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### F1.3

#### Title: A Social Network Analysis of the National Campaign to Prevent Falls in Construction

Authors: [Eileen Betit](#), [Danielle Varda](#), [Jessica Bunting](#), [Chris Trahan Cain](#), [Dean McKenzie](#), [Elizabeth Garza](#), [Scott Earnest](#), [Christine Branche](#)

**Background:** Falls are a leading cause of injuries and deaths in construction. In 2012, OSHA, NIOSH and CPWR (lead organizations) launched the National Campaign to Prevent Falls in Construction (Campaign) to raise awareness of fall hazards and prevent injuries and deaths. The Campaign and associated National Safety Stand-Down have been successful, but evaluation efforts have been limited to the lead organizations' reach. In 2017, the OSHA-NIOSH-CPWR r2p Working Group worked with the Center on Network Science (CNS) to pilot use of Social Network Analysis (SNA) to evaluate the Campaign. The SNA focused on identifying the Campaign's network (partners), the audiences reached, how partners work together, the benefits and challenges of participation, and opportunities to strengthen the network.

**Methods:** In 2017, an online survey was conducted using CNS' PARTNER Tool, which includes a validated survey instrument, data collection methodology, and evaluation framework. The Campaign survey was customized to include the 19 PARTNER questions and 13 additional questions. It was distributed via email to 157 partners identified by the lead organizations. The latter represented a "bounded" network. As part of the survey, these partners were asked to list the organizations they work with on the Campaign and answer questions about their relationships with those organizations. The organizations identified included new organizations that represent the broader "informal" network created through the Campaign.

**Results:** Of the 157 partners surveyed, 77 (49%) responded. The most common reason for becoming involved in the Campaign was an invitation from a lead organization (60%), but the most common reason for staying involved was to demonstrate an organizational commitment to safety (57%). The 77 respondents listed an additional 117 organizations as partners, for a total of 274 unique Campaign network partners. Excluding the lead organizations, the remaining partners reported reaching between 36 and 2,500,000 individuals a year. The majority engaged in Campaign activities leading up

to or during the annual Stand-Down. The most common activities were distributing or posting materials, articles or blog posts, and email promotions. Fewer partners reported time- or resource-intensive activities, such as equipment audits or falls safety drills. The top benefits to participating were being part of a national campaign (80%); access to materials (70%); increased opportunities to share resources (67%); motivation to focus on fall safety (66%); and improved relationships with other stakeholders (66%). The challenges most often cited included time constraints (35%); uncertainty about the impact (33%); and being able to generate interest (33%). For outcomes, roughly 3 out of 4 partners said they have seen "a fair amount" or "a great deal" of change around fall prevention and overall safety and health initiatives within their organization or the industry. Despite the majority reporting a positive change, several partners expressed doubts about whether those most at-risk are being reached.

**Discussion:** The SNA provided important insights into the size of the audience reached through the Campaign network, the types of organizations involved and activities undertaken, benefits and challenges, and opportunities to help the network develop further and function more effectively.

### F1.4

#### Title: Using Stakeholder Feedback to Create an Online Network for Building Research to Practice (r2p) Capacity

Authors: [Jessica Bunting](#), [Eileen Betit](#)

**Background:** The construction industry is highly decentralized, creating unique challenges for communicating safety and health information and sharing resources with stakeholder audiences. There are many individuals and organizations concerned about improving safety and health; however, on their own they only have the ability to reach a limited number of audiences with safety and health information and products. By working with industry partnerships and on other collaborative efforts, CPWR found when we are able to tap into others' networks, we can reach a higher number and wider variety of audiences than any one group can on their own. Recognizing the barriers to sharing network contacts, CPWR began exploring the development of a Construction Safety & Health Network, which would bring together safety and health minded individuals and organizations, establish a central platform for

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posting research and resources, and provide an easy to use mechanisms to quickly share postings with their individual networks using their preferred electronic communication method.

**Methods:** Prior to developing this Network, we solicited input from potential participants in a variety of ways, with the goal of determining 1) whether they would participate, 2) what features would prompt them to use the network, and 3) how best to structure it to facilitate participation. CPWR introduced the concept of a safety and health partnership network at our first annual Research to Practice (r2p) Seminar and Partnership Workshop in 2015 (r2p Seminar). A workshop at this meeting, attended by many of the audiences that could benefit from such a network, was used to explore ways to improve connectivity within and between their networks, and solicit reactions to the idea of creating an online network focused on construction safety and health. We used attendee input to refine the concept. A year later, at the 2016 r2p Seminar, we presented a more fleshed out concept and solicited feedback during two interactive workshop sessions. Based on the feedback received from workshop participants, we conducted another round of revisions to our concept and planned online mechanism functionality. These revisions were presented to a group of workshop attendees during a web-based meeting in February 2017. After this final round of feedback, we began development, presented mock-ups at the 2017 r2p Seminar, and provided those interested with the option of registering for the network in advance of the launch.

**Results:** The Safety & Health Network launched in March 2018. We are now focused on growing both Network membership and site content, as well as learning how to best utilize the collaboration functionality of the Network. As we do so, we are gathering additional information about what our audiences want and will actually use in practice, both as it relates to this Network and to inform our r2p efforts overall. One result is that through our iterative feedback process and observing member use of the Network since its launch, CPWR has improved its understanding of the needs, desires, communication preferences, and constraints of our target audiences. We have also learned more about the importance of obtaining audience buy-in early on in the process. The result of the Network itself is that members have the ability to easily disseminate information to new and broader audiences, find new information to share with existing networks, address emerging haz-

ards, and build sustainable relationships with partners they may not have previously considered or had the ability to connect with.

**Discussion:** Disseminating information is difficult in a decentralized, ever changing industry. Utilizing multiple rounds of feedback from various stakeholder audiences, CPWR was able to create an online Construction Safety & Health Network that improves the r2p capacity of individuals, organizations, and the industry as a whole.

## Session F2

### Title: Current Research on Truck Driver Safety

Moderator: Stephanie Pratt

This session will bring together results from NIOSH's National Survey of Long-haul Truck Driver Health and Injury with related research conducted by leading university-based researchers. The presentations will address a range of themes relevant to truck driver safety: fatigue, substance use, safety culture, and driving behaviors.

### F2.1

#### Title: Tight Delivery Schedules Linked to Job Satisfaction, Opinions on Maximum Speed Limits and Hour of Service Rules, and Noncompliance: NIOSH National Survey of U.S. Long-Haul Truck Driver Health and Injury

Authors: [Guang Chen](#), W. Karl Sieber, Jan Birdsey, Edward Hitchcock, Jennifer Lincoln, Stephanie Pratt, Cynthia Robinson, Marie Sweeney

**Background:** There are approximately 1.8 million heavy and tractor-trailer truck drivers in the U.S., the majority of whom are long-haul truck drivers (LHTDs). LHTDs work long hours, irregular work schedules, and face high risks of truck crashes and occupational injuries. The objectives of this study were to: (1) assess U.S. LHTDs' opinions on their safety needs, and (2) quantify the interconnections among delivery schedules, job satisfaction, and opinions on and compliance with hours of service (HOS) regulations and maximum speed limits.

**Methods:** The National Institute for Occupational Safety and Health conducted the National Survey of LHTD Health and Injury, which collected information from a nationally representative sample of 1,265 U.S. LHTDs at 32 truck stops in 2010. The survey collected

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