



WE ENVISION

*a world in which every worker is a
part of a safe, healthy workplace
and a thriving community.*

**Centers for Health,
Work & Environment**
colorado school of public health

2023-2024 ANNUAL REPORT

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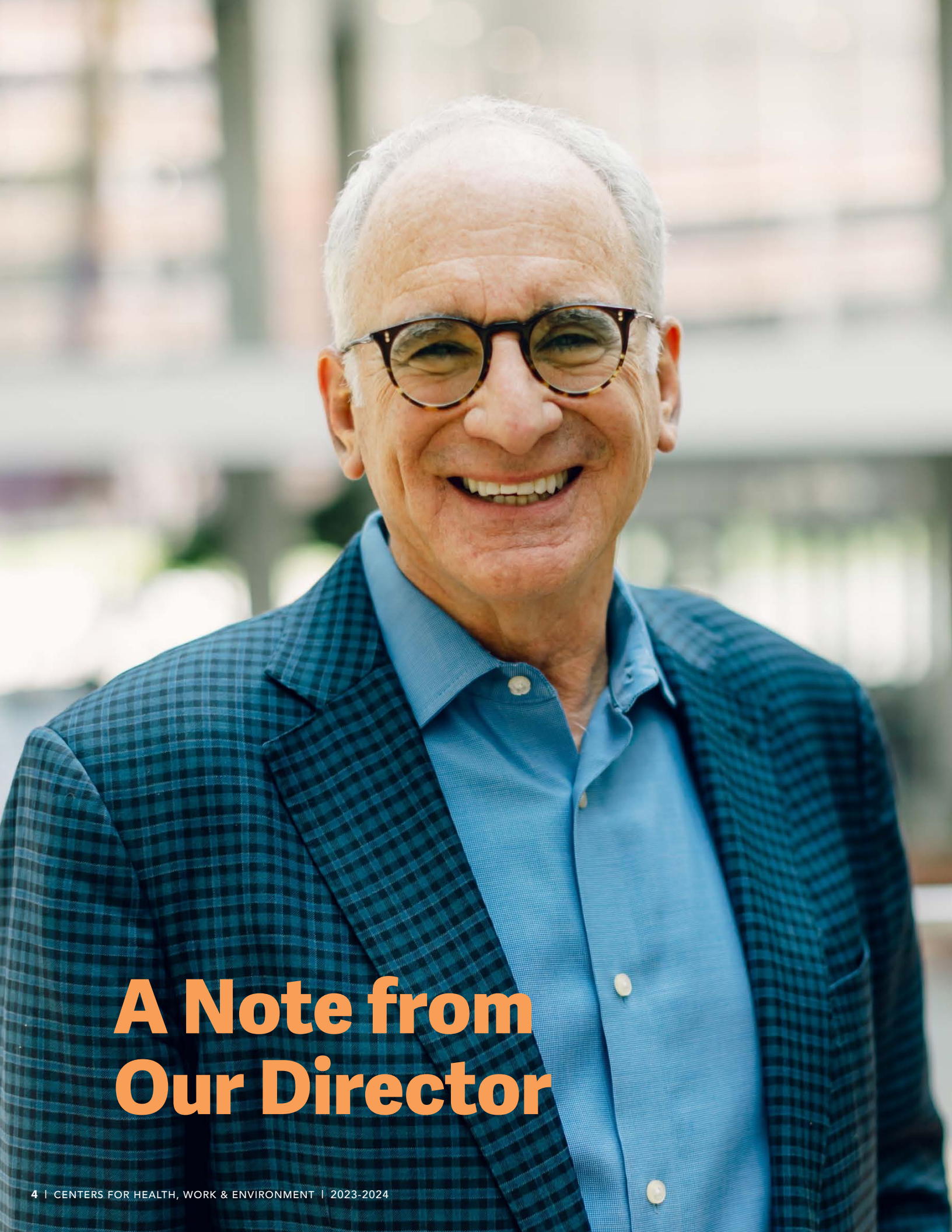
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Editors & Designer

Laura Veith, Olivia Zarella,
Lili Tenney *Editors*

Alex Bambei *Designer*



A Note from Our Director

In this year's annual report, we are pleased to share something precious: hope.

The progress resulting from partnerships between our teams and our community collaborators speaks for itself. Please read on! I say "hope" because, to quote the environmentalist and activist Rebecca Solnit, "To hope is to give yourself to the future – and that commitment to the future is what makes the present inhabitable." I've recently been reading and re-reading several of her past essays on this topic and find myself converted from self-described optimist to a person hopeful and committed to action. Hopeful because my future actions are informed by past experiences – I know from experience that through collective action, we make progress in our mission, even in the face of obstacles.

Here's why hope is important. There is need. And through our work we can make a difference.

Workers in America and globally face more obstacles than ever. Consider the 2.1 billion people in the world who are exposed to excessive heat on the job, according to the International Labour Organization. That's a quarter of the people on the planet. Consider the 5,283 fatal work injuries and nearly 2.6 million recordable nonfatal injuries and illnesses in U.S. private industries in 2023, according to the U.S. Bureau of Labor Statistics. Although the U.S. stats are an improvement, we can all agree that they remain unacceptably high. Estimates of rising rates of mental illness, job burnout, and other indicators of work- and life-stressors are beyond dispute, as articulated by former Surgeon General Vivek Murthy, MD.

Please enjoy this year's reminder of our mission, vision, and approach, and see the impact. You will see that we reached an inflection point as a Center to recognizing that we house several "Centers." This reframing – adding an "s" – reflects a transformation that is not simply semantics. Nearly 15 years ago, **we created an academic ecosystem** in which faculty, staff, and students could pursue their lines of research, practice, and service. The result is that we have grown several areas of work that are centers unto themselves. Each contributes to the overall mission of improving the health, safety, and well-being of workers and their families and communities, but tackle different dimensions of that mission.

I'll close with a comment on the word "we," which you will read often in this report. When we talk about what we have accomplished this past year, please remember that "we" represents more than our centers. It is a communal "we." We only succeed through community partnerships with those who share our values. Only through these collaborations can we serve all workers, including those with the greatest need and burden of illness, collaborating with empathy, and focusing on practical solutions to achieve shared goals.

My deepest thanks to the Centers' leaders, faculty, staff, and students who bring these values and attitudes to their work every day. Some of your faces grace this year's report so that readers can see for themselves what it looks like when people bring their best to work, because that work has meaning.

And above all, thank you, our community, for your support, encouragement, and collaboration.

*Lee S. Newman, MD, MA
Distinguished Professor
Director, Centers for Health,
Work & Environment*



Feature

WE ARE *Addressing climate & health*

Facing the complex public health problems associated with heat, drought and wildfire exposures using an interdisciplinary approach.



Our centers are conducting critical projects to meet the urgent need to protect workers on the frontline of climate impacts. Hot temperatures and extreme weather events increase the challenges of ensuring occupational safety and health.

Workers and their communities keenly feel the effects of heat, drought, wildfires, and weather extremes. Our close relationships in public health research and practice keep us intimately aware of the issues that climate poses to our health, particularly the health of these workers.

These workers, especially those in outdoor settings, face intense and prolonged exposures that put their health at greater risk than the general population. As they endure the brunt of meteorologic-related impacts, they offer a unique window into emerging health trends, often signaling the onset of diseases before they spread more widely. Studying their health can provide crucial early warnings, helping public health officials act ahead of the curve to protect entire communities.

This year, we have expanded our work, relying on strong partnerships and interdisciplinary teams ready to continue the important work of exploring the wicked problem of climate's impact on human health. To reduce the vulnerability of workers and increase their resilience to the impacts of climate on health, safety, and productivity, we are conducting new projects across Colorado and internationally to gain knowledge and inform applied solutions and policy change for the biggest threats, today and tomorrow.

“OUR CLOSE RELATIONSHIPS IN PUBLIC HEALTH RESEARCH AND PRACTICE KEEP US INTIMATELY AWARE OF THE ISSUES THAT CLIMATE POSES TO OUR HEALTH, ESPECIALLY THE HEALTH OF THESE WORKERS.”

Outdoor Workers on the Equator

The longer we work with workforces in Latin America, the greater our ability becomes to spot new areas of research and the new ways climate is affecting health. Continued clarity has led us to expand our research to new groups of individuals outside the workplace.

In Latin America, our team launched four projects to understand and mitigate the effects of heat, dust, and physical activity on worker health, specifically exploring the risks these pose to kidney health in workers and their families. We are expanding these studies from primarily male sugarcane workers to female workers in sugarcane and now banana harvesting. **In partnership with the Center for Global Health at the Colorado School of Public Health**, we will be exploring the health effects of heat and particulate air pollution, as well as workplace practices such as providing time and space for shaded rest breaks and access to clean drinking water and electrolytes, in female workers at **CU's Trifinio Center for Human Development in Guatemala**.

"We are thinking more broadly about how to help farmworkers better protect themselves in the face of heat and humidity, and that includes not only when they are working, but also their time recovering at home and in their communities," said Lyndsay Krisher, DrPH, MPH, research assistant professor and CHWE team lead. "We need to think holistically about adaptation strategies that are practical and that have co-benefits for workers, their families, and communities in the long term."

There is a lack of empirical evidence as to the effects of heat and humidity on women's health in general. Women make up a growing proportion of the agricultural workforce, and yet we know much less about their health and safety on the job than we do about their male counterparts, whom we have studied much more extensively as a research community. We are trying

"OUR WORK WILL INCREASE THE FUNDAMENTAL UNDERSTANDING OF CHRONIC KIDNEY DISEASE OF UNKNOWN ETIOLOGY (CKDU) IN WOMEN AS WELL AS GUIDE FUTURE RESEARCH ON SUITABLE INTERVENTIONS THAT ARE TAILORED SPECIFICALLY FOR THEM, WHICH COULD BENEFIT OTHER WOMEN WORKING IN HOT ENVIRONMENTS GLOBALLY."

*Lyndsay Krisher,
DrPH, MPH*

to address this gap with our research. **The team has launched a groundbreaking study on how heat and air pollution impact women's health in rural communities near sugarcane plantations, the first study of its kind.**

"Our work will increase the fundamental understanding of Chronic Kidney Disease of Unknown etiology (CKDu) in women as well as guide future research on suitable interventions that are tailored specifically for them, which could benefit other women working in hot environments globally," said Krisher.

Each of these international projects is rooted in the contributions of public-private partnership formed between academia and companies seeking to improve working conditions. The work brings together experts across public health, medicine, occupational safety and health, biochemistry, and climate science. A complex team tackling complex problems.



Research field workers taking samples for women's health study in Guatemala.

Community Voices Close to Home

The **Mountain West Climate Health Engagement Hub** brings concerns about the impact of climate on workers and communities to our home state of Colorado. The Hub seeks to understand how rural and urban communities in the Mountain West are experiencing climate stressors (drought, air quality, and wildfires), and what current and future actions they envision are needed to build resilience. The team facilitates learning and builds partnerships among community members, scientists, public health practitioners, and policy professionals.

The Mountain West Hub is currently focused on two Colorado communities—one rural and one urban: the San Luis Valley (SLV) and West Denver. The project is led by the communal wisdom of these regions through advisory groups identifying shared concerns and working to build resilient systems across the region. The groups will spread their knowledge to empower other communities facing the same challenges. The project, funded by the National Institutes of Health, is designed to serve as a model for other communities. The dynamic processes outlined by the team's approach have broad implications, with insights from this initiative applicable to diverse communities across the United States, both urban and rural.

The team published the **Climate Stressors Report: Perceptions and Experiences of Mountain West Climate-Health Engagement Hub Advisory Board Members**, sharing key insights into the advisory groups' perceptions of drought, wildfire, air quality, and heat, and their intersections. These stressors impact water resources, emergency services, human health, and infrastructure, highlighting their interconnectedness.

"Working with both West Denver and the SLV provides us the unique opportunity to hear from two communities about the vast issues they face related to factors such as heat and air quality," said Carol Brown, PhD, deputy director and co-investigator on the project. "We've learned that there are shared concerns among community members, including concerns over high temperatures, the increased need for air conditioning and concern about access to it, and health impacts related to heat such as dehydration and heat stroke."

Both communities shared concerns about the health effects of poor air quality, highlighting the increased impact on individuals with asthma. Regarding drought, both communities emphasized concerns about water quantity and quality, how to allocate water resources, and addressing changing precipitation patterns.

The four advisory boards provided recommendations emphasizing the importance of community engagement, effective communication, coordinated collaboration, policy initiatives, and infrastructure improvements in fostering climate resilience across the Mountain West region.

"WORKING WITH BOTH WEST DENVER AND THE SLV PROVIDES US THE UNIQUE OPPORTUNITY TO HEAR FROM TWO VERY DIVERSE COMMUNITIES ABOUT THE VAST ISSUES THEY FACE RELATED TO CLIMATE IMPACTS, SUCH AS INCREASING HEAT AND DECREASING AIR QUALITY."

Carol Brown, PhD

Policy and Partnership as a Path Forward

Partnership is always the way forward when we find ourselves up against a challenge as complex as understanding the effects of climate on our health. This year we hosted a weeklong workshop with the **Aspen Global Change Institute, Protecting Workers in the Face of Climate Change at the Policy & Research Nexus**. It brought together NGOs, industry representatives, worker groups, and researchers to highlight evidence that supports policy-making and industry best practices.

The workshop was developed by our newly formed **Climate Impacts on Worker Health & Safety (CIWHS) Center**. CIWHS is an interdisciplinary group of researchers and public health practitioners whose mission is to play a proactive role in identifying and promoting climate-resilient

workplaces, workforces, and communities. Our team returned from this workshop overflowing with excitement for the growing and dynamic community of people taking serious interest in these issues.

“This workshop was four years in the making,” said Miranda Dally, DrPH, MS, workshop co-chair and assistant research professor. “To see it come to life and result in diverse and rich discussions, new collaborations, and action steps to continue to protect workers from climate hazards was very rewarding for our team.”

As we move forward, our commitment to interdisciplinary research, community engagement, and policy influence remains steadfast. Together, we can tackle the wicked problems of climate and create a healthier, more resilient future for all. The work is complex, but through continued partnerships and innovative approaches, we are making real strides in protecting the health of workers and communities.



Workshop team outside the historic Catto Center at Toklat, Castle Creek Valley, Colorado.



Feature



WE ARE *Working across populations*

Dynamic approaches and collaboration equip us to build programs that reach a wide range of workers and settings.



In the Oscar-award-winning movie *Everything Everywhere All At Once*, the main character, Evelyn, jumps between parallel universes, gaining access to the skills, memories, and bodies of her alternate selves. Each shift enables her to understand challenges from new angles and find innovative solutions.

At the Centers for Health, Work & Environment, we take a similar approach. Like Evelyn, we “verse-jump” across industries, geographies, demographics, and disciplines to support workers in diverse environments. Our work spans across industries, transcending city, state and country borders, and connecting with all workers. This dynamic approach is rooted in our centers’ vision, in which every worker is a part of a safe, healthy workplace and a thriving community.

By forming teams of experts from across many specialties, our approaches to addressing worker health through prevention create a web of knowledge, collaboration, and impact. From addressing hazards faced by Hispanic and Latino workers to supporting working cancer survivors to expanding workplace health initiatives globally through Health Links[®], our programs demonstrate the power of collaboration and innovation.

Hispanic and Latino Workers in Colorado

Hispanic and Latino workers are a vital part of the U.S. labor force, contributing significantly to industries and communities across the country. Yet, they face workplace safety challenges, with nearly a 30% higher likelihood of experiencing fatal job-related injuries compared to other groups. Contributing factors may include access to resources and language barriers.

Recognizing these challenges, our team launched the **Latino Workforce and Employer Wellness Empowerment Program**, an initiative informed by our 2021 needs assessment of Colorado's Hispanic and Latino business community. This program is designed to address the needs of all workers, including Spanish-speaking workers and communities, by providing culturally relevant, bilingual health and safety resources. Our goal is to create a sustainable training program that leverages the expertise of occupational health professionals and specialists to improve the safety, health, and quality of life for the Hispanic and Latino workforce in Colorado.

In 2023, we partnered with the **Latino Chamber of Commerce of Boulder (LCC)** to deliver this program to their member businesses. We led four trainings in

Spanish on occupational safety and health regulations, workers' compensation, *Total Worker Health*[®] principles, mental health, and chronic disease prevention, training 54 participants. By equipping employers and workers with tools to enhance workplace safety and well-being, we are laying the groundwork for sustainable change.

"The Latino Workforce and Employer Wellness Empowerment Program is not just an initiative; it's a commitment to fostering a safer, healthier workplace environment," said Karely Villarreal Hernandez, MPH, senior research professional. "As we continue collaborating with organizations like the LCC and leveraging culturally relevant resources, we aim to empower Hispanic and Latino workers and employers to prioritize well-being in all aspects of their work and lives."



Supporting Cancer Survivors

Building on the theme of tailored support, we turn our focus to cancer survivors—individuals balancing the demands of work and the challenges of treatment. With 18 million cancer survivors in the U.S., half of whom are of working age, this population faces unique challenges in maintaining employment while managing their health. Many cancer survivors face higher absenteeism and struggle with well-being when their physical abilities cannot align with job demands. Moreover, many oncology practices are not fully equipped to support these patients in overcoming these challenges.

WITH 18 MILLION CANCER SURVIVORS IN THE U.S., HALF OF WHOM ARE OF WORKING AGE, THIS POPULATION FACES UNIQUE CHALLENGES IN MAINTAINING EMPLOYMENT WHILE MANAGING THEIR HEALTH.

Our **WeCanWork (Well-Being and Cancer at Work)** program translates the science to clinical practice, bridging a critical gap by connecting occupational medicine and oncology professionals to provide comprehensive support for cancer patients. Through partnerships with the **University of Colorado Cancer Center, UCHealth University of Colorado Hospital, and occupational medicine practices**, the program leverages the principles of *Total Worker Health* (TWH) to address multiple factors across the dimensions of well-being, including return-to-work accommodations, employment documentation, and strategies for balancing work with treatment.

“This program is the first to connect occupational medicine physicians directly with cancer patients,” says Lili Tenney, DrPH, MPH, director of outreach for CHWE and co-investigator of WeCanWork. “We have engaged oncology care teams at UCHealth over the past two years to learn how to best support both patients and providers in the continuum of care. The program gives patients access to specialists who assess work-related care and provide guidance on topics including return-to-work accommodations, employment-related forms, diagnosis and accommodations with employers, and balancing work demands with treatment.”

During appointments with occupational medicine physicians, patients can access recommendations for work accommodations, get help completing forms for disability and paid sick leave, and receive advice about how to discuss their diagnosis and potential work accommodations with their employer.

The WeCanWork program combines TWH research and practice, focusing on long-term assessment of the effects of a cancer patient’s diagnosis on their employment, financial, and overall well-being. This program could be replicated by other cancer centers, depending on their partnerships, Tenney said — particularly because many cancer centers exist within systems that are associated with occupational medicine clinics.

“The biggest hurdles would be figuring out how to select the referral of occupational medicine within the electronic medical record, and training providers to do that,” Tenney said. “Also, layering in another provider for patients to see could be a challenge. We’re trying to make it seamless and remove as many barriers as possible.”



With Health Links, the Borders Expand

In yet another “universe” of worker populations, our Health Links program takes an expansive and inclusive approach. Designed to adapt to the needs of any industry or workforce, Health Links partners with workplace well-being champions to deliver tailored advising and action plans that improve health, safety, and well-being.

“Health Links’ success is rooted in its design,” said David Shapiro, assistant director of programs and partnerships. “By integrating the science and evidence behind *Total Worker Health*, we offer real-time, customized solutions that organizations can implement to meet their unique goals and improve employee health, safety, and well-being.”

Now in its 12th year, Health Links continues to expand its reach. In the past year alone, the program hosted webinars with over 3,700 individual attendees from 48 U.S. states and collaborated with 89 organizations spanning five U.S. states and five countries. While Health Links began with a focus on small businesses, its adaptable model has also gained traction with large multinational companies, becoming a blueprint for other public health outreach programs.

The program offers surveys and trainings for a vast range of topics relevant to fostering healthy and thriving workplaces, including its flagship Certified Health Workplace Assessment and supportive programs that help companies develop programs and policies to support workers as caregivers and those in recovery, as well as offer healthy food and mental health supports at work. In the last year alone, we have held 133 advising sessions. More than 60 organizations have certified with the program and utilized these supplemental assessments.

“We have learned so much along the way about how to put public health into practice within business

environments,” said Tenney. “Health Links thrives on collaboration with business leaders, workers, local public health and community groups.”

Lili Tenney
DrPH, MPH



A Web of Interconnected Efforts

Just as *Everything Everywhere All At Once* culminates in a celebration of interconnectedness, our work at the Centers reflects the same principle. Across every program and initiative, we build on the strength of collaboration to address the evolving needs of worker populations.

As our programs mature and new initiatives emerge, we remain dedicated to the vision of a healthier, safer future for all workers. By “verse-jumping” across disciplines, communities, and industries, we work toward building healthier workplaces – everywhere, for everyone.



Feature

WE ARE *Bridging research practice*

The future of work is built on collaboration between academia, researchers, and businesses.



Public health impact thrives on the exchange of knowledge between research and practice.

The insights generated by researchers and the experiences of practitioners are interdependent, creating an ecosystem where innovation and application inform each other to drive progress.

Our centers are rooted in this collaborative approach.

We believe that public health research must inform practice. Studies that uncover the issues facing workplaces and workers, such as how business culture affects our bodies or how organizational dynamics impact individual well-being, should directly shape how workplaces operate. The influence of research on practice is where meaningful, measurable change happens.

At the same time, practice must inform research. When findings are applied in real-world settings, we learn critical lessons: Do the solutions work? How do they impact workers, productivity and communities? This iterative cycle of evaluation and application bridges the gap between academia and workplaces, creating a foundation for innovation and improvement.

Leading Colorado's Recovery-Friendly Workplaces

In Colorado, as in many states across the U.S., the number of individuals facing substance use disorders and mental health challenges continues to rise. There are an estimated 400,000 individuals in recovery in Colorado. While efforts are underway to improve access to treatment and harm reduction strategies, public health's role in supporting employers and employees is critical. Substance misuse is associated with missed workdays, reduced productivity, work-related incidents, and higher health care and

turnover costs. Employers are uniquely positioned to help address this epidemic in our communities.

Since 2022, we have partnered with the **Colorado Consortium for Prescription Drug Abuse Prevention** to lead the **Colorado Recovery Friendly Workplace Initiative™**. This initiative recognizes the essential role employers play in promoting mental health and supporting individuals in recovery.

This year, we led the passing of new legislation to support the initiative. Colorado Governor Jared Polis signed Senate Bill 24-048, supporting the establishment of Recovery Friendly Workplaces. The legislation enables the development of a voluntary employer certification program to assist employees recovering from addiction and coping with other mental and behavioral health challenges.

“The bill and our work represent the power of bringing public and private organizations together to address public health challenges and guide collective action,” said David Shapiro, assistant director of programs and



partnerships for CHWE. “Our goal has been to engage business leaders across Colorado to collaboratively implement Recovery Friendly Workplace principles and better support individuals in treatment and recovery, while also preventing opioid and substance misuse through workplace interventions.”

“OUR GOAL HAS BEEN TO ENGAGE BUSINESS LEADERS ACROSS COLORADO TO COLLABORATIVELY IMPLEMENT RECOVERY FRIENDLY WORKPLACE PRINCIPLES AND BETTER SUPPORT INDIVIDUALS IN TREATMENT AND RECOVERY, WHILE ALSO PREVENTING OPIOID AND SUBSTANCE MISUSE THROUGH WORKPLACE INTERVENTIONS.”

David Shapiro

To date, 92 Colorado businesses have signed the Recovery Friendly Workplace pledge, representing their commitment to mental health, addiction prevention, treatment, and recovery support for all employees. Through this initiative, we will conduct outreach across Colorado to educate employers and administer the program, consisting of a Letter of Intent, formal training, an organizational assessment, advising, and certification. This project fosters deeper relationships between these groups, bringing research findings and programs closer to workers’ lives through meaningful organizational change. This is a collaboration among a host of diverse groups including businesses, state and local public health, community coalitions, and the community of treatment and recovery providers.

Training Leaders to Bridge the Gap

One of the most effective ways to bring research-based insights into the workplace is by empowering leaders. Natalie Schwatka, PhD, MS, assistant professor and a leading expert in *Total Worker Health*[®], focuses her research on leadership practices that influence workplace health, safety, and well-being

“In my studies and trainings, we aim to change the work environment and its interpersonal dynamics,” said Schwatka. “We focus on *Total Worker Health* (TWH) leadership practices that influence how employee health-focused policies and programs are implemented. Understanding who the leaders are, their roles, and their influence is key to this work.”

Schwatka’s leadership training interventions span various organizational levels, from frontline supervisors to senior managers and business owners. Her work emphasizes the importance of equipping leaders with the skills and knowledge needed to foster organizational environments that prioritize safety, health, and well-being.

“Health and safety or TWH committees should include representatives from management, HR, safety teams, and workers,” Schwatka explained. “The question is: can we provide the leadership skills to make these teams effective?”

In her latest project, Schwatka and her team are examining leadership’s role in addressing safety and mental health challenges in the construction industry. The **Collaborative Leadership for Safety and Health in Construction (CL-SHC)** project seeks to tackle high rates of injuries, fatalities, and psychosocial challenges in this high-risk field.

Construction companies often recognize these challenges but lack the resources or tools

to address them effectively. To fill this gap, Schwatka’s team is developing a toolkit that integrates leadership training and participatory approaches to improve safety and well-being.

“The secret sauce of our approach is the focus on both leadership commitment and workforce engagement,” said Schwatka. “This project bridges the gap between researchers and workplaces, giving both managers and workers an active role in shaping safety and health initiatives.”



“WE FOCUS ON TOTAL WORKER HEALTH (TWH) LEADERSHIP PRACTICES THAT INFLUENCE HOW EMPLOYEE HEALTH-FOCUSED POLICIES AND PROGRAMS ARE IMPLEMENTED. UNDERSTANDING WHO THE LEADERS ARE, THEIR ROLES, AND THEIR INFLUENCE IS KEY TO THIS WORK.”

Natalie Schwatka, PhD, MS

Total Worker Health Training for All

Beyond Schwatka's research, our centers offer free monthly TWH webinars to anyone, from frontline workers to executives. Over the past year, over 3,700 attendees from 50 U.S. states have benefited from these evidence-based trainings on topics like mental health, chronic disease prevention, workplace violence, healthy eating, and women's health and well-being. Offering continuing education credits has expanded our reach, introducing new audiences to the principles of TWH.

"One reason our webinars have gained such traction is the credibility of the science and experts behind them," said Cortney Cuff, MBA, director of continuing education for the **Mountain & Plains Education and Research Center**. "Amid the noise in the continuing education space, our work stands out for its rigor and relevance."

Through continuous exchange between research and practice, we are bridging the gap between academic research and practical application, fostering healthier, more supportive environments for workers. By empowering leaders, engaging communities, and promoting evidence-based practices, we are helping to meet broader public health goals and creating lasting, meaningful change for workers, employers, and communities alike.

"ONE REASON OUR WEBINARS HAVE GAINED SUCH TRACTION IS THE CREDIBILITY OF THE SCIENCE AND EXPERTS BEHIND THEM... AMID THE NOISE IN THE CONTINUING EDUCATION SPACE, OUR WORK STANDS OUT FOR ITS RIGOR AND RELEVANCE."

Cortney Cuff, MBA







Research

Well-Being and Cancer at Work

Community Based Environmental Health

Heat, Dust & Human Health Studies in Latin America

Collaborative Leadership for Safety and Health in Construction

Pilot Projects



Impact Snapshot

\$56,184

in Pilot Project
Grants Awarded

\$7.1M

in New Research Grants

30

Publications

Francesca Macaluso, MPH

INSTRUCTOR



Well-Being and Cancer at Work

Impact Snapshot

Phase 1: 134 patients enrolled

Phase 2: 22 participants in 3 focus groups

Phase 3: 29 referrals, 13 occupational medicine consults scheduled, 12 patient consults attended

The **Well-Being and Cancer at Work** (WeCanWork) study addresses the challenges faced by employed cancer survivors, focusing on improving employment, financial stability, and well-being.

Burden: 8.5+ million working-age cancer survivors in the U.S.

Need: Employed cancer survivors often need to adjust their work schedules, change job roles or leave work entirely due to their illness and treatment.

Impact: This five-year, three-phase longitudinal study involves newly diagnosed cancer patients who are employed.



Phase 1

134 patients from the UCHealth system enrolled, primarily low-income, employed men.

Findings: Preliminary findings show that some men, especially those employed in physically demanding jobs, report more negative job affect (feeling anxious, angry, discouraged, and/or gloomy while working) and may benefit from connection to support services to help navigate work and treatment.

Phase 2

Conducted focus groups of oncology care team members and occupational medicine physicians

Findings: Findings published in the *Journal of Occupational and Environmental Medicine* (Engaging Oncology and Occupational Medicine to Inform Design of a *Total Worker Health*® Intervention to Address Employment, Financial, and Well-being Outcomes in Cancer Survivors), showed that oncology team members recognize significant gaps in practice and desire additional support for these patients.

Phase 3

Developed and launched new Quality Improvement service offering new referral pathway, providing patients with three free consultations with an occupational medicine physician to discuss appropriate work accommodations and complete employment forms (e.g. FMLA).

Project team: Cathy Bradley, PhD; Lili Tenney, DrPH, MPH; Lee Newman, MD, MA; Joelle Wedel, PSC, Madison Goering, MPH; Amy Dye-Robinson, MPH; Miranda Dally, DrPH, MS; Carol Brown, PhD, Natalie Schwatka, PhD, MS



Community-Based Environmental Health

Katherine James, PhD, MPSH, director of our Climate Impacts on Worker Health & Safety (CIWHS) Center, collaborates on several large community-based studies exploring the effect of cumulative and interacting environmental exposures on human health. James' research embraces the Total Worker Health® perspective, which recognizes that community and occupational exposures are not mutually exclusive drivers of health outcomes.

San Luis Valley
Colorado, U.S.A.

Metals and Metals Mixtures: Cognitive Aging, Remediation, and Exposure Sources

IMPACT

- 19 community residents reached (pregnant women, newborns, and children)
- 12 community well samples tested
- 6 infographics on study content in English and Spanish

Burden: As part of the Metals and Metal Mixtures: Cognitive Aging, Remediation, and Exposure Sources (MEMCARE) Superfund Research Center, researchers Katherine James and Francesca Macaluso are leading a community science effort to characterize environmental metal exposures in pregnant women, their young children, and newborns living near legacy mining sites in the San Luis Valley, Colorado.

Need: The team is analyzing data from study participants (including urine, fingernails, water, and soil) to evaluate changes in maternal exposure to heavy metals across pregnancy and the impacts of exposure on newborns.

Impact: Study findings will inform new environmental health education materials (infographics) specific to the region, which we are sharing through social media and community partners. Some of our most notable success from MEMCARE focused on educational programs within local communities. Building on these successes, we aim to further inform and advance science for public health protection through innovative and tailored community engagement efforts.

Co-I: Katherine A. James, PhD, MSCE, MSPH; Key Personnel: Francesca Macaluso, MPH; Naomi Perlman, BS

Four Corners States Biomonitoring Consortium

IMPACT

- 300 San Luis Valley residents recruited
- Analyze urine samples for Beryllium (Be), Barium (Ba), Uranium (U), Thallium (Tl), Lead (Pb), Cadmium (Cd), Arsenic (As), Mercury (Hg)
- Administer exposure surveys to identify potential sources of exposure

Burden: The Four Corners states encompass a population of over 18.8 million individuals, sharing common environmental and public health challenges due to geological, occupational, socioeconomic, and demographic factors. Over the past two decades, the collaborative efforts of scientist members of the Four Corners States Biomonitoring Consortium (4CSBC) have addressed environmental health concerns, focusing on issues such as mining wastes and emerging contaminants, in collaboration with communities in south-central and southwest Colorado.

Need: This project will fill critical geographical gaps in the Centers for Disease Control's National Biomonitoring Program, providing valuable insights into exposure levels in a region with known elevated exposure to metals.

Impact: Findings will inform the development of state health programs that will benefit all community members, including the region's Native American/Indigenous; aging; and pediatric communities, who may experience the adverse effects of exposure to these contaminants.

Co-I: Katherine A. James, PhD, MSCE, MSPH; Key Personnel: Nicholas Stoll, MPH



Aquifer Health and Drought

IMPACT

- 789 results reports distributed to participants with individualized interpretations
- 8 community reports developed (in English and Spanish)

Burden: While private wells are exempt from EPA regulations, understanding the extent of heavy metals presence is crucial for protecting the health of rural communities who rely on private wells as a primary source of drinking water.

Need: The team is investigating the impact of drought on water quality. In the San Luis Valley, we collected nearly 1,000 water samples from groundwater wells and analyzed them for heavy metals.

Impact: Using these results, we have generated a spatial model of arsenic for the San Luis Valley region. While arsenic has been extensively researched by environmental scientists, a recent funding expansion for this study will allow Luis Lopez also to investigate the health impacts of manganese, tungsten, and uranium within the community setting.

PI: Katherine A. James, PhD, MSCE, MSPH; Key Personnel: Nicholas Stoll, MPH; Luis Lopez, MPH





Katherine James taking water samples from a local private well.

Heavy Metal Contaminants in Colorado Market Cannabis Products

IMPACT

- 5 unique vape devices (360 devices total) assessed
- 20 heavy metals analyzed

Burden: When inhaled, even at low levels, heavy metals have been associated with dangerous and harmful health effects. Cannabis users, whether they smoke or vape, can inhale heavy metals due to plants absorbing metals from soil, contaminated irrigation water or fertilizers, and/or heavy metal leaching from vape hardware.

Need: In partnership between our centers and Kaycha Laboratories, a laboratory that conducts regulatory testing for over 400 Colorado cannabis producers, Katherine James, Mike Van Dyke, and Francesca Macaluso have been investigating potential heavy metals exposure from Colorado market cannabis and vape products.

Impact: This research will help characterize the levels of health-relevant heavy metals in Colorado market cannabis products and assess how factors related to vaping, such as storage conditions and device design components, may further impact heavy metal exposure. This work will help inform the ongoing development of cannabis product regulation in Colorado and other states with legal cannabis markets.

PIs: Katherine A. James, PhD, MSCE, MSPH, Mike Van Dyke, PhD. Key Personnel: Francesca Macaluso, MPH



Heat, Dust & Human Health Studies in Latin America

Impact Snapshot (overall)

- 3,882 workers reached
- 40 field collection trips to Guatemala and Mexico
- 33 publications published
- 12 consulting projects
- 5 NIH-funded research studies
- 1 collaborative agreement with International Labour Organization

Impact Snapshot (in fiscal year)

- 292 workers reached
- 4 current studies

Since 2016, our center has partnered with Pantaleon, one of Latin America's largest agribusinesses, to study and improve the health of agricultural workers in the region. This longstanding partnership has spurred multiple studies and is the most in-depth study of kidney disease among this population. Our work has impacted the health of workers, their families, and communities and continues to expand and build on itself.

We are conducting several National Institutes of Health (NIH)-funded research studies investigating the impact of high exposures to air contaminants, extreme heat, and dehydration on kidney health among agricultural workers in Latin America. These studies aim to deepen our understanding of how these exposures, individually or in combination, contribute to Chronic Kidney Disease of unknown origin (CKDu). Additionally, we now have a collaborative agreement with the International Labour Organization (ILO) and the Mexican Institute of Social Security (IMSS), further strengthening our efforts in this area. Our findings will ultimately inform critical interventions to reduce global risks for agricultural workers, their families, and their communities.



Study 1

Air pollutants, heat exposure, and kidney health in women

We are now in the second year of an NIH-funded study assessing agricultural workers' exposure to air pollution, heat, and kidney toxins, focusing exclusively on women—an understudied population at risk for CKDu. This five-year study continues the work of characterizing environmental exposures among female sugarcane workers and female community members in southwest Guatemala. So far, we have recruited 128 women for the study, including female agricultural workers involved in sugar production and banana harvesting. This year we have expanded our worker population thanks to partnership with the Center for Global Health at the ColoradoSPH.



Study 2

Particulate exposure and kidney health

We are currently analyzing data from our study conducted in Guatemala, in collaboration with Pantaleon and Colorado State University. During the study, we measured individual-level airborne and heat exposures among 143 male sugarcane cutters across two six-month harvest seasons. As we prepare to publish the findings, we plan to explore opportunities for implementing recommendations within the company and propose new studies to further investigate these issues.



Study 3

Collective action for preventing heat-related impacts on greenhouse workers in Jalisco: A tripartite collaboration

Under the USDOL cooperative agreement for the project Improving Workers' Occupational Safety and Health (OSH) in the Chili Pepper and Tomato Value Chains, an ILO/ Vision Zero Fund Project¹, the ILO/VZF launched an innovative tripartite collaboration in 2023 with the Mexican Government and our centers. The project aims to investigate workplace exposures and heat-related impacts on the health and safety of workers in two greenhouse-based agribusinesses (tomato and pepper) in Jalisco, Mexico, and design and establish interventions to improve worker health and safety.

Currently at the halfway point, our team is collecting exposure conditions (Wet Bulb Globe Temperature, workload) in greenhouse production, packing, and rest areas for 164 workers. We will approach our intervention design from a company and worker perspective to generate the best adoption and outcome for implementation.

¹Improving workers' OSH in the chili pepper and tomato value chains, a Vision Zero Fund Project. Funding is provided by the United States Department of Labor under cooperative agreement number IL-35872-20-75-K-. One hundred per cent of the project cost is financed with federal funds from the United States Government, for a total of 6,150,000.00 USD. This material does not necessarily reflect the views or policies of the U.S. Department of Labor, nor does mention of trade names, products, or organizations imply endorsement by the U.S. Government.



Study 4

Women's airborne exposure and kidney health

We have completed collecting data for a five-year NIH-funded research study that characterizes environmental exposures among female sugarcane workers and female community members in southwest Guatemala.

Project teams: Lee Newman, MD, MA; John Adgate, PhD, MSPH; Joshua Schaeffer, PhD; Lyndsay Krisher, DrPH, MPH; Miranda Dally, DrPH, MS; Katherine A. James, PhD, MSCE, MSPH; Yaqiang Li, PhD; Diana Jaramillo, MPH; Karely Villarreal Hernandez, MPH; Madison Goering, MPH, MSW; Stephen Brindley, MS

Collaborative Leadership for Safety and Health in Construction

Impact Snapshot

- 100% of participants in leadership roles receive leadership training
- 40+ construction leaders and workers expected to collaborate on developing and implementing safety and mental health solutions.
- 17 weeks for each contractor to plan, design, and implement solutions
- 8 contractor companies engaged in toolkit testing
- 2 evidence-based interventions adapted and integrated
- 1 toolkit developed and disseminated

Burden: The construction industry faces significant challenges related to worker safety, health, and well-being, including high rates of workplace injuries, mental health struggles, and substance use, often exacerbated by fragmented communication and leadership structures.

Need: The Collaborative Leadership for Safety and Health in Construction (CL-SHC) project aims to address these challenges by developing a toolkit that integrates innovative leadership training and participatory approaches to enhance worker safety, health, and well-being.

Impact: This project draws on expertise from industry leaders, labor representatives, and researchers, utilizing evidence-based interventions like the Foundations for Safety Leadership (FSL) and the Healthy Workplace Participatory Program (HWPP).

- Our team will adapt and integrate these interventions to create a tailored toolkit that promotes collaboration between workers, supervisors, and management to address physical safety and mental health challenges effectively.
- We have established strong partnerships with industry stakeholders and academic collaborators, including OSHA, unions, and contractors, to co-create and implement the toolkit. The first year of the project is underway and focused on developing and refining the toolkit through an iterative process guided by an expert advisory board, with plans to pilot the toolkit with eight contractors.
- The CL-SHC toolkit aims to improve the safety climate, reduce injuries, and enhance mental health in the construction workforce. Once it is evaluated, we will disseminate the toolkit widely, acting as a resource for contractors and industry stakeholders to drive sustainable improvements in worker health, safety and well-being.

PI: Natalie Schwatka, PhD, MS; Co-Is: Lili Tenney, DrPH, MPH; Jennifer Cavallari, ScD, CIH; Suzanne Nobrega, PhD, MS; Key Personnel: Olivia Zarella, DrPH, MPH; Serena Rice, MS



Mountain & Plains Education and Research Center Pilot Project

William Wei Zou, MPH

*Graduate Research Assistant,
Department of Environmental and Occupational Health*

University of Colorado Anschutz Medical Campus

Evaluating air pollutant levels in food trucks stratified by cuisine type, ventilation layout and cooking technique

Objective: *To evaluate the levels of nitrogen dioxide, particulate matter 2.5, aldehydes and polycyclic aromatic hydrocarbons inside commercial food trucks during their operational hours. The project aims to provide estimates for baseline exposures in food trucks and inform future occupational health interventions to address these levels of exposure.*

Pilot Projects



Lisa Gonzales, MPH

*Certificate in Total Worker Health
Student and Senior Coordinator*

Emily Maurro, MS

Senior Professional Research Assistant

University of Colorado Anschutz Medical Campus

Fostering Resilience in Early Education
for Migrant and Seasonal Head
Start programs (FREE-M)

Objective: To support the mental health of early childhood educators working with migrant communities in Colorado. A proven program will be adapted to fit the needs of this group, ensuring educators have access to mental health resources and well-being practices that can positively impact both their lives and those of the young children they care for.



Sara Kohlbeck, PhD, MPH

Assistant Professor

Medical College of Wisconsin

Immigrant Farmworker Behavioral
Health Promotion

Objective: This project focuses on immigrant dairy farmworkers in Wisconsin. It aims to reduce work-related stress and improve access to mental health resources for dairy workers while educating farm owners on best practices to support their teams.



Education

Mountain & Plains Education and Research Center

Continuing Education

A portrait of William Brazile, a middle-aged man with glasses and a blue button-down shirt, smiling. The background is a blurred outdoor setting. The portrait is framed by a white border on the left and top.

Impact Snapshot

33,442

Training Hours

7,449

Learners

3,083

Continuing Education
Credits Issued

74

Trainings Conducted

251

Spanish Speaking
Learners

William Brazile PhD, CIH, CSP

PROFESSOR, INDUSTRIAL HYGIENE PROGRAM DIRECTOR



Mountain & Plains Education and Research Center

Impact Snapshot (to date)

- 236 MAP ERC trainees to date
- 164 alumni
- \$837,211 in MAP ERC pilot grants awarded to new investigators
- \$303,079 in Total Worker Health® pilot grants awarded

Impact Snapshot (in fiscal year)

- \$1,198,026 in trainee scholarships
- \$48,601 awarded in pilot grants



Occupational and Environmental Medicine Matching

After graduating a total of 50 residents and fellows into occupational and environmental medicine (OEM), our program begins a new chapter that will bring greater exposure to medical students across the country. The American College of Environmental and Occupational Medicine (ACEOM) is supporting the OEM specialty joining the National Resident Matching Program, and Colorado is one of the 17 programs taking part in this new method for matching physicians looking to specialize in OEM.

Climate & Worker Health Targeted Research Training

The Climate & Worker Health Targeted Research Training (TRT) program supports future leaders in the field of climate and workforce health. We are pleased to announce that our first cohort member has graduated. Miranda Dally, DrPH, MS, successfully defended her dissertation in January 2024 and is now a research assistant professor in the Department of Environmental and Occupational Health at the ColoradoSPH.

Our other inaugural fellows continue their research this year. Channing Bice, MS - PhD candidate at Colorado State University (CSU), Journalism and Media Communication, and Jacob Smoot, MEM - PhD student at CSU, Toxicology, presented their TRT-supported research this year at the Rocky Mountain Wildfire Smoke Symposium, held in Missoula, MT. In addition, Bice won a presentation award at our MAP ERC Research Day in April 2024. Smoot won an award for his work at the CSU College of Veterinary Medicine and Biomedical Sciences Annual Research Day in January 2024.



Student Profiles

Mountain & Plains Education and Research Center Training Programs

"I APPRECIATE THAT THE MAP ERC GIVES US THE OPPORTUNITY TO APPLY OUR SKILLS IN REAL-WORLD SETTINGS."

The Mountain & Plains Education and Research Center (MAP ERC) creates opportunities for graduate and post-graduate trainees to learn from accomplished faculty and other trainees in six different occupational health and safety disciplines. We offer tuition support, research funds, and stipends to qualified students. The following five students were nominated by the directors from each of our programs to highlight for this year's report.



Molly Murphy

Industrial Hygiene

What is one surprising discovery you've made or experience you've had in your training?

I really appreciate the opportunities that the MAP ERC gives us to engage with the community. Being able to work with community partners in the interdisciplinary symposium, like Odell Brewing in Fort Collins, has been such a great experience. I appreciate that the MAP ERC gives us the opportunity to apply our skills in real-world settings.

What impact has the MAP ERC had on your training?

The funding from the MAP ERC has had a huge impact on the time I have available for schoolwork. The funding from the MAP ERC means that I can focus on my training exclusively and will allow me to hopefully use my background in chemistry to study occupational exposures to volatile organic compounds.

“THE MAP ERC IS FUNDAMENTAL IN PROVIDING RESIDENT PHYSICIANS LIKE ME THE OPPORTUNITY TO TRAIN UNDER WORLD RENOWNED FACULTY.”



Ben Giese

Health Physics / Radiological Health

Tell us about your main project:

My project involves coating nanodiamonds with different compounds to remove radionuclides from water. Currently I am targeting cesium and radium. These nanodiamonds can be used in cleanup after fracking operations and in uranium mine remediation to reduce the radiation dose workers receive.

What is one surprising discovery you've made or experience you've had in your training?

As a MAP ERC trainee, I was able to attend a field trip to a uranium mine that employed a nonconventional approach to mining. Rather than digging a large pit, this mine pumps oxygenated water (at low pressure) into an ore body, where the uranium is dissolved and can be extracted without disturbing the greater rock formation. Learning about this mining technique and the chemistry behind it was fascinating.

What impact has the MAP ERC had on your training?

Without the MAP ERC I would not be able to pursue my graduate education or attend field trips such as the uranium mine or the Idaho National Laboratory and Los Alamos National Laboratory practicums. I hope that my science can be used to help the world, and I am grateful to the MAP ERC for providing support on my journey.



Alex Dorin, MD

Occupational Medicine Resident

Tell us about your main project:

The OEM residency has fostered my curiosity, expanded my knowledge in the many fields within OEM, and helped me grow as a physician. The lessons learned seeing patients that present with workplace injuries or exposures has been invaluable. Additionally, it has been illuminating to complete worksite visits and gain a deeper understanding of the complex relationship between workers, their employers, and workplace safety. I continue to learn more and more about public health and how to improve the health of workers physically and mentally.

What impact has the MAP ERC had on your training?

The MAP ERC is fundamental in providing resident physicians like me the opportunity to train under world renowned faculty. Not only does the MAP ERC allow for clinical and research opportunities, but it affords me the opportunity to continue growing as a physician through the Certificate in *Total Worker Health*[®] program.



Amy Schamberg

Certificate in Total Worker Health®

"I'VE HAD THE PRIVILEGE OF LEARNING FROM BRILLIANT SCIENTISTS, RESEARCHERS, AND PRACTITIONERS WHOSE INSIGHTS AND GUIDANCE HAVE BEEN INVALUABLE."

Tell us about your main project:

My main project involves bringing *Total Worker Health* (TWH) programs into K-12 educational settings. With a background in mental health and public education, I've witnessed—and experienced—the chronic stress and burnout facing educators nationwide. I believe TWH's holistic, multilevel approach to advancing worker well-being is a critical part of the solution. As a TWH trainee, I advocate for systemic changes, stakeholder collaboration, and organizational programs that address root causes of stress to improve educator well-being.

What is one surprising discovery you've made or experience you've had in your training?

One surprising discovery in my training is how crucial leadership at all levels of an organization is to the success of TWH. From the C-suite to managers and supervisors, leaders set the tone for workplace culture and climate, influencing everything from employee engagement to health, safety, and well-being. Leadership support and buy-in ensures TWH initiatives are impactful and sustainable.

What impact has the MAP ERC had on your training?

I've had the privilege of learning from brilliant scientists, researchers, and practitioners whose insights and guidance have been invaluable. Their expertise has inspired and equipped me to think critically and act strategically to advance worker well-being, and I am incredibly grateful for the opportunity to be supported by such an exceptional program.



Ryan Lizerbram, MS

Occupational Health Psychology

Tell us about your main project:

This academic year, my primary project focuses on exploring occupational health psychology (OHP) professionals' understanding of work-related flow experiences (colloquially, being "in the zone" at work). During my master's thesis, I recognized an oversight in the field: the limited attention given to flow experiences at work, and by highlighting how flow impacts critical topics such as burnout, leadership, and workplace safety, I aim to bring greater awareness to this often overlooked yet transformative phenomenon in OHP.

What impact has the MAP ERC had on your training?

I greatly value the *Total Worker Health* approach emphasized in the MAP ERC program. One standout experience was collaborating with student researchers from many fields on an interdisciplinary project that investigated the physiological and psychological impacts of lead exposure on local law enforcement officers, both at work and in their personal lives. This holistic approach not only broadened my outlook on work-related issues but also continues to shape my preparation for a future career as an occupational health psychologist.



Amy Dye-Robinson, MPH

PROFESSIONAL RESEARCH
ASSISTANT LEVEL 3



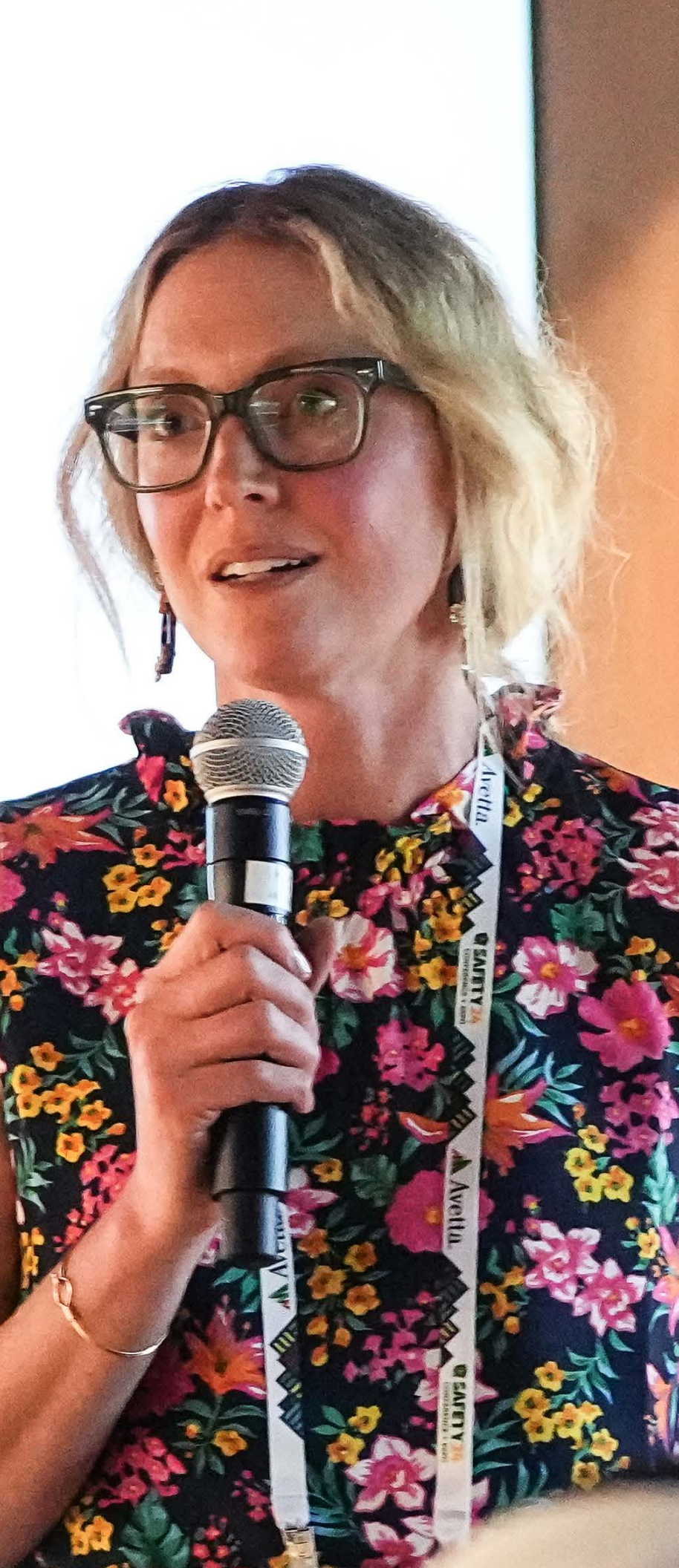
Continuing Education

Impact Snapshot

- 7,449 Individuals trained (351 courses + 7098 synchronous)
- 3,781 Health Links webinar attendees
- 74 Trainings conducted (11 online courses, 63 live / in-person trainings)
- 426 Ethics and Future of Work Webinar attendees
- 88 CU learners through Skillsoft

Partnering to Educate Occupational Safety and Health Professionals

Our centers have a long history of partnering with organizations to expand our reach and provide high-quality occupational safety and health learning opportunities to working professionals. This year we worked directly with professional associations and community partners to plan, execute, or provide continuing education at a variety of educational events, including:



**PROFESSIONS
(BY NUMBER OF LEARNERS)**

Occupational Medicine:

163

Occupational Health Nursing:

40

Industrial Hygiene:

275

Safety/Ergonomics:

481

Health Physics:

33

Human Resources:

248

**3,083 continuing
education credits issued**



Mental Health in the Workplace

IMPACT

- Launched in 2022
- 702 learners have completed this course to date
- Continuing Education credits: CHES®, CIH, CSP, SHRM

The Mental Health in the Workplace course helps learners understand the importance of prioritizing and addressing workplace mental health through four key components within an organization: culture, benefits, training, and accessibility. Through the course, learners gain practical action steps to raise awareness about mental health, reduce stigma, and prioritize care for all employees.

This year, we translated the Mental Health in the Workplace course into Spanish: Salud Mental en el Trabajo. We look forward to reaching even more learners through this course to continue supporting mental health in the workplace.

Health Links® Webinars

IMPACT

- 3,781 attendees
- 50 U.S. states represented
- 25 countries represented
- 7 webinars
- Continuing Education credits: CHES®, CIH, CPH, CSP, SHRM

These hour-long virtual trainings extend our center's national reach by equipping working professionals with knowledge about *Total Worker Health*® and empowering working professionals with the tools and knowledge to create healthier and safer workplaces.

Through engaging content, we address pressing topics related to the workplace such as psychological preparedness, mental health, recovery friendly practices, ageism, healthy eating, and violence, offering practical strategies that drive meaningful change. Participants also receive free continuing education credits, making these sessions valuable for those in human resources, health education, and occupational health and safety.



Central Rocky Mountain Chapter of the Health Physics Society

Through Health Physics program director Thomas Johnson, PhD, the Mountain & Plains Education and Research Center collaborated locally with the Central Rocky Mountain Chapter of the Health Physics Society (CRMCHPS) to host continuing education events in-person and online through our Learning Management System. As the leader in continuing education for Health Physics and the only Education and Research Center with an Occupational Health Physics training program, we continue to support these much-needed initiatives.

Online Courses

Our top online courses from the last year:

- Mental Health in the Workplace: **140 learners**
- Leadership Skills for Managing Worker Stress and Fatigue through COVID-19: **51 learners**
- Supporting Employees Affected by Cancer: **34 learners**
- Total Worker Health Professional Program: **14 learners**
- Occupational Health Nursing Certification Prep Course: **14 learners**
- Suicide Prevention in the Workplace: **10 learners**

Explore our course catalog!





Society for Total Worker Health™ Peer Learning Series and Connect Events

IMPACT

- 3 Total Worker Health Peer Learning Series sessions
- 3 Total Worker Health Connect events
- 85 attendees for the Total Worker Health Peer Learning series
- 51 attendees for the Total Worker Health Connect events

In conjunction with the Society for Total Worker Health™, we launched two new peer-based learning opportunities for individuals working to advance Total Worker Health®. The Total Worker Health® Peer Learning Series featured a diverse group of subject matter experts and industry professionals who shared case studies and led interactive discussions with attendees on how to best implement the interventions.

A photograph of a woman with her arms crossed, sitting in a wooden chair. She is wearing a light-colored, sleeveless top and light-colored pants. The background is a rustic interior with stone walls and a framed picture.

Adrienne Hutchens, MPH, CSP

Colorado School of Public Health Environmental and Occupational Health Alum; Director, Health & Safety | Kroenke Sports & Entertainment



Total Worker Health® Connect events brought learners from a variety of fields and industries together to discuss issues of interest to the TWH community at large. These interdisciplinary experiences included facilitated discussions and networking opportunities. The virtual session created a safe learning environment for individuals to ask questions and learn from other professionals.

SERIES TOPICS:

- *Engage & Inspire (the why and how to create a TWH program)*
- *How to Market Yourself as a TWH Professional (guidance on how to sell TWH to leaders and workers alike)*



Practice

[Communications](#)

[Colorado Recovery Friendly Workplace Initiative](#)

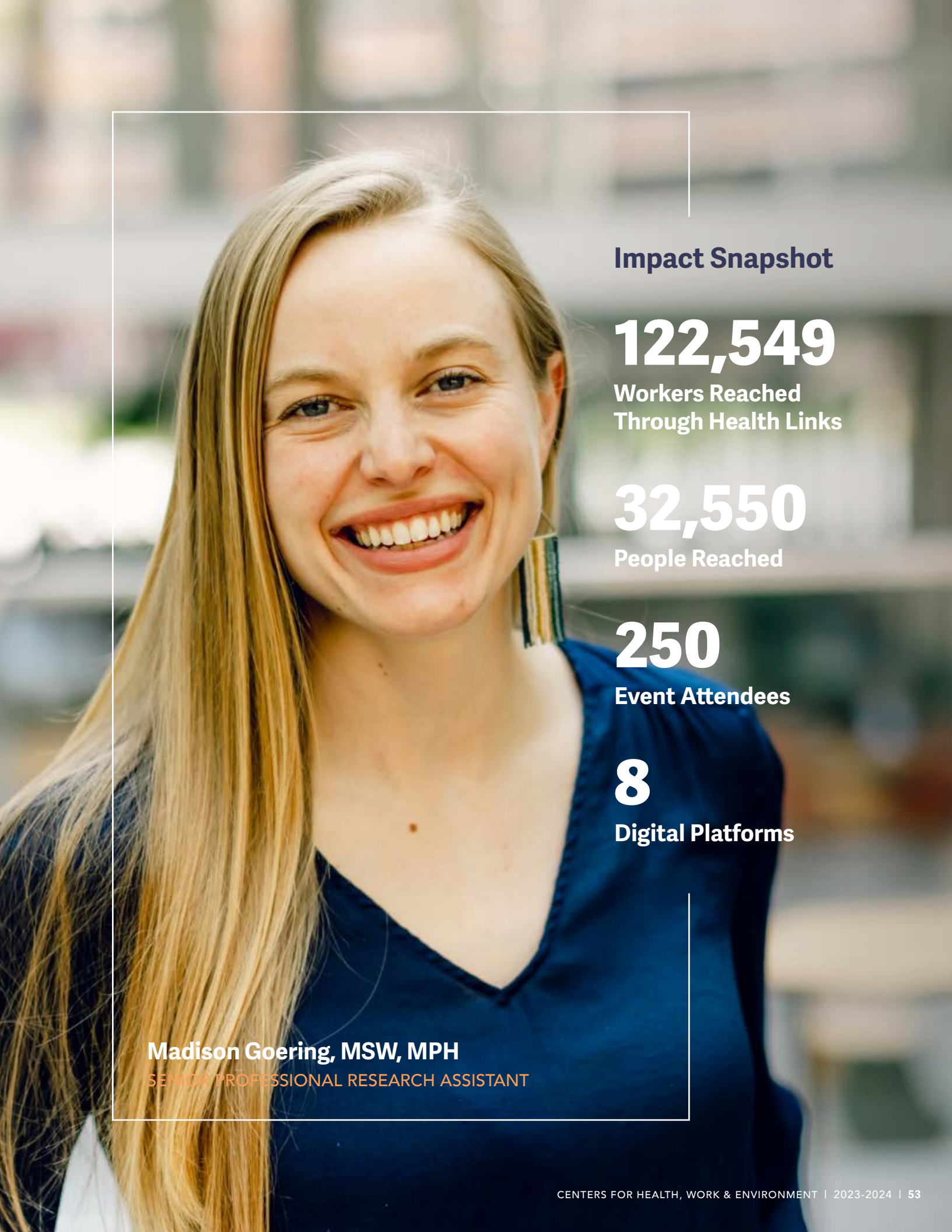
[Hispanic & Latino Workforce Training](#)

[National Supplemental Screening Program](#)

[Society for Total Worker Health™](#)

[Health Links®](#)

[Events](#)



Impact Snapshot

122,549

Workers Reached
Through Health Links

32,550

People Reached

250

Event Attendees

8

Digital Platforms

Madison Goering, MSW, MPH
SENIOR PROFESSIONAL RESEARCH ASSISTANT



Sarah Levine, MPH

RESEARCH SERVICES PROFESSIONAL

Communications

We pride ourselves on impact, creating practical solutions that apply a Total Worker Health® approach and the science of translation and dissemination. Spreading our research far and wide, targeting our training programs to the interested audience, and building connections across our many communication channels, our outreach approach is an integral part of our public health practice.

See who we're reaching!

CHWE

30,077

Website Views

10,459

Newsroom Views

Who opens our emails?

30% of people that receive them

1,780 Contacts

Health Links®

60,008

Website Views

Who opens our emails?

35% of people that receive them

3,674 Contacts



1,498

LinkedIn followers

65,351

LinkedIn impressions

2,224

LinkedIn profile visits



Colorado Recovery Friendly Workplace Initiative™

IMPACT

- 158 RFW workgroup members
- 92 total organizations signed RFW pledge
- 21 organizations completed Health Links' Mental Health Survey
- 21 RFW advising sessions
- 6 states (Colorado, Florida, Kentucky, Iowa, Rhode Island, Wisconsin) consulted on RFW regional or statewide program
-

The Colorado Recovery Friendly Workplace (RFW) Initiative has made significant strides in supporting individuals struggling with behavioral health conditions, including substance use and addiction, through workplace policies and practices. Along with our partners at the Colorado Consortium for Prescription Drug Abuse Prevention, **the initiative has reached 268 employers across the state, providing training and community engagement to foster supportive work environments.**

A cornerstone of the Colorado RFW Initiative is the Employer Workgroup, which brings together 158 leaders who champion RFW policies. This group serves as the voice of Colorado employers, advocating for mental health, addiction prevention, treatment, and recovery support.



Visit the official website!





Highlights

This year the initiative has gained significant legislative backing, with Governor Polis signing Senate Bill 24-048 into law. The funding will establish a voluntary Colorado Recovery Friendly Workplace Certification program, providing businesses with the tools to support employees in recovery from substance use and other behavioral health conditions.

Project team: Lili Tenney, DrPH, MPH; David Shapiro; Sarah Levine, MPH; Laura Veith; Olivia Zarella, DrPH; Carol Brown, PhD; Casey Torbet, MPH; Madison Goering, MPH



Hispanic and Latino Workforce Training

IMPACT

- 100% of participants who took a post-course survey identified at least one action that they will implement in their work based on what they learned from the training
- 424 people reached through events
- 54 Hispanic and Latino leaders trained
- 52 community outreach/collaboration hours
- 28 unique community outreach collaboration organizations
- 10 hours of training education provided
- 2 funded grants

We partnered with the Latino Chamber of Commerce of Boulder County and Pinnacle Assurance to help change that statistic in Colorado by providing *Total Worker Health*® trainings to Hispanic and Latino business owners in Spanish and English. The Occupational Health and Safety training program is designed for small business owners or managers interested in improving the health and safety culture of their business through a *Total Worker Health* approach.

We are working to improve the well-being of Colorado's Hispanic and Latino workforce by offering in-person and virtual trainings like "OSHA Suggestions for a Safe and Healthy Workplace" and "Mental Health in the Workplace." These trainings are tailored to the audience's first language, and in each session, we provide tools and resources workers and managers can immediately put into practice to make their workplaces safer.

Key personnel: Madison Goering, MPH; Karely Villarreal Hernandez, MPH; Lili Tenney, DrPH, MPH



National Supplemental Screening Program



Joelle Wedel, PSC

SENIOR PROFESSIONAL
RESEARCH ASSISTANT LEVEL 3

IMPACT

- 30,938 total exams completed
- 2,005 exams in fiscal year 2024
- 6th rescreen exam on initial workers
- Rescreenings found previously undiagnosed conditions in 2%-27% of the workers screened
- 1 new project characterizing DOE worker mortality risks
- 1 study published in the Journal of Occupational and Environmental Medicine

In collaboration with Oak Ridge Associated Universities and the Department of Energy (DOE), our centers offer complimentary medical screenings to former workers of DOE sites as part of the DOE's "Former Worker Program."

Through the National Supplemental Screening Program (NSSP), former employees from national energy laboratories and nuclear weapons facilities undergo screenings for occupational health issues, including chronic respiratory diseases, hearing impairment, kidney and liver ailments, and specific types of cancer. NSSP screening also detects other major health concerns such as diabetes, hypertension, and lipid disorders.

Society for Total Worker Health™

IMPACT

- 291 members
- 40 U.S. states represented
- 6 countries represented (United States, United Kingdom, Canada, Italy, Grenada, Mozambique)

The Society for Total Worker Health celebrated a year of connecting and learning, as well as its second annual member meeting. The group looks forward to convening at the 4th International Symposium to Advance *Total Worker Health*® in 2025.





Health Links®

2024 was a transformative year for Health Links, marked by expanded advising services, legislative milestones, and deeper partnerships supporting the Total Worker Health® approach. We engaged new sectors, global employers, and local communities, driving innovation through updated tools and tailored initiatives. We extended our reach internationally, with worksites in Canada and India joining our certification and advising program.

Impact Snapshot

133 *Advising sessions (total)*

21 *Recovery Friendly Workplace*

89 *Organizations participated in Health Links in FY24/ 62 certified in FY24*

28 *Kick-Start*

5 *Certified*

29 *Certified Leader*

21 *Organizations completed Workplace Mental Health Survey*

12+ *Industries represented*



Program Highlights

- Upgraded Healthy Workplace Assessment® with enhancements addressing leadership, remote/hybrid work, fatigue and healthy sleep, chronic disease prevention and management, equity and inclusive excellence, quality improvement.
- Published a peer-reviewed paper featuring our research on employer engagement strategies to support chronic disease prevention and management programs (CDPMP) in the workplace.
- Launched the Food@Work module, developed in partnership with the Colorado Department of Public Health and Environment (CDPHE). Over ten healthcare organizations completed our Food@Work Survey, which provides critical benchmarks to improve food service offerings and align with the Food Service Guidelines for Federal Facilities.
- Delivered resources through CO-CARES, a pandemic recovery initiative for healthcare workers.
- Continued to offer free access to the Healthy Workplace Assessment and Mental Health Module, allowing organizations to address stress, burnout, and organizational resilience.

Convening Community

The Health Links webinar series reached over 4,000 participants. Our annual celebration, including the prestigious Health Links Awards, is a testament to the outstanding workplaces advancing worker health, safety, and well-being. These awards recognize their efforts and inspire others to follow suit, creating a ripple effect of positive change in the workplace.



Events

Annual Research Day Symposium

IMPACT

- 128 attendees
- 34 student presentations
- 6 awards

The Mountain & Plains Education and Research Center (MAP ERC) Research Day Symposium convenes MAP ERC faculty, External Advisory Panel members, Centers staff, trainees, and alumni, and community partners in our region. The 2024 program featured keynote speaker Rebecca Velasco Reyna, MD, who discussed how the Instituto Mexicano del Seguro Social implemented a nationwide program similar to Total Worker Health[®], as well as student research.

Thank you to this year's award sponsors: Society of Occupational Health Psychology, American Industrial Hygiene Association – Rocky Mountain Section, Central Rocky Mountain Chapter of the Health Physics Society, Rocky Mountain Academy of Occupational and Environmental Medicine, American Society of Safety Professionals Colorado Chapter





11th Health Links Annual Event

IMPACT

- 139 attendees representing
- 64 workshop attendees

The Health Links Annual Event brings together champions of employee health and well-being from a variety of industries for morning workshops and afternoon panels, networking, and award ceremonies.

CHWE Partner Awards

IMPACT

- 52 attendees

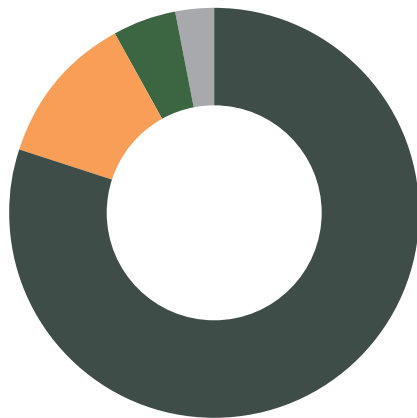
In September 2024, CHWE hosted its fourth annual recognition event to honor the commitment and achievements of its key partners. We were pleased to honor Cecile S. Rose, MD, MPH, with the Individual Lifetime Achievement Award for her impact on the field of occupational health and safety. Centers director Lee Newman, MD, MA, worked with and learned from Rose and described her as the “consummate physician and expert in pulmonary medicine, occupational medicine, and public health.” She taught generations of people how to prioritize the health and safety of workers and kept them as the focus for occupational health care while also identifying and eliminating hazards that may cause lung disease in the larger population. Several of Rose’s current and former colleagues also described the impact she had on them and their careers.



The Centers also recognized the **Latino Chamber of Commerce of Boulder County** with the Community Impact Award for their achievements in engaging with Latinx business owners on the *Total Worker Health*® approach, and the **Colorado Consortium for Prescription Drug Abuse** Prevention with the Partner of the Year Award for their role in the Recovery Friendly Workplace Initiative.

Financials

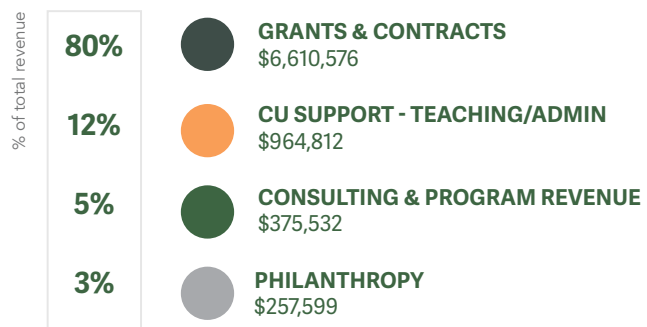
TOTAL VOLUME (\$)



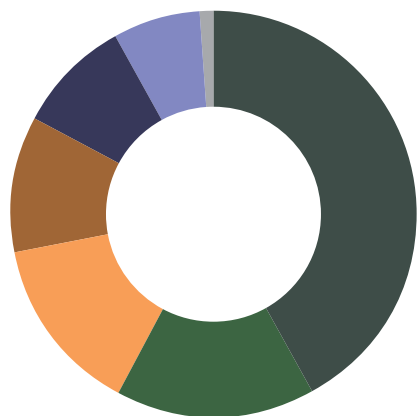
REVENUE

FY24 total / \$8,208,519

* FY24 runs July 2023-June 2024



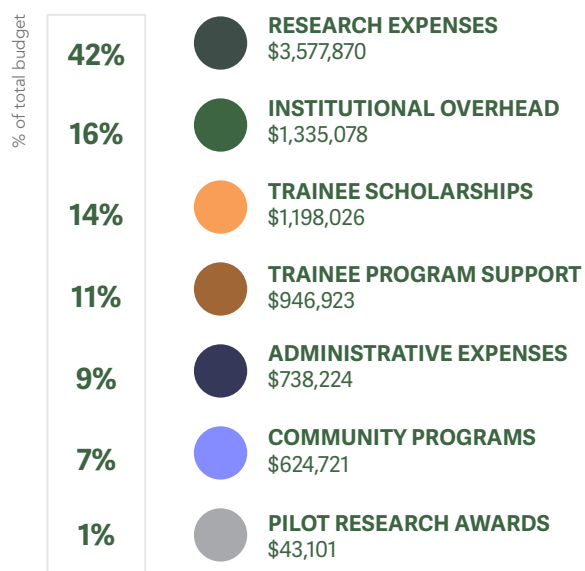
TOTAL VOLUME (\$)



EXPENSES

FY24 total / \$7,351,980

* FY24 runs July 2023-June 2024



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THANK YOU TO THE INDIVIDUALS WHO PROVIDE VALUABLE CONTRIBUTIONS TO ALL WE DO THROUGH THEIR GUIDANCE AND FEEDBACK ACROSS OUR WORK.

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University of Colorado Distinguished Professor and Centers for Health, Work & Environment founding director Lee Newman, MD, MA, and his wife, Lori Szczukowski, MD, established the Endowed Fund for Worker Health in 2020. The generous gift contributes largely to the sustainability of CHWE, founded by Newman in 2009. This gift ensures dedicated resources for CHWE to pursue new and expanded initiatives consistent with its mission and is just one of many examples of Newman and Szczukowski's lifelong commitment to serving communities and advancing health. Over the past three decades, Newman's service and scholarship have brought him international recognition, and he and Szczukowski's collective work has benefited workers on a local, national, and international level.

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Supported by a cooperative agreement (2 U19OH011227-06-00) with the Centers for Disease Control and Prevention's National Institute for Occupational Safety and Health as part of one of 10 national Centers of Excellence for Total Worker Health.

Funding acknowledgement for Mountain & Plains Education and Research Center

Supported by a cooperative agreement (T42OH009229) with the Centers for Disease Control and Prevention's National Institute for Occupational Safety and Health as part of one of 18 national Education and Research Centers.

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