

Surveillance of Work-related Injuries and Illnesses in Massachusetts: Data for Action

Letitia Davis, ScD, EdM Occupational Health Surveillance Program Massachusetts Department of Public Health (DPH)

> Tuesday, March 26th, 2019 10:25 – 10:55 am

> > Work Related Injuries Workshop March 25th & 26th, 2019

Today's learning objectives

- Increased understanding of role of public health departments in surveillance and prevention of workrelated injury and illness states
- Increased awareness of the role healthcare providers in surveillance

Public Health Surveillance

On-going, systematic

- collection, analysis, and interpretation of
- health data essential to the planning, implementation and evaluation of public health practice
- DISSEMINATION OF THESE DATA to those who need to know for the purposes of prevention

Teutsch and Churchill: Principles and Practice of Public Health Surveillance

Types of Occupational Health Data

- Health endpoints:
 - work-related injuries
 - illnesses (e.g. silicosis, work-related asthma)
 - biologic measures of exposure (e.g. blood lead levels)
- Hazards (exposures)
- Interventions (e.g. flu vaccinations)

Types of Surveillance Systems

- Population-based
 - Collection of representative data to monitor trends over time, locale, etc.
 - Often anonymous
- Case-based
 - Collection of personally identifiable case level data that allow for immediate public health action
- Not mutually exclusive

Goals of OH Surveillance

- Target interventions and inform prevention priorities
 - Worksites, high risk industries, occupations, and populations, hazards, emerging problems
- Evaluate intervention efforts
- Identify potential risk factors and generate hypotheses for further research
- Raise public awareness and demonstrate need for prevention (influence policy makers)
 - WHAT GETS COUNTED GETS DONE

Major Occupational Health Surveillance Systems in US

- BLS Census of Fatal Occupational Injuries (CFOI)
 - Multiple source system
- BLS Annual Survey of Occupational Injuries and Illnesses (SOII)
 - Sample of employer injury and illness logs
- State-based systems to fill the gaps using wide range of state public health data sources

BLS: Bureau of Labor Statistics in US Department of Labor

Surveillance Data Sources in States

Case reports

- Providers
- Clinical laboratories
- Poison control calls

Administrative data

- Hospital inpatient/ ED data
- EMS data
- Workers' compensation data

State registries

- Birth and death data
- Cancer registries
- Birth defect registries
- Trauma registries
- Burn registries
- Violent death reporting system

Surveys

- Behavioral Risk Factor Surveillance System
- Youth Risk Behavior System
- Other state health surveys

Other sources

- Media searches
- OSHA records, Coast Guard records,
- Autopsy reports

Potential new sources

- All Payer Claims Data
- Electronic health records

Reportable Work-Related (WR) Injuries and Illnesses in Massachusetts

- WR Asthma and other lung diseases e.g.
 - Silicosis, asbestosis
 - Hypersensitivity or chemical
 - pneumonitis.
- Serious WR injuries to youth
- Acute chemical poisonings
 - CO & Pesticide

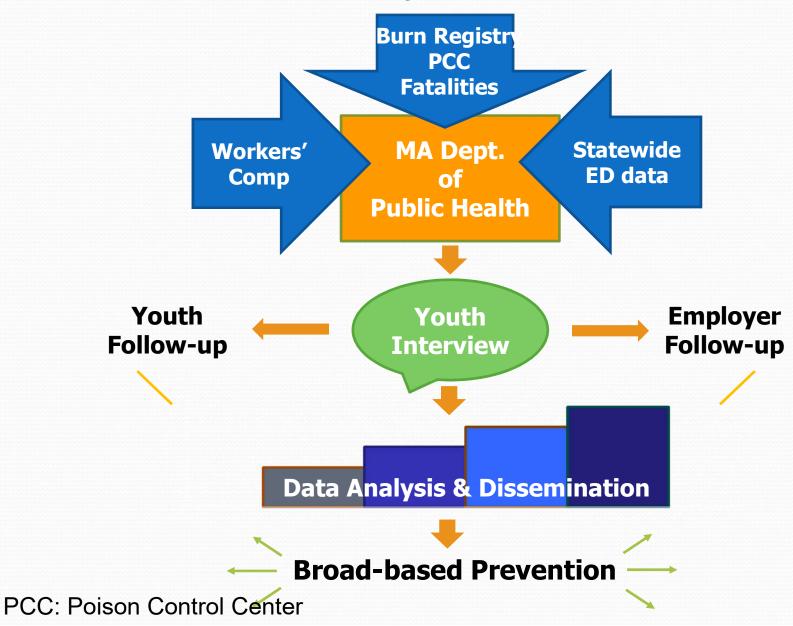
- WR-Carpal tunnel syndrome
- Cadmium mercury absorption
- Disease clusters
- Elevated blood lead levels (lab reporting)

NEW: 2013 public health rules provide DPH with access to medical records for all work-related traumatic injuries

Public Health Reporting Requirements

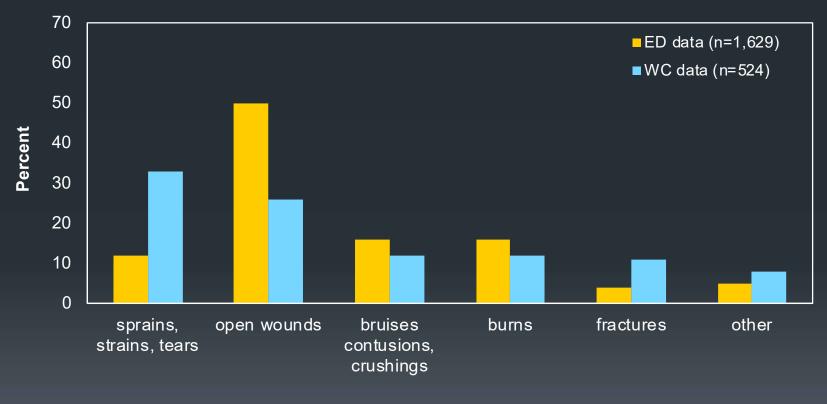
- Require and ALLOW providers to report cases
- without breaching patient confidentiality
 - HIPPA does not apply consent not required;
 - Good practice to inform patient
- Opportunity to be involved in prevention
- Vary by state know your state rules

Massachusetts Surveillance System for Work-Related Injuries to Teens under 18



Work-related Injuries to Teens Ages <18 by Injury Type and Data Source

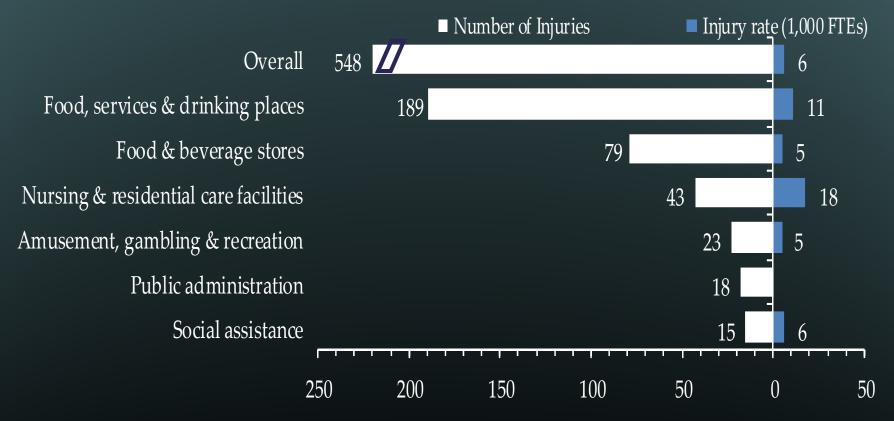
Massachusetts: 2009 - 2013



Injury Type

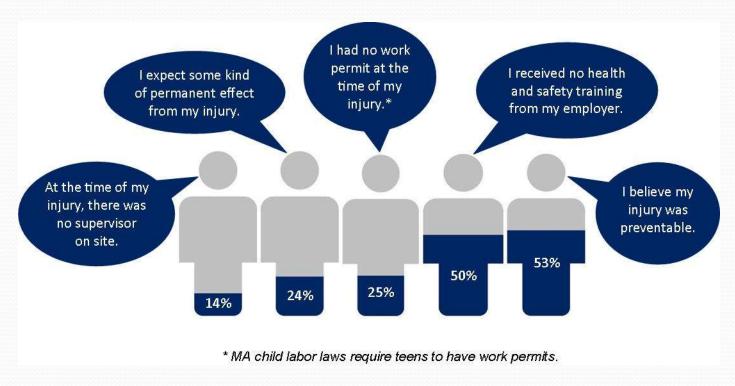
WC: Workers' compensation claims for injuries resulting in 5+ workdays

Average annual rates of workers' compensation lost time* claims for injuries among 15- to 17- year-olds by industry Massachusetts: 2008-2012



^{*} Claims for injuries resulting in 5 or most lost work days

Responses of select questions from interviews with teens injured at work Massachusetts, 2009-2015 (n=156)



Source: Young Workers Injury Surveillance System, MDPH.

Prevention through Design in Dunkin' Donut Coffee Shops

- Fall 2014
 - New coffee brewer with funnel lock
- Spring 2015
 - In 1,200 stores
 - 3,000 units

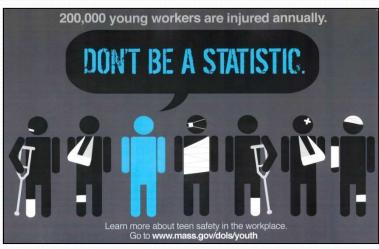


Policy and practice changes to protect

working teens

- Updated child labor laws
- Required health and safety inspections in vocational ed.
- Required health & safety training in youth job programs
- Interagency Youth Employment Safety team





Surveillance of Fatal Occupational Injuries in Massachusetts

- Census of Fatal Occupational Injuries (CFOI)
 - Population-based data on all work-related deaths

- Fatality Assessment and Control Evaluation (FACE)
 - In-depth research oriented investigations of select deaths to identify factors and develop and disseminate prevention recommendations

Surveillance Case Definition

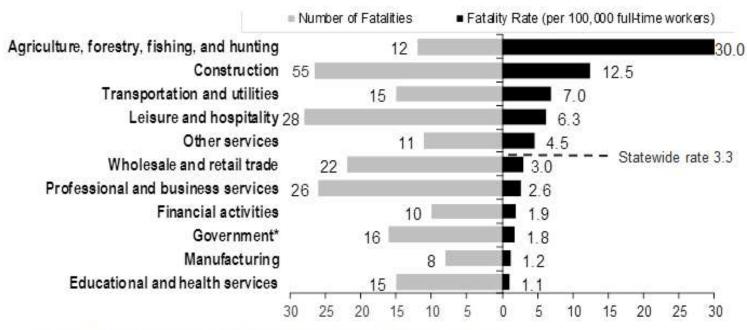
- Fatal injury that occurs while a person is at work or traveling for work in Massachusetts
 - Includes homicides and suicides at work
 - Excludes injuries during travel to and from work
 - Includes self-employed and unpaid family members

Fatal Occupational Injuries in Massachusetts, 2008-2015

- Average 60 workers killed per year
- 1-2 workers per week
- Rate: 2 per 100,000 workers
- High rates in Hispanics (until last 2 yrs)
- Falls are single leading cause of death
- 30% investigated by OSHA

Source: CFOI 2008-2015

Number and Rate of Fatal Injuries at Work by Industry Sector, Massachusetts, 2016-2017, N=219



Note: Data not presented for industry divisions with fewerthan five fatalities (N = 1 deaths).

*The Government category includes fatalities sustained by public sector workers regardless of industry.

Source: Massachusetts Census of Fatal Occupational Injuries and FACE project.

Fatality Control and Assessment Evaluation Program (FACE)

- In-depth field investigations of fatal occupational injuries – root cause analysis
- Development of prevention recommendations
 - Focus on eliminating the hazard
- Dissemination of case reports/alerts

Fire Safety Alert

Occupational Health Surveillance Program-Massachusetts Department of Public Health Office of the State Fire Marshal Department of Fire Services



Wood Floor Sanders Killed When Floor Finishing Product Catches Fire-Massachusetts

Wood floor finishing can expose workers, building occupants, and homeowners to fire hazards. In Massachusetts, three wood floor sanders died within a 10 month period (September 2004 – July 2005) in two separate fires when the flammable lacquer floor sealer they were using caught fire. The sealer used in these incidents was highly flammable (flash point 9°F/-13°C). All three of the fatally injured workers were Vietnamese immigrants.

Incident 1: Two floor sanders died from burns and two were seriously burned while they were refinishing wood floors in a three-family house. The house caught fire while the workers were applying a lacquer sealer that was ignited by a pilot light in a gas stove. At the time of the fire, windows were closed and no other means of ventilation were being used.

Incident 2: One floor sander died from burns and another received minor burns while finishing wood floors that they installed in a single family house. The house caught fire while the workers were applying a lacquer sealer that was ignited by a pilot light on a gas hot water heater. The heater was located in a closet on the same level of the house where the floors were being finished. At the time of the fire, the front door was open, but windows were closed and no other means of ventilation were being used.

HOW CAN YOU HELP PREVENT FIRE DURING FLOOR FINISHING?

Use less flammable wood floor finishing products (products with flash points greater than 100°F/38°C) for indoor applications.

Extinguish all open flames and other ignition sources before beginning work.

- Extinguish gas appliance pilots (on stoves, hot water heaters, heating units, clothes dryers, and other appliances).
- Turn off and unplug cycling electrical appliances (such as refrigerators, air conditioners, heating units, hot water heaters) and other electrical devices.
- Do not light or smoke cigarettes while you are working.
- Do not turn light switches on or off during the floor finishing process; turn off power to work area, if possible.

Adequately ventilate work areas during wood floor finishing.

- Open windows; keep open during product application until product is dry.
- If electric fans are used for ventilation, they must be classified as *explosion proof* and be plugged in outside of the work area.

In addition, employers should:

Provide safety training to employees, as required by law,* about the hazards of the chemicals they work with and safe work practices. Training should be provided in the languages spoken by employees.

*The Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200).

Conduct a job hazard analysis before each job. Also require employees to complete a safety checklist before beginning each job.

Before starting floor finishing jobs, employers should get information on manufacturer's safety recommendations for all products being used, ignition sources in the house and how to keep the work area ventilated. This information should be part of the safety checklist given to the work crew before going to the work site. Employers should make sure that the safety checklist has been completed before anyone starts work.

Fatality Assessment Control Evaluation (FACE) Project 617.624.5628



FLAMMABLE

What is the flash point of a liquid?

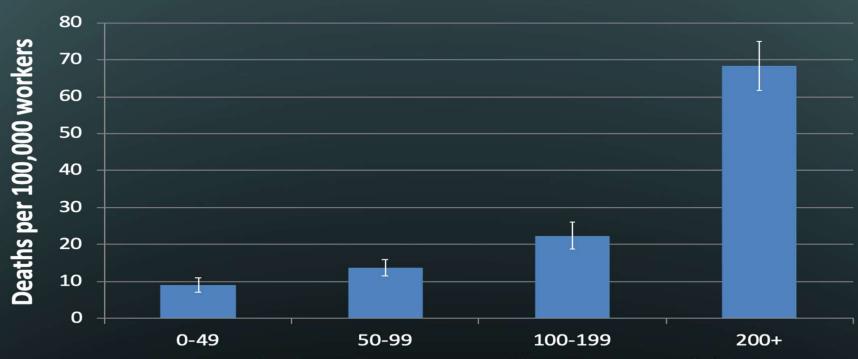
The flash point is the lowest temperature at which a liquid produces enough vapor to catch fire in the presence of a flame or other ignition source. The lower the flash point, the more flammable the liquid. A product's flash point can be found on the Material Safety Data Sheet (MSDS), or product label or by calling the product manufacturer.



Occupation groups with opioid overdose death rates significantly higher than average rate for all workers Massachusetts workers, 2011-2015, n=4,302



Rate of opioid overdose death by occupationspecific injury and illness rate category Massachusetts workers, 2011-2015, n=4,302



Number of occupational injuries and illness per 10,000 full-time workers

Discussion

 Consistent with previous reports of wide use of opioids for pain management following work injuries

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- Construction and fishing workers a perfect storm
 - High rates of fatal and non-fatal occupational injuries
 - High prevalence of self reported pain
 - High rate of MSDs
 - Job insecurity seasonal work
 - > average background drug use



- High rates also observed in other blue collar, manual jobs.
- Higher overdose death rates not likely fully explained by high background rates of drug use

Preventing opioid use, misuse and overdose among high risk worker groups: Opportunities for moving upstream

Primary Before pain, injury & opioid use	Secondary Post (at) injury	Tertiary Post substance use disorder (SUD)
Prevent pain & injuries	Access to treatment and appropriate pain management	Access to SUD treatment and recovery support
Health and safety Programs	Paid sick leave	EAP/ Peer support programs
•••••	Return to Work accommodations	Naloxone/training in the workplace

Opioid awareness

Address cultural issues regarding help seeking, stigma

Massachusetts Department of Public Health
Occupational Health Surveillance Program
www.mass.gov/dph/ohsp