

Using Data to Guide Work-related Injury Prevention Strategies for Hispanic Young Adult Workers

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Background

In the US, the term “young workers” has recently expanded beyond teens <18 to include young adults ages 18-24. According to the CDC, nationwide, young workers have about twice the rate of nonfatal work-related injury than workers ≥25; annually an estimated 795,000 young workers are treated in emergency departments for these injuries.

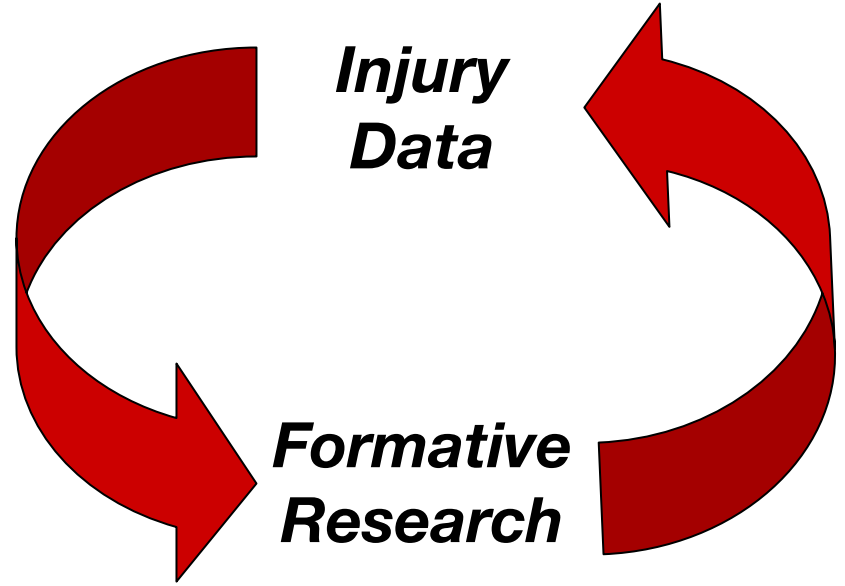
Since 1993, the Massachusetts Department of Public Health’s *Teens at Work Project* (TAW) has tracked work-related injuries to teens <18 and has documented high rates of work-related injury among Hispanic teens. TAW uses this information to target intervention activities that address health and safety problems and inequities.

Objectives

In 2010, TAW expanded its scope to collect data on workers ages 18-24, with special attention paid to two questions:

- Do Hispanic young adults in Massachusetts have higher rates of work-related injury when compared to non-Hispanics, as seen in the population <18?
- What do Hispanic young adults know and think about workplace health and safety, and how might these beliefs inform targeted communication outreach?

In collaboration with an Emerson College graduate student, TAW used both injury data and formative research to answer these questions, demonstrating the benefits of pairing epidemiology and health communication practices to guide intervention.



Methods

Injury Data Analysis

Statewide Emergency Department (ED) and Hospital Discharge (HD) datasets were used to identify nonfatal work-related hospital encounters from 2005-2009.

Cases were defined as encounters among young adults ages 18-24 with:

- a primary diagnosis of injury (ICD-9 codes 800-999); and
- an expected payer of workers’ compensation.

Frequencies[†] and rates[‡] were calculated by the following:

- age
- gender
- race/ethnicity
- year
- nature of injury
- external cause of injury

Formative Research

In-person interviews were conducted with Massachusetts Hispanic young adults during spring 2013.

Participants met the following criteria:

- self-identified as Hispanic
- within the ages of 18-24
- worked for pay within the past 12 months

Interview responses were reviewed for the following themes specific to workplace health and safety:

- awareness levels and attitudinal beliefs
- communication preferences (including language)

[†] Repeat encounters were not excluded from this analysis.

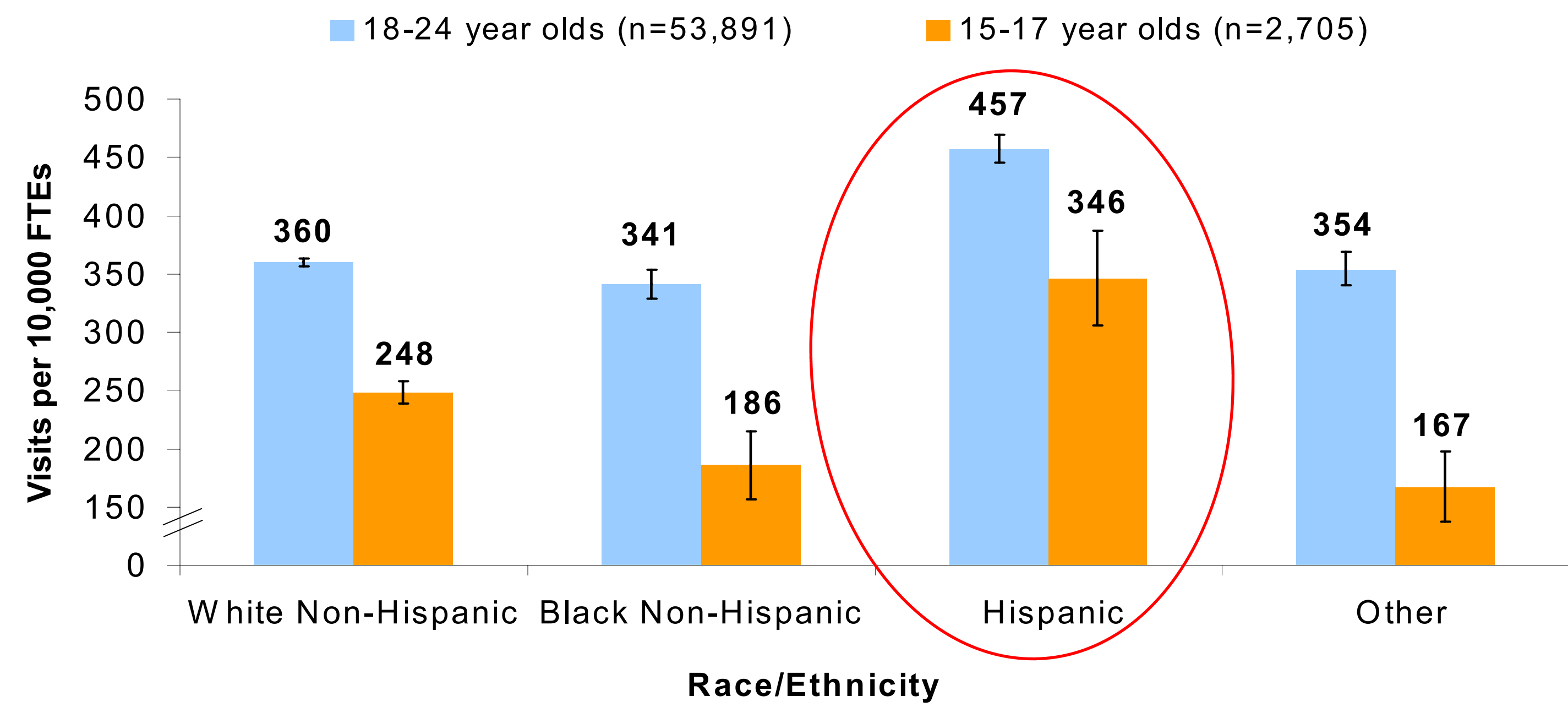
[‡] FTEs were calculated using data from the Current Population Survey.

Results: Injury Data

From 2005-2009, there were 53,891 ED visits and 512 hospitalizations for work-related injuries among young adults.

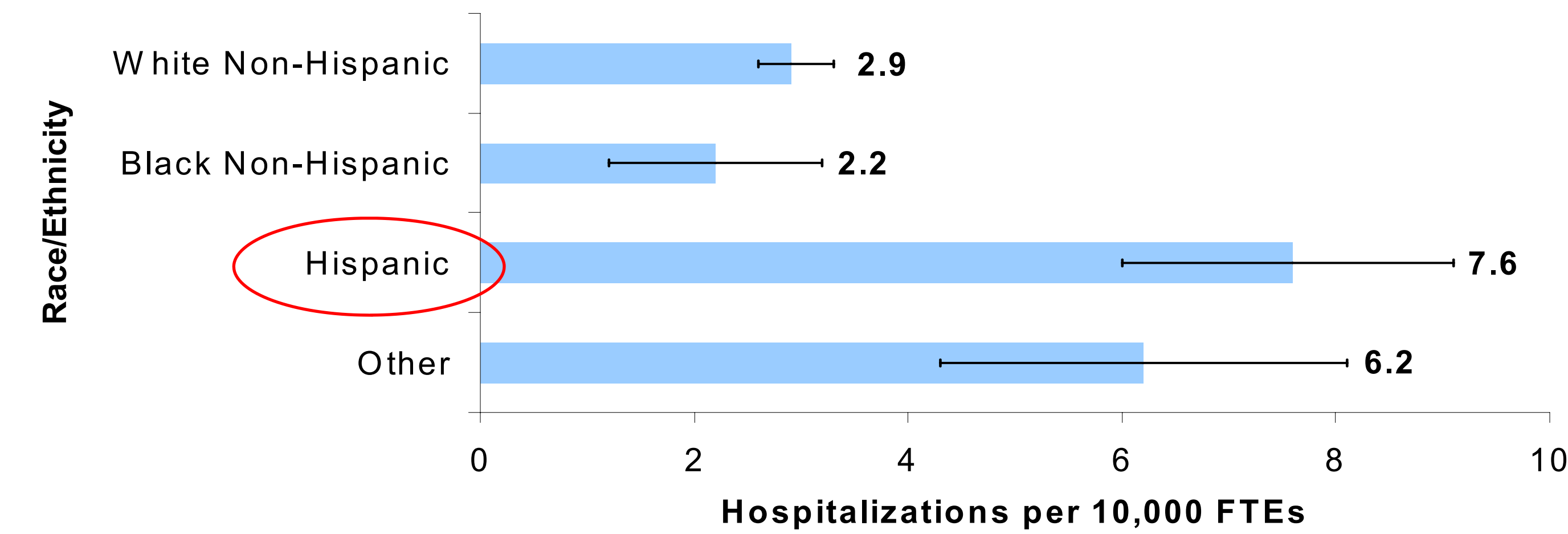
- There were nearly 10,800 work-related ED visits per year.
- Hispanics accounted for only 10% of visits, but **the rate at which Hispanic young adults sought ED care was significantly higher** than other racial/ethnic groups, similar to our findings for younger teens. (Figure 1)

Figure 1. Rates of ED visits for work-related injuries among young workers, by race and ethnicity, Massachusetts, 2005-2009



Sources: Emergency Department Data, for 1 Jan 2005 through 31 Dec 2009, MA Dept of Health Care Finance and Policy; Current Population Survey for 2005 through 2009, U.S. Bureau of Labor Statistics.

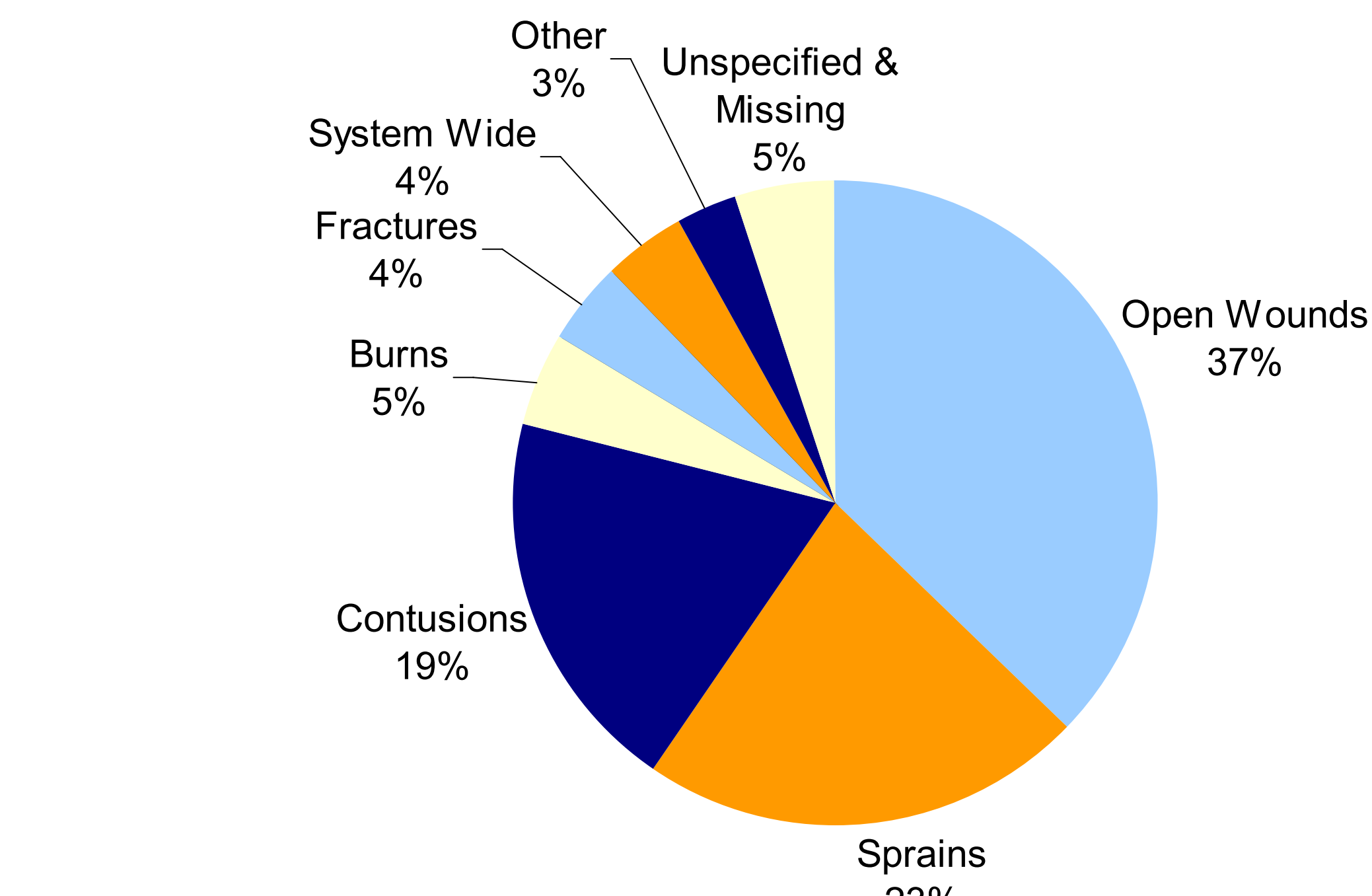
Figure 2. Rate of hospitalizations for work-related injuries among 18-24 year olds, by race and ethnicity, Massachusetts, 2005-2009 (n=512)



Sources: Hospital Discharge Data, for 1 Jan 2005 through 31 Dec 2009, MA Dept of Health Care Finance and Policy; Current Population Survey for 2005 through 2009, U.S. Bureau of Labor Statistics.

- The leading nature of ED-treated work-related injuries was open wounds (Figure 3); the leading external cause of injuries was cuts/pierces.
- Fractures accounted for nearly half (49%) of work-related hospitalizations, followed by open wounds (12%); the leading external cause of injury was falls.
- There was no difference in nature of injury among Hispanics compared to other groups in the ED or HD datasets.

Figure 3. Distribution of ED-treated work-related injuries to 18-24 year olds by nature of injury, Massachusetts, 2005-2009 (n=53,891)



Source: Emergency Department Data, for 1 Jan 2005 through 31 Dec 2009, MA Dept of Health Care Finance and Policy.

Key Limitation: Not all work-related injuries are paid for by workers’ compensation, although the likelihood is greater for more serious injuries. Payment by workers’ compensation may vary by race/ethnicity. It is unknown how this may affect comparisons.

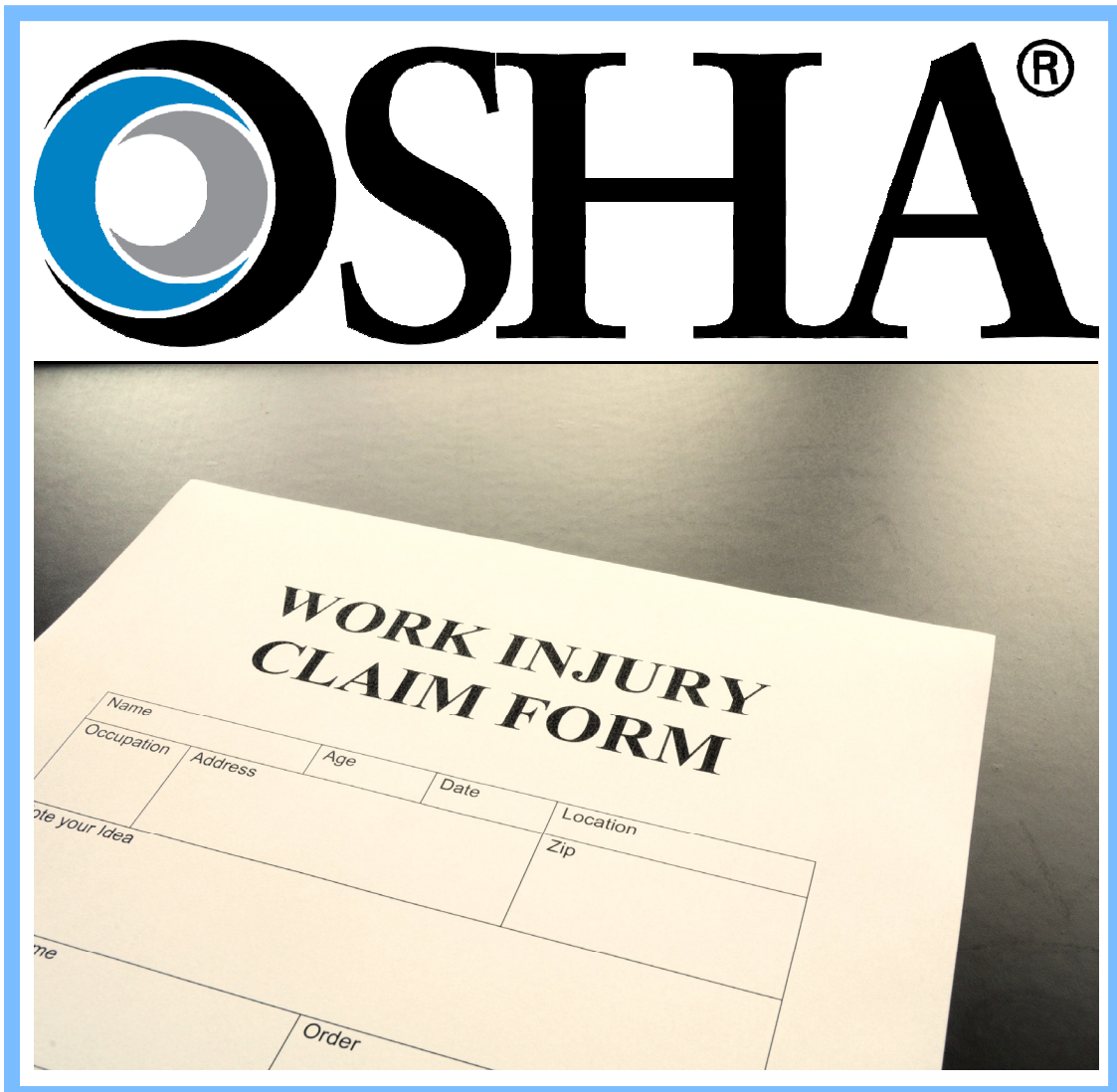
Results: Formative Research

During March and April 2013, 23 interviews were conducted. (Figure 4)

Figure 4. Demographics for Hispanic young adult participants

	Total	Foreign-born	Native-born
All Participants	23	10	13
Age			
18-19	12	4	8
20-22	11	6	5
Gender			
Male	11	6	5
Female	12	4	8
Employment Status			
Full-time	4	4	0
Part-time	19	6	13
Job Type			
Manual job	12	8	4
Non-manual job	11	2	9
Recruitment			
Community-based	4	4	0
Education-based	19	6	13

Manual = labor intensive/exposure to hazardous chemicals or equipment—truck loader, food runner, etc.
Non-manual = office assistant, tutor, cashier, etc.



- Only 6 participants had heard of OSHA; of those, 3 learned from attending technical school.
- About half (11) the participants had heard of workers’ compensation, but in most cases the information was inaccurate.

“I have sick days...so I can get hurt or something then I can use one of those days.”
—21-year-old office cleaner

“We do have to do a lot of heavy things and stuff, but it’s fine.”
—18-year-old food preparer

- Few participants had a genuine awareness for hazards on the job.



“Any danger [workers] put themselves in, it’s like them asking for it. You just have to find the safer way.”
—22-year-old equipment technician

- The attitude towards staying safe was largely viewed as a worker responsibility (vs. employer).

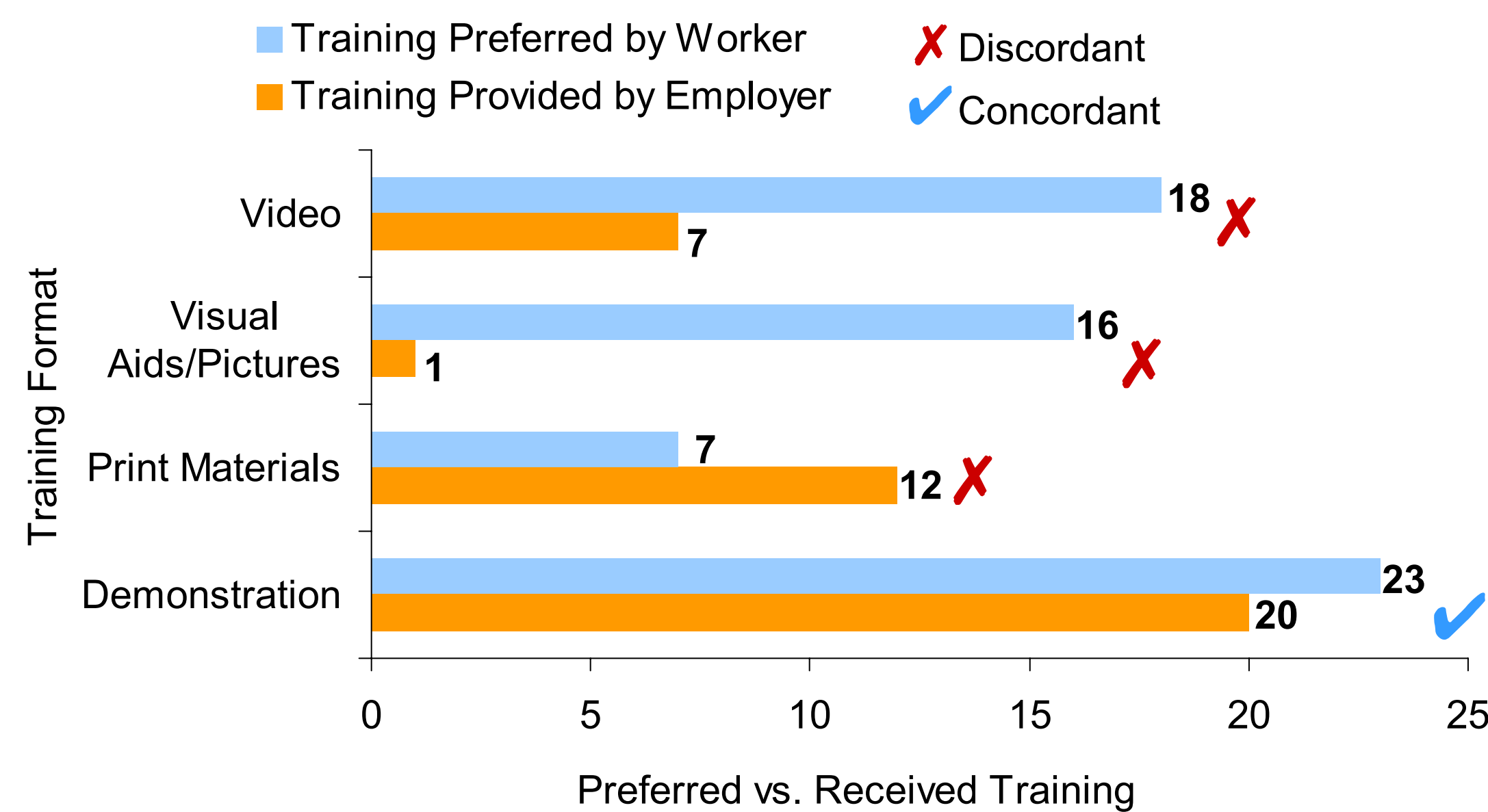
- All but 1 participant received English-language training; this was the preference for ~75%.

- Training received both reflected and differed from participant preferences for health and safety training. (Figure 5)

“I have pretty good contact with my boss...open communication.”
—20-year-old auto detailer

- Most (19) participants believed they would feel comfortable going to supervisor with a safety concern.

Figure 5. Comparison of Hispanic young adult worker (n=23) training preferences and training type provided by their employers



Conclusions

Injury Data

While others have reported high rates of work-related injuries among Hispanic adults, research specific to the young adult population is limited; **TAW’s injury data demonstrate that Hispanic young adults, specifically, are at high risk of being injured at work:**

- The disparity in rates between Hispanic young adults and their white non-Hispanic counterparts is even greater for the more serious injuries.
- The observed high rate of work-related injuries among Massachusetts Hispanic young adults is consistent with TAW’s previous findings for the population <18.
- Datasets were limited for guiding targeted intervention, highlighting a need for additional descriptive and formative research.

Formative Research

TAW identified knowledge and attitudes among Hispanic young adult workers that will inform intervention, and uncovered areas for further exploration:

- Workplace health and safety knowledge and training is inadequate.
- Workers do not recognize the employer’s responsibility for their safety.
- On-the-job training lacks video/visuals to reinforce demonstration.
- This younger Hispanic population is bilingual and often prefers English-language training, and is possibly comfortable speaking up at work about health and safety concerns.

Future Directions

Injury Data

TAW will further analyze data to learn more about factors contributing to work-related injuries among young adults:

- Examine injuries by industry, occupation, and event for young adults using workers’ compensation records.
- Examine detailed ethnicity information for Hispanic young adults (e.g. Puerto Rican, Cuban) available in ED data.
- Conduct follow-up interviews with 18-24 year olds, with reported work-related amputations and burns, to learn about circumstances related to the injury events and the impact of these injuries on young adults.

Formative Research

TAW will further explore key communication findings pertinent to worker and employer outreach strategy:

- Conduct qualitative analysis of current interviews and identify new primary research sources, to explore whether “speaking up” is a viable path for early empowerment intervention among young adults.
- Identify partners, e.g. workforce development, that can expand on health and safety training that young adults do or don’t receive, to better assess the root of Hispanic young adult worker knowledge gaps.

Selected References

Baron SL & Wilson S (2011). Occupational and Environmental Health Equity and Social Justice. In BS Levy, DH Wegman, SL Baron & RK Sokas, *Occupational and Environmental Health: Recognizing and Preventing Disease and Injury* (pp.69-97). New York: Oxford University Press.

Byler CG (2013). Hispanic/Latino fatal occupational injury rates. *Monthly Labor Review*, 136(2): 14-23.
Additional references available upon request.



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