BLS Data Collection and Sharing Issues

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NORA CONSTRUCTION SECTOR COUNCIL MEETING

JUNE 8TH, 2022

Presentation Outline

I. Brief CFOI Background
II. What's changed?
III. How does this impact the data?
IV. Discussion
V. Q&A with audience

CFOI Background

Background

Census of Fatal Occupational Injuries (CFOI)

- Statistics on fatal work injuries
- Federal-State cooperative program
- Based on cross-referencing multiple sources
  - Death records, Worker's compensation data, Hospitals, State Agencies, Federal Agencies

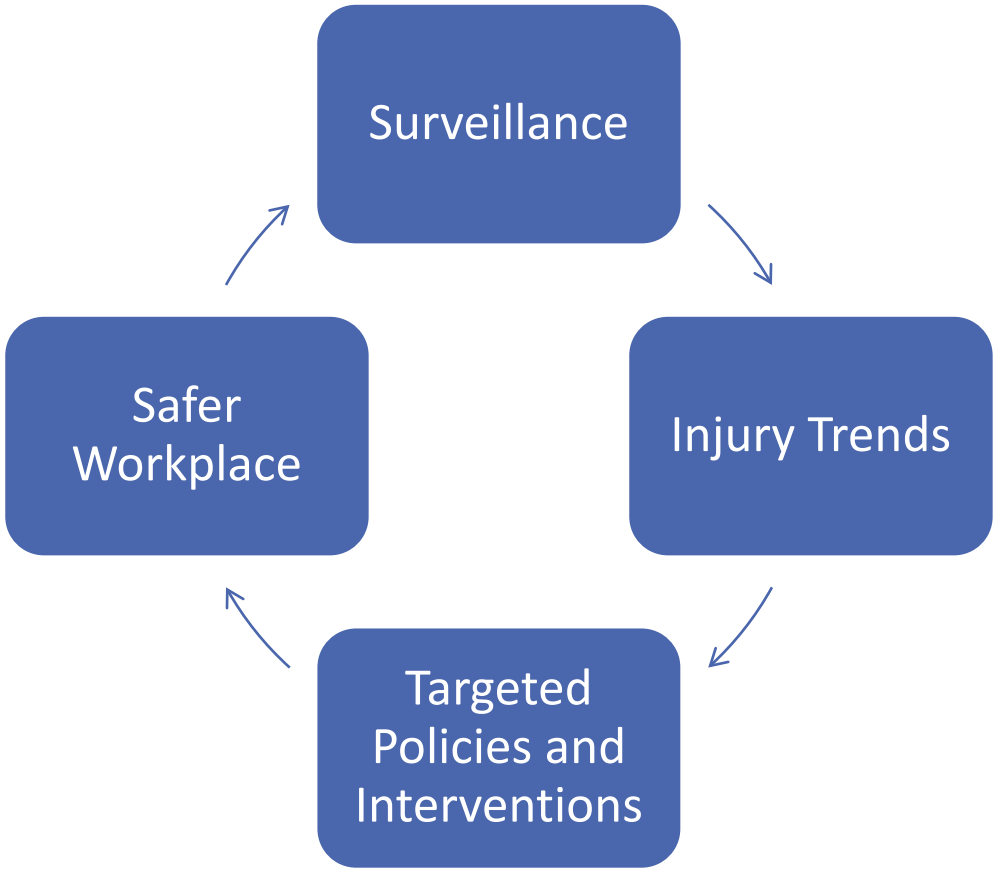
Background

Work Injury Data Goals

- Surveillance
- Identify high-risk groups
- Identify injuries of concern
- Identify related factors

Why?

- Targeted interventions
- Defining research goals
- Research and Communications



CPWR & NIOSH Historical Use of Data

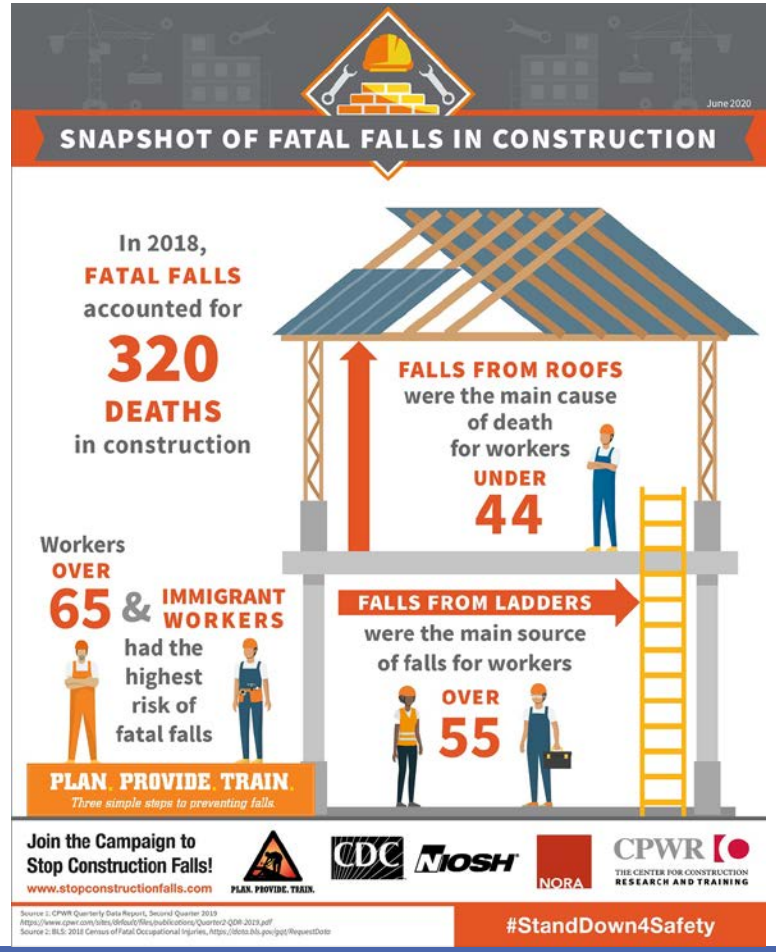
Chart Book

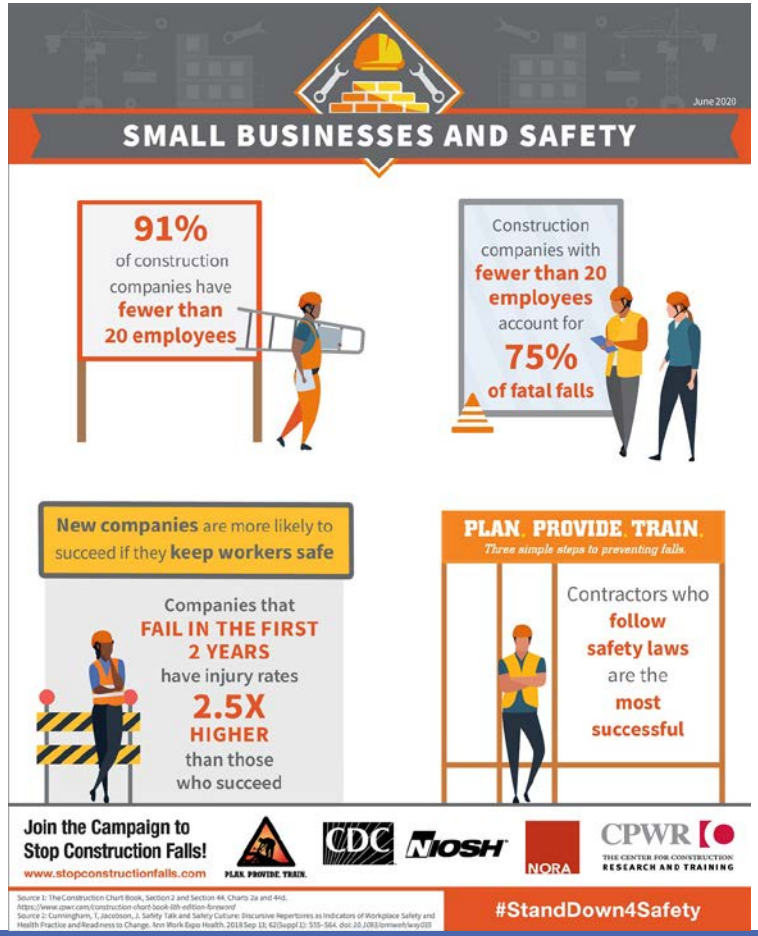
Data Reports

Peer-Reviewed Manuscripts

Infographics

CPWR & NIOSH Historical Use of Data





What's changed?

Updated disclosure rules that impact publicly available tool, public data requests, and microdata

CFOI modernized disclosure methodology starting for reference year 2019

- Goal=Strengthen protection of confidential data
- Why= Identifiable data can only be used exclusively for statistical purposes and are protected under the Confidential Information Protection and Statistical Efficiency Act of 2002 (CIPSEA) which is protected under a pledge of confidentiality

Primary vs. secondary suppression

Primary suppression only The count for occupation 3 doesn't meet publishability criteria	
Occupation	Number of fatal injuries
All Occupations	100
Occupation 1	80
Occupation 2	18
Occupation 3	--

Even though this cell is suppressed, we have enough information to compute its value: 100-80-18=2

Primary and secondary suppressions The count for occupation 2 is suppressed as well	
Occupation	Number of fatal injuries
All Occupations	100
Occupation 1	80
Occupation 2	--
Occupation 3	--

With the two cells suppressed, we don't have enough information to compute either value. Possible values include 20 and 0, 19 and 1, 10 and 10, 15 and 5….

Source: Friel, Danny and Krautter, Julie. Office of Compensation and Working Conditions, U.S. Bureau of Labor Statistics. (2022 May 12). *Improvements to Secondary Disclosure Methods in the Census of Fatal Occupational Injuries* [PowerPoint Presentation]. National Occupational Injury Research Symposium.

How to implement secondary disclosure?

Apply secondary disclosure within each published article

- This is doable! (see previous slide)
- Table differencing makes it possible to learn more
- Users may request more data than the tables on our website

To adequately protect respondents, we need something that will account for all combination of variables in all possible tables

Source: Friel, Danny and Krautter, Julie. Office of Compensation and Working Conditions, U.S. Bureau of Labor Statistics. (2022 May 12). *Improvements to Secondary Disclosure Methods in the Census of Fatal Occupational Injuries* [PowerPoint Presentation]. National Occupational Injury Research Symposium.

How does this impact the data?

Reduced ability to report high-risk groups at a descriptive level

Reduced ability to communicate circumstances surrounding specific types of injuries (e.g., injury source or location) at a descriptive level

Inability to examine the role of establishment size on injuries

Can still produce models/run other statistical tests using micro data to identify these factors, but this complicates producing user-friendly statistics

Example of Impact

With changes it is no longer feasible to look at the Number of fatal falls to lower levels by ethnicity through public tool, data request, or micro data

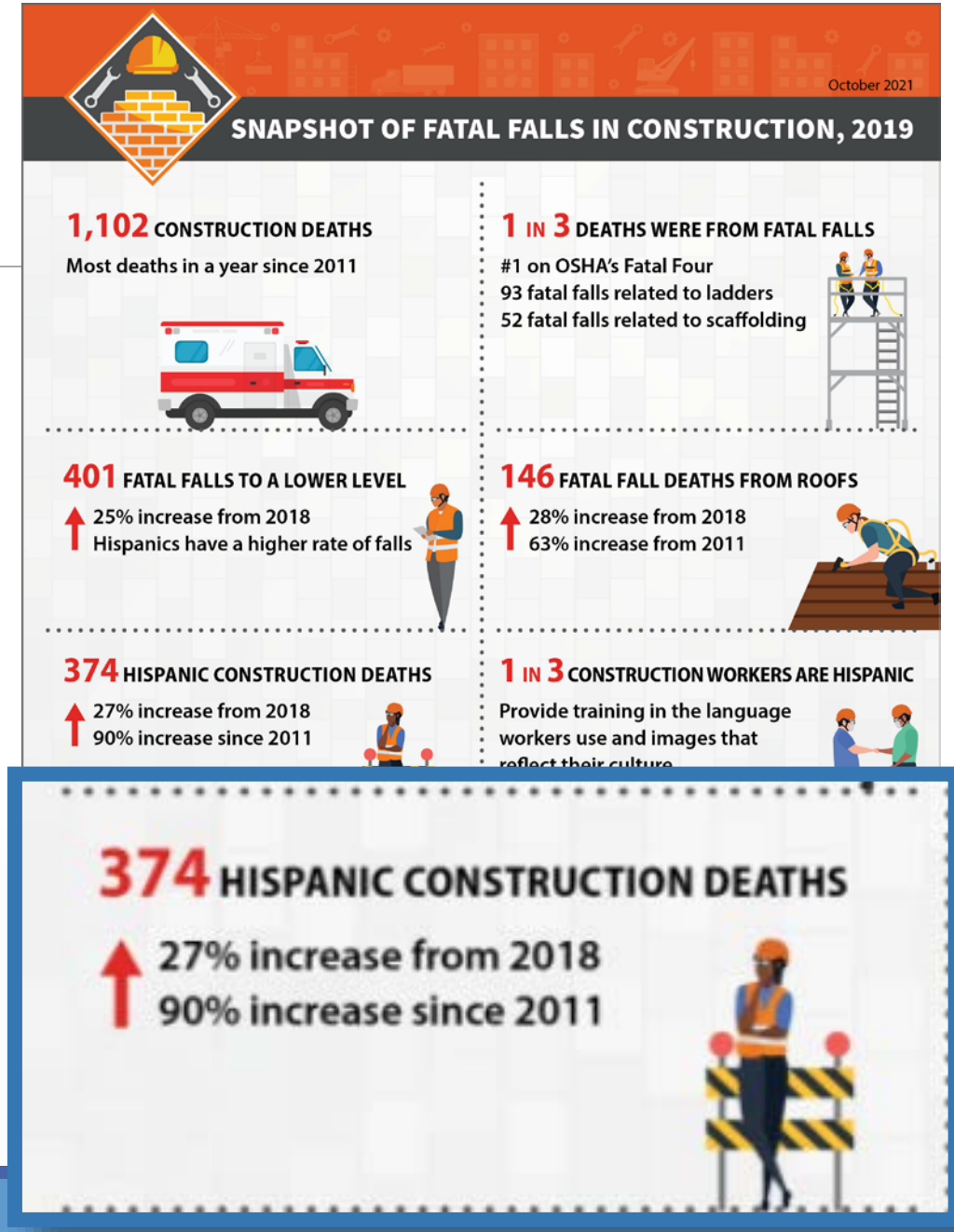
What can we get?

- In 2017, of the 367 construction workers fatally injured due to a fall to a lower level 195 were white, non-Hispanic and 142 were Hispanic or Latino.

vs

- Hispanic or Latino construction workers were almost twice as likely to die from a fall to a lower level compared to white, non-Hispanic workers.*

*Hypothetical statistic.



Let’s learn more

How do we get a National database?

Coordination with States

While the Constitution doesn't explicitly list the powers retained by the states, the founders included a catch-all in the 10th Amendment, ratified in 1791:

> ***"The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people."***

Those so-called "reserved" powers include all authority and functions of local and state governments, policing, education, the regulation of trade within a state, the running of elections and many more.

What are agency and researcher obligations? Limitations?

How can we overcome the disclosure changes to meet the needs of the construction industry?

Publish what we can

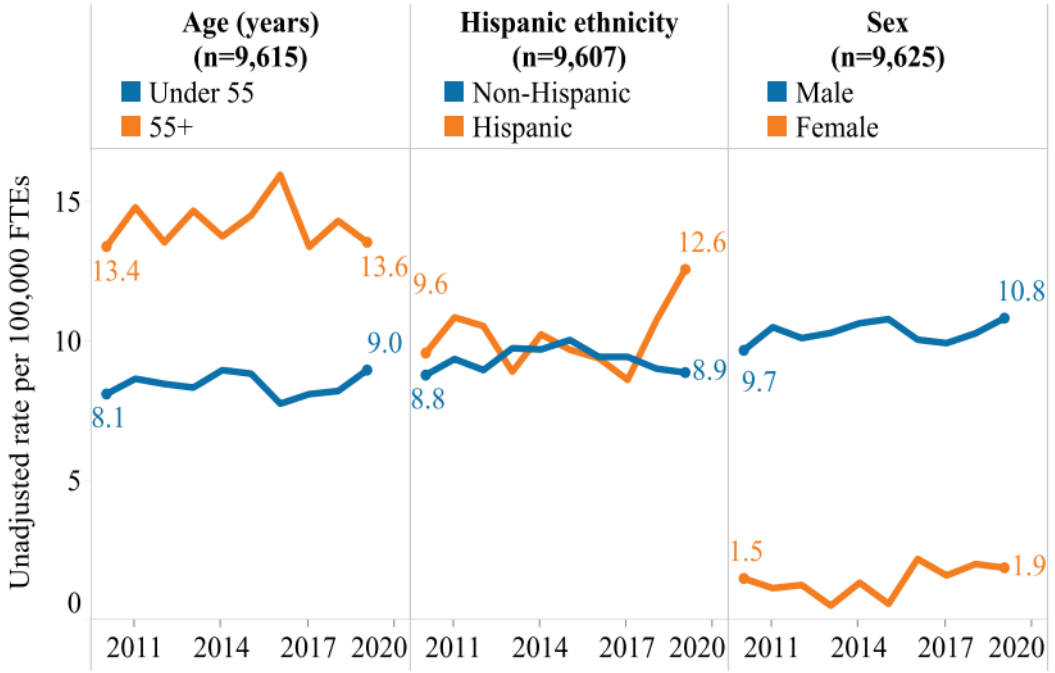
General industry injury trends by subsector, occupation (where available), and demographics

Remember our Injury Data Goals:

- Surveillance ✓
- Identify high-risk groups ✓
- Identify injuries of concern ✓
- Identify related factors

Note: Limitations impact our ability to completely achieve these goals due to suppression of certain categories in public data (e.g., occupation) and lack of access to certain important variables (e.g., establishment size).

Rate of fatal injuries in construction by demographics, 2011-2020*



Source: *U.S. Bureau of Labor Statistics, 2011-2020 Census of Fatal Occupational Injuries and 2011-2020 Current Population Survey.*

**Cases missing age or ethnicity data were excluded.*

Statistical Modeling

Injury Data Goals:

- Surveillance
- Identify high-risk groups ✓
- Identify injuries of concern
- Identify related factors ✓

Note: Modeling/statistical testing would require access to CFOI microdata.

Structural Metal Workers (BOC 597)	Fall from Building	E882	8.0
	Fall from 1 Level to Other	E884	4.6
	Fall from Ladder, Scaffold	E881	3.4
	Struck by Falling Object	E916	3.0
	Electric Current	E925	2.3
	Machinery	E919	1.9

TABLE V. Lifetime Risk Estimates from Published Studies Identifying Occupational Exposures to Hazardous Substances

Authors	Population	Exposure	Working lifetime	Illness	Lifetime risk (deaths/ 1,000 workers)[a]
Nurminen et al., 1992	General exposed population	0.2 mg silica/m^3 [b]	40 Years	Silicosis	8.7

Q&A

Thank you!

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References

Fosbroke DE, Kisner SM, and Myers JR. (1997). Working Lifetime Risk of Fatal Occupational Injury. *American Journal of Industrial Medicine, 31:* 459-467. https://doi.org/10.1002/(SICI)1097-0274(199704)31:4<459::AID-AJIM13>3.0.CO;2-Z

Friel D and Krautter J. Office of Compensation and Working Conditions, U.S. Bureau of Labor Statistics. (2022 May 12). *Improvements to Secondary Disclosure Methods in the Census of Fatal Occupational Injuries* [PowerPoint Presentation]. National Occupational Injury Research Symposium.

National Institute for Occupational Safety and Health (NIOSH). (2020). Infographics for the National Campaign to Prevent Construction Falls. https://www.cdc.gov/niosh/construction/infographics.html

The Center for Construction Research and Training (CPWR). (2022). Data Reports.https://www.cpwr.com/research/data-center/data-reports/

U.S. Bureau of Labor Statistics. Census of Fatal Occupational Injuries (CFOI). (2012). https://www.bls.gov/iif/oshfat1.htm

U.S. Bureau of Labor Statistics. (2022). Frequently Asked Questions (FAQs). Why are there noticeably fewer counts in CFOI data since reference year 2019? https://www.bls.gov/iif/oshfaq1.htm

U.S. Bureau of Labor Statistics. (2022). Injuries, Illnesses, and Fatalities Data Requests. Fatal profile of event Falls to bwer level in sector Construction, all ownership. https://www.bls.gov/iif/iif-data-requests.htm