

HIGHLIGHTS 2024



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FOREWORD

One of the events of the past year that makes me optimistic about the future for construction workers is the selection of CPWR to serve again as the National Construction Center.

Eight times since 1990, the National Institute for Occupational Safety and Health (NIOSH) has opened applications for an organization to become its leading partner in reducing occupational health and safety hazards in construction. Eight times NIOSH has selected CPWR, with each repeat a tribute to the many ways CPWR has helped reduce injuries, illnesses, and fatalities for workers across the U.S.

Its work continues to be a powerful, evolving mix of responding to both persistent and emerging hazards. CPWR's central role in the annual stand-downs to prevent falls and struck-by incidents highlights its efforts to prevent two of the leading causes of fatalities. Its guidance on keeping workers safe from heat—such as offering tools for developing a heat protection program—an increasingly significant hazard.

CPWR has skillfully balanced investigating new technology and advancing traditional approaches. For the former, it has supported research on how, for example, workers could be protected by self-powered exoskeletons and automated systems in road construction zones.

For the latter, CPWR has always recognized that people must be at the heart of making jobsites safe. On the research side, its award-winning resources to build safety culture, such as the Foundations for Safety Leadership and Safety-Climate Safety

Management Information System, will be joined over the next few years by a new toolkit, Collaborative Leadership for Safety and Health in Construction. As its name indicates, the result will enhance the skills and practices of managers, supervisors, and workers so they can together develop and implement solutions that make workers safer.

This emphasis on people is also clear in the training consortium CPWR leads. Embedded across NABTU-affiliated unions, the consortium has in recent years benefitted 70,000 workers annually. It offers courses ranging from the introductory OSHA 10-Hour to advanced courses enabling trainers to prepare workers to manage hazards such as confined space, hazardous waste, and infection control.

Other aspects of CPWR show the importance it places on workers. Its Building Trades National Medical Screening Program provides free, ongoing medical screenings to construction workers previously employed on our nation's nuclear weapons manufacturing sites. Its efforts to improve construction workers' mental health this year gained a new research project to adapt a successful Australian program for suicide reduction and a quarterly newsletter about reducing deaths from opioids and suicide.

CPWR has developed an unparalleled set of partnerships to



build and share its expertise. It works closely with people in government, such as those at NIOSH, OSHA, the U.S. Department of Energy, the National Institute of Environmental Health Sciences, and state and local agencies, as well as with staff at unions, contractors, safety consulting firms, and universities. Together they create resources and disseminate good practices, often through CPWR publications, webinars, podcasts, data publications, and other methods.

There still remains much to be done to keep all workers safe on every jobsite, and CPWR is uniquely positioned to lead those efforts.

SEAN MCGARVEY

*Chairman of the Board
and President, CPWR
President, NABTU*

EXECUTIVE DIRECTOR'S MESSAGE

For CPWR, 2024 was a year of both transition and continuity.

This fall marked the completion of our eighth cooperative agreement to serve as NIOSH's National Construction Center. We are wrapping up research projects supported over the past five years under that agreement, each of which is described in the following pages. They addressed areas from expanding knowledge about nanomaterials to helping firms improve their safety climate, from ensuring our materials on musculoskeletal disorders are effective to creating new tools to improve pre-task planning. This year the Small Study grants funded investigations on topics such as protecting workers in hot weather, road work zones, and trenches.

But the end of the agreement does not mean an end to our work on these topics—or on other key hazards facing construction workers. This summer NIOSH again selected us as the National Construction Center, enabling the launch of six new research projects and continuation of much more that we do.

Two of those projects connect to earlier studies. One team will extend its examination of common but little-studied chemicals that painters are frequently exposed to by investigating the effects of PFAS, also known as “forever chemicals.” Another set of researchers, who previously developed guidelines for the selection and use of passive exoskeletons, will now create construction-specific training for the safe and effective implementation of this technology.

Work CPWR already has underway takes a new form in four other projects. This year a Small Study examined OSHA construction

consulting programs designed to reduce injuries; now the same researchers can go into this topic in far more depth to understand what makes a program successful. Our efforts to improve construction workers' mental health will benefit from the upcoming study of how the MATES program—which has significantly reduced suicide among construction workers in Australia—might be adapted to the U.S. CPWR has long been a leader in helping firms strengthen their safety culture, and the development of the Collaborative Leadership for Safety and Health in Construction toolkit will enhance the skills and practices of managers, supervisors, and workers so they can collaborate in creating and implementing solutions that prevent injuries and illnesses. Finally, we have increasingly responded to the dangers heat poses, such as with this summer's webinar on heat protection plans. Our new project will identify activities that pose a high risk of heat stress, develop guidance and interventions, and measure both heat-related effects and the adoption of solutions.

Also continuing are our three core programs. In addition to again producing invaluable resources such as the six-times-a-year Data Bulletin and maintaining the interactive Data Dashboards, the Data Center will develop a process for characterizing the content of injury narratives to obtain information beyond what is typically included in structured data. The Research to Practice Program will not only regularly enhance our existing library of tools and help lead campaigns to prevent falls

and struck-by incidents; it will also undertake projects to support people at disproportionate risk, such as those employed by small contractors, Spanish-speaking workers, and women. Working across CPWR is the Communications Team, which will continue to expand methods for sharing our knowledge, such as enriching our database to better reach small firms, Spanish speakers, and contractors in specific trades.

Our Training Program and our Building Trades National Medical Screening Program (BTMed) will use their proven methods to benefit new groups of workers. Our training consortium will again offer classes across the country, from the introductory OSHA 10-Hour course to advanced classes for trainers, who will share their knowledge with thousands of people in the trades.

Over the past quarter-century, the BTMed program has provided more than 47,500 screening exams and 11,000 CT scans to construction workers on DOE sites. Those life-saving activities will remain BTMed's focus, for people new to the program and those who continue to receive their every-three-year screenings.

A final, central element of our work is continuity. Year after year, we collaborate with an exceptional set of partners—including workers and union staff, contractors and people at other businesses, government officials, and researchers. Together we make progress on reducing injuries, illness, and fatalities in construction.

CHRIS TRAHAN CAIN, CIH
Executive Director

RESEARCH

Research That Builds Safety

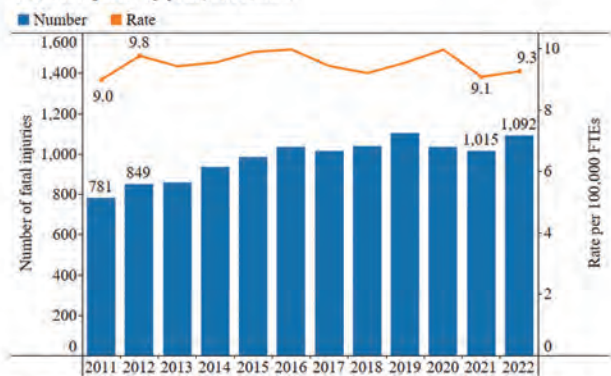
In both approach and topic, CPWR'S research projects range widely. Their methods include laboratory work, data analysis, surveys, field testing, and more, typically using several of those techniques. They focus on many different areas: persistent causes of injuries and fatalities like falls and heat, emerging subjects such as exoskeletons and mental health. But they all share the goal of making workers safer and healthier, on and off the jobsite.

Data Center Addresses Construction Industry Needs

Construction workers continue to be much more likely to die on the job than American workers overall, and they also have disproportionately high rates of death by suicide and overdose. This year, CPWR's Data Center continued to lead in producing construction-specific analyses that help understand injuries and mental health trends, including 1) Data Bulletins focused on mental health, fatal injuries, trenching injuries, and falls, 2) updated Data Dashboards examining fatalities, severe injuries, Focus Four injuries, and falls, slips, and trips, 3) an analysis to identify groups in construction at higher risk of death by suicide, published in the *American Journal of Industrial Medicine*, and 4) a preliminary analysis of overdoses, presented at the 2024 American Public Health Association Annual Meeting. The Data Center also collaborated with the Institute for Construction Employment Research on a Data Bulletin about apprenticeships, responded to 89 data requests, gave 12 presentations, created two new Data Dashboards and incorporated new data into five others, and is now updating all 31 dashboards as part of preparing the upcoming *Interactive Construction Chart Book*, which will build on the success of previous Chart Books by offering dynamic key findings.

PROJECT: Construction Industry Data and Statistical Core (CPWR)

1. Fatal injuries by year, 2011-2022



Source: U.S. Bureau of Labor Statistics, 2011-2022 Census of Fatal Occupational Injuries and 2011-2022 IPUMS Current Population Survey. Calculations by the CPWR Data Center.

Leading an Expert Panel on Head Protection

Protective headgear trends in construction have begun to change, with some workplaces adopting a "safety helmet" style of head protection for their workers. Starting in 2023, CPWR began learning more about the industry's understanding and use of protective headgear by convening a panel of experts from academia, labor, government, manufacturing, and other organizations to 1) assess industry awareness and adoption of ANSI/ISEA Z89.1 Type II protective headgear with and without chin straps over time,



Type I

Type II

An excerpt from the revised guide on selecting head protection.

and 2) establish and disseminate recommendations for use of protective headgear. A key result of this work was the *Selecting Head Protection for Construction Work* guide, which breaks down the difference between safety helmets and hardhats, highlights why the ANSI protection level is much more important than the style, reviews current regulations, and describes factors to consider when selecting head protection, such as fall-related hazards and temperature. In coordination with the NORA Construction Sector Council Struck-by Work Group, we also held a two-part webinar on head protection in the construction industry.

PROJECT: Research to Practice (r2p) Core (CPWR)

Premier Partners Join the 2024 Falls Campaign and Stand-Down

In 2024, CPWR, NIOSH, and OSHA established a Premier Partner Program in support of the Campaign to Prevent Falls in Construction and Safety Stand-Down. Premier Partner organizations committed to film and share a short video about the Stand-Down or fall safety in general, promote official Campaign/Stand-Down webinars, engage on social media, and direct their members and networks to OSHA's Certificate of Participation after the Stand-Down. CPWR led this engagement effort, which aimed to breathe new life into a long-running campaign by better supporting partners (many of whom had been involved in the Stand-Down for years), generate new resources, and increase the reach of and overall participation in the Campaign. We highlighted participating organizations on the newly redesigned StopConstructionFalls.com to thank them for their leadership in this event. In addition to revamping StopConstructionFalls.com, we updated resources like the Stand-Down Social Media Guide and Year-Round Fall Prevention Plan and added new guidance like a Leading Edge Tip Sheet.

PROJECT: Research to Practice (r2p) Core (CPWR)

Adding Live English-to-Spanish Webinar Interpretation

CPWR's monthly webinar series shares resources and research with people across the industry. Since the beginning of 2024, CPWR has made the webinars even more accessible by providing simultaneous Spanish audio. The translation not only allows people to switch to a Spanish audio channel; it also creates a Spanish recording, which we post (along with the English version) for free, on-demand viewing. Already, this year's nine Spanish recordings have collectively been viewed more than 650 times.

PROJECT: Research to Practice (r2p) Core (CPWR)

PROTECCIÓN CONTRA CAÍDAS:

Ficha de seguridad para bordes expuesto

Un borde **expuesto** es el lado no protegido de un suelo, techo o encofrado para un suelo u otra superficie para caminar/trabajar (como una terraza) que cambia de ubicación a medida que se añaden componentes. Se denomina borde **expuesto** porque la ubicación del borde cambia a medida que los trabajadores añaden o construyen suelo, techo, cubierta o secciones de encofrado adicionales. Cuando un borde expuesto no se encuentra en construcción de forma activa y continua, y por tanto no se mueve, se considera un "lado o borde desprotegido."

Los empleadores deben proteger a todos los trabajadores que estén construyendo un borde expuesto a una altura igual o superior a 6 pies por encima de los niveles inferiores de que sufran caídas mediante el uso de sistemas de control de ingeniería pasivos (por ejemplo, barandillas o sistemas de redes de seguridad) o activos (por ejemplo, sistemas de restricción de desplazamiento o sistemas personales de detención de caídas).*

Consulte la [ficha de consejos sobre la planificación de un enfoque de varios niveles para la prevención y protección contra caídas](#) del Centro de Investigación y Capacitación en Construcción (Center for Construction, Research and Training, CPWR) si desea más información sobre estos y otros controles.

Cuando no hay ningún punto de anclaje por encima de la cabeza disponible en un borde expuesto, los trabajadores suelen atarse a la altura de los pies. Si se caen, el anticaídas se engancha y se tensa en el borde expuesto. La colocación del anticaídas a lo largo del borde también puede aumentar la fuerza tanto en el anticaídas como en el cuerpo del trabajador.

Esto puede provocar la rotura o el corte de un elemento de amarre estándar o de un anticaídas autorretractil (self-retracting lifeline, SRL).

Trabaje siempre con una persona competente y calificada para asegurarse de que se aplican los métodos y equipos de prevención y protección contra caídas más adecuados. Puede tratarse de la misma persona o de dos personas diferentes en la obra.

Una persona **competente** es capaz de identificar y corregir los peligros relacionados con las caídas, mientras que una persona **calificada** cuenta con la acreditación necesaria para supervisar el diseño, la instalación y la inspección de los sistemas de protección contra caídas y de rescate.

*Una excepción a esta regla se produce cuando el empleador puede demostrar que estas soluciones son inviables o crean un peligro mayor. En estos casos, el empleador igualmente debe desarrollar e implementar un plan de protección contra caídas que cumpla con los requisitos de la Administración de Seguridad y Salud Ocupacional (Occupational Safety and Health Administration, OSHA). Para más información, consulte la [guía de seguridad de la OSHA](#).

Fuentes: OSHA 1926.751 y ANSI Z.359

Abril 2024

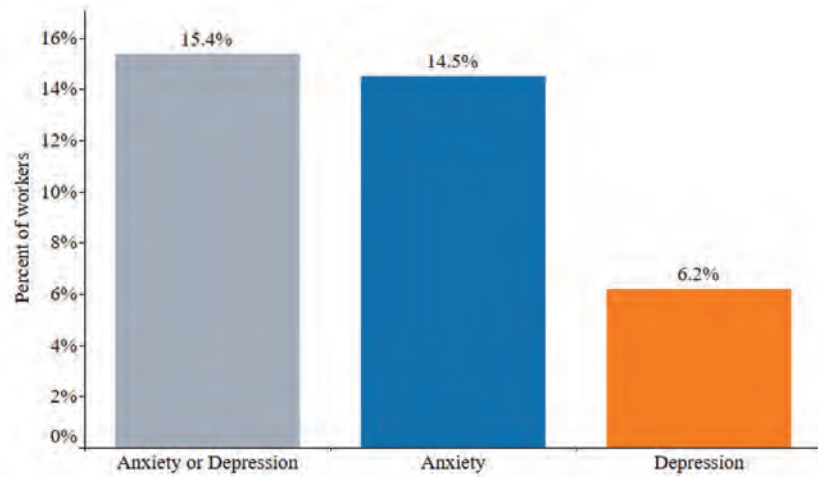
RESEARCH

Improving Adoption of Respiratory Protection

This project looked at methods for increasing readiness to adopt interventions that protect workers—particularly in the masonry, concrete, welding, and asphalt roofing trades—from dust and fumes. The research team developed resources that provided information about topics such as the health impacts of construction hazards, the effectiveness of controls, and productivity. It then tested how those resources affected perceptions of various interventions. The project did this testing with three groups: decision-makers at large firms, owners of small firms, and workers. This year the project focused on the latter two groups, and results were similar for both: owners and workers in all industries showed significantly more positive perceptions of the perceived ease of use and perceived impact on productivity, while those in welding and asphalt roofing showed increases in health knowledge and overall adoption readiness. The researchers shared their findings through several methods, including journal articles and conference presentations.

PROJECT: Health Hazard Controls Industry Diffusion: Evidence-based Intervention Strategy (Virginia Tech)

Prevalence of anxiety or depression among construction workers, 2021*



Source: National Health Interview Survey, 2021. Calculations by the CPWR Data Center.
*Anxious/depressed feelings at least weekly with a level of “a lot” or “somewhere between a little and a lot” and/or reported medication for anxiety/ depression.

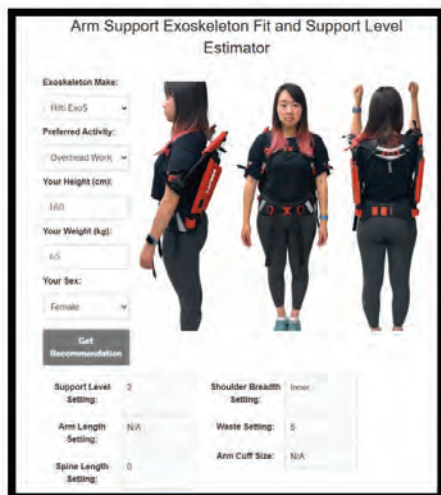
From the September 2024 Data Bulletin, Mental Health Trends in the Construction Industry.

New Efforts to Support Construction Workers' Mental Health and Reduce Opioid Overdoses

In 2024, we made significant additions to our collection of resources that address mental health challenges—particularly suicide and opioid use—in the construction industry. With the launch of the REASON (Resources and Effective programs Addressing Suicides and Opioids Now) newsletter, CPWR and NABTU shared tools, research findings, and success stories focused on preventing suicides and opioid overdoses. Our staff published two papers in the American Journal of Industrial Medicine: one examined suicide deaths in construction, finding that rates for both male and female workers were higher than in other industries; the other highlighted a new survey—which garnered 4,000 responses from industry organizations interested in assessing baseline measures—designed to understand bullying and harassment’s impact on workers.

CPWR took several other steps to strengthen mental health. We updated our Mental Health in the Construction Industry resource webpage with practical tools like Toolbox Talks, infographics, and training programs. September’s Data Bulletin reported on rising anxiety, depression, and distress among construction workers, including data on suicide and overdose trends. Additionally, CPWR supported five Small Studies examining how to reduce deaths due to opioids and suicide. They looked at new peer-support and member assistance education programs, the impact on employment laws on construction worker suicide, and reducing opioid deaths through naloxone distribution and training. Finally, CPWR presented its initiatives at multiple 2024 national and state conferences, highlighting the impact of deaths from construction industry overdoses and suicides, along with resources to improve working conditions.

Assessing the Impact of Exoskeletons on Workers and Work



The project developed an online training tool that integrates a web interface for fit and support level guidance.

The research team evaluated how arm-support exoskeletons (ASEs) and back-support exoskeletons (BSEs) impact the performance of common construction tasks. For overhead and wall work, exoskeletons that provided 100% and 75% support were optimal, respectively. ASEs reduced a worker's exertion during three different tasks but also resulted in slight reductions in perceived imbalance, safety and

productivity, although the differences were not statistically significant. BSEs reduced physical demands during simulated roofing tasks but were not found to be effective during simulated tile work (i.e., installation and grouting). Workers in several trades who used ASEs and BSEs provided generally positive feedback, though they also noted important concerns about and barriers to exoskeletons. The researchers are adapting the study results into guidelines and an online interactive training app so workers can select and set up exoskeletons for common construction tasks.

PROJECT: Evaluation of Trunk and Arm Support Exoskeletons for Construction (University of California, San Francisco and Virginia Tech)

Making the OSHA 10-Hour More Effective

This year saw the completion of data collection for the evaluation phase of the project, which is examining the OSHA 10-Hour Construction Safety and Health training course, one of the most common approaches for providing construction workers basic safety training. West Virginia University used four questionnaires the researchers developed to collect data from 57 OSHA 10 trainers and 281 students across 6 OSHA Training Institute Education Centers. The findings showed that trainers want to deliver the OSHA 10 using engaged teaching techniques, such as participatory exercises, but in practice they more often use lectures and videos for most of the 10 hours. These results led to the development of an enhanced curriculum for the OSHA 10's seven mandatory topics. In this project's next stage, this curriculum will be delivered and the research team will determine if it is more effective in improving workers' safety knowledge.

PROJECT: Evaluation and Improvement of OSHA 10-Hour Construction Safety Training (West Virginia University, Boise State University)

Sharpening the Focus on Nanomaterial Hazard Communication

To highlight the results of a decade of nanomaterials research, the team launched a new webpage compiling all the guidance and resources it has created, including several from the past year: a fact sheet on nanomaterials in paint, two Toolbox Talks, and two webinars. Training materials developed last year are now available in Spanish, and new versions of those materials have been tailored to focus on tasks and materials specific to bricklayers and allied trades. The researchers continued investigating exposure risks by conducting a study with the Finishing Trades Institute on how weathering affects the release of nanomaterials when removing surface coatings from different substrates. Finally, a study in a special issue of the *American Journal of Industrial Medicine* highlighted deficiencies in safety data sheets for nanomaterials, indicating the need for improved hazard communication to better protect workers.

PROJECT: Manufactured Nanomaterials in Construction: Evaluating Exposures, Controls and Worker Training (CPWR)



Direct reading instruments used to study particle release while abrading weathered versus non-weathered coatings.

Sharing Safety Information about Part B Chemicals

The research team expanded its dissemination of information on reducing exposures to hazardous chemicals in Part B of spray polyurethane foam and metal structure coating systems. The team generated new data on urinary biomonitoring of metals absorbed by industrial painters and examined the association between urinary biomarkers of exposure, oxidative stress, acute kidney injury and heat stress. It also published a systematic review of hazardous chemicals in the qualified list of products used for bridge painting in New England and shared findings with health and safety trainers at the International Union of Painters and Allied Trades. This research is particularly critical as the federal government’s bipartisan infrastructure bill continues to fund many projects that use Part B chemicals.

PROJECT: Reactive Chemical Systems: Part B—Developing Data-Driven Interventions (University Massachusetts Lowell)

Mentorship Program for Female Sheet Metal Workers Expands Dissemination



From *Mentoring Women in Construction: Mentor Handbook*.


For tradeswomen audiences: they filmed skill-based videos, added them to the existing online, self-paced training, and created a best practice guide on developing, administering, and sustaining a mentorship program. These resources were shared with all SMART locals participating in the study and presented at this fall’s Tradeswomen Build Nations conference. The study team continues to interview mentors and mentees to better understand how mentorship programs can be integrated into existing women-supportive programming. The team’s paper, “Factors associated with construction apprenticeship completion in the United States,” will be published in *Economic and Labor Relations Review*. It showed that female, racially minoritized, and non-unionized workers were significantly more likely to drop out of an apprenticeship program than their male, White, and unionized counterparts.

PROJECT: Promoting Safety and Well-being among Sheet Metal Worker Women through Mentoring (University of Washington)

New Resources Guide Better Pre-Task Planning

This year the research team revised and expanded the materials they had previously developed to improve workers’ safety and health by optimizing the pre-task planning

(PTP) process. The team’s comprehensive package, which provides resources to help contractors initiate, assess, and improve their PTP, now offers updated documents, as well as interactive web versions of the PTP template and PTP management assessment checklist. The researchers also finalized and released Electrical Task Analysis documents for 11 electrical tasks. Developed based on the findings of onsite observations and interviews with electrical workers and industry practitioners, these documents contain task-specific safety and health hazards and recommendations. The PTP resources were the focus of an article published by the *American Journal of Industrial Medicine* and served as the basis for one of CPWR’s most well-attended webinars and for five technical presentations.

CONDITIONS	RECOMMENDATIONS
<p>Fixing pipes installed incorrectly by other workers: Pipes installed incorrectly by other workers must be fixed while avoiding damage to other components, which can lead to work delays and worker fatigue (e.g., switching out an installed pipe that is too short).</p> 	<ul style="list-style-type: none"> Involve all work crews in PTP/JHA meetings Building Information Modeling (BIM) Pre-Task Planning (PTP) Guidelines and Resources for Construction Last Planner® System; Last Planner® System Workbook

An example from the Electrical Task Analysis document for Conduit Installation, Wire Pulling, and Termination.

PROJECT: Prevention through Augmented Pre-Task Planning (CPWR)

Safety Leadership Program for Residential Construction Expands Outreach

The Foundations for Safety Leadership for Residential Construction (FSL4Res), adapted from CPWR's successful Foundations for Safety Leadership (FSL) training, focuses on reducing fall risks in residential construction, as they cause two-thirds of jobsite fatalities in that sector. This year the research team translated its materials, including video scenarios emphasizing fall safety in residential construction settings, into Spanish and posted them on the CPWR website. Overall, FSL4Res resources were downloaded thousands of times during the past year. Contractors and contractor organizations are increasingly recognizing the importance of better communication and leadership, and users of the FSL4Res have continued to report that the training, by improving these skills in their frontline supervisors, has increased quality and productivity, as well as the use of proven safety practices.

Improving Safety Leadership and Fall Prevention Training in Residential Work (Washington University in St. Louis)

Improving Resources for Reducing MSDs

In previous years this project collaborated with contractors, insurance firms, equipment suppliers, and academics to improve the resources offered by the Best Built Plans (BBP) program, which focuses on reducing injury risks to workers doing manual material handling (MMH). To determine whether those changes had made BBP's content more effective and easier to use, the research team tested the revised resources with a new wave of contractors. Before the team began six months of monthly meetings introducing BBP, only two of the 12 firms in this wave had safety plans that addressed MMH. At the end of the period, seven firms did.

To further improve the program, the researchers recruited 10 additional contractors to review the BBP materials and participate in a 30-minute interview. In response to requests for simplified, printable documents, they also developed a seven-page tip sheet highlighting key elements of the program. They recently released a report on the iterative developmental evaluation process used to share findings and lessons, as well as to show how developmental evaluation can be an effective tool for program improvements.

PROJECT: Evaluation of the Best Built Plans Manual Material Handling Tool for Construction (Washington University in St. Louis)



Reaching More People, More Precisely

The communications team this year continued to strengthen its ability to target our outreach so the information CPWR offers—such as research findings, training materials, guidance on equipment, and jobsite methods—reaches people who can use it to improve safety. The list of people who have told us they want to receive emails in Spanish, started in 2023, has grown to nearly 3,000. Because contractors of different sizes have different needs, we now have information on the number of employees at more than 40% of the 15,000 organizations in our database, and we are well-positioned to increase that figure significantly over the next year. We are also increasing the accuracy of our data about the kind of work contractors do, so we can both survey relevant audiences and share relevant information with them. Underlying all these improvements is continuing growth in our distribution lists: five years ago we emailed our newsletters and webinar announcements to just under 8,000 people; that list is now more than 22,000.

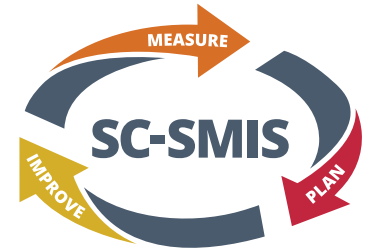
PROJECT: Communications, Outreach, and Education Core (CPWR)

RESEARCH

SC-SMIS Helps Firms Improve Safety Climate, Safety Management

The free, online Safety Climate-Safety Management Information System (SC-SMIS), which helps users measure and strengthen safety climate, is still going strong. Since its launch in January 2021, more than 30,000 users from across the world and a range of industries have accessed its website,

scsmis.org. Over the last year alone, visitors downloaded nearly 10,000 resources, and more than 250 new firms used either the Safety Climate Assessment Tool (S-CAT) or the Safety Climate Assessment Tool for Small Contractors (S-CAT^{sc}) to measure their organization's safety climate.

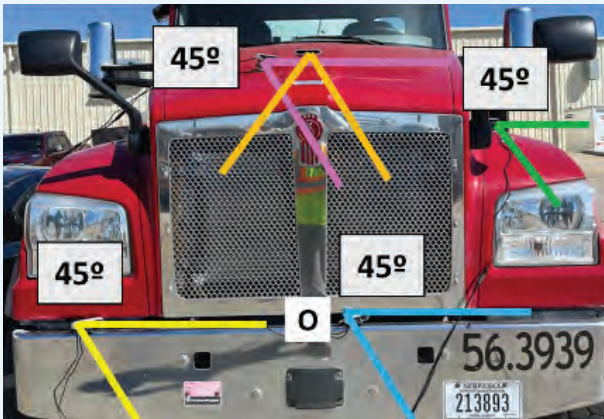


PROJECT: Safety Climate-Safety Management Information System (SC-SMIS) (CPWR)

Small Studies Focus on Vehicle Hazards, Heat, Subcontracting, and More

Our Small Study Program provides researchers with up to \$30,000 to research topics such as innovative technologies, reaching high-risk populations, and advancing research to practice. Six studies issued final reports this year:

- ▶ **Designing a High-accuracy, Fast-response Electrical Work Zone Alerting System** (Lawrence Technological University) described the development and testing of a new, lower-cost system to detect and alert workers of vehicle intrusions into road construction zones.
- ▶ **Development of rule-based safety checking system for autonomous heavy construction equipment** (University of Nebraska-Lincoln) developed a system for using simulations to help contractors and equipment manufacturers integrate vision-based sensors into heavy construction equipment to detect unsafe situations.
- ▶ **Environmental Heat Stress and Physiological Heat Strain in Construction Workers During Work in the Summer** (University of New Mexico) assessed the effects of heat on workers at both a commercial building construction site and a road construction site.
- ▶ **From Summer Internship to Impactful Industry Collaboration: A Case Study on Moving Safety Research to Practice** (Texas A&M University) explored a 4 1/2-year research-to-practice partnership between university researchers and a construction contractor that led to significant advancements in ergonomic injury prevention and safety culture at the company.
- ▶ **Measuring Injuries Along the Subcontracting Chain in the U.S. Construction Industry** (University of Utah) quantitatively estimated subcontracting flow-down safety risks using comprehensive, nationally representative data covering all sectors of the U.S. construction industry.
- ▶ **Variations in States' OSHA Consultation Programs in Construction** (Clark University) examined these programs, looking at differences across states and how those differences affect the consultations' prevention of fatalities and serious injuries.



Sensors on a cement mixer, part of the study integrating vision-based sensors into heavy construction equipment to detect unsafe situations.

Upcoming Research Projects

CPWR's new five-year cooperative agreement with NIOSH to continue as the National Construction Center means that we welcome new and continuing university partners into our research consortium. It also signals the start of nine multi-year research projects and programs, all designed to reduce injuries, illnesses, and fatalities among construction workers.

Advancing Heat Safety in Construction

Lead Researcher: Gavin West, PhD, CPWR



This project will address heat-related illness and injury risks among construction workers. The first stage of this work will identify construction activities that pose a high heat risk and collect context-rich information about the implementation of new and continuing heat controls. Methods will include analyzing case narratives, conducting jobsite evaluations and interviews,

administering surveys, and creating an advisory committee to help interpret results—all as part of creating intervention strategies. The second stage will develop targeted guidance, practical resources, and intervention strategies to prevent heat-related illnesses and deaths, such as creating planning tools and measuring their uptake and impact. The final aspect of this project will measure heat-related morbidity, mortality, and the adoption of heat safety solutions by analyzing national surveillance data, surveying a large representative panel of construction firms, and developing interactive data tools.

Communications, Education and Outreach Core

Lead Researcher: Bill Wright, CPWR

The Communications team will continue its work to share CPWR's resources across the construction industry, including with contractors, unions, workers, safety and health consultants, researchers, and government officials. This dissemination will come through methods such as expanding and improving existing online resources and products, growing our database of more than 25,000 contacts and improving the quality of information in it, and publishing the CPWR Update e-newsletter and annual report. Targeted direct mail outreach, marketing surveys, and customer interviews will help assess demand and impact. All this work will be done in close collaboration with internal and external researchers, as well as with the Research to Practice team.

Collaborative Leadership for Safety and Health in Construction

Lead Researcher: Natalie Schwatka, PhD, University of Colorado, Anschutz Medical Campus

A key element in reducing work-related incidents and improving worker well-being in the construction industry making organizational changes that enhance workforce safety and health. This project will develop, implement, evaluate, and disseminate a toolkit, the Collaborative Leadership for Safety and Health in Construction (CL-SHC), designed to enhance the skills and practices of managers, supervisors, and workers, enabling them to collaborate effectively in developing and implementing solutions. Building on successful safety and health initiatives, including the Foundations for Safety Leadership training and the

Healthy Worker Participatory Program, this project will proceed in three main stages:

- 1. Toolkit Development:** With guidance from an advisory board, the research team will create the CL-SHC toolkit by adapting existing tools and initiatives.
- 2. Implementation and Evaluation:** The team will implement and evaluate the toolkit by working with eight contractors.
- 3. Dissemination:** The toolkit will be distributed broadly, with support from intermediary organizations such as unions, contractor associations, professional safety and health organizations, workers' compensation insurers, and OSHA.

RESEARCH

Construction Industry Data and Statistical Core

Lead Researcher: Amber Trueblood, DrPH, CPWR

The Data Center will continue to build on thirty years of work that has earned it recognition as the one-stop shop for high-quality construction safety and health statistics. As in the past, its work will include collecting, analyzing, and interpreting data to track and characterize hazards, exposures, injuries, illnesses, disabilities, as well as worker and industry characteristics. In addition, the Data Center will develop and evaluate a process for characterizing the content of injury narratives to obtain information beyond what is typically included in structured data. Throughout this work it will also identify new data sources and methodologies to improve understanding of safety and health concerns impacting the construction workforce and industry. Data visualization and dissemination efforts will continue but may change, as the Data Center plans to conduct surveys and interviews with data users to guide its efforts so they best meet the needs of people across the construction industry.

Research to Practice Core

Lead Researcher: Jessica Bunting, MPH, CPWR

The Research to Practice (r2p) program aims to reduce construction worker injuries and illnesses by sharing science-based knowledge and proven solutions with critical end-users — at-risk workers and contractors positioned to take preventive action. The program will build on a 15-year legacy of supporting researchers so their findings and solutions are used on jobsites. By collaborating with other National Construction Center core programs such as the Data Center and Communications, individual internal and external research teams, NIOSH, NABTU, and many others, the program will increase the industry's collective r2p capacity. It will aim to improve our reach and influence with those at disproportionate risk, such as workers employed by small contractors, Hispanic workers, and women. The r2p team will work to address high-priority hazards by moving research into practice, learning how to better educate and influence Spanish-speaking workers, improving understanding of how to reach small contractors, and enhancing the existing, robust r2p Library of tools and resources.



Developing a National Roadmap to Reduce Chemical Exposures and Associated Health Risks among Construction Painters

Lead Researchers: Anila Bello, PhD, and Dhimiter Bello, PhD, University of Massachusetts-Lowell

Per- and polyfluoroalkyl substances (PFAS), also known as “forever chemicals,” have emerged as a major health concern, having been linked to kidney and testicular cancers, thyroid dysfunction, high cholesterol, type 2 diabetes, immune system suppression, and kidney and liver damage. Limited evidence suggests that PFAS are widely used in construction products, including coatings, paints, varnishes, adhesives, and glues. However, PFAS exposure and body burden among painters, glaziers, drywall finishers, paperhangers, and flooring installers are not well understood, hindering efforts to prevent exposure and related diseases. The long-term goal of this project is to reduce and, where possible, eliminate these exposures to minimize health risks for workers in these trades. Building on previous research on reactive chemicals in construction, the researchers will assess PFAS body burden through serum and urine biomonitoring, identify PFAS occupational sources through product characterization, inhalation and dermal exposure measurements, and develop a roadmap for preventing PFAS exposure.

Enhancing the Long-term Acceptance, Usability, and Effectiveness of Passive Exoskeletons among Construction Workers Who Vary by Sex, Age, and Prior Injury Status

Lead Researchers: Carisa Harris-Adamson, PhD, CPE, PT, University of California, San Francisco, and Maury Nussbaum, PhD, Virginia Tech

The physical demands of construction have meant that work-related musculoskeletal disorders remain a significant health concern for workers, with the lower back and shoulders being the body parts they most often injure. Building on the project they have just finished, the research team will evaluate the efficacy and effectiveness of exoskeletons (EXOs), specifically arm-support exoskeletons and back-support exoskeletons. The new project will draw on guidelines the previous study created to develop construction-specific training for the safe and effective implementation of EXOs. The project will include both medium-term (2-4 weeks) and longer-term (up to 4 months) evaluations of multiple aspects of EXO use: usability, performance impacts, acceptance, and effectiveness (reduced exertion, discomfort, and fatigue). The final stage of this project will disseminate the training protocols and findings, including suggestions for optimizing EXO acceptance and use. A key element of this project will be evaluating EXO effects by trades/tasks, sex, age, and prior injury status.

Preventing Suicide and Promoting Mental Health in Construction Workers

Lead Researcher: Bradley Evanoff, MD, MPH, Washington University in St. Louis

Construction workers have one of the highest suicide rates of any occupation. Because of the strong need for evidence-based interventions that can be implemented throughout the industry's challenging culture and organization, this project will adapt, implement, evaluate, and disseminate an existing suicide prevention and mental health program (the Australian "MATES in Construction") in the US construction industry. It will also build on mental health efforts the research team has successfully implemented with construction partners. In this project, the team will work with regional stakeholders, including

leaders of contractor associations, contractors, and union health benefit plans to adapt MATES, then recruit contractors to implement the adapted intervention. The researchers will evaluate the efficacy of the intervention in changing awareness of suicide and mental health and attitudes around help-seeking and help-offering. The project's final element will be to develop scalable pathways to disseminate the intervention through construction companies, unions, and professional organizations.



Understanding the Effectiveness of OSHA Construction Consultations in Reducing Serious Hazards

Lead Researchers: Wayne Gray, PhD, Clark University, and John Mendeloff, PhD, University of Pittsburgh

States provide voluntary consultation services designed to assist small and medium-sized construction firms in complying with regulatory standards and making their workplaces safer. Research on the effect of these programs suggests states with higher rates of consultation visits tend to have lower construction fatality rates, but the literature is limited does not test for a causal relationship between consultations and reductions in injuries. The project will focus on four questions: Does that relationship differ across

firm sizes, consultation characteristics, and injury types? Is the apparent impact causal? What mechanisms explain the impact, including connections between specific hazards being abated and specific injury types being prevented? What factors influence firms to request a consultation and respond to the visit, including both firm characteristics and state program outreach efforts? The results will inform the public and state and federal policy makers of the effectiveness of the OSHA Consultation Program as they consider how programs and resource allocation could be improved.

TRAINING

Teaching Safety Across the Country

CPWR collaborates with multiple partners—including the NABTU unions, the National Institute of Environmental Health Sciences (NIEHS), and the National Resource Center, an OSHA outreach center—to prepare construction workers to recognize and respond to hazards. This year more than 87,000 workers received training through programs like our NIEHS-funded training consortium, which we lead with NABTU. In total we offered nearly 6,800 courses, from the introductory OSHA 10-Hour classes to 40-hour Hazardous Waste Train-the-Trainer classes.

Preparing the Construction Industry for Disaster Response

Our NIEHS-funded Disaster Response Training Program (HDPTP) enables CPWR to prepare union building trades instructors to deliver disaster response training. As a result, a growing construction workforce can provide skilled support alongside first responders—a critical need since natural disasters such as floods, tornadoes, hurricanes, and wildfires are becoming more frequent and severe. This year alone, HDPTP trained nearly 1,500 students to respond to both natural and human-made disasters.

Because disasters vary significantly by type, magnitude, and impact, so do the needs, skills, strategies, and expertise of the workers involved during mitigation, preparation, response, and recovery. This year CPWR was again contacted by the academic community, to provide OSHA 10-Hour training to historic



CPWR Instructor Rich Slivkanch teaching scaffold safety and reviewing case studies with University of Pennsylvania students

preservation graduate students at the University of Pennsylvania. Twenty students enrolled in the course, which was extended to include key elements of disaster response. This training was valuable because many historic preservation

students become architectural conservators and, after a disaster, need to evaluate, stabilize, and then preserve historic building materials such as plaster, moldings, finishes, large-scale architectural features, books, and other historic objects.

Another 100 Workers Benefit from ECWTP

For more than 25 years, CPWR's NIEHS-supported Environmental Career Worker Training Program (ECWTP) has given un- and underemployed workers in communities surrounding EPA's Superfund National Priorities List sites and Brownfields sites an opportunity to train for careers in construction and/or environmental remediation. Last year, the program—which operates in Boston; East Palo Alto, CA; Flint, MI; and New Orleans—trained 103 disadvantaged workers in soft skills, trade skills, and environmental hazard/

safety and health. Seventy-three of those graduates were placed in jobs, with an average starting wage of \$23.38 an hour. And these opportunities last: 79% of graduates placed in the prior program year remain employed one year later, and a recent economic analysis found that not only does the ECWTP create meaningful and sustainable careers helping graduates become active participants in both the economic and physical revitalization of their communities, but it also returned approximately 28 times the federal investment back into the economy.



Building Pathways' students (Boston ECWTP) receive hazardous waste worker training.

Training Trainers, Making Workers Safer

Through our training consortium and the National Resource Center, CPWR supports and develops health and safety trainers. This year nearly 2,200 trainers took courses to build their expertise, on topics such as confined space, OSHA health and safety regulations, fall prevention, and hazardous materials. Our instructors hold a unique position within the industry, delivering vital information during both apprentice and journeyman upgrade training. Many of them teach hazardous waste worker, asbestos abatement, and confined space entry in our environmental hazard training program and general construction safety courses.

To improve these instructors' skills and knowledge, each year CPWR conducts a three-day Trainer Enhancement. This year the Trainer Enhancement focused on increasing participants' ability to use participatory activities in their courses. Leading the sessions were the experienced trainers from the Volpentest HAMMER Federal Training Center in Washington state, who for over a quarter-century have been providing training that is, as they put it, "as real as it gets." Over 65 trainers from 11 NABTU unions participated in the event, and comments from the participants agreed with the trainer who said, "the ideas and different ways of teaching were awesome."



Collaboration at this year's Trainer Enhancement.

Labor Training Work Group Supports Safety at DOE Sites

CPWR's ongoing work with the U.S. Department of Energy (DOE) took several forms this year. CPWR's Gary Gustafson presented twice during the DOE Energy Facility Contractors Group Training Work Group Annual Meeting this spring in Hanford, Washington. His first session discussed CPWR's partnership with N3B, which is managing an environmental clean-up at the Los Alamos site; his second described how CPWR builds on the vast investments the international and national unions of NABTU make in their trainers. Since most of CPWR's trainers were previously at unions, the strong foundation they received in those positions, in combination with additional training, provide great benefits for every class in this program.

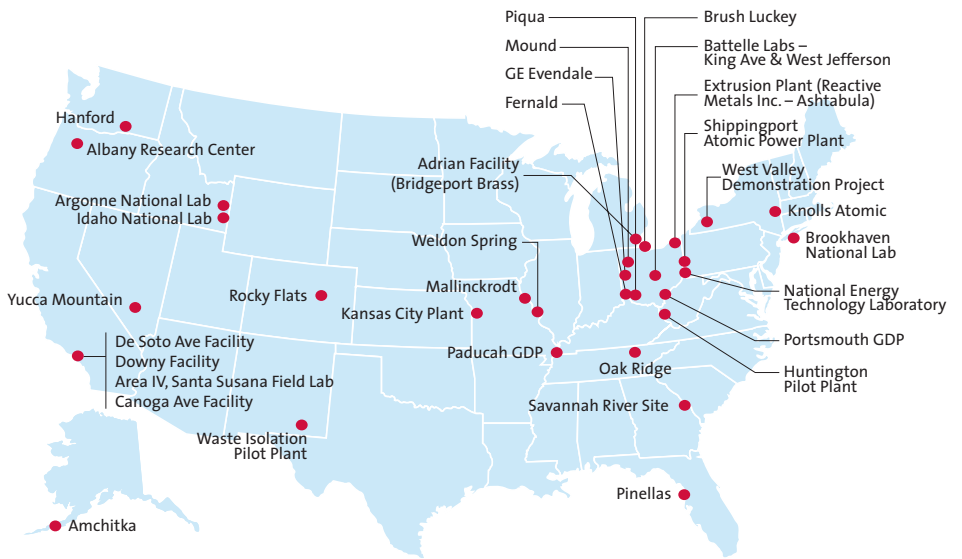
Also during the annual meeting, the DOE Labor Training Work Group (LTWG), which Gary co-chairs, addressed two issues affecting workers on the department's clean-up sites. First, DOE has recognized increasing safety issues among its subcontractors, many of whom hire workers represented by the members of the LTWG. Second, the LTWG discussed how it could help DOE, its sites, and its contractors better use apprenticeship and pre-apprenticeship programs, which LWTG members have extensive experience with, to meet hiring needs.

SERVICE

A Quarter-Century of Service

For more than 25 years, the Building Trades National Medical Screening Program (BTMed) has provided free, ongoing medical screening services to construction workers previously employed at U.S. Department of Energy (DOE) nuclear weapons sites. BTMed has now completed 47,500 screening exams and 11,000 CT scans for early detection of lung cancer. The program has developed a nationwide network of over 225 medical clinics, who last year performed over 2,000 exams and 1,200 CT scans. Funded by a cooperative agreement with DOE, CPWR administers BTMed in partnership with Stoneturn Consultants, Duke University Medical Center, University of Maryland School of Medicine, and Zenith American Solutions.

DOE Sites served by BTMed



Reaching Stakeholders and Workers

BTMed's Outreach Offices, staffed mostly by former construction workers, serve a vital role in promoting the program in their communities and maintaining strong ties with local building and construction trades councils and their unions. BTMed staff have remained busy enrolling new participants and engaging existing ones. Highlights from the past year included:



- ▶ Participating in over 100 in-person events—including building trades meetings, retiree meetings, and community fairs.
- ▶ Setting up the BTMed booth at several DOE site safety and health fairs, including at Savannah River Site, Oak Ridge Y-12, Oak Ridge National Laboratory, Brookhaven National Laboratory, and the Portsmouth Gaseous Diffusion Plant.
- ▶ Being featured in the spring issue of *The Insulator's Journal*, which goes out to all members of International Association of Heat and Frost Insulators and Allied Workers.
- ▶ Attending the Mid-Atlantic Regional Conference in Occupational and Environmental Medicine—and winning second place for a poster on the BTMed colorectal cancer study.

BTMed Rescreen Exam Saves Savannah River Site Worker's Life

"It was a good place to work," said Esten Carlisle "Carl" Bledsoe, who spent over four decades working at the Department of Energy's Savannah River Site in Aiken, South Carolina. As an operating engineer with IUOE Local 470, Carl enjoyed the work he did at the site. He even felt that safety was taken seriously—at least, enough that he was protected from any major exposures while he was there.

Even though Carl felt protected, he also knew that the Department of Energy wasn't always certain what hazards were present at the site, especially when he began there in 1977. That was why, after seeing a brochure for BTMed's free screening exam in 1999, Carl decided to enroll in the program.

Carl's first BTMed exam did not identify any serious health issues, and while he didn't feel like anything was wrong, he knew it was wise to keep coming in every three years for his rescreen exams—and that's exactly what ended up saving his life.

Just last year, the chest x-ray from Carl's rescreen exam identified a suspicious nodule that turned out to be lung cancer.

"I wouldn't have even known the cancer was there because it didn't even bother me. I didn't have any trouble breathing, I didn't get out of breath," Carl said. "If I hadn't gone to the exam, I wouldn't have known anything about it."

Thanks to early detection, doctors were able to perform surgery and successfully remove the cancer before



it could spread. Meanwhile, BTMed informed Carl about filing a claim under the Department of Labor's Energy Employees Occupational Illness Compensation Program Act for his condition, which has allowed him to receive compensation and a "white card" that covers medical expenses related to his follow-up treatments.

After this experience, Carl now knows that anyone who worked construction on a DOE site needs to be vigilant about monitoring their health for work-related conditions.

"Somewhere along the line, I had to

have been exposed on that site," Carl said.

Carl also realizes that taking advantage of BTMed's free rescreen exam is important for more than just the participants who are having health issues—it's also important for those who experience no health issues at all.

"I didn't have any idea that I had a problem until I went to the screening," he said. "Something could be there lurking in your body, and you wouldn't know it. It doesn't take much time to go through the exam and find out what's going on."

Supporting the White House's Cancer Moonshot Initiative



In 2024, CPWR's BTMed program contributed to the Biden Administration's Cancer Moonshot initiative—which has the mission to save lives, extend support to families facing cancer, and reduce the burden of the disease through equitable and innovative healthcare solutions—by sharing its innovative approach for improving access to early lung cancer screening. BTMed highlighted its partnerships with national CT providers, enabling workers in remote areas to access CT scans.

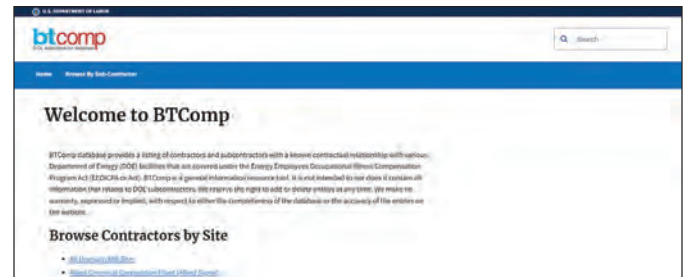
SERVICE

Supporting the Compensation Process



For more than two decades, CPWR has collaborated with the U.S. Department of Labor (DOL) to maintain BTComp, an online database that provides a centralized listing of contractors and subcontractors that have a documented relationship with U.S. Department of Energy (DOE) facilities. BTComp is an important resource for DOL, which uses it to assess claims filed under the Energy Employees Occupational Illness Compensation Program Act (EEOICPA), a federal law passed in 2000. EEOICPA provides compensation and medical benefits to former DOE workers—including in construction—with health conditions related to their jobs. Because record-keeping at DOE was inconsistent, CPWR staff research and interpret thousands of documents—including company and union records, old newspapers, and files from the National Archives—and

catalog them in BTComp. This work has helped establish relationships for over 15,000 contractors and subcontractors across nearly 100 DOE sites, helping workers verify their employment. CPWR continuously expands BTComp, adding new documents monthly, and responds to frequent research requests from DOL. BTComp has been viewed nearly half a million times by various stakeholders.



“BTMed is a very good program, and we need to get more workers involved. I tell the guys I worked with about the program and keep trying to get them to go in for their exam if they haven’t.”

– Larry Marcum, Former Kansas City Plant Worker, Insulators Local 27

“It’s good to know I have access to stay medically involved in my health because of my work history. Thank you!”

– Staci Nash, Former Hanford Worker, Laborers Local 348



“I’ve been blessed, so I went out there to let the BTMed nurses know how I’m doing. Everyone should take advantage of the BTMed Program - even the ones that’s doing good.”

– William Mason Jr., Former Oak Ridge Worker, IBEW Local 270

CPWR RESEARCH PROJECT LEADS

2019-2024 EXTERNAL

Evaluation and Improvement of OSHA
10-Hour Construction Safety Training

Mark Fullen, EdD
West Virginia University
Kimberly Rauscher, ScD, MA
Boise State University

Evaluation of the Best Built Plans Manual
Material Handling Tool for Construction

Ann Marie Dale, PhD
Bradley Evanoff, MD, MPH
Washington University in St. Louis

Evaluation of Trunk and Arm Support
Exoskeletons for Construction

Carisa Harris-Adamson, PhD, CPE, PT
University of California, San Francisco
Maury Nussbaum, PhD, Virginia Tech

Health Hazard Controls Industry Diffusion:
Evidence-based Intervention Strategy

Deborah Dickerson, PhD, MS, CIH
Virginia Tech

Improving Safety Leadership and Fall
Prevention Training in Residential Work

Bradley Evanoff, MD, MPH
Ann Marie Dale, PhD
Washington University in St. Louis

Promoting Safety and Well-being among
Sheet Metal Worker Women through
Mentoring

Marissa Baker, PhD
University of Washington

Reactive Chemical Systems: Part B—
Developing Data-Driven Interventions

Dhimiter Bello, ScD, MSc
Anila Bello, ScD
University of Massachusetts Lowell

2019-2024 INTERNAL

Communications, Outreach
and Education Core

Bill Wright

Construction Industry Data
and Statistical Core

Amber Trueblood, DrPH

Manufactured Nanomaterials in
Construction: Evaluating Exposures,
Controls and Worker Training

Gavin West, MPH

Prevention through Augmented
Pre-Task Planning

Babak Memarian, PhD

Research to Practice (r2p) Core

Jessica Bunting, MPH

Safety Climate-Safety Management
Information System (SC-SMIS)

Linda Goldenhar, PhD

2024-2029 EXTERNAL

Collaborative Leadership for
Safety and Health in Construction

Natalie Schwatka, PhD
*University of Colorado,
Anschutz Medical Campus*

Developing a National Roadmap to Reduce
Chemical Exposures and Associated Health
Risks among Construction Painters

Dhimiter Bello, ScD, MSc
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Enhancing the Long-term Acceptance,
Usability, and Effectiveness of Passive
Exoskeletons among Construction Workers
Who Vary by Sex, Age, and Prior Injury
Status

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Preventing Suicide and Promoting Mental
Health in Construction Workers

Bradley Evanoff, MD, MPH
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Understanding the Effectiveness of OSHA
Construction Consultations in Reducing
Serious Hazards

Wayne Gray, PhD
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John Mendeloff, PhD
University of Pittsburgh

2024-2029 INTERNAL

Advancing Heat Safety in Construction

Gavin West, MPH

Communications, Outreach
and Education Core
Bill Wright

Construction Industry Data
and Statistical Core
Amber Trueblood, DrPH

Research to Practice (r2p) Core
Jessica Bunting, MPH

SMALL STUDY PROJECTS

Designing a high-accuracy, fast-response
electrical work zone alerting system

Morteza Nazari-Heris, PhD
Lawrence Technical University

Development of rule-based safety
checking system for autonomous heavy
construction equipment

Kyungki Kim, PhD
University of Nebraska Lincoln

Environmental Heat Stress and
Physiological Heat Strain in Construction
Workers During Work in the Summer

Fabiano Amorim, PhD
University of New Mexico

From Summer Internship to Impactful
Industry Collaboration: A Case Study on
Moving Safety Research to Practice

Zhenyu Zhang, PhD
Texas A&M University

Heatwave, traumatic injuries, and barriers to
heat safety program implementation

Miranda Dally, MS
University of Colorado

Measuring Injuries Along the
Subcontracting Chain in the U.S.
Construction Industry

Peter Philips, PhD
University of Utah

Safety meetings in small construction
companies

Joseph Allen, PhD
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Using 360-VR narrative communication to
boost small employers' safety practices

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Variations in States' OSHA Consultation
Programs in Construction

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Virtual boundaries: Investigating ethical
and social risks of exoskeletons in the
construction industry

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CONTRACTOR ASSOCIATIONS

Associated General Contractors

The Association of Union Constructors

International Council of Employers of
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Mechanical Contractors Association of
America

National Electrical Contractors Association

National Roofing Contractors Association

North American Contractors Association

Sheet Metal and Air Conditioning
Contractors' National Association

LABOR ORGANIZATIONS

NABTU and Affiliated Councils

International Association of Bridge,
Structural, Ornamental and Reinforcing
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International Association of Heat and Frost
Insulators and Allied Workers

International Association of Sheet Metal, Air,
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International Brotherhood of Boilermakers,
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and Helpers

International Brotherhood of Electrical
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International Brotherhood of Teamsters

International Union of Bricklayers
and Allied Craftworkers

International Union of Elevator Constructors

International Union of Operating Engineers

International Union of Painters
and Allied Trades

Laborers' International Union of North
America

Operative Plasterers' and Cement
Masons' International Association of
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United States and Canada

United Brotherhood of Carpenters
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United Union of Roofers, Waterproofers
and Allied Workers

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pstafford@cpwr.com

CPWR FAMILY OF WEBSITES



cpwr.com — The first stop for information on our research, training, service programs, and related products and resources.



elcosh.org — An online library of safety and health materials for construction workers, employers, researchers, and other stakeholders.



nano.elcosh.org — An inventory of the use of nano-enabled products — those to which nanomaterials have been added or the nano-structure has been altered — in construction. Its goal is to inform workers about these products as a first step to protecting them from hazards.



nanosds.elcosh.org — This tool is designed to help manufacturers, distributors, and importers of construction products containing nanomaterials evaluate and improve their safety data sheets (SDS).



stopconstructionfalls.com — Visit our website and join the ongoing Campaign to Prevent Falls in Construction.



scsmis.com — Contractors can use the SC-SMIS free of charge to assess their safety climate, select and implement appropriate tools to strengthen it, and engage in continuous safety climate improvement.



cpwrconstructionsolutions.org — Find practical control measures to reduce or eliminate a variety of construction hazards.



ecd.cpwrconstructionsolutions.org — An interactive tool for the construction industry that helps predict exposure to workplace hazards using objective exposure measurements.



silica-safe.org — A one-stop source of information on how to prevent a silica hazard and comply with the standard, including a free online planning tool to create a silica control plan.



bestbuiltplans.org — Provides contractors and workers with practical tools and information to plan for safe materials handling while staying productive and profitable. Access the jobsite planning tool, training resources, and interactive coaching exercises created to reduce manual materials handling (MMH) and prevent sprain and strain injuries.



choosehandsafety.org — Find information on the risks and ways to prevent hand injuries, including what to look for when choosing hand tools and gloves.



covid.elcosh.org — The COVID-19 Construction Clearinghouse offers a central resource for construction employers and workers to find the latest research, guidance documents, training and other resources to help prevent the spread of COVID-19.



btmed.org — Learn about the Building Trades National Medical Screening Program and its goal to provide free medical screenings to construction workers who helped build our nation's nuclear defense sites.



btcomp.org — Provides a listing of contractors and subcontractors with a known contractual relationship with various U.S. Department of Energy sites that are covered under the Energy Employees Occupational Illness Compensation Program Act (EEOICPA).



esmartmark.org — Contact your international union to access this site created by NABTU to distribute the Smart Mark training curriculum.

CPWR AT A GLANCE

Research




10
WEBINARS

3,047
ATTENDEES

14,819
ON-DEMAND
VIEWS

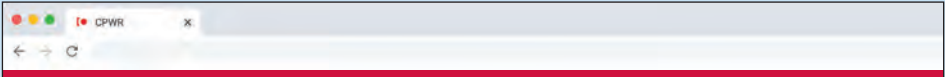
7
KEY
FINDINGS



13
UPDATE
NEWSLETTERS


21,869
SUBSCRIBERS

26%
SUBSCRIBER
INCREASE




213,811
CPWR.COM USER SESSIONS

13%
INCREASE



5,451
LINKEDIN FOLLOWERS

20%
INCREASE



890
INSTAGRAM FOLLOWERS

22%
INCREASE

Training

6,782
COURSES OFFERED

2,182
TRAINERS TRAINED

85,092
WORKERS TRAINED

Service

SINCE
BTMED
PROGRAM
BEGAN:

47,000
CONSTRUCTION
WORKER SCREENINGS

11,000
LOW-DOSE CT SCANS



100%
SATISFACTION
RATE IN 2024



CPWR  **THE CENTER FOR CONSTRUCTION
RESEARCH AND TRAINING**

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