CPWR QUARTERLY DATA REPORT HIGHLIGHTS

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CPWR Data Center
CPWR Quarterly Data Reports (20)


**Topics**

- Aging workforce
- Fatal & nonfatal injuries and illnesses
- Health, health insurance, & healthcare
- Safety and health disparities
- Vulnerable worker groups
- Safety management & safety culture
- Emerging issues
- Etc.
Quarterly Data Reports in 2019


Nonstandard work arrangements

CPWR Data Center: Rebecca Jackson, MPH and Xuan Su Dong, DrPH*

Employment in the construction industry is based on project terms (Ringel et al., 2019). Therefore, it is the "standard work arrangement" typically for the self-employed workers and other industry sectors (Howard, 2017). It is noted that nonstandard work arrangements in the U.S. economy, such as offsite workers, day laborers by contract firms, and gig workers (GAO 2006; 2015) demonstrated a disproportionate risk for occupational and other adverse health outcomes resulting from these arrangements (Bench and Mantano, 2004; GAO 2015; Vradian, 2005). The National Occupational Research Agenda (NORA) Construction Sector Council, CPWR - The Center for Construction Research and Training, the National Institute for Occupational Safety and Health (NIOSH), and the Occupational Safety and Health Administration (OSHA) launched the National Campaign to Prevent Falls in Construction (hereafter referred to as the Campaign) Workers’ Memorial Day in 2012. This ongoing Campaign has reached more and more organizations and individuals. To continue to support national effort, this Quarterly Data Report provides updated data on characteristics of falls and nonfatal falls among construction workers using data from the U.S. Bureau of Labor Statistics (BLS) Census of Occupational Injuries (COII) and the Survey of Occupational Injuries and Illnesses (SOII). While the report covers data back to year 2000, the analysis focuses on the data between 2011 and 2017. For some estimations, several years of data were pooled together to increase data reliability. In addition, selected findings from a social network analysis of the Campaign are also included in this report.

* Correspondence to: Xuan Su Dong, DrPH


Trends of Fall Injuries and Prevention in the Construction Industry

Xuan Su Dong, DrPH*, Rebecca Jackson, MPH, Danielle Vendia, PhD

Falls are a common cause of fatal and nonfatal injuries in the construction industry. To prevent these injuries, the National Occupational Research Agenda (NORA) Construction Sector Council, CPWR – The Center for Construction Research and Training, the National Institute for Occupational Safety and Health (NIOSH), and the Occupational Safety and Health Administration (OSHA) launched the National Campaign to Prevent Falls in Construction (hereafter referred to as the Campaign) Workers’ Memorial Day in 2012. This ongoing Campaign has reached more and more organizations and individuals. To continue to support national effort, this Quarterly Data Report provides updated data on characteristics of falls and nonfatal falls among construction workers using data from the U.S. Bureau of Labor Statistics (BLS) Census of Occupational Injuries (COII) and the Survey of Occupational Injuries and Illnesses (SOII). While the report covers data back to year 2000, the analysis focuses on the data between 2011 and 2017. For some estimations, several years of data were pooled together to increase data reliability. In addition, selected findings from a social network analysis of the Campaign are also included in this report.

* Correspondence to: Xuan Su Dong, DrPH

Opioid/Drug Use/Misuse and Overdose Fatalities at Workplaces in the Construction Industry

Xuan Su Dong, DrPH*, Eileen Botz*, Ann Marie Dale, PhD

Musculoskeletal disorders (MSDs) are soft-tissue injuries resulting from sudden or sustained exposure to repetitive motion, force, awkward positions (NIOSH, 2010). In addition to decreased physical activity and work disability, workers and their families, employers, and government are included in the costs of MSDs (work- and non-work-related) in the year 2014, exceeding defense spending (USMHE, 2014). MSDs and the hazards that cause them are associated with work in the construction industry (CPWR, 2018). To identify high-risk groups and prioritize areas for intervention, the Opioid/Drug Use/Misuse and Overdose Fatalities at Workplaces in the Construction Industry (CPWR, 2018) report analyzes trends and patterns of work- and non-work-related MSDs among construction workers using employee-reported worker self-reported data. CPWR’s Ergonomics Committee has developed programs and complied information to address MSDs. Due to complex definitions and measures used in this report, the authors are advised not to rely on the charts, but also to read the definitions and accompanying notes and text with the charts.

* Correspondence to: Xuan Su Dong, DrPH

QDR1: Nonstandard work arrangements

https://www.cpwr.com/publications/nonstandard-work-arrangements-construction-industry
Hispanic workers accounted for 30% of construction employment, the highest level since 1990.

CES: Temporary Help Services (NAICS Code 561320): Supplying workers to clients’ businesses for limited periods of time to supplement the working force of the client

CWS: Percentage of *Contingent Employment*, 2017

CES: Percentage of Alternative Work Arrangements, 2017

CES: Percentage of Alternative Work Arrangements, 2017

Estimates based on the BLS definitions: Alternative Work Arrangements, 2017

Agriculture, forestry, fishing: 44%
Construction: 30%
Professional and business services: 26%
Other services: 24%
Transportation and utilities: 15%
Financial activities: 14%
Information: 14%
Leisure and hospitality: 12%
Educational and health services: 12%
Wholesale and retail trade: 9%
Mining: 9%
Manufacturing: 7%
Public administration: 5%
All industries: 15%

OHS-NHIS: *Work Arrangements*

- **Regular permanent employee** (Standard) - All industries: 82.8%, Construction: 62.9%
- **Independent contractor / consultant / freelance worker** - All industries: 9.9%, Construction: 23.0%
- **Paid by a temporary agency / works for a contractor who provides workers and services to others** - All industries: 2.8%, Construction: 8.3%
- **Other** - All industries: 4.5%, Construction: 5.8%

Demographics of construction workers, *temporary* versus regular employment

**Temporary**

- Age 16-34: 41.9%
- Less than high school: 36.9%
- Hispanic: 38.1%
- Foreign-born: 44.8%

**Regular**

- Age 16-34: 31.9%
- Less than high school: 27.9%
- Hispanic: 25.3%
- Foreign-born: 21.3%

**All construction**

- Age 16-34: 33.6%
- Less than high school: 29.4%
- Hispanic: 28.6%
- Foreign-born: 24.1%

QDR2: Trends of Fall Injuries & Prevention

Number of fatalities increased after the economic recovery, but the fatality rate remained flat (All employment)

Construction accounted for nearly 20% of all fatal occupational injuries in the U.S.

- Construction: 1013 (19.7%)
- Services: 944
- Transportation: 916
- Agriculture: 584
- Manufacturing: 303
- Public Administration: 291
- Retail Trade: 289
- Wholesale Trade: 174
- Mining: 113
- Utilities: 47

Source: U.S. Bureau of Labor Statistics, 2017 Census of Fatal Occupational Injuries (death numbers were from BLS online database).
Falls to a lower level remained the leading cause of fatalities in construction

In 2017, more than half of fatal falls to a lower level occurred in construction.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>367</td>
</tr>
<tr>
<td>Admin and Support &amp; Waste Mgt</td>
<td>104</td>
</tr>
<tr>
<td>Services</td>
<td>81</td>
</tr>
<tr>
<td>Transportation and Warehousing</td>
<td>39</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>37</td>
</tr>
<tr>
<td>Agriculture, Forestry, Fishing, and Hunting</td>
<td>30</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>20</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>18</td>
</tr>
<tr>
<td>Public Administration</td>
<td>9</td>
</tr>
<tr>
<td>Mining</td>
<td>5</td>
</tr>
<tr>
<td>Utilities</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Fatal injury data were generated by the CPWR Data Center with restricted access to the BLS CFOI micro data. The views expressed here do not necessarily reflect the views of the BLS.
Although the number of fatal falls increased, the fatality rate was stable.

Source: Fatal injury data were generated by the CPWR Data Center with restricted access to the BLS CFOI micro data. The views expressed here do not necessarily reflect the views of the BLS. Employment data were from the Current Population Survey. Calculations by the CPWR Data Center.
Small employers (1-19 employees) accounted for 75% of fatal falls

Source: Fatal injury data were generated by the CPWR Data Center with restricted access to the BLS CFOI micro data. The views expressed here do not necessarily reflect the views of the BLS. Data on employees by establishment size from the QCEW. Calculations by the CPWR Data Center.
Rate of fatal falls was consistently higher among Hispanic construction workers than white, non-Hispanic workers

Source: Fatal injury data were generated by the CPWR Data Center with restricted access to the BLS CFOI micro data. The views expressed here do not necessarily reflect the views of the BLS. Employment data were from the Current Population Survey. Calculations by the CPWR Data Center.
Immigrant construction workers had a higher rate of fatal falls than any other worker group (Average of 2015-2017)

Deaths per 100,000 FTEs

<table>
<thead>
<tr>
<th>Category</th>
<th>Rate per 100,000 FTEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>White, non-Hispanic</td>
<td>3.1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>4.6</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>2.7</td>
</tr>
<tr>
<td>Foreign-born</td>
<td>5.1</td>
</tr>
<tr>
<td>Self-employed</td>
<td>3.7</td>
</tr>
<tr>
<td>All</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Source: Fatal injury data were generated by the CPWR Data Center with restricted access to the BLS CFOI micro data. The views expressed here do not necessarily reflect the views of the BLS. Employment data were from the Current Population Survey. Calculations by the CPWR Data Center.
Proportion of fatalities among construction workers aged 55 years and older more than doubled in 2017 compared to 1992

Rate of fatal falls increased with age and was the highest for those aged 65 years and older.

Source: Fatal injury data were generated by the CPWR Data Center with restricted access to the BLS CFOI micro data. The views expressed here do not necessarily reflect the views of the BLS. Employment data were from the Current Population Survey. Calculations by the CPWR Data Center.
Under 25 years 25-34 years 35-44 years 45-54 years 55-64 years 65 years and over

Roofs  Scaffolds, staging  Ladders

Older construction workers had a higher risk of fatal falls from ladders than younger workers.

Source: Fatal injury data were generated by the CPWR Data Center with restricted access to the BLS CFOI micro data. The views expressed here do not necessarily reflect the views of the BLS.
QDR3: Musculoskeletal Disorders & Interventions

Rate of nonfatal injuries resulting in days away from work in construction has declined since 1992

Note: Due to the revised record keeping rules, the estimates since the 2002 survey are not comparable with previous years for nonfatal injuries.
Both number and rate of work-related musculoskeletal disorders in construction have declined since 1992.

Nearly one of three construction workers reported that they experienced low back pain in the last three months

MSD-related symptoms are common among contraction workers

Nearly 60% of construction workers aged 55 years and older had one or more MSD symptoms

More than 27% of construction workers aged 55 years and older reported that joint pain limited their usual activities.

QDR4: Opioid/Drug Use/Misuse & Overdose Fatalities
The majority of overdose fatalities were unintentional (All industries, 2011-2017)

Source: Fatal injury data were generated by the CPWR Data Center with restricted access to the BLS CFOI micro data. The views expressed here do not necessarily reflect the views of the BLS.
In 2017, deaths from unintentional overdose while at work in construction were 7 times higher than 2011.

Nearly half of overdose fatalities were caused by drugs-nonmedical (Construction, 2011-2017)

N=165 deaths

- **Drugs-nonmedical**: 47.3%
- **Medicines (except vaccines)**: 19.4%
- **Multiple drugs, alcohol, medicines**: 8.5%
- **Other**: 24.9%

Source: Fatal injury data were generated by the CPWR Data Center with restricted access to the BLS CFOI micro data. The views expressed here do not necessarily reflect the views of the BLS.
Overdose fatalities were more likely to occur among self-employed construction workers.

Overdose (N=165 deaths):
- Wage and salary: 70.3%
- Self-employed: 1.2%
- Others: 28.5%

Other causes (N=6,286 deaths):
- Wage and salary: 79.7%
- Self-employed: 18.0%
- Others: 2.3%

Note: Others include work for family business, volunteer, and type of employment not reported.

Source: Fatal injury data were generated by the CPWR Data Center with restricted access to the BLS CFOI micro data. The views expressed here do not necessarily reflect the views of the BLS.
Construction workers accounted for 36% of all occupational heat-related deaths from 1992 to 2016.
Fall injuries remain the leading cause of fatalities in construction.

Hispanic construction workers, immigrant workers, and those working in small businesses have a higher risk of fatal falls.

Amount of unintentional drug overdoses are increasing.

Young construction workers were more likely to experience opioid/drug use/abuse.

Risk of musculoskeletal disorders in construction could be underestimated.

Trend of the aging workforce will continue; injury risks and patterns vary by age.
THANKS!

QUESTIONS???

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