

**Healthier Workforce Center of the Midwest  
Total Worker Health® Center for Excellence  
FY21 Annual Report**

**Section I:**

**Summary:** The states in our region suffer from higher burdens of occupational injury and illness, as well as high rates of unhealthy behaviors. Furthermore, many employers in our area are small with limited resources and include industries that have been underserved by the occupational safety and health profession (e.g., construction, agriculture). Additionally, changing workplace characteristics put workers at risk (e.g., increase in part-time work, sedentary work). The Healthier Workforce Center of the Midwest expands the currently funded Healthier Workforce Center for Excellence, to create a regional Total Worker Health® Center of Excellence serving Federal Region VII. (Iowa, Nebraska, Kansas, Missouri). It is a collaboration between the University of Iowa, Washington University in St. Louis, and two Total Worker Health® Affiliates, the Nebraska Safety Council and the International Brotherhood of Boilermakers. The Midwest Center brings together an interdisciplinary team of researchers and advisors. This expertise will allow us to design, implement, and evaluate programs, practices, and policies that can be tailored to occupational groups with changing needs and high burdens of adverse health effects, with a continued emphasis on meeting the needs of small employers and urban and rural populations in our states.

**Relevance:** There is a critical need for Total Worker Health® in the Midwest. The states in our region suffer from higher burdens of occupational injury and illness, as well as high rates of unhealthy behaviors. The Healthier Workforce Center of the Midwest expands the currently funded Healthier Workforce Center for Excellence, to create a regional Total Worker Health®, with a continued emphasis on meeting the needs of small employers and urban and rural populations in our states.

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## Section II:

### **Turner Construction Mental Health and Well-Being Program**

The construction industry has one of the highest suicide and fatal overdose rates of any industry. Multiple psychological stressors created by work tasks, environment, and culture contribute to these deaths, and the stressors may be even greater on large multi-employer projects. Turner Construction implemented a novel mental health program on a multi-year Facebook build employing about 1000 workers at any given time. This study measured the implementation and evaluation of the mental health program over a 5-month period. The program began in early 2020 and gradually grew over time, starting with traditional medical support and safety, adding a wellness coach in March 2020, and an onsite mental health counselor in March 2021. Employees were offered Mental Health First Aid Training starting in September 2020 and groups for underrepresented workers (Veterans, LGBTQ, Spanish inclusion) were formed to encourage social connection and support. Awareness campaigns were also utilized (women in construction, mental health, men's health, suicide prevention, toolbox talks on mental health, and lunch and learns). The program evaluation included online worker surveys and interviews with employees in April and August of 2021. Although similar rates of poor mental health outcomes, poor health behaviors, and awareness of services and programs were seen at both time points, there was a notable increase in interactions with peers trained in mental health first aid, wellness coaches, and onsite mental health counselors.



*Figure 1. Mental Health and Well-Being Fair at Turner Construction Job Site*

Interviews showed health coaches helped workers feel comfortable reaching out for help. In addition, there was an increase in the delivery of relevant content to underrepresented groups. Yet some challenges remain: language barriers among non-English--speaking workers, concerns about confidentiality, and lack of time to participate during the workday limit engagement. The Turner program is currently implementing additional programs to address discrimination and bias, continuing to address language barriers and the ability to participate in the program, and is specifically targeting the mental health needs of the 20% of workers who live away from their families.

## **UI Well-Being Surveys Track Transition to Remote Work**

The Healthier Workforce Center partnered with faculty in the University of Iowa Tippie College of Business to conduct longitudinal surveys to examine the impact of COVID-19 on the well-being of employees and supervisors at the University of Iowa and Washington University. Both institutions include hospitals and clinics and had many employees transition to remote work in early 2020. The Center and Tippie have been working together to examine the impact of pandemic-related changes on the health and well-being of essential clinical, non-clinical, on-site, and remote workers at both institutions. The COVID-19 pandemic pushed non-essential employees into remote work arrangements, resulting in many supervisors, often with minimal experience, managing employees remotely for the first time. Early results from the surveys indicated a need for support to supervisors of remote workers. Therefore, partnering with faculty in Tippie, we developed local and regional webinars targeting supervisors of remote workers. The webinars addressed health, safety, and well-being concerns for managers at all levels, particularly those new to supervising remote workers. We worked with Tippie to identify alumni and faculty speakers and promote the Iowa-focused event through their alumni network. The local event at the University of Iowa drew 340 live attendees and 197 views of the recorded webinar. The panel was comprised of university leaders in safety, human resources, organizational effectiveness, management and education. The



Figure 3. UI Employee Well-Being Survey Webpage



Figure 2. liveWELL Employee Wellness Newsletter

regional webinar (focused on Missouri, Nebraska, Kansas, and Iowa) had 117 live attendees and 108 views of the recorded webinar. Panelists included safety and human resources professionals, researchers, and business leaders from the region. The Center website includes links to additional resources for supervisors and workers including videos, publications, reports, and toolkits. Findings have been shared with University of Iowa senior HR and wellness directors. Preliminary findings were also disseminated to university staff through the [liveWELL employee wellness newsletter](#).

### **Partnership Highlight: Nebraska Safety Council**



#### **Workplace Matters: Leadership Behaviors**

Health® Affiliate, the Nebraska Safety Council has adopted a Total Worker Health approach to their programing. Total Worker Health concepts are now embedded in virtual and live trainings, membership meetings, consultations, and annual conferences. Throughout the COVID-19 pandemic, the Nebraska Safety Council continued to provide Total Worker Health direct consultations, covering topics such as wellness and safety incentive strategy design, comprehensive safety audits, and safety walkthroughs. More than 40 organizations have received this personalized consultation. The Nebraska Safety Council has worked proactively to survey their members to determine safety, health, and worker well-being priorities. In response to the survey findings, the Healthier Workforce Center co-sponsored three webinars to address workplace culture, leadership, and return to work (during the COVID-19 pandemic). The presentations have been utilized to develop educational videos and podcasts that are freely available on the [Center website](#)



*Figure 4. Nebraska Safety Council Logo*

*Figure 5. Workplace Matters: Leadership Behaviors Podcast*

The Nebraska Safety Council has continued to impact the health, safety, and well-being of more than 13,500 individuals throughout Nebraska. As a Healthier Workforce Center outreach partner and NIOSH Total Worker



## **Outreach Products**

In Fiscal year 2020-2021, the Healthier Workforce Center Outreach Core continued to partner with organizations in Federal Region VII to create resources and disseminate Total Worker Health research findings and best practices via

live events and on-demand opportunities through the website, print/email, podcasts, videos, and live remote webinars. The website underwent a significant update, and pageviews on the website increased from 16,000 in fiscal year 2020 to 29,000 in fiscal year 2021. The eight eBulletins were each distributed to more than 2000 contacts. Each eBulletin featured new center products and advertised learning opportunities in Federal Region VII and beyond. The eBulletins had an open rate of 24% compared to the industry average of 17%. The Healthier Workforce Center podcast series, *Workplace Matters*, had more than 1,500 plays on SoundCloud. The six new podcasts addressed the following topics and included state experts from throughout the region:

- Leadership Behaviors (NE)
- Employee Engagement (IA)
- Driving Safety (NE/IA)
- Mental Wellness (IA)
- Marijuana and the Workplace: Policies (IA/IL)

Our video series had more than 37,000 views in YouTube. New videos released for Fiscal Year 2021 included:

- De-Escalation Approaches for a More Harmonious Workplace (NE)
- Hazard Mapping
- The Multi-Generational Workforce (IA)
- Suicide Prevention Campaign (MO)
- An Introduction to Emergency Preparedness (KS/IA)

Finally, our webinars featured timely topics including expert panels on workplace mental health policies and supervising remote workers.



Figure 5. *Workplace Matters: Leadership Behaviors Podcast*



Figure 6. *Selected Workplace Matters Podcasts on Emergency Preparedness, De-Escalation Approaches, Hazard Mapping, and Multi-Generational Workforce*

## **Partnership with Associated General Contractors of Missouri and Carpenters Joint Apprenticeship Program Raises Awareness of Mental Health and Suicide in the Construction Industry**

The Healthier Workforce Center has partnered with the Carpenters Joint Apprenticeship Program to examine changes over time in the health and well-being associated with work organization and environment among construction apprentices. In this project, we worked with key intermediary organizations to identify barriers and facilitators to adoption of THW interventions. Consistent with national trends, interviews with unions and trade organizations identified mental health and suicide in construction as key priorities. We partnered with Associated General Contractors of Missouri (AGC-MO) to increase awareness, reduce stigma, and educate individuals about risk factors and warning signs of suicide through toolbox talks, posters, hardhat stickers, and



Figure 7. Layout of mental health awareness and suicide prevention campaign materials

medallions with the suicide prevention hotline number. This effort launched in 2019 with two “stand-down for safety” events (when work is stopped to talk about safety), which reached >900 workers. The effort was expanded with AGC-MO in 2020 with an additional “stand-down for safety” and the development of monthly toolbox talks addressing a broader range of mental health topics (“Mental Health Mondays”). The focus on mental health and suicide prevention expanded to a wider workplace suicide prevention effort that was promoted at the fall 2020 Hawkeye on Safety conference (hosted by the Heartland Center for Occupational Health and Safety, a NIOSH funded Education and

Research Center). Nearly 200 packets of campaign materials were disseminated. We had a total of 429 unique campaign-related page views on our website. Most importantly, we have already seen evidence of adoption at a number of worksites. The Outreach Core developed a video to promote the campaign, led the translation of the materials into Spanish, and provided a central website repository to make the materials easily accessible. This led to a new partnership with the Master Builders of Iowa and other organizations who have worked with the Center to incorporate content on mental health and suicide prevention as part of their leadership trainings. In addition, the HWC formed an Alliance Agreement with Federal Region VII OSHA to develop and disseminate materials addressing mental health and substance use which will create new products, expand dissemination and reach, and ensure sustainability.

### **Pilot Grant Awardee Develops Tractor Driving Simulator to Study Risks of Tractor-Related Incidents**

In the agricultural industry, tractor-related incidents are the leading cause of occupational fatalities. In particular, fatal crashes occur more frequently among senior farm equipment operators than younger drivers. The Healthier Workforce Center of the Midwest awarded a pilot grant to support doctoral student Kayla Faust's dissertation work which focused in this high-need area. Two studies from this work were published. The first article was published in Fall 2020 in the *Journal of Agricultural Safety and Health* described the development of a tractor driving simulator which is a safe and cost-effective way to conduct research without the risks of conducting research in real-world conditions. The simulation included a tractor cab with realistic controls, three high-resolution screens, and high-fidelity sound. The simulator development ensured that the conditions were as realistic as possible. Ninety-nine Midwestern farm operators evaluated the simulation. They viewed the simulator's realism favorably overall and results demonstrated that the simulation was a viable approach to studying farm equipment operations and events that can lead to tractor-related crashes. The second publication, also in the *Journal of Agricultural Safety and Health*, focused on using the simulator to examine the association



Figure 8. Person driving a tractor on roadway

between age and tractor driving performance. The study had 99 participants ages 25 and older. Findings from the study demonstrated that older farm equipment operators (65+) took longer to become aware of semi-trucks at an intersection than younger drivers (25-64) even when adjusting for medical diagnoses, medication use, tractor age, and tractor horsepower. Findings also indicated the simulator might be well suited to studies examining distracted driving and those comparing farm vehicles to passenger vehicles.

Faust, K., Casteel, C., McGehee, D. V., Ramirez, M., Rohlman, D. S., & Peek-Asa, C. (2020). Examination of realism in a high-fidelity tractor driving simulator. *Journal of agricultural safety and health*, 26(4), 123-137.

Faust, K., Casteel, C., McGehee, D., Peek-Asa, C., Rohlman, D., & Ramirez, M. (2021). Examining the Association Between Age and Tractor Driving Performance Measures Using a High-Fidelity Tractor Driving Simulator. *Journal of Agricultural Safety and Health*, 0.

### **Pilot Grant Awardees Use Surveillance Data to Examine Work-Related Factors and Suicide**

The Healthier Workforce Center of the Midwest awarded a pilot grant to Drs. Corinne Peek-Asa and Carri Casteel, Professors in the Department of Occupational and Environmental Health, to examine the link between suicide and work-related factors using the National Violent Death Reporting System (NVDRS), a CDC-based national surveillance system that provides a comprehensive review of suicides using death certificates, autopsy reports, and death investigations. Through close examination of NVDRS suicides (2013-2017) among those aged 16 through 65, they found that work-related factors may be associated with more suicides than previously documented. They discovered little overlap between death certificates and death investigations, with less than 1% of suicides identified as related to work by both sources; for example, among protective service workers suicides, death certificates identified 2.1% as work-related, while death investigations identified 15.2% as having problems at work that may have been contributing factors. This has practical implications for employers, as understanding the prevalence of work-related factors can inform suicide prevention and mental health support programs, particularly in high-prevalence occupations.

Peek-Asa, C., Zhang, L., Hamann, C., Davis, J., & Casteel, C. (2021). The prevalence of work-related suicides varies by reporting source from the National Violent Death Reporting System. *American journal of industrial medicine*.