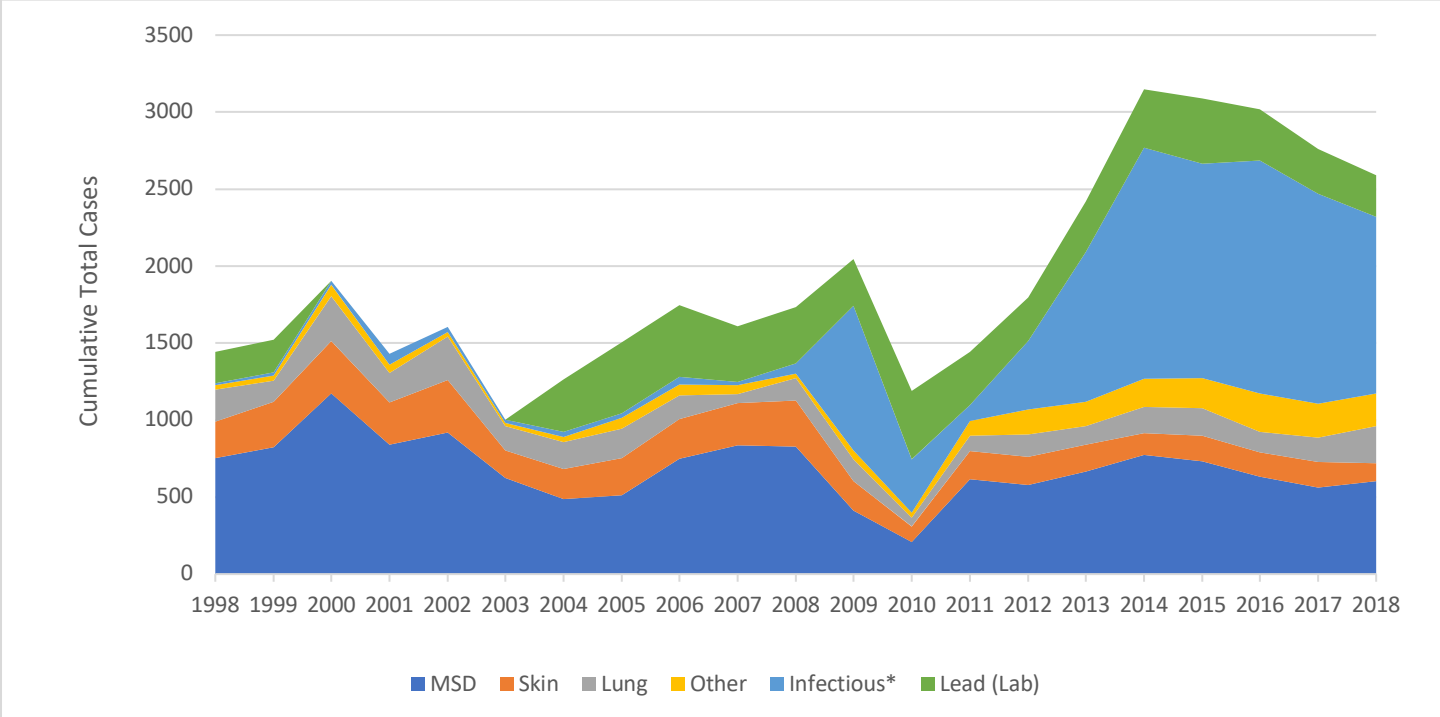
Physicians are required to report known and suspected occupational disease to the Occupational Illnesses and Injury Surveillance System (OIISS) that is maintained by the Department of Public Health. Although all physicians are required to report, most reports are from Connecticut's occupational health clinics and industrial medicine programs. Information on blood lead level laboratory reports is received from the Connecticut Adult Blood Lead Epidemiology and Surveillance (ABLES) program. Data for lead and infectious diseases were incomplete for certain years prior to 2012 (as noted in the table and figure below), so comparisons for total disease with earlier years should be made cautiously.

Table E-1: Occupational Disease Case Reports by Type, OIISS and ABLES, 2009-2018

Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	% change 2017-18
MSD	411	208	616	580	666	774	734	633	562	603	7%
Skin	193	102	183	180	174	140	166	158	168	118	-30%
Lung	140	56	101	146	120	171	178	133	155	241	55%
Other	59	33	96	164	159	184	195	250	220	210	-5%
Infectious*	939	347	103	443	973	1500	1,390	1,513	1,365	1,148	-16%
Sub-total	1,742	746	1,099	1,513	2,092	2,769	2,663	2,687	2,470	2,320	-6%
Lead (Lab)	304	443	345	283	327	379	425	330	292	268	-8%
Total	2,046	1,189	1,444	1,796	2,419	3,148	3,088	3,017	2,762	2,588	-6%

*Infectious did not include most bloodborne pathogen exposures in 2008 and 2011

Figure E-1: Occupational Disease Case Reports by Type, OIISS and ABLES, 1998-2018



*Infectious category did not include most bloodborne pathogen exposures up to 2008, and again in 2011.
** Lead values for 1998-99 did not include cases in the blood lead level range of 10-19 micrograms per deciliter (ug/dl).

There were 2,320 occupational illness reports received from physicians for 2018 (Table E-1). Physician reports decreased 6% in 2018 compared to the prior year. Infectious disease (such as bloodborne diseases and exposures) was the largest category of reports, accounting for 49% of the reports, followed by musculoskeletal conditions (MSD) such as tendonitis and carpal tunnel syndrome (26%). Skin disorders (including poison ivy and chemicals as causes) accounted for 5% and lung conditions (including respiratory conditions, asthma, and other lung diseases) comprised 10% of the physician reports. "Other" conditions (including heart disease, stress, and noise-induced hearing loss) accounted for 9%. There were 268 laboratory-reported adult blood lead levels of 10 micrograms per deciliter (ug/dl) or greater (an 8% decrease from the prior year), giving a total of 2,588 occupational illnesses reported by physicians or laboratories in 2018.

In 2018, 99 physicians from 14 clinics (at 17 locations) reported at least one case of occupational illness to the OIISS. Fourteen of the physicians reported 50 or more cases, accounting for 47% of the reports. Nine clinics reported 100 or more cases and contributed 92% of the cases.

Many workers with occupationally-related illness seek care from their primary care providers. Although it is a state law that known and suspected occupational diseases diagnosed by any physician in the state must be reported to CT Departments of Labor and Public Health (CGS § 31-40a), the majority of reporters are from the academic occupational health clinics and auxiliary occupational health clinics that are funded under the state occupational disease surveillance network. Therefore, these reports should be viewed as a small portion of physician-diagnosed occupational diseases in Connecticut.

Where certainty was reported, 77% of the cases were classed as "high certainty" for being an occupationally-related disease, 14% were "moderate certainty," and 9% "low certainty". There was a fairly low amount of reporting on whether exposure was continuing or if others are likely to be exposed, but 17% of those reported that the exposure that caused the illness was continuing, and 9% reported other workers were likely to be exposed to the same hazard.

Of the reports where race or ethnicity were known, 16% were identified as black and 12% were identified as Hispanic.

Figure E-2: Occupational Disease by Age, OIISS, 2018

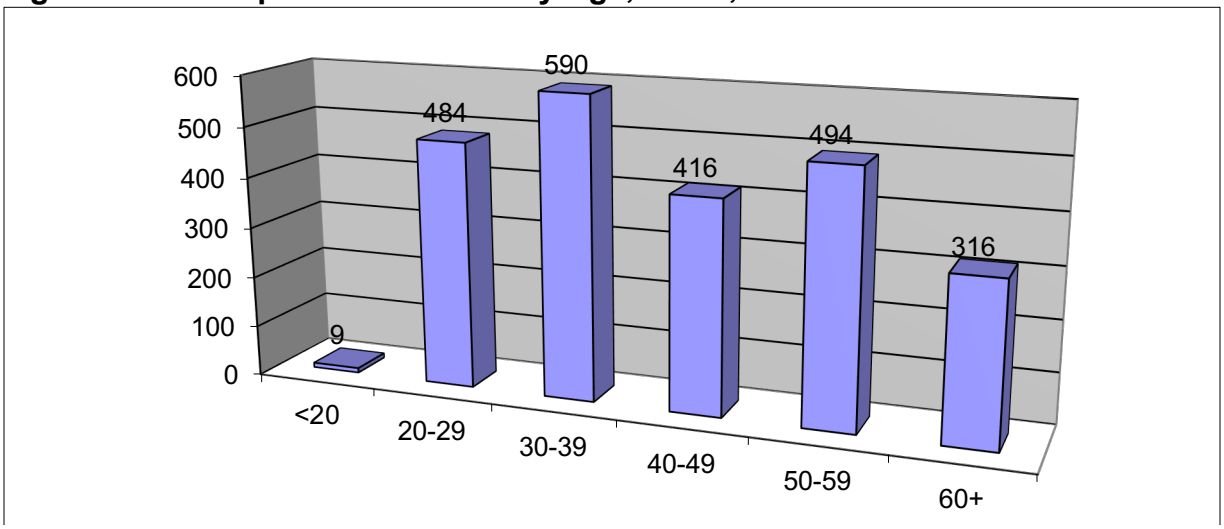


Figure E-2 shows the age distribution of reported cases (where data was available). The most common age was for workers in their 30's with 25% of cases, followed by 50's (21%), 20's (21%), and 40's (18%).

The Education and Health sector had the most cases (49%), followed by Local Government (18%), Manufacturing (12%), and State Government (8%); see Figure E-3 and Table E-2. It should be noted that the Education and Health sector workplaces that were also government workers (such as public schools or hospitals) were counted as government.

Figure E-3: Occupational Disease by Industry Sector, OIISS, 2018

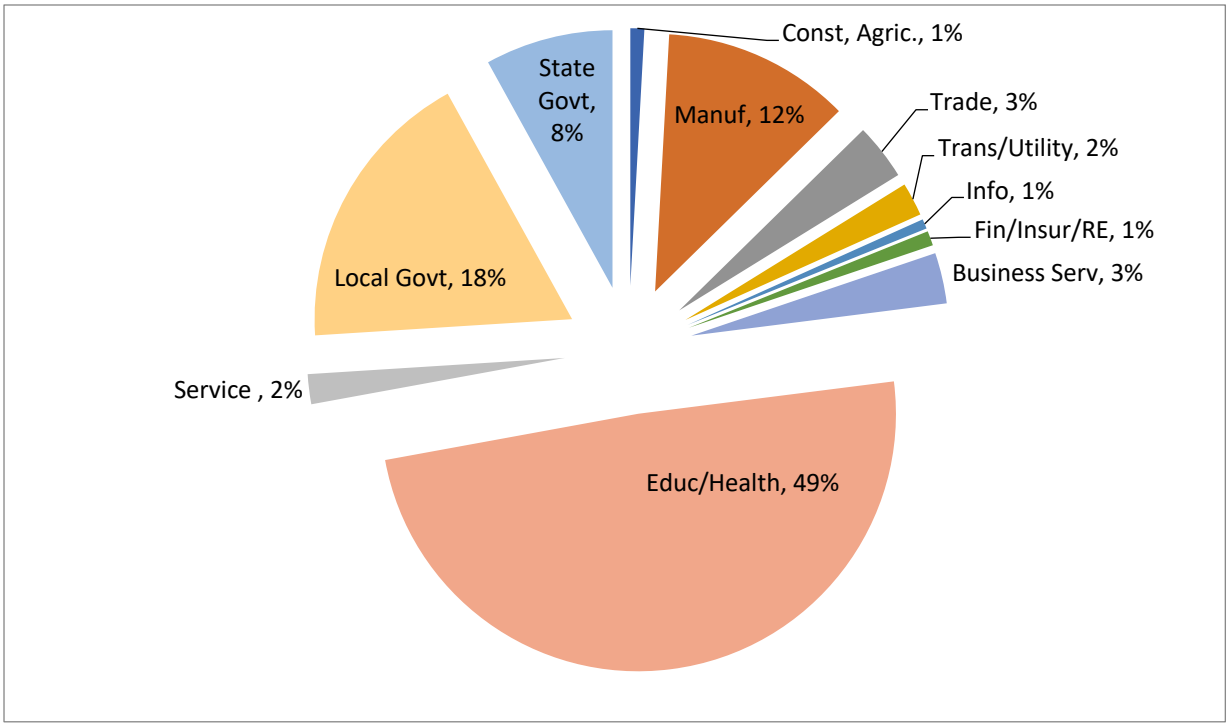


Table E-2: Type of Illness by Industry Sector (NAICS*), OIISS, 2018

Industry	All		Infectious		Lung		MSD		Other		Skin	
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
Construction/ Agriculture	20	1%	1	0%	7	3%	10	2%	1	0%	1	1%
Manufacturing	270	12%	8	1%	44	18%	171	28%	28	13%	19	16%
Trade	81	3%	6	1%	9	4%	56	9%	7	3%	3	3%
Transport/Utilities	48	2%	5	0%	6	2%	32	5%	2	1%	3	3%
Information Services	14	1%	3	0%	3	1%	5	1%	2	1%	1	1%
Finance/Insur/Real Estate	21	1%	3	0%	6	2%	9	1%	2	1%	1	1%
Business Service	73	3%	28	2%	9	4%	20	3%	7	3%	9	8%
Education/Health	1,126	49%	838	73%	49	20%	132	22%	77	37%	30	25%
Other Services	43	2%	6	1%	10	4%	21	3%	5	2%	1	1%
Local Govt	412	18%	145	13%	60	25%	104	17%	55	26%	48	41%
State Govt	184	8%	101	9%	24	10%	36	6%	21	10%	2	2%
Unknown	28	1%	4	0%	14	6%	7	1%	3	1%	0	0%
Total	2,320	100%	1,148	100%	241	100%	603	100%	210	100%	118	100%

* North American Industry Classification System

Industry distribution was somewhat different by condition (Table E-2), although Education and Health was prominent in all the categories of illness. Infectious disease was highly concentrated in Education and Health (73%), with Local Government contributing another 13%. MSD were primarily from Manufacturing (28%),

Education and Health (22%), and Local Government (17%). Dermatitis (skin disorders) was primarily from Local Government (41%), Education and Health (25%), and Manufacturing (16%). Respiratory cases ("Lung") were primarily from Local Government (25%), Education and Health (20%), and Manufacturing (18%). "Other" illnesses were from Education and Health (37%), Local Government (26%) and Manufacturing (13%).

Musculoskeletal Disorders (MSD)

There was a total of 603 reports of musculoskeletal disorders (MSD) in 2018, an increase of 7% from the previous year (Table E-3). This table does not include MSD caused by acute incidents such as falls or individual lifts and also excludes all lower back diagnoses unless specifically defined as caused by cumulative strain. The most common specific diagnoses for musculoskeletal disorders were epicondylitis (tennis elbow) with 18% of the cases, carpal tunnel syndrome (10%), nerve disorders (10%), strains and sprains (9%), and tenosynovitis (8%).

Table E-3: Musculoskeletal Disorders (MSD) by Type, OIISS, 2017-2018

Illness	2017	2018	Percent	Change
Epicondylitis	122	110	18%	-10%
Carpal Tunnel Syndrome (CTS)	85	62	10%	-27%
Other Neuropathy & Radiculopathy (nerve disorder)	50	59	10%	18%
Strain/Sprain	59	56	9%	-5%
Tenosynovitis (including deQuervain's)	69	47	8%	-32%
Trigger Finger	22	38	6%	73%
Bursitis/Arthritis	27	32	5%	19%
Tendonitis	25	32	5%	28%
Ganglion	13	25	4%	92%
Plantar fasciitis	17	13	2%	-24%
Rotator Cuff	5	9	1%	80%
Other MSD	68	120	20%	76%
Total	**562**	**603**	**100%**	**7%**

Musculoskeletal disorders (also referred to as cumulative trauma disorders or repetitive strain injuries) include tendon-related conditions, nerve problems, circulatory, as well as combined conditions.

Tendon Disorders

- Tendonitis: swelling of the tendons
- Epicondylitis: tendon irritation in the elbow area, including "golfer's elbow" and "tennis elbow"
- Rotator Cuff Syndrome: tendonitis in the shoulder area
- Tenosynovitis: inflammation of the tendon sheaths, lubricated covers that surround the tendons, particularly in the hand
- deQuervain's Syndrome: tendon sheath disorder of side of wrist and base of thumb
- Trigger Finger: a bump on the tendon that catches on the tendon sheath that makes the finger or thumb difficult to move
- Ganglion Cysts: swelling of the tendon sheaths from excess lubricating fluid
- Bursitis: inflammation of the fluid-filled sacs around ligaments and tendons

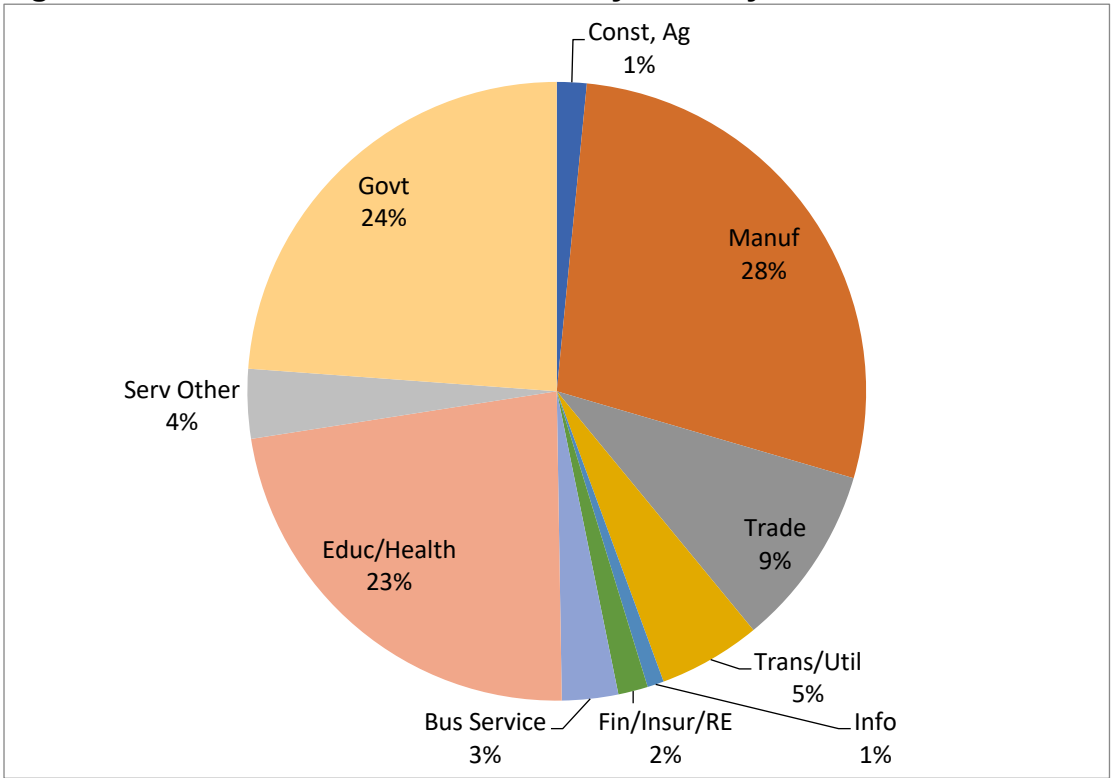
Nerve Disorders

- Carpal Tunnel Syndrome: pinching of the median nerve in the wrist, usually by swollen tendons that pass through the carpal tunnel (median and ulnar nerves can also be pinched in the elbow, shoulder, or neck)

Circulatory/Combined/Other

- Thoracic Outlet Syndrome: pinching of the nerves and blood vessels in the neck/ shoulder area

Figure E-4: Musculoskeletal Disorders by Industry Sector, OIISS, 2018



Note: Government includes education and health care facilities such as city schools and state hospitals

Table E-4: Common causes of MSD, OIISS, 2018

Cause	Cases
Repetitive	70
Lifting	69
Tools, Machines & Vibration	47
Computer/clerical	39
Push/pull	29
Patient-related	17
Gripping/grasping/reaching	15
Standing/walking/running	13
Assembly	11
Kneeling	7
Climbing	4
Other	14
Sub-Total	**335**
Unknown	**268**
Total	**603**

The largest number of MSD's were in Manufacturing (28%), followed by Government (24%), Education and Health (23%), and Trade (9%); see Figure E-4 and Table E-2.Causes for MSD are difficult to classify since they are frequently described differently by the various people recording the case, and most case reports do not describe cause. The most common specific causes noted for MSD (Table E-4) were lifting (69 cases), tool use (47 cases), computer use and data entry (39), and pushing or pulling (29). Seventy (70) additional cases were attributed to the general description of "repetitive".

Skin Conditions

There were 118 reports of skin disorders in 2018 (Table E-5), a 30% decrease from the previous year. The largest single cause was poison ivy or other plant exposures (40% of all cases) followed by other types of contact dermatitis (20%) and allergic dermatitis (19%). Other causes of dermatitis or other skin conditions included cleaning chemicals (4 cases), oil or coolants (4), and other chemicals (14).

Table E-5: Skin Conditions by Type, OIISS, 2017-2018

Illness	2017	2018	Percent	Change
Poison ivy & other plants	53	47	40%	-11%
Contact dermatitis	54	24	20%	-56%
Allergic	20	23	19%	15%
Dermatitis	32	12	10%	-63%
Other skin conditions	9	12	10%	33%
Total	**168**	**118**	**100%**	**-30%**

Lung/Respiratory Diseases and Poisonings

There were 241 cases of respiratory and other lung diseases and poisonings reported by physicians in 2018 (Table E-6), an increase of 55% from the previous year. Nonspecific respiratory illnesses were the most common type of condition, with 26% of reports, followed by asthma or reactive airways dysfunction syndrome (RADS) with 8%, cough (7%), poisonings such as from carbon monoxide, lead, or mercury (5%) and asbestos disease or exposures (5%). In addition to asbestos (some of the asbestos cases appeared to be reports of asbestos *exposures* rather than asbestos-related *disease*) exposures associated with lung conditions included mold (32 cases), dust (14), indoor air quality (12), metal fumes (9), and smoke (8). There were 67 lung cases caused by chemicals including cleaning chemicals (11 cases), ammonia, antifreeze, oxivir, battery acid, fire extinguisher, mykrostat, pepper spray, penetrating oil, welding fumes, painting, candle scent, heroin, benefiber powder, jet fuel, acetone, silver, and formaldehyde.

Table E-6: Respiratory Diseases and Poisoning by Type, OIISS, 2017-2018

Illness	2017	2018	Percent	Change
Respiratory	40	62	26%	55%
Asthma/RADS	34	20	8%	-41%
Cough	8	18	7%	125%
Poisoning	7	13	5%	86%
Asbestos exposure/disease	18	12	5%	-33%
Rhinitis/sinusitis	5	12	5%	140%
Allergic	6	7	3%	17%
Bronchitis	4	1	0%	-75%
Other Lung	33	96	40%	191%
Total	**155**	**241**	**100%**	**55%**

Lead Poisoning (Laboratory Reports)

Connecticut requires laboratories to report all blood lead tests of 10 micrograms per deciliter (ug/dl) of whole blood or greater to the Connecticut Department of Public Health (CGS § 19a-110). These cases are classified into childhood (less than 16 years of age) and adult cases (only adult cases are reported here), with the majority of adult cases being attributed to an individual's occupation (although some cases occur in individuals engaged in activities such as home paint removal or target shooting). Up to a third or more of cases in recent years are related to the use of indoor shooting ranges. The numbers are based on the highest level measured for each individual during the calendar year; they do not include multiple tests on the same individual. OSHA medical removal protections apply at the level of 50 ug/dl of whole blood or above (and require a reduction to 40 ug/dl before return to work). Lead can have neurological, reproductive and other negative effects on health at much lower levels of exposure.

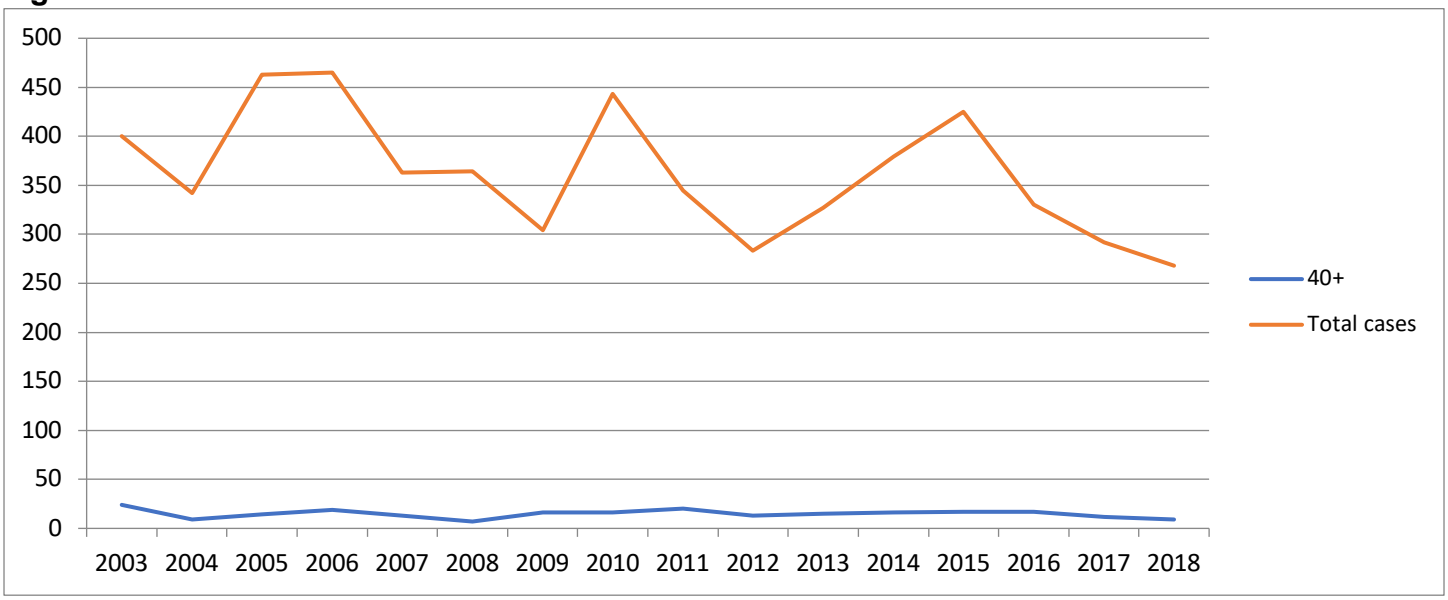
The 268 lead poisoning reports in 2018 decreased 8% from the previous year. The lowest category (10-24 ug/dl) of recorded elevated lead levels accounted for 80% of all cases (Table E-7). There was a decrease in all categories of lead levels. Almost all of the reported lead poisoning cases (90% of cases) occurred in men; there were only 26 reports for women. Thirty-three percent (39%) were under 40 years old, 36% were between 40 and 59, and 25% were age 60 or older.

Table E-7: Lead Cases by Level of Blood Lead, CT ABLES, 2017-2018

Blood lead level*	2017	2018	Percent	Change
10-24	230	215	80%	-7%
25-39	50	44	16%	-12%
40-49	5	5	2%	0%
50-59	3	2	1%	-33%
>=60	4	2	1%	-50%
Total	**292**	**268**	**100%**	**-8%**

Source: Connecticut Adult Blood Lead Epidemiology and Surveillance (ABLES program), CT Dept. of Public Health
* Micrograms per deciliter (ug/dl) of whole blood. Number of individuals with elevated lead levels (multiple tests for individuals were eliminated.)

Figure E-5: Lead Cases 2003-2018



NIOSH (The National Institute of Occupational Safety and Health) has lead level data for 26 states for 2016 (most recent year available; https://www.cdc.gov/niosh/topics/ables/data.html). Connecticut is the 9th highest among those states for the rate of lead levels above 10 ug/dl, with a rate of 1.83 per 10,000 employed adults (compared to the average of 1.58 for the 26 states as a whole). Connecticut was 6th highest for rates of lead levels above 25 ug/dl, with a rate of 0.40 compared to the overall average of 0.28.

Lead cases have fluctuated since 2003, from 400 in 2003 to 268 in 2018, with a high of 465 cases in 2006 and a low of 268 cases in 2018. Cases at or above the OSHA level of 40 ug/dl have stayed relatively constant at 15 to 20 cases since 2004 (Figure E-5), but dropped to 9 in 2018. Fluctuations in the past have been observed due to lead screening programs and special bridge maintenance projects involving the removal of lead paint.

Infectious and Other Diseases

Infectious diseases decreased 16% to 1,148 cases in 2018. Bloodborne pathogen exposures (to needlesticks, blood, body fluids or human bites) or diseases (such as HIV or Hepatitis) were the most common infectious diseases reported, with 1,033 reports in 2018, a 4% decrease over 2017. Bloodborne exposures are of most concern when there is a needlestick or other sharp injury, particularly if there is an injection of blood into the caregiver's body. These reports do not generally specify whether the source patient/client was infected with a bloodborne illness such as HIV or Hepatitis B or C. Other infectious disease reports such as TB and meningitis also may reflect exposures rather than actual illness.

Table E-8: Infectious and Other Illnesses, 2017-2018

Illness	2017	2018	% Change
Bloodborne	1,074	1,033	-4%
Scabies	32	31	-3%
TB/PPD	172	30	-83%
Lyme/tick bite	26	23	-12%
Meningitis	16	6	-63%
Measles/chickenpox	2	6	200%
c-diff	1	2	100%
Rabies	4	1	-75%
MRSA	4	0	-100%
Brucella	3	0	-100%
Other infectious	31	16	-48%
Subtotal: Infectious	**1,365**	**1,148**	**-16%**
Other Illnesses	**2017**	**2018**	**% Change**
Chemicals in eyes	49	33	-33%
Headache/dizzy	20	27	35%
Stress/heart	20	24	20%
Allergic	15	15	0%
Hearing loss	12	15	25%
Heat/cold	12	12	0%
Other	92	84	-9%
Total Other Illnesses	**220**	**210**	**-5%**
Total	**1,585**	**1,358**	**-14%**

Of the bloodborne exposures where cause was noted, 52% (534 cases) were due to a needlestick or sharps injury, despite OSHA regulations that require safe needle devices where available. Thirty-two percent (32%; 328 cases) of the reports were due to blood or body fluid exposures, and 16% (167) were from a human bite. Bites often do not have a description on whether these bites penetrated the skin. Exposure to saliva is not included in these numbers, since the risk of disease transmission is very low in those cases.

There was a large (83%) decrease in reports of potential exposure to tuberculosis (TB) or positive PPD tests for TB (after a large increase last year) with 30 cases in 2018 compared to 172 cases reported in 2017 (there was a high number of exposures in 2017 at one particular hospital). In addition to bloodborne disease/exposures and TB exposures, there were 31 cases of scabies and 23 cases of Lyme disease or tick bites. Most of the "Other Infectious" cases were not well-defined in the database and may include some of the more common reports (such as bloodborne or TB).

In addition to the infectious diseases, there were 210 other occupational illnesses reported by physicians in 2018 (Table E-8), a decrease of 5%. This included 33 cases of chemical exposures to the eyes, 27 cases of headache, dizziness, or similar symptoms, 24 cases of either heart or stress-related conditions, 15 cases of allergic reactions to substances or foods, 15 cases of hearing loss and 12 cases of over-exposures to heat or cold.

F. Appendix 1: Databases and Methods

Determining the incidence of occupational illness is difficult. The problem is two-fold: 1) occupationally-related illness is not consistently recognized as work-related; and 2) the cases reported to either the Department of Labor and/or the Occupational Health Surveillance Division of the Department of Public Health are not complete. Consequently, this assessment of occupational disease reviews a number of sources of information: the Workers' Compensation Commission's First Report of Injury database (WCC), the Bureau of Labor Statistics/Connecticut Dept. of Labor Survey of Occupational Injuries and Illnesses (BLS), the Occupational Illnesses and Injury Surveillance System (OIISS), and the Connecticut Adult Blood Level Epidemiology Surveillance Program (ABLES). The Workers' Compensation database was provided in electronic form from the CT Workers' Compensation Commission and the physicians' reports from the CT Department of Public Health. The BLS survey data was provided in table form from the Connecticut Department of Labor and derived from the U.S. BLS website at https://www.bls.gov/iif/#data.

Assumptions and Conventions

The Workers' Compensation Commission's First Reports of Injury database and the Occupational Illnesses and Injury Surveillance System (OIISS, referred to as Physicians' Reports) were reviewed in depth. A rationale for the data review was developed to differentiate occupational *illnesses* from acute traumatic *injuries* and to classify the workplace reports by nature and cause of the illness. Each entry was reviewed for internal consistency and reasonableness. Specifically, the process employed the following steps:

1) **Clear acute injuries were eliminated**. In assessing the Workers' Compensation First Reports of Injury, a line by line review of injury descriptions, nature descriptions and codes, listed causes, and part of body were used to differentiate whether an injury vs. illness was described. The determination relied most heavily on the text description and then on the other data fields in the order listed above.

The Physicians' Reports are organized differently. Numerical "Nature of Injury or Illness" codes from the Bureau of Labor Statistics Occupational Injury and Illness Classification System (ANSI Z16.2-1995, American National Standard for Information Management for Occupational Safety and Health) were used as the primary indicator to evaluate the records. Cause, certainty, diagnosis, ICD codes, suspected agent and symptom fields were also reviewed in determining illness or injury. Categories that were eliminated included all burns, eye problems such as conjunctivitis or objects in the eye, lower back problems (including sciatica) unless clearly and specifically labeled as a cumulative injury, hernias, infected wounds or burns, insect and animal bites (with the exception of tick bites because of the relationship with Lyme disease), and electrical shocks.

2) **Validity of remaining records was determined.** Records were reviewed to be sure that the coding of types of disease was consistent with other information in the record. In addition, diseases were categorized by type of disease. Several approaches were utilized to eliminate duplicate records such as line by line review and matching on first and last name, date of birth and employer (to identify reports with misspellings or reversed first and last names), etc.

3) **Fields were either revised or added to the databases**: *Illness Type* and *Nature of Illness*. The *Nature of Illness* was based on the information in the databases, research, and general information about the illnesses. Then each entry was categorized by *Illness Type*. The specific nature categories were grouped into broader categories to support graphic representation. For the Workers' Compensation database, the description of injury was used as the key description of the illness if it disagreed with the coding for other variables. This coding was categorized into illness types (i.e.

skin, lung, infectious, MSD, other), specific illness (i.e. Carpal Tunnel Syndrome, heart conditions, asthma), and cause (i.e. chemical exposure, computer use, needlesticks).

4) **Employers were coded for industry** utilizing a comprehensive list of Connecticut employers from the CT Department of Labor and coded based on the NAICS (North American Industry Classification System) for the BLS and workers' compensation data. Employers who could not be found from previous datasets from the Dept. of Labor were coded based on an internet search using such databases as Manta or naics.com. Physician reports were coded by the Connecticut Dept. of Labor. Rates were calculated using employment figures from the U.S. Bureau of Labor Statistics based on Connecticut Dept. of Labor figures.

5) **Data was cleaned, tabulated and put into presentation form** using Microsoft Excel and Word software.

6) **The report is reviewed** and approved by the Connecticut Workers' Compensation Commission prior to publication.

G. Appendix 2: Occupational Disease Detail by Type and Year

Table G-1: Cases of Occupational Disease, by Type, Bureau of Labor Statistics/CT Dept. of Labor, 1979 – 2018

	Employ.*	All Ill	Skin	MSD	Lung-dust	Respir.	Poison	Physical	Other
1979	1,358	3,322	1,716	471	25	317	175	250	368
1980	1,394	3,066	1,586	513	88	214	66	199	400
1981	1,409	3,214	1,509	701	38	290	89	192	395
1982	1,400	2,549	1,130	580	31	223	31	216	323
1983	1,419	2,930	1,236	665	20	154	152	176	519
1984	1,490	2,735	1,109	665	24	273	65	162	432
1985	1,528	2,809	928	727	44	233	51	130	693
1986	1,567	2,719	808	761	39	274	65	235	538
1987	1,607	4,643	1,352	1,430	31	300	62	704	754
1988	1,637	4,364	1,257	405	35	332	56	405	733
1989	1,634	5,844	1,248	2,629	57	277	74	468	1,087
1990	1,593	5,307	1,032	2,535	93	457	54	496	641
1991	1,518	6,094	946	3,454	62	422	113	501	591
1992	1,483	6,458	1,084	3,852	37	471	53	349	612
1993	1,487	8369	965	5526	52	512	166	346	802
1994	1,502	7,319	957	4,482	74	410	97	313	986
1995	1,520	6,787	884	4,220	80	323	35	349	896
1996	1,538	6,021	827	3,711	40	418	34	235	756
1997	1,570	5,419	620	3,335	21	287	70	150	936
1998	1,597	5,510	989	3,398	10	459	45	92	517
1999	1,630	5,513	793	3,306	20	386	71	265	671
2000	1,653	6,396	897	3,827	65	438	29	137	1,003
2001	1,572	5,514	916	3,220	10	630	29	118	591
	Employ.*	All Ill	Skin			Respir.	Poison	Hearing	Other
2002	1,602	4,387	831			320	78		3,159
2003	1,605	4,559	903			490	32		3,132
2004	1,603	4,572	832			354	35	466	2,886
2005	1,614	4,850	848			480	8	381	3,134
2006	1,636	3,787	575			235	38	439	2,500
2007	1,667	3,904	624			358	22	457	2,443
2008	1,675	3,562	690			293	130	360	2,088
2009	1,629	3,400	600			300	--	500	2,000
2010	1,629	3,000	700			300	--	300	1,700
2011	1,578	3,500	800			300	--	300	2,100
2012	1,628	2,800	600			300	--	300	1,500
2013	1,640	2,600	500			300	--	300	1,600
2014	1,653	2,400	400			200	--	300	1,400
2015	1,663	2,300	400			200	--	200	1,500
2016	1,667	2,300	500			200	--	300	1,300
2017	1,670	1,700	400			100		200	900
2018	1,673	1,800	300			200		400	1,000

Source: U.S. Bureau of Labor Statistics (BLS) and the Connecticut Dept. of Labor, Office of Research. Data collection methods and categories changed in 2002 and are not comparable to prior years. Employment in thousands. Since this data is based on a weighted survey, some of these numbers (particularly the smaller numbers) are not reliable.

Table G-2: Rate per 10,000 Workers of Occupational Disease, by Type, Bureau of Labor Statistics/CT Dept. of Labor, 1979-2018

Year	Employed	Skin	MSD	Resp/Lung	Poisoning	Other	Hearing	Total
1979	1,358,000	12.6	3.5	2.5	1.3	8.2		24.5
1980	1,394,000	11.4	3.7	2.2	0.5	8.6		22
1981	1,409,000	10.7	5	2.3	0.6	9.4		22.8
1982	1,400,000	8.1	4.1	1.8	0.2	8.2		18.2
1983	1,419,000	8.7	4.7	1.2	1.1	9.7		20.6
1984	1,490,000	7.4	4.5	2	0.4	8.6		18.4
1985	1,528,000	6.1	4.8	1.8	0.3	10.4		18.4
1986	1,567,000	5.2	4.9	2	0.4	10		17.4
1987	1,607,000	8.4	8.9	2.1	0.4	18.2		28.9
1988	1,637,000	7.7	2.5	2.2	0.3	9.6		26.7
1989	1,634,000	7.6	16.1	2	0.5	26		35.8
1990	1,593,000	6.5	15.9	3.5	0.3	23.6		33.3
1991	1,518,000	6.2	22.8	3.2	0.7	30.4		40.1
1992	1,483,000	7.3	26	3.4	0.4	32.7		43.5
1993	1,487,000	6.5	37.2	3.8	1.1	45.2		56.3
1994	1,501,800	6.4	29.8	3.2	0.6	39		48.7
1995	1,520,000	5.8	27.8	2.7	0.2	36.5		44.7
1996	1,538,000	5.4	24.1	3	0.2	30.8		39.1
1997	1,570,500	3.9	21.2	2	0.4	28.3		34.5
1998	1,596,900	6.2	21.3	2.9	0.3	25.2		34.5
1999	1,630,100	4.9	20.3	2.5	0.4	26.1		33.8
2000	1,653,000	5.4	23.2	3	0.2	30.4		38.7
2001	1,571,000	5.8	20.5	4.1	0.2	25.1		35.1
Year	**Employ**	**Skin**		**Respiratory**	**Poison**	**Other**	**Hearing**	**Total**
2002*	1,602,000	6.2	*	2.4	0.6	23.7	*	32.9
2003	1,605,000	6.9	*	3.8	0.2	24	*	34.9
2004	1,603,100	6.4	*	2.7	0.3	22.1	3.6	34.9
2005	1,614,100	6.3	*	3.6	*	23.3	2.8	36
2006	1,635,700	4.3	*	1.8	0.3	18.8	3.3	28.4
2007	1,666,600	4.7	*	2.7	0.2	18.2	3.4	29.2
2008	1,666,600	4.7	*	2.7	0.2	18.2	3.4	29.2
2009	1,675,000	5.1	*	2.2	1	15.4	2.7	26.3
2010	1,639,300	5.1	*	2.1	*	13.1	2.5	23.1
2011	1,578.20	6.3	*	2	*	16.8	2.5	27.8
2012	1,628,028	4.6	*	2.6	*	12	2.6	21.9
2013	1,640,223	3.5	*	2	0.2	12.4	2.2	20.3
2014	1,653,545	3.4	*	1.9	*	11	2.1	18.7
2015	1,662,822	3.0	*	1.5	0.2	11.3	1.7	17.7
2016	1,666,580	3.0	*	1.3	*	10.0	2.2	17.4
2017	1,669,766	2.9	*	1.1	0.4	6.7	1.9	12.9
2018	1,673,867	1.9		1.4		7.8	3	14.1

Source: U.S. Bureau of Labor Statistics (BLS) and the Connecticut Dept. of Labor, Office of Research. "Other" includes the pre-2002 categories of MSD, Physical, Lung-dust, and Other. *Data collection methods and categories changed in 2002 and are not comparable to prior years.

H. Appendix 3: Internet Resources for Job Safety and Health: 2020

General Health and Safety Sites

One of the best sources of information for job health and safety on the internet is the **OSHA** (**Occupational Safety and Health Administration**) homepage, which includes an ergonomics homepage, worker rights, employer assistance, sector-specific and topic-specific standards and advice, a searchable index of standards, e-tools, COVID-19 guidelines and many other resources. http://www.osha.gov

To look up **OSHA citations** by company or industry: http://www.osha.gov/pls/imis/establishment.html

OSHA funds a number of **training programs for workers**, community groups and managers across the U.S. through their Susan Harwood Training grants at https://www.osha.gov/dte/sharwood.

OSHA has a resource page for **medical clinicians** at https://www.osha.gov/dts/oom/clinicians/index.html

The **Bureau of Labor Statistics** tracks occupational injuries and illnesses as well as fatalities. Both summaries and the actual data are available at https://www.bls.gov/iif.

NIOSH (the National Institute for Occupational Safety and Health) is another good general source. A searchable section on diseases and injuries briefly describes conditions with updates on current research and guidance on prevention, including personal protective equipment tests and advice. There are also resources on health hazard evaluations, conferences, state-based materials, rulemaking, chemicals, disease statistics, and many other topics.

http://www.cdc.gov/niosh/homepage.html http://www.cdc.gov/niosh/topics/diseases.html

NIOSH supports a large number of **Education and Research Centers (ERCs)** based at universities across the US. Expert centers also include **agriculture, construction, and total worker health centers** (for example, see the link for the UConn CPH-NEW program below). ERCs primary purpose is to train health and safety professionals, so the various ERCs host a broad array of training programs for safety experts, industrial hygienists, ergonomists, occupational physicians and nurses and other professionals. In addition, the programs provide extensive in-service training programs for professionals already in the field as well as occasional programs for workers, health and safety committee members, and managers. They are also home to extensive research programs and consultation programs. The list of ERC's and related centers can be found at https://www.cdc.gov/niosh/oep/ercportfolio.html.

NIOSH has a **workplace health promotion** website which includes information and tools for assessing health and health promotion programs at https://www.cdc.gov/workplacehealthpromotion/initiatives/resource-center/index.html

EPA (the Environmental Protection Agency**)** has a number of sites relevant to occupational health on indoor air quality, office and school environments, and other topics.

www.epa.gov www.epa.gov/iaq/

American Family Physician also has a number of articles on occupational health for clinicians at https://www.aafp.org/afp/topicModules/viewTopicModule.htm?topicModuleId=89.

The **Veterans Administration (VA)** occupational health department has resources on **safe patient handling, wellness, and workplace violence prevention**. https://www.publichealth.va.gov/about/occhealth/index.asp

The **Council of State and Territorial Epidemiologists** (CSTE) has links to reports, contacts and resources in occupational health https://www.cste.org/group/OHResources. Occupational health indicators are posted at https://www.cste.org/page/OHIndicators.

The **Canadian Centre for Occupational Health and Safety** has hundreds of resources on their health and safety internet resource list, including Cheminfo, occupational mental health and stress. http://www.ccohs.ca

New Jersey Department of Health has 1,600 excellent **chemical hazard factsheets** that are free, independently researched, and clearly written (900 in Spanish) on hundreds of substances.
http://web.doh.state.nj.us/rtkhsfs/indexfs.aspx

MSDSonline is a commercial website but has free searches for Safety Data Sheets (SDS) under the Globally Harmonized system at https://www.msdsonline.com/sds-search**.**

Several safety organizations have useful websites:

www.nsc.org	The National Safety Council
www.aiha.org	The American Industrial Hygiene Association
www.asse.org	American Society of Safety Professionals
www.nfpa.org	National Fire Protection Association
www.safetycentral.org	International Safety Equipment Association

For a labor perspective, the **national AFL-CIO** includes a health and safety page.
http://www.aflcio.org/Issues/Job-Safety

COSH (Coalitions for Occupational Safety and Health) are labor-oriented nonprofit groups based in many states, including Connecticut, with information on a variety of hazards. They can all be accessed through the National Coalition for Occupational Safety and Health http://www.coshnetwork.org

The **Connecticut Business and Industry Association** has a health and safety page that helps businesses understand what OSHA laws apply to them and provides information on upcoming conferences and events.
https://www.cbia.com/news/category/hr-safety

The **Environmental Defense Fund** has a "pollution information site" called Scorecard with information about 11,200 chemicals and their recognized and suspected health effects. The site offers information with interactive data based on the 2002 Toxics Release Inventory and is currently working on providing an update.
http://www.scorecard.org/

The **Cal-OSHA Reporter** (California OSHA) carries current stories on job health and safety.
http://www.cal-osha.com

Some **blogs carry job health and safety news and commentary.**

Jordan Barab has a labor perspective on OSHA and job health and safety
http://jordanbarab.com/confinedspace

The USMWF United Support and Memorial for Workplace Fatalities posts current stories about workers who have been killed on the job and their families https://www.facebook.com/USMWF or www.usmwf.org

The Pump Handle covers public health and occupational health, written by Liz Borkowski and Celeste Monforton http://www.thepumphandle.org.

Workers' compensation issues are covered at the Workers' Compensation Research Institute at https://www.wcrinet.org and at the insider publication http://workerscompinsider.com.

The **Toxic Use Reduction Institute** at UMass Lowell has extensive resources on safer alternatives to toxic substances, including a database on alternatives to solvents. http://www.turi.org

UMass-Lowell's Center for Sustainable Production has information on changing chemical policies.
http://www.sustainableproduction.org/

The **Health and Safety Executive of Great Britain** has extensive information on the European Union's REACH (Registration, Evaluation, and Authorization of Chemicals).
http://www.hse.gov.uk/reach/index.htm http://www.hse.gov.uk/index.htm

OSHA has a discussion of the US program that responds to the International Globally Harmonized System for Hazard Communication. http://www.osha.gov/dsg/hazcom/global.html.

State of Connecticut and Select Other Resources

The **Connecticut Workers' Compensation Commission** has an excellent website, including information on the locations of offices, a searchable version of the workers' compensation statutes, new decisions, and other information. http://wcc.state.ct.us

The **Connecticut (CT)** website allows access to all branches of state government including agencies.
https://portal.ct.gov

The **CT Department of Public Health** includes a site for the occupational health program, including database access, health alerts and fact sheets on a wide variety of occupational health topics including lead.
http://www.ct.gov/dph/occupationalhealth

The **CT Department** of **Labor** includes an occupational health services site, which includes information on their free Conn-OSHA consultation program and a great set of links to other health and safety sites including regulations, training, and Spanish publications. CTDOL offers a variety of consulting services to both public and private employers in Connecticut, available at no charge. http://www.ctdol.state.ct.us/osha/osha.htm

The **Connecticut General Assembly** website lets you search for any bill being considered or get information about relevant committees such as Labor and Public Employees or Public Health. http://www.cga.ct.gov

You can track national bills on the **National Library of Congress** site. https://www.congress.gov/

You can search the medical literature at **US National Library of Medicine PubMed**.
http://www.ncbi.nlm.nih.gov/pubmed/

You can search general academic literature through **Google Scholar**. http://scholar.google.com/schhp?tab=ws

UConn Health's Division of Occupational and Environmental Medicine has information and links on job health and safety. http://health.uconn.edu/occupational-environmental

The **Center for the Promotion of Health in the New England Workplace (CPH-NEW)** is a research-to-practice initiative led by investigators from the UMass Lowell and UConn Health.
http://health.uconn.edu/occupational-environmental/academics-and-research/cph-new/

UConn Health's Center for Indoor Environments and Health provides guidance on environmental exposures in indoor settings including schools and office buildings
http://health.uconn.edu/occupational-environmental/consultation-and-outreach/cieh/

Ergonomic Sites and Links

Thomas Bernard's website at **University of South Florida** has many of the standards and excellent free electronic ergonomic analysis tools such as the NIOSH lifting equation and heat stress. https://health.usf.edu/publichealth/tbernard.

Ergoweb has good factsheets, documents, and news. https://ergoweb.com

Tom Armstrong at the **University of Michigan** runs one of the most respected university training programs for ergonomics, and has extensive information, tools, and lectures. http://www-personal.umich.edu/~tja

Cornell University's Alan Hedge has an active ergonomics program, with reports posted on graduate student projects and evaluation of ergonomic products. http://ergo.human.cornell.edu

The University of Virginia has ergonomics training and resources. http://ehs.virginia.edu/Ergonomics.html

Human Factors and Ergonomics Society is the main professional association in ergonomics. http://www.hfes.org

Since 1994, the **National Ergonomics Conference & Ergo Expo** has provided a forum on ergonomics, safety and wellness programs. http://www.ergoexpo.com

The National Health Service/UK has information about repetitive strain injuries/RSI http://www.nhs.uk/conditions/Repetitive-strain-injury/Pages/Introduction.aspx

Paul Landsbergis has a good website on job stress. http://unhealthywork.org/about-us/team/paul-a-landsbergis

The **European Agency for Health and Safety at Work's Job Stress Network** web page is dedicated to increasing communication among researchers and others interested in job stress and its impact on health https://osha.europa.eu/data/links/795

Internet Resources for Job Safety and Health is compiled by Tim Morse, Ph.D., at UConn Health. To update or add a listing, please contact Tim at tmorse@uchc.edu.

I. Appendix 4: Who's Who: Resources in Connecticut on Job Safety and Health

Academic Programs and Courses

Central Connecticut State University, School of Technology
Type of Degree: Certificate Program in Environmental and Occupational Safety
Faculty contact: Ravindra Thamma, Department Chair
Address: Copernicus Hall - Room 2120900, CCSU, 1615 Stanley Rd., New Britain, CT 06050
Phone: 860-832-3516
e-mail: thammarav@ccsu.edu
Web: http://www.ccsu.edu/mcm/environmentalOccupationalSafetyOCP.html

UConn College of Agriculture, Health and Natural Resources, Department of Allied Health Sciences
Type of Degree and Program: Bachelor in Allied Health Sciences with an Occupational and Environmental Health and Safety Concentration; and an Online Occupational Safety and Health Post-Baccalaureate Certificate Program
Faculty contact: Paul Bureau, MS CIH
Address: Koons Hall Room 100-G, 358 Mansfield Road, Unit 1101, Storrs, CT 06269-1101
Phone: (860) 486-0040
e-mail: paul.bureau@uconn.edu
Web: http://osh.uconn.edu

UConn Health, Department of Community Medicine
Type of Degree: Masters in Public Health program with ergonomic/occupational health courses
Director: David Gregorio, PhD
Address: UCONN Health, 263 Farmington Ave., Farmington, CT 06030-6325
Phone: (860) 679-5480
Fax: (860) 679-1581
e-mail: gregorio@uchc.edu
Web: https://mph.uconn.edu

UConn Health, Department of Community Medicine
Type of Degree: Ph.D. in Public Health with courses in Occupational and Environmental Health Sciences
Faculty Contact: Helen Swede, Ph.D.
Address: UCONN Health, 263 Farmington Ave., Farmington, CT 06030-6325
Phone: (860) 679-5568
Fax: (860) 679-1581
e-mail: swede@uchc.edu
Web: https://phd.publichealth.uconn.edu

OSHA

Connecticut Department of Labor's Division of Occupational Safety and Health/CTDOL: CONN-OSHA enforces state occupational safety and health regulations as they apply to state and municipal employees, and offers free consultations to public agencies, school districts and private companies.
Director: Kenneth C. Tucker III
Address: 38 Wolcott Hill Rd., Wethersfield, CT 06109
Phone: (860) 263-6900
Fax: (860) 263-6940
Web: http://www.ctdol.state.ct.us/osha/osha.htm
Publications: ConnOSHA Quarterly https://www.ctdol.state.ct.us/osha/Quarterly/coqtrly.htm

OSHA (Occupational Safety and Health Administration): Federal OSHA inspects workplaces in the private sector for violations of standards, and also has information and pamphlets.
National Website: https://www.osha.gov

OSHA Bridgeport Office (Fairfield, New Haven, and Middlesex counties).
Area Director: Steve Biasi
Address: 915 Lafayette Blvd, Room 309, Bridgeport, Connecticut 06604
Phone: (203) 579-5581; National Hotline after hours: (800) 321-OSHA (6742)
Fax: (203) 579-5516
e-mail: oshabridgeport@dol.gov

OSHA Hartford Office
Area Director: Dale Varney
Address: 135 High Street, Suite 361, Hartford, CT 06103
Phone: (860) 240-3152; National Hotline after hours, etc.: (800) 321-OSHA (6742)
Fax: (860) 240-3155
e-mail: oshahartford@dol.gov

Academic Occupational Health Clinics

UConn Occupational and Environmental Medicine Clinic
Clinic Director: George W. Moore, M.D., M.Sc., FACPM, FACOEM
Address: UCONN Health, 263 Farmington Ave, Farmington, CT 06032-8077
Clinic address: UCONN Main Building (Hospital Entrance), Room CG228
Phone: (860) 679-2893
Fax: (860) 679-4587
e-mail: occmedehs@uchc.edu
Web: http://health.uconn.edu/occupational-environmental/clinical-services/

Yale Occupational and Environmental Medicine Program
Director: Carrie A Redlich, MD, MPH
Address: 367 Cedar Street, ESHA 2nd Floor, New Haven, CT 06510
Clinic address: 135 College St. Rm. 392, New Haven, CT 06510
Phone: (203) 785-4197
Fax: (203) 785-7391
e-mail: Carrie.Redlich@yale.edu
Web: http://medicine.yale.edu/intmed/occmed/

Other Occupational Health Clinics

Concentra
Medical Director: David Feinstein, MD
Address: 701 Main Street, East Hartford, CT 06108
Phone: (860) 289-5561
Fax: (860) 291-1895
e-mail: david_feinstein@concentra.com
Web: http://www.concentra.com/employers/occupational-health/
Other Offices:
972 West Main Street, New Britain (860) 827-0745
1080 Day Hill Road, Windsor (860) 298-8442
8 South Commons Rd, Waterbury (203) 759-1229
333 Kennedy Drive, Torrington (860) 482-4552
900 Northrup Rd, Wallingford (203) 949-1534
370 James Street, New Haven (203) 503-0482
60 Watson Blvd, Stratford (203) 380-5945
15 Commerce Road, 3rd Floor, Stamford, (203) 324-9100
315 West Main St, Norwich, (860) 859-5100

Connecticut Occupational Medicine Partners, St. Francis Hospital and Medical Center
CEO and Administrative Director: Jeff Schlosser
Address (corporate): 675 Tower Avenue, Suite 404B, Hartford, CT 06112
Phone: (860) 714-6188
Fax: (860) 714-2775
email. jefferyschlosser@trinityhealthofne.org
Web: http://compllc.org/
Clinics: St Francis; 1000 Asylum Ave, Ste 4320, **Hartford**, 860-714-4270; 1598 East Main St, **Torrington**, (860) 482-3467; 100 Deerfield Road, **Windsor**, 860-714-9444
St. Mary's Hospital Occupational Health, 1312 West Main St, Waterbury, CT 06708**, (**203) 709-3740; 1154 Highland Ave, Cheshire, 06410, 203-709-4834
ECHN Corporate Care; 2800 Tamarack Ave., Suite 001, South Windsor, CT 06074, (860) 647-4796
MedWorks of Bristol Hospital; 975 Farmington Ave. Bristol (860) 589-0114
MedWorks; 375 East Cedar St., Newington (860) 667-4418
Johnson Memorial Medical Center: Director, Clinical Services: Kathy Heim, RN, MSN 155 Hazard Ave., Suite 6. Enfield, CT 06082, (860) 763-7668

Griffin Hospital Occupational Medicine Center
Director: Myra Odenwaelder, DPT
Address: 10 Progress Drive. Shelton, CT 06484
Phone: (203) 944-3718
Fax: (203) 929-3068
e-mail: Modenwaelder@griffinhealth.org
Web: http://www.griffinhealth.org/locations/shelton/griffin-hospital-occupational-medicine-center

Hartford Medical Group—Occupational Medicine
Business Development Director: Suzanne Cutter
Clinic Address: 445 South Main Street, West Hartford, (860) 696-2200
Phone: (860) 993-4441 (business office); (860) 696-2200, option 2 (clinic)
e-mail: Suzanne.Cutter@hhchealth.org
Web: https://hartfordhealthcaremedicalgroup.org/specialties/primary-care/occupational-medicine
Other Offices; 80 Norwich-New London Tnpk, Uncasville, 06382, 860-848-1297, option 2

Middlesex Hospital Occupational Medicine
Director: Matthew Lundquist, MD, MPH
Address: 534 Saybrook Rd., Middletown, CT 06457
Phone: (860) 358-2750
Fax: (860) 348-2757
e-mail: matthew.lundquist@midhosp.org
Web: https://middlesexhealth.org/occmed
Other Office: Essex Medical Building, 252 Westbrook Road, Essex (860) 358-3840

Yale-New Haven Health Systems
Manager for Clinical Operations (St. Raphael campus): Andrea Santerre, RN
Address: 175 Sherman Avenue, New Haven, CT 06511
Phone: (203) 789-6216
Fax: (203) 789-5174
e-mail: andrea.santerre@ynhh.org
Web: https://www.ynhh.org/services/occupational-health.aspx
Other Offices:
2080 Whitney Ave., Suite 150, **Hamden** (203) 789-6242
Greenwich Hospital, 5 Perry Ridge Rd, (203) 863-3483
Bridgeport Hospital, (203) 988-2551
20 York St., **New Haven**, 203-688-4242

Lawrence and Memorial Occupational Health Center
Medical Director: Cullen Taplin**,** MD
Address: 52 Hazelnut Hill Rd., Groton, CT 06340
Phone: (860) 446-8265 x7074
Fax: (860) 448-6961
Email: Cheryl.cobb@lmhosp.org
Web: https://www.lmhospital.org/services/occupational-health.aspx

Organizations

American Lung Association (ALA) in Connecticut
A non-profit association geared towards preventing lung disease including occupational lung disease.
Director, Health Promotion: Michelle Caul
Connecticut Address: 45 Ash St., East Hartford, CT 06108
Phone: (860) 838-4370
e-mail: Michelle.Caul@lung.org
Web: Lung.org

Coalition for a Safe and Healthy Connecticut
This is a community-based coalition of environmental, public health, and labor organizations providing resources and advocacy for reducing the use of toxic chemicals through substitution of safer alternatives.
Coordinator: Anne B. Hulick, RN MS JD
Address: c/o Clean Water Action, 2074 Park Street, Suite 308, Hartford, CT, 06106
Phone: (860) 232-6232
Fax: (860) 232-6334
e-mail: ahulick@cleanwater.org
Web: https://safehealthyct.wordpress.com

ConnectiCOSH (The Connecticut Council for Occupational Safety and Health)
CTCOSH is a union-based non-profit organization for education and political action on job safety and health. They have conferences, fact sheets, and speakers.
Director: Mike Fitts
Address: 683 No. Mountain Rd, Newington, CT 06111
Phone: (860) 953-COSH (2674)
Fax: (860) 953-1038
e-mail: mike.ctcosh@snet.net
Web: http://connecticosh.org

The Center for the Promotion of Health in the New England Workplace (CPH-NEW)
CPH-NEW is a NIOSH-funded center for scientific research and education, based in participatory action research, integrating occupational health and safety with worksite health that is administered jointly by UMass Lowell and UConn Health.
Co-Director: Martin Cherniack, MD, MPH
Address: 263 Farmington Ave, Farmington, CT 06030-2017
Phone: (860) 679-4916
Fax: (860) 679-1349
e-mail: cherniack@uchc.edu
Web: http://health.uconn.edu/occupational-environmental/academics-and-research/cph-new/

The Ergonomic Technology Center (ErgoCenter) at UConn Health
The ErgoCenter is a center for prevention of repetitive strain injuries based at UCONN Health, which does training, research, and clinical care.
Contact: Jennifer Garza, ScD, Ergonomist
Address: 263 Farmington Ave, Farmington, CT 06030-8077
Phone: (860) 679-4916
Fax: (860) 679-1349
Phone: 860-679-5418
e-mail: garza@uchc.edu
Web: https://health.uconn.edu/occupational-environmental/consultation-and-outreach/ergonomics-consultation/

UConn Health- Center for Indoor Environments and Health (CIEH)
The CIEH at the University of Connecticut Health Center works with public health agencies, companies, clinics and individuals to promote indoor environments which protect the health of building occupants and provide productive, creative spaces for learning and work. The website on hurricane health (below) provides educational materials on protecting workers from exposures when addressing flooded buildings after severe wet weather.
Director: Paula Schenck, MPH
Address: 263 Farmington Ave, Farmington, CT 06030-8077
Phone: (860) 679-2368
Fax: (860) 679-1349
e-mail: schenck@ uchc.edu
Web: http://health.uconn.edu/occupational-environmental/consultation-and-outreach/cieh/
http://hurricane-weather-health.doem.uconn.edu

Professional Associations

American Industrial Hygiene Association (AIHA), Connecticut River Valley Section
AIHA is a professional association for industrial hygienists.
Contact: Kristin Cramer
Phone: (203) 675-2821
e-mail: kristen.cramer2821@gmail.com
Web: http://www.crvaiha.wildapricot.org

Connecticut Safety Society
This society is a professional association for anyone that promotes occupational safety, health, and accident prevention in CT.
Treasurer: Thomas Schinkel
Phone: (860) 462-1349
e-mail: schinkfam@gmail.com
Web: Facebook Group – Connecticut Safety Society

American Society of Safety Professionals (ASSP)
American Society of Safety Professional members are dedicated to creating safe work environments by preventing workplace fatalities, injuries and illnesses. Sound safety practices are a legal requirement, socially responsible and good business, leading to increased productivity, a better reputation and higher employee satisfaction.
Connecticut Valley Chapter
President: Ed Zimmer
e-mail: president@ctvalley.assp.org
Web: http://ctvalley.assp.org

Air & Waste Management Association (AWMA), Connecticut Chapter
AWMA provides training, information, and networking opportunities to environmental professionals. The Connecticut Chapter, New England Section, provides periodic forums for discussion and sponsors an annual student scholarship.
Chair: David Krochko
Phone: (888) 265-8969
e-mail: dkrochko@woodardcurran.com
Web: http://awmact.org

Connecticut Trial Lawyers Association, Workers' Compensation Committee
CTLA is a professional association of attorneys whose mission reads *Trial lawyers protecting individual rights through fair laws and access to justice.* The purpose of this section is to ensure that workers who have been injured or suffered illness arising out of and in the course of their employment are provided the benefits to which they are entitled under the Connecticut Workers' Compensation Act.
Executive Director: Joan D. Maloney
Workers' Compensation Section Chair: Nathan Shafner
Address: 150 Trumbull Street, 2nd Floor, Hartford, CT 06103
Phone: (860) 522-4345
Fax: (860) 522-1027
e-mail: jmaloney@cttriallawyers.org
Web: https://www.cttriallawyers.org

Connecticut Bar Association, Workers' Compensation Section
This is a professional association of attorneys who concentrate in workers' compensation.
Chair: Colette Griffin
Phone: (860) 875-7000
E-mail: cgriffin@HL-Law.com
Web: https://www.ctbar.org/members/sections-and-committees/sections/workers'-compensation

New England College of Occupational and Environmental Medicine/NECOEM
NECOEM is a not-for-profit organized community of physicians that strives to improve the health and safety of workers, workplaces, and environments.
Executive Director: Dianne Plantamura, MSW, CSS
Address: 22 Mill Street, Groveland, MA 01834
Phone: (978) 373-5597
e-mail: necoem@comcast.net
Web: http://www.necoem.org/

Connecticut Association of Occupational Health Nurses (CTOHN)
CTAOHN is an association of occupational health nurses, including most of the nurses working in industry.
CT President: Richard Sandrib, BSN, MS, APRN
Address: BMS, 3551 Lawrenceville Road, Princeton, NJ 08540
Phone: (609) 252-3643 (office) or (860) 806-1721 (cell)
e-mail: richard.sandrib@bms.com
Web: https://ctaohn.nursingnetwork.com

Connecticut State Agencies

Department of Public Health (DPH), Occupational Health Unit
This unit investigates clusters of occupational diseases. Programs for radon, asbestos, drinking water, lead, asthma, CT
Schools Environmental Resource Team, TB control and infectious disease are also at the DPH.
Director: Thomas St. Louis, MSPH
Address: DPH/ OHP, 410 Capitol Ave, MS #11EOH, PO Box 340308, Hartford, CT 06134-0308
Phone: 860) 509-7740
Fax: (860) 509-7785
e-mail: Thomas.st.louis@ct.gov
Web: http://www.ct.gov/dph/occupationalhealth

State Department of Emergency Services and Public Protection
The Department of Emergency Services and Public Protection (DESPP) is comprised of the Commission on Fire Prevention and Control, the CT State Police, Emergency Management and Homeland Security, the Police Officers Standards and Training Council, Scientific Services, and Statewide Emergency Telecommunications.
Public Information Officer: Brian Foley
Phone: (860) 463-9777
Fax: (860) 685-8902
e-mail: brian.foley@ct.gov
Web: https://portal.ct.gov/despp

State Emergency Response Commission, Department of Energy and Environmental Protection
This commission oversees plans for response to chemical accidents and collects chemical information for the public under Community Right to Know.
Chairman: Gerard P. Goudreau
Address: 79 Elm St, Hartford, CT 06106-5127
Phone: (860) 424-3373
Fax: (860) 424-4062
e-mail: deep.ctepcra@ct.gov
Web: http://www.ct.gov/serc

Connecticut Fire Academy, Commission on Fire Prevention & Control
Safety training & standards compliance.
Training Director: Bill Higgins
Address: 34 Perimeter Road, Windsor Locks, CT 06096-1069
Phone: 860-264-9272 or toll free (877) 5CT-FIRE (only in CT)
Fax: (860) 654-1889
e-mail: william.higgins@ct.gov
Web: http://www.ct.gov/cfpc/site/default.asp

Connecticut Department of Environmental Protection, Radiation Safety Unit
Director: Jeff Semancik
Phone: (860) 424-3029; (860) 424-3333 24/7 Emergency
Fax: (860) 706-5339
e-mail: jeffrey.semancik@ct.gov
Web: http://www.ct.gov/deep/cwp/view.asp?a=2713&q=324824&deepNav_GID=1639

Workers' Compensation Commission
Chairman's Office and Compensation Review Board
The Workers' Compensation Commission (WCC) administers the workers' compensation laws of the State of Connecticut with the ultimate goal of ensuring that workers injured on the job receive prompt payment of lost work time benefits and attendant medical expenses. To this end, the Commission holds hearings on disputed matters, facilitates voluntary agreements, makes findings and awards, hears and rules on appeals, and closes out cases through full and final stipulated settlements.

The WCC Safety & Health Services unit assists employers with implementation of the workers' compensation regulations regarding "Establishment and Administration of Safety and Health Committees at Work Sites."

Chairman: Stephen M. Morelli
Address: 21 Oak St., 4th Floor, Hartford, CT 06106-8011
Phone: (860) 493-1500
Information: (800) 223-WORK (9675)
Fax: (860) 247-1361
e-mail: wcc.chairmansoffice@po.state.ct.us
Web: http://wcc.state.ct.us/

Workers' Compensation District Offices
1. 999 Asylum Ave., **Hartford**, CT 06105; (860) 566-4154; Fax: (860) 566-6137
2. 55 Main St., **Norwich**, CT 06360; (860) 823-3900; Fax: (860) 823-1725
3. 700 State St., **New Haven**, CT 06511; (203) 789-7512; Fax: (203) 789-7168
4. 350 Fairfield Ave., 2nd Floor, **Bridgeport**, CT 06604; (203) 382-5600; Fax: (203) 335-8760
5. 55 West Main St., **Waterbury**, CT 06702; (203) 596-4207; Fax: (203) 805-6501
6. 24 Washington St., **New Britain**, CT 06051; (860) 827-7180; Fax: (860) 827-7913
7. 111 High Ridge Rd., **Stamford**, CT 06905; (203) 325-3881; Fax: (203) 967-7264
8. 90 Court St., **Middletown**, CT 06457; (860) 344-7453; Fax: (860) 344-7487

The Who's Who is compiled by Tim Morse, Ph.D., at UConn Health. To update or add a listing, please contact Tim at tmorse@uchc.edu.