Young Workers Project: Work-Related Injuries to Teens in Massachusetts, 2011-2015

Massachusetts Department of Public Health

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Preventing Injuries to Working Teens

In 2015, 17% of 15- to 17-year-olds in Massachusetts were employed at any given point in time.[1] While work can provide teens with important benefits, it can also pose health and safety risks. In fact, nationally, teen workers have about twice the risk of nonfatal on-the-job injuries per hour worked than older workers.[2] Contributing factors include that teens tend to work in industries that are high risk for workers of all ages - such as restaurants and healthcare, as well as inexperience and lack of health and safety training.

Understanding where and how teens are injured at work is essential to preventing future injuries and promoting safer work opportunities for youth. To this end, for over 25 years, the Young Workers: Injury Surveillance and Prevention Project at the Massachusetts Department of Public Health (MDPH) has tracked work-related injuries to teens under age 18. Over the years, the Young Workers Project has collaborated with partners on a variety of initiatives to prevent injuries to working teens.

Continued efforts are needed to ensure jobs in which teens are employed are safe. And as we engage teens in the workplace—whether as employers, schools, jobs programs, or parents with family businesses—we need to provide them with basic health and safety skills that will help protect them now and in the future.

In This Issue:

Getting hurt is not in your job description

Leveraging a partnership with the Massachusetts Department of Transportation (DOT), MDPH used DOT's **digital billboards** to reach out to young workers throughout the month of May. With over 150 billboards throughout the state, thousands of commuters saw the image - above – chosen from the "Getting hurt is not in your job description" social media campaign. Over the past two years, the *Young Workers Project*, in conjunction with the *YES Team*, has carried out this campaign which uses various work safety scenarios to show the most prevalent injuries for young workers. For more information on upcoming campaigns, or materials about safety training and young worker rights, please visit the recently redesigned **www.mass.gov/youngworkers**.

Teen Injuries at a Glance, 2011 - 2015

The *Young Workers Project* (YWP) collects data from hospital emergency departments (ED) and workers' compensation (WC) lost wage claims to identify work-related injuries to youth. WC claims are for injuries resulting in five or more days of missed work, while ED injuries can range in severity.

From 2011-2015, there were **1,379 ED* visits** and **569 WC lost wage claims** filed for work-related injuries to youth under age 18. A more detailed account of these injuries follows.

*Note: 2015 ED data are for January through September only.

Age & Gender

- The majority of work-related injuries to teens were among 17-year-olds. This was true in both the ED and WC data sets. (Figure 1)

> I was in the stock room on the top step of the ladder, bringing boxes down. When I lifted the top one, which was very heavy, I fell backwards off the ladder. I was never instructed on proper ladder safety at work.
>
> *-17-year-old counter worker*

- Fourteen- and 15-year-olds accounted for a small proportion of injuries. (Figure 1)

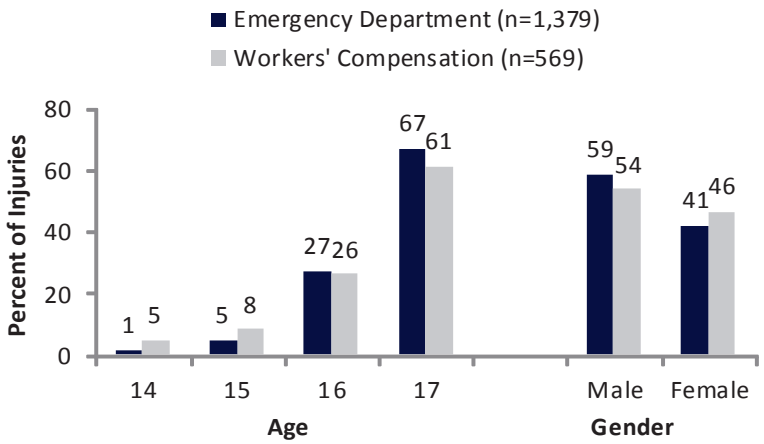
Special laws limit the types of tasks that teens of different ages may perform at work. View the "Child Labor Laws in Massachusetts" poster available at:

www.mass.gov/dph/teensatwork

- Male teens had higher numbers of injury with 2.0 ED visits (Figure 1), as well as higher rates with 0.7 WC claims per every 100 full-time workers, when compared to female teen injuries with 1.4 ED visits and 0.6 WC claims. (Not shown)

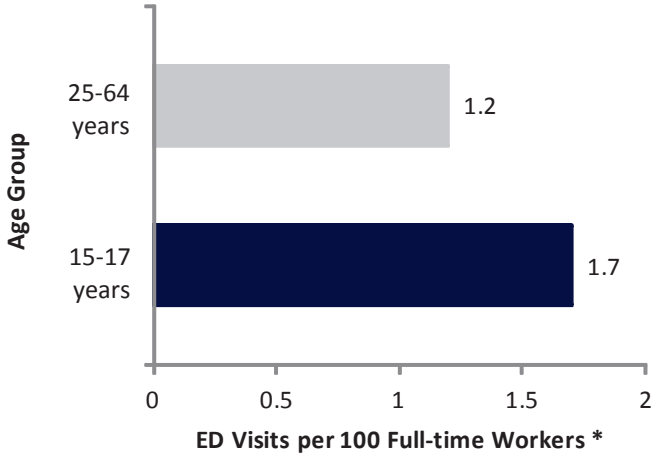
- There were nearly two ED visits by teens for every 100 full-time teen workers, 42% higher than the rate for adults ages 25+. (Figure 2)

Figure 1. Distribution of work-related injuries to youth under age 18, by age, gender, and data source, Massachusetts, 2011-2015



Note: 2015 ED data are for January through September only.
Note: Cases for which age or gender was missing were not included in the calculations.
Note: Numbers may not add up to 100% because of rounding.
Source: Young Workers Injury Surveillance System, MDPH.

Figure 2. Average annual rates of ED visits among workers, by age group, Massachusetts, 2011-2015



* Two half-time workers count as one full-time worker

Note: 2015 ED data are for January through September only.
Source: Young Workers Injury Surveillance System, MDPH.

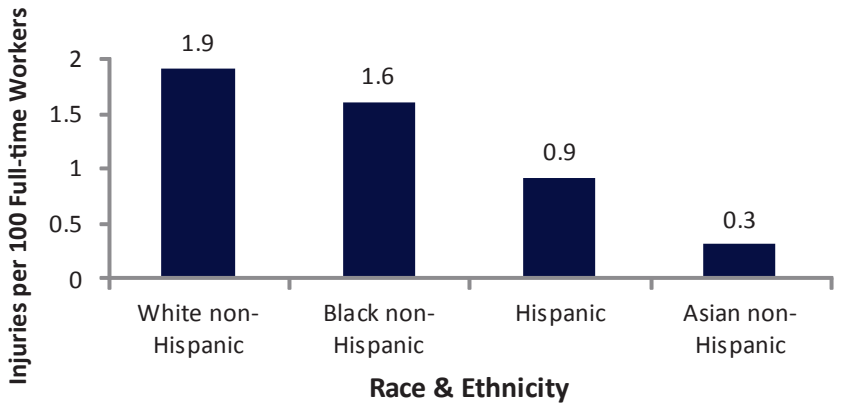
Fatal Injuries to Teens

There were no reported deaths among teens under age 18 resulting from work-related injuries, from 2011-2015 in Massachusetts.

Race & Ethnicity

- The rates of work-related ED visits for Black non-Hispanic and White non-Hispanic teens were similar, at 1.6 and 1.9 injuries respectively per 100 full-time workers. (Figure 3)
- The rate of work-related ED visits for Asian non-Hispanic teens (0.3) was significantly lower than that of the other racial/ethnic groups. (Figure 3)
- The rate of work-related ED visits for Hispanic teens (0.9) dropped 50%, compared to data from 2009-2013 (1.8). Rates have also dropped among 18-24-year-olds (data not shown); more research is needed as to why this may be happening.

Figure 3. Average annual rates of work-related ED visits among 15- to 17-year-olds, by race and ethnicity, Massachusetts, 2011-2015 (n=1,359)



Note: 2015 ED data are for January through September only.
Note: "Other" race/ethnicity category not shown in figure.
Source: Young Workers Injury Surveillance System, MDPH.

Nature of Injury

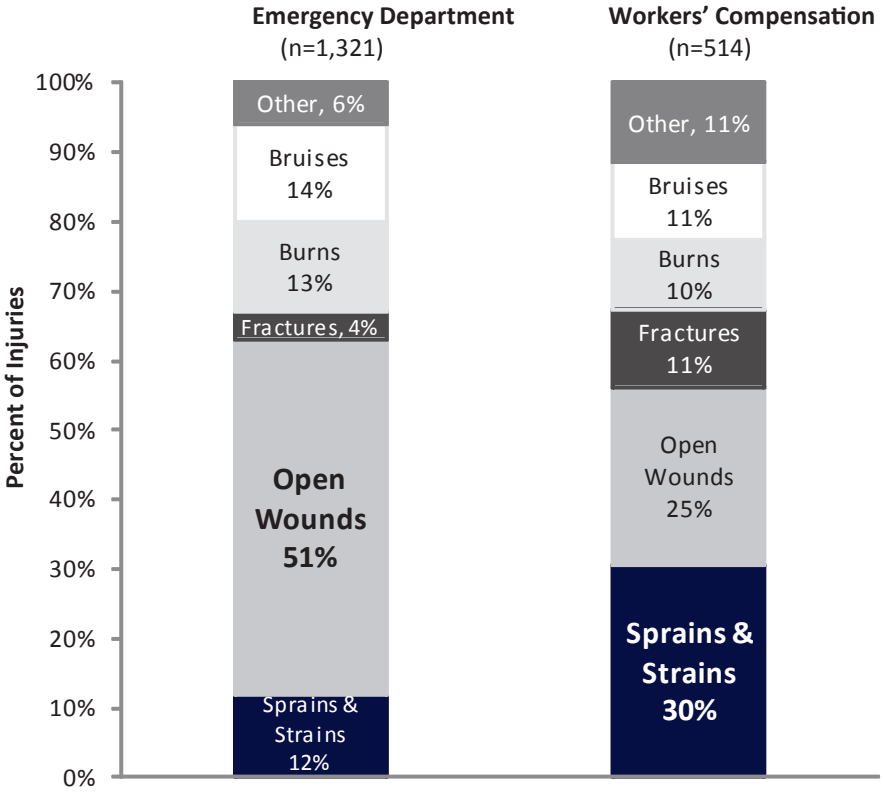
No single data set shows the full picture of injuries to teen workers. This is particularly true for the nature of injury (see below). This is why the *Young Workers Project* uses both ED and WC data sets to look at reported injuries.

- While **open wounds**, including cuts, made up close to half (48%) of all work-related injuries seen in EDs, **sprains and strains** were the most common injury (27%) for which WC lost wage claims were filed. (Figure 4)

Of 37 interviewed Massachusetts teens with a work-related sprain or strain, 54% expected some kind of permanent effect from the injury.

- Among sprain injuries, 31% (49) of WC claims and 22% (34) of ED visits were back injuries, putting the injured teens at risk for future back pain.[3]

Figure 4. Distribution of work-related injuries among teens under age 18, by injury type and data source, Massachusetts, 2011-2015



Note: 2015 ED data are for January through September only.
Note: Cases for which injury type was missing were not included in the calculations.
Source: Young Workers Injury Surveillance System, MDPH.

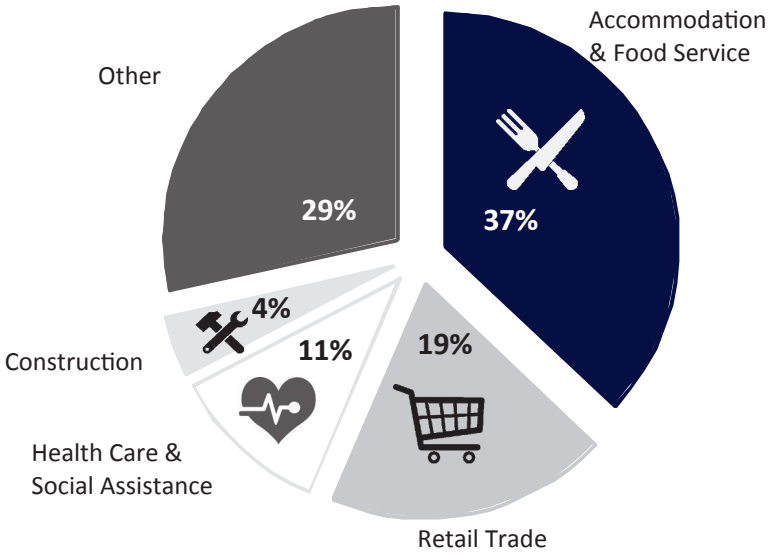
Industry Type

- The four industries in Figure 5 accounted for more than 70% of work-related injuries to teens.

> "My boss made me clean up hot coffee and grinds that had spilled and burnt me during my shift. I never received information on how to prevent or treat burns at work."
>
> *-17-year-old clerk*

- Accommodation & Food Service, including fast food and full-service restaurants, made up the largest proportion of WC claims (n=206), followed by Retail Trade (n=108), which includes grocery stores. (Figure 5)

Figure 5. Distribution of WC lost wage claims for teens under age 18, by industry sector*, Massachusetts, 2011-2015 (n=557)

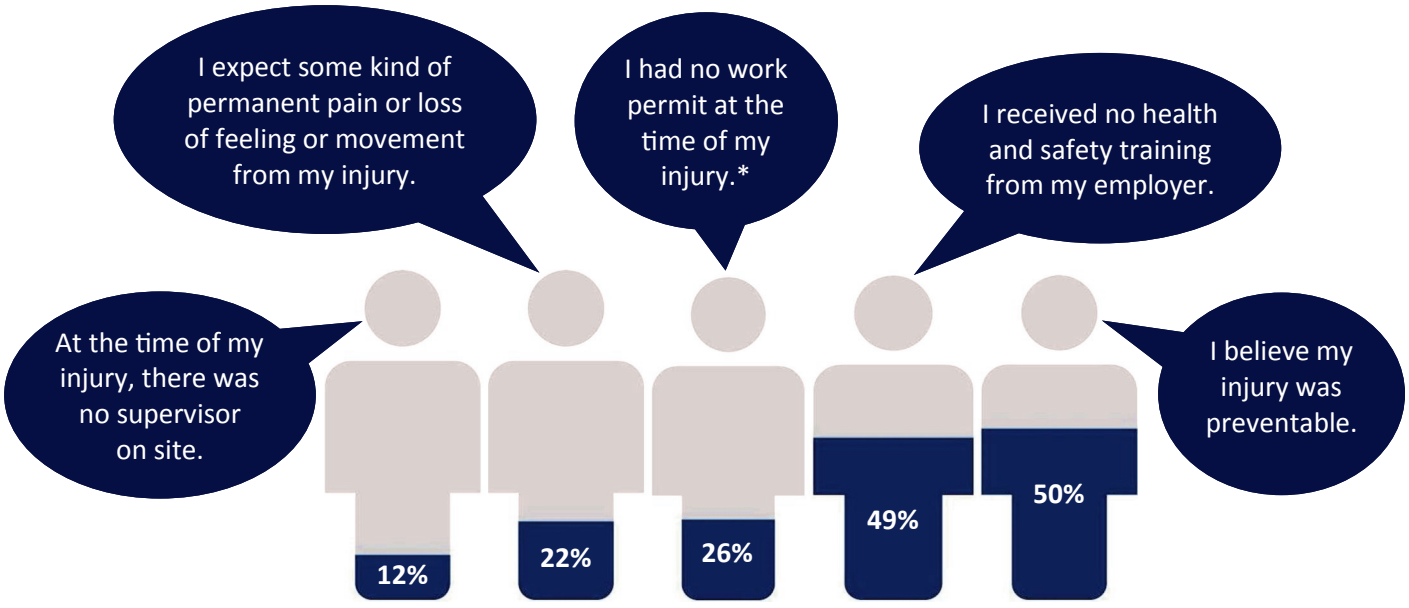


*North American Industry Classification System (NAICS) 1997
Note: Cases for which industry was missing were not included in the calculations.
Source: Young Workers Injury Surveillance System, MDPH.

What Injured Teens Have to Say

Young Workers Project staff completed 156 interviews with young workers who were injured on the job from 2011 through 2015. While the information from these interviews does not necessarily represent the experience of all young injured workers, it provides important information for targeting prevention efforts.

Figure 6. Responses of select questions from interviews with teens injured at work, Massachusetts, 2011-2015 (n=156)



** MA child labor laws require teens to have work permits.*

Source: Young Workers Injury Surveillance System, MDPH.

Concussions: A Work-related Injury Affecting Teens

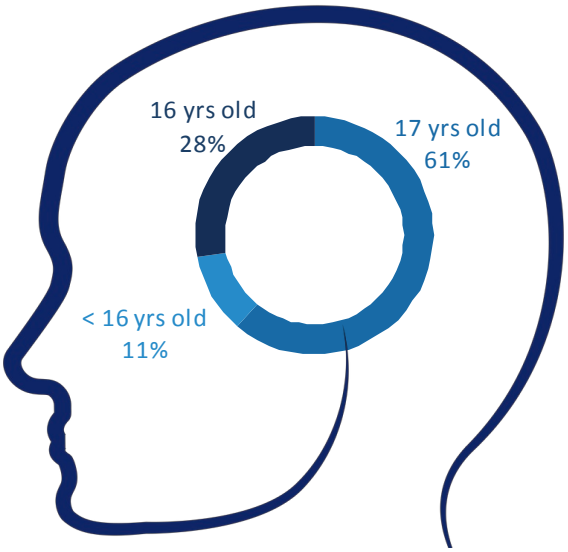
Over the past few years, there has been a lot of research on traumatic brain injuries (TBI), in particular concussions among athletes. According to the Centers for Disease Control and Prevention (CDC), "a concussion is a type of TBI caused by a bump, blow, or jolt to the head or by a hit to the body that causes the head and brain to move rapidly back and forth."[4] A concussion is a functional injury to the cell metabolism of the brain, not a structural injury, and can be identified by symptoms. Recovery can take several days to months and usually requires a medical evaluation and a reduction in activities including school, work, and sports to allow time for the brain to heal.

Looking at the Data

The Young Workers Project (YWP) decided to look at concussions among youth occurring in the workplace.

- Between 1993 — when YWP began collecting data on teens ages 14-17— and 2015, a total of **81 workers' compensation claims** for work-related concussions were reported to YWP. Nearly half (44%) occurred between 2011 and 2015. While more research must be done, currently the increase in diagnosis is believed to be due to increased public awareness of the symptoms.

Ages of teens who suffered concussions while working, 2011-2015



Source: Young Workers Injury Surveillance System

- **Unlike work-related injuries in general**, more females suffered concussions than males; 69% of the diagnosed patients were female and 31% of them were male.

- The top three industries where concussion occurred were **restaurants** (22%), **grocery stores** (17%), and **local cities and towns** (11%).

Concussion: Signs and Symptoms*

Examples for Employers

- Appears dazed or stunned
- Is confused
- Is unsure of location
- Moves clumsily
- Answers questions slowly
- Loses consciousness (even briefly)
- Shows mood, behavior, or personality changes
- Can't recall events prior to hit or fall
- Can't recall events after a hit or fall
- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light or noise
- Concentration or memory problems

*Adapted from Lovell et al. 2004[5]

- Twenty-two percent of the concussions happened when the worker **hit their head on an object while standing up or walking.**

- One in six concussions occurred from the worker slipping and/or falling.

- Playing or supervising sports for work, and the teen hitting their head after fainting each accounted for 14% of the injuries. All of the teens injured while playing or supervising sports for work involved the injured worker being hit in the head with a ball or colliding with someone.

More information about concussion and traumatic brain injury is available at www.cdc.gov/tbi.

Massachusetts and National Young Worker Resources

Please take advantage of the resources below covering a range of topics on young worker health and safety.

Child Labor Laws & Wages

Massachusetts Office of the Attorney General
Fair Labor Division
(617) 727-3465
www.mass.gov/ago/fairlabor
www.mass.gov/ago/youthemployment

U.S. Department of Labor
Wage & Hour Division
(617) 624-6700
www.dol.gov/whd
www.youthrules.gov

Workers' Compensation

Massachusetts Department of Industrial Accidents
(800) 323-3249
www.mass.gov/dia

Discrimination at Work

Massachusetts Commission Against Discrimination
(617) 994-6000
www.mass.gov/mcad

U.S. Equal Employment Opportunity Commission
Boston Area Office—(800) 669-4000
www.eeoc.gov/youth

Health & Safety and Work Permits

Massachusetts Department of Labor Standards
Work Permits—(617) 626-6952
Workplace Safety & Health Program—(508) 616-0461
www.mass.gov/dols/youth

Massachusetts Department of Public Health
Young Workers: Injury Surveillance & Prevention Project
(617) 624-5632
www.mass.gov/dph/teensatwork

U.S. Department of Labor
Occupational Safety & Health Administration (OSHA)
North Boston Area Office—(978) 837-4460
South Boston Area Office—(617) 565-6924
Springfield Area Office—(413) 785-0123
www.osha.gov/SLTC/teenworkers

National Institute for Occupational Safety & Health (NIOSH)
Workplace Safety & Health Topics
www.cdc.gov/niosh/topics/youth

Youth @ Work: Talking Safety (Curriculum)
www.cdc.gov/niosh/talkingsafety

Data Sources

Young Workers: Injury Surveillance System. Massachusetts Department of Public Health. www.mass.gov/dph/teensatwork
Emergency department data were obtained through the Massachusetts Center for Health Information and Analysis. www.mass.gov/chia
Workers' compensation claims were obtained through the Massachusetts Department of Industrial Accidents. www.mass.gov/dia
Number of full-time workers were obtained through the Current Population Survey conducted by the Bureau of Census for the Bureau of Labor Statistics. https://dataferrett.census.gov

References

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3 Hestbaek L, Leboeuf-Yde C, Manniche C. Low back pain: what is the long-term course? A review of studies of general patient populations. European Spine Journal. April 2003; 12 (2):149-165. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3784852/pdf/586_2003_Article_508.pdf. Accessed March 3, 2018.
4 Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Unintentional Injury Prevention. "What Is a Concussion?" January 31, 2017. www.cdc.gov/headsup/basics/concussion_whatis.html. Accessed March 3, 2018.
5 Lovell MR, Collins MW, Iverson GL, Johnston KM, Bradley JP. Grade 1 or "ding" concussions in high school athletes. *The American Journal of Sports Medicine* 2004; 32(1):47-54.

Acknowledgements

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