

2016–2017

A N N U A L R E P O R T



Center for Health, Work & Environment
colorado school of public health



OUR MISSION

Our mission is to advance worker health, safety, and well-being.

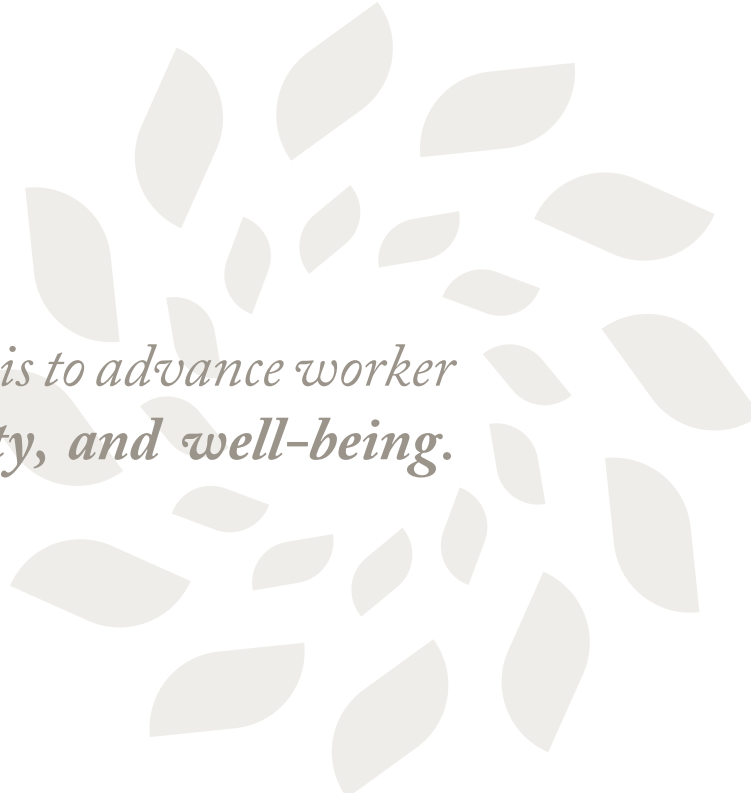


Table of Contents



06

Director's Note

08

From Research to Practice & Back

Impact Snapshot	9
Project Highlights	10-17
Feature Story	18-19

20

Training: Inspiring Future Leaders

Impact Snapshot	21
Project Highlights	22-25
Student Profiles	26-27
Feature Story	28-31

32

Financials

34

Supporters & Partners



Director's Note

Working Americans spend more than 2,000 hours a year on the job. Work affects our health and vice versa. Logically, the worksite is a prime place for a public health intervention.

Sadly, more than 13 workers die on the job every day in the United States. In Colorado, at least one worker loses his or her life on the job every week. That is why our first priority is to prevent fatalities and injuries.

But why stop there?

When workplace health and safety is done right, workers can come home even healthier than they came in. We serve as an incubator for innovative ideas and practical solutions to make that happen. We use what is called a Total Worker Health[®] approach. We work with employers and employees to address health, safety, and productivity in a more holistic way. By doing so, we improve each person's sense of well-being.

I jokingly call myself an irrational optimist. While I may be an optimist, the truth is that there is nothing irrational about my hopes for the future of workplace health and safety. I have seen the difference we can make.

Our center is an exciting place to be right now. In just the past year, we have improved the health, safety, and well-being of thousands of workers across Colorado and around the world.

I envision a world where every worker has a safe, healthy workplace.

Some of our accomplishments include:

+ Leading the way

Becoming one of six Total Worker Health[®] Centers of Excellence, a prestigious designation awarded by the National Institute for Occupational Safety and Health (NIOSH) in the Centers for Disease Control and Prevention (CDC)

+ Training future leaders

Launching the first Total Worker Health Certificate to train graduate students and mid-career professionals how to build safe, healthy, and supportive workplaces

+ Conducting innovative research

Starting the Small + Safe + Well (SSWell) study, an ambitious project to understand how organizational culture in small businesses affects workers' health

+ Changing policy

Reaping the benefits of 30 years of our research and advocacy when the Occupational Safety and Health Administration (OSHA) issued a new federal standard limiting workers' exposure to the toxic metal beryllium — a measure that will save lives.

+ Addressing the greatest needs

Changing century-old workplace health and safety practices in the sugarcane industry, which will improve not only the health of agricultural workers in Guatemala but also the health of our planet

You can see our strategy and trajectory. We train leaders, do rigorous research, bring the best evidence into practice, and apply our work in the areas of greatest need and impact.

This optimist envisions a future where every worker has a safe, healthy workplace. Thank you for helping us make it happen.

Sincerely,

Lee Newman, MD, MA
Director



*From Research
to Practice & Back*

RESEARCH IS ABOUT MORE THAN INNOVATION.
**IT IS ABOUT FINDING SOLUTIONS
THAT WORK IN THE REAL WORLD.**

We apply best practices when we design, execute, and evaluate our research interventions. All of our projects are not only scientifically rigorous, but also applied to the real world. We develop interventions that organizations can readily adopt, that reach a lot of people, and are proven to be effective and sustainable. From start to finish, our projects address the needs and incorporate the ideas of our stakeholders, including researchers, business leaders, community members, and workers.

**[IMPACT]
SNAPSHOT**

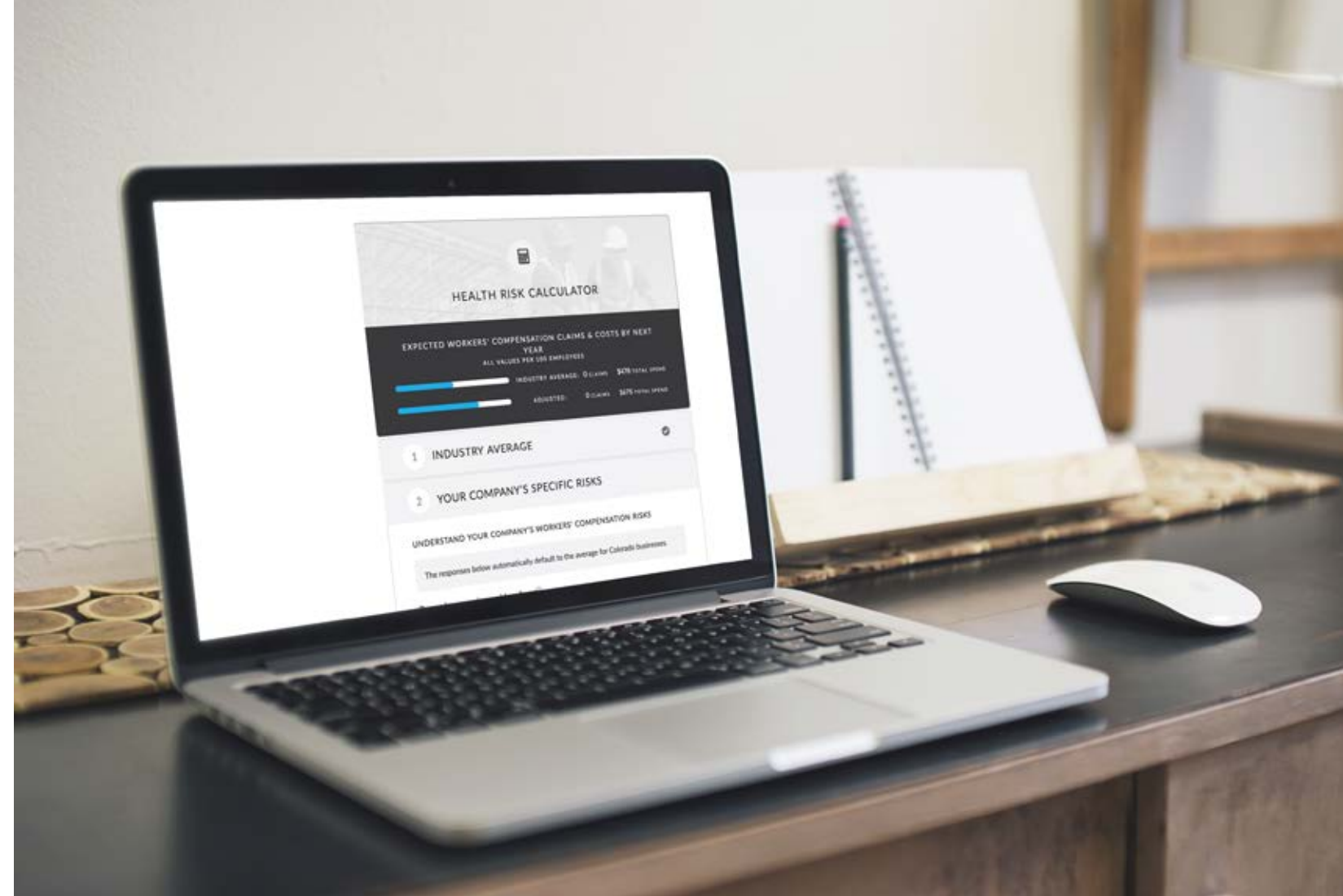
+89,600
workers reached

1,718
former Department of Energy site
workers screened for health conditions

898
farm workers screened
for health conditions

89
peer-reviewed papers published

[PROJECT HIGHLIGHTS]



Demonstrating that Poor Health and Work-Related Injuries Hurt Productivity

When employees' health, safety, and well-being are prioritized, one would expect productivity to improve. But more evidence was needed. In February 2017, we published a landmark study in *Health Affairs*, the nation's leading health policy journal, in which we examined the job performance of workers with chronic health conditions and a history of on-the-job injuries. We found that people with chronic health conditions who have jobs that are taxing — mentally and physically — will show up for work, but their performance suffers. Workers who have physically demanding jobs and are injured at work are more likely to take extended sick leave. The study, conducted in collaboration with the Integrated Benefits Institute and Segue Consulting, also calculated the substantial costs associated with lost productivity due to illness and injury. Results show that to improve productivity, employers should invest in injury prevention and adjust job tasks to match the abilities of their employees.

Read more > content.healthaffairs.org/content/36/2/237.full

Calculating How Worker Health Affects the Cost of Job-Related Injuries

Healthy workers are less likely to be injured on the job. If injured, healthy workers tend to have a faster and less expensive recovery. To help employers visualize the benefits of supporting the health and well-being of their workers, we publicly launched an interactive, online Health Risk Calculator that we developed in partnership with Pinnacle Assurance, Colorado's leading workers' compensation insurer. The calculator illustrates the impact of employee health on claims and costs. Employers enter data about their industry, employee demographics, and the health risk factors of their workforce. They can compare this information to industry averages and create various scenarios to see how improving health factors such as stress at work, sleep, and chronic health conditions can reduce the cost of a claim if a worker is injured.

Try the calculator > ucdenver.edu/chwe/calculator



SSWell

SMALL + SAFE + WELL

Studying Health and Safety Culture in Small Businesses

Leaders know how important culture is to the success of any organization. But do they know how important it is to foster a culture that values employee health and safety? In 2016, we launched a major research study and began recruiting 200 Colorado businesses to understand how business leaders can best create what we call a “culture of Total Worker Health®.” The Small + Safe + Well (SSWell) study, funded for the next five years by NIOSH, measures how organizational change in small businesses can improve employee health, safety, and well-being. Already, nearly 50 enterprises have volunteered to participate.

Learn more > ucdenver.edu/chwe/sswell



Applying Total Worker Health[®] to a Global Epidemic in Guatemala

An international epidemic of chronic kidney disease is affecting millions of agricultural workers from Latin America to Asia, but the cause and solutions remain elusive. Collaborating with Pantaleon, one of the largest agribusinesses in Central America, and the Center for Global Health at the Colorado School of Public Health, we screened close to 900 sugarcane cutters in rural Guatemala this year. We began testing new solutions to this problem, with the potential to benefit millions of workers. The research has already led to important discoveries about the role played by climate extremes, dehydration, and personal risk factors — such as smoking and the use of pain medications — in contributing to the epidemic. Preliminary results have been presented at the American Public Health Association Annual Meeting, the American College of Occupational and Environmental Medicine Conference, and the NIOSH State of the Science Conference. The work has been an important proof of the concept that a more comprehensive, prevention-focused approach to worker health and safety is required to combat the effects of climate change and heat extremes in agribusiness industries worldwide.

Read more > ucdenver.edu/chwe/internationaltwh

Addressing our Nuclear Legacy: The Health of Cold War Veterans

Thousands of Americans have worked at U.S. Department of Energy (DOE) facilities across the country, where they were exposed to a range of hazards from radiation and silica to solvents and toxic metals. Since 2005, we have partnered with Oak Ridge Associated Universities and the DOE to deliver free, high-quality medical exams to more than 17,000 former DOE site workers through an initiative called the National Supplemental Screening Program. This year, we provided exams to more than 1,700 former workers across the country, identifying work-related health conditions in more than 40% of workers as well as health problems such as diabetes, hypertension, and cancer in roughly 86% of those screened. Twenty percent of these workers do not see a primary care physician regularly, and many were unaware that they had a treatable health condition. Patients are advised on where to seek medical attention and how to receive medical benefits from a federal compensation program. In 2016, we entered into a new five-year contract with the DOE to continue co-directing the program and offering exams.

Read more > ucdenver.edu/chwe/energyworkerhealth



Connecting the Dots: Healthy Business is Better Business

Through Health Links™, we offer employers an assessment, one-on-one advising sessions, and Healthy Business Certification. We work directly with organizations, primarily small and mid-sized businesses, in Colorado and Florida. This year, we expanded our reach to Oregon in partnership with SAIF, the state's leading workers' compensation insurer. We also launched a family-friendly assessment, conducted a pilot focused on supporting employees living with cancer, and trained more than 1,100 professionals. Leveraging our partnerships in business, public health, and academia, we continue to work on expanding Health Links to new markets with the goal of improving worker health, safety and well-being through evidence-based approaches that shape organizational culture. With this model, we continue to learn from employers in real time about what works in practice.

Read the annual report > healthlinkscertified.org

1,328

people were trained in how to build a healthy, safe workplace culture

174

businesses across Colorado took the Health Links Assessment

195

advising sessions were conducted with businesses



FROM THE CLINIC TO THE HILL

LEE NEWMAN'S 30-YEAR FIGHT
TO PROTECT WORKERS FROM A TOXIC METAL

In spring 1985, a man we'll call Tom checked in for a seemingly routine medical appointment. In hindsight, Tom's visit proved to be a pivotal moment in the lives of the patient, his doctor, U.S. industry, policymakers, and more than a million workers.

Tom was seeking an explanation and treatment for his persistent shortness of breath and a hacking cough. He sought the advice of a specialist-in-training, a young pulmonary physician who would one day be recognized as the world's leading expert on the toxic metal that damaged Tom's lungs — Dr. Lee Newman.

Lee examined Tom, asking him about his health and, importantly, about his work. He was already suspicious that Tom might have a work-related lung disease. "At first he wouldn't tell me what he was exposed to on the job. He told me it was classified," said Lee. "Tom was

working at Rocky Flats, a U.S. Department of Energy site outside Golden, Colorado, machining metal parts used in the manufacture of nuclear weapons. When I asked him if he used the metal beryllium, his eyes popped. He nodded 'yes.'"

Serendipity struck. By coincidence, Lee had spent the previous year studying beryllium's effects on mice and developing a laboratory blood test that could diagnose Tom's condition. Unfortunately, Tom had inhaled enough beryllium metal dust to cause chronic beryllium disease (CBD), an incurable lung disease caused by exposure to invisible particles of beryllium dust.

It was a watershed moment, leading to a large-scale research study of Rocky Flats workers and, over the next three decades, studies of more than 50 other worksites across the country and abroad. The studies converged on the same two conclusions: Tom and Lee had exposed an international epidemic of CBD in nearly every business that generated beryllium dust and fumes. And the disease was occurring at levels of exposure more than 100 times below the protective limit set by the Occupational Safety and Health Administration (OSHA).

In the decade after his first visit with Lee, Tom came in more frequently as his symptoms grew worse. Medicine slowed the disease but could not stop it. In Tom's final years, he gradually reached the point when he could not work, was tied to an oxygen tank, and could barely climb a set of stairs.

"When I first started out as a pulmonary medicine physician, I saw hundreds of patients — like Tom — who were exposed to beryllium and suffered as a result," said Lee. "And they weren't just working at nuclear weapons plants. Patients came from

“

I STARTED PUSHING FOR POLICY CHANGES THAT WOULD REQUIRE INDUSTRY TO PROTECT WORKERS.

aerospace, aircraft alloys, weapons manufacturing, copper pipe, high-tech ceramics, golf club manufacture, dental laboratories, recycling plants, aluminum smelters, precision machine shops, you name it. And most of the industry was not even aware of the hazard."

Lee and his team conducted research that proved the extent of the problem, developed better screening tests, characterized the types and dose of exposures in workplaces, identified genetic risk factors, and studied both the progression of the disease and new treatments. The broad conclusion was that it would be better to prevent exposure in the first place, rather than expect to come up with a 'cure.'

Sounding the Alarm

"That's when I started pushing for policy changes that would require industry to protect workers," Lee recalls. "I can remember the week in early January 1999 when it occurred to me that we didn't need any more research to know that workers were not being adequately protected. That February, I wrote to OSHA and urged them to issue an emergency federal standard to protect beryllium workers."

OSHA politely declined. It wasn't until Lee, a public citizen watchdog group, and a major labor union approached OSHA again in 2002 that the agency agreed to start the process of writing a new protective rule. Lee and his colleagues continued to build the

scientific evidence for a tougher regulatory standard that would keep workers safe. They published more than 100 papers in peer-reviewed journals, wrote letters to journals, and spoke to workers, industry, labor groups, the press, and the public about the issue.

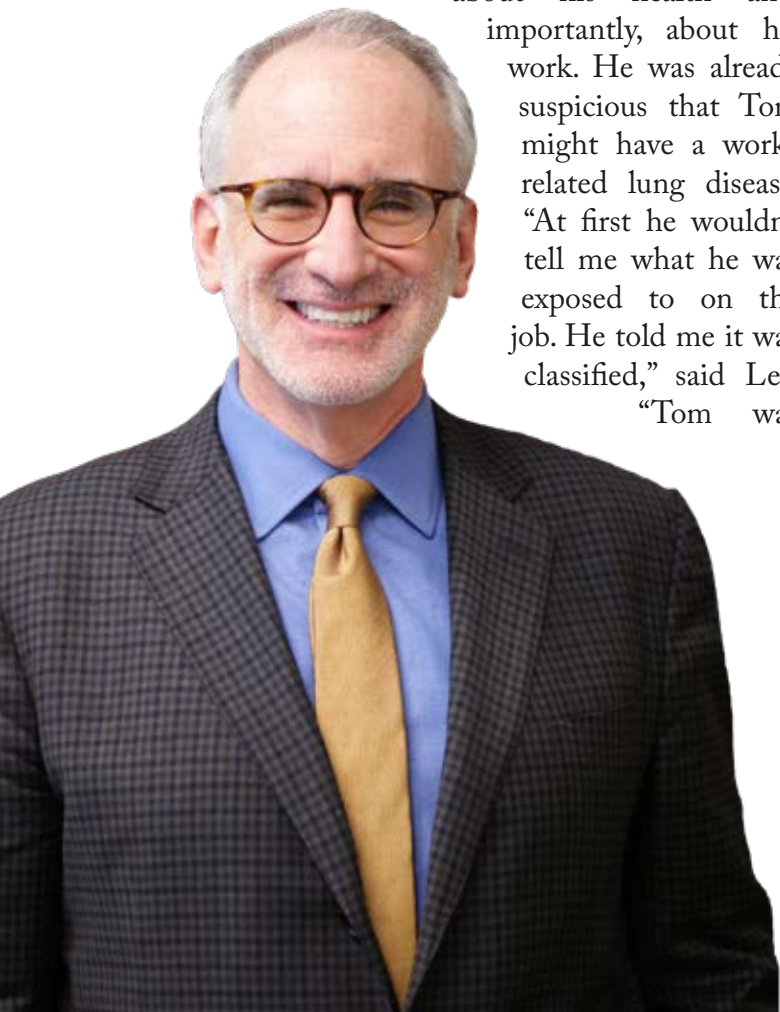
Sound Science Wins Out & Saves Lives

The pace of OSHA regulation can be glacial. Between 2002 and 2016, scientists, medical societies, industry representatives, and labor groups called for an OSHA standard for beryllium that reflected sound science, and pushed to speed up the process. With perseverance, it worked.

In January 2017, OSHA issued a final rule that set the permissible exposure level for beryllium at levels close to what Lee and his colleagues had been recommending for decades. Following a delay of several months, the first federal standard to protect beryllium workers went into effect in May 2017.

"This OSHA standard was long overdue, but is a huge step. It's a credit to the hundreds of workers like Tom who participated in research, the scientific and medical community, industry, labor, and policymakers," said Newman. "While there still may be efforts to undercut the new standard through lawsuits and exemptions for certain industrial sectors, the new rule is already being implemented, and it will save lives."

*...we didn't need any more
research to know that
workers were not being
adequately protected.*



Training: Inspiring Future Leaders



Avery Brewing, field site, Environmental and Occupational Health Interdisciplinary Symposium Course

SOME OF THE BEST LESSONS ARE LEARNED **OUTSIDE THE CLASSROOM.**

We offer a wide range of training programs and online courses taught by experts from academia and industry. Our educational opportunities are designed for audiences that include students, occupational health and safety professionals, business leaders, and human resource managers, on topics from stress management to safety culture.

[IMPACT] SNAPSHOT

43%
increase over previous year

12,835
hours of training recorded

45%
increase over previous year

2,855
people trained in workplace
health and safety

30%
increase over previous year

109
online courses and in-person
trainings provided

[PROJECT HIGHLIGHTS]



Launching the First Total Worker Health® Certificate

In January 2017, we launched the first certificate in Total Worker Health with the Department of Environmental and Occupational Health at the Colorado School of Public Health. This 15-credit graduate-level program trains new and mid-career professionals and public health students how to apply a Total Worker Health approach in practical settings, from research projects to workplace policies and programs. Students learn the evidence basis for incorporating health and safety into policies and programs, how to design interventions, and how to evaluate the effectiveness of those interventions.

Learn more > ucdenver.edu/twhcertificate

Advancing Worker Safety in the Marijuana Industry

The production and sale of marijuana is a new and quickly expanding industry. Workers in this industry face risks from common hazards such as slips, trips, and falls to those unique to farming and cash-only retail environments, such as pesticide exposure and workplace violence. We worked with the Colorado Department of Public Health and Environment (CDPHE), industry representatives, and local policymakers to develop the first health and safety guide in the U.S. designed specifically for the marijuana industry. To translate the guide's recommendations into practice, we partnered with CDPHE to offer the first safety training for marijuana cultivation workers in the country. Seventy-eight people attended. After completing the training, most participants reported that they felt more confident in their ability to change their own health and safety behaviors as well as the behaviors of those around them. Other states are now looking to our training and the CDPHE guide as models for disseminating health and safety information to this industry in their communities.

Learn more > learnpro.org



Bringing ATV Safety Training Online for the First Time

Farming, ranching, and logging remain some of the highest risk industries. According to OSHA, nearly half of all deaths related to agricultural work in 2011 were the result of a vehicle accident. Simple precautions can help workers who operate all-terrain vehicles (ATVs) stay safe while they ride. We developed the first online ATV-rider safety course in partnership with the High Plains Intermountain Center for Agricultural Health and Safety, Montana State University, and the Extension Service, to share evidence-based safety training with ATV riders. The course includes information about the risks of operating an ATV, proper safety gear, and safe riding techniques.

Check out the course > learnpro.org

Training Practitioners to Fight the Opioid Epidemic

Prescription opioid misuse, abuse, and unintended overdose fatalities continue to plague the nation and our workforce. A key strategy to address the problem is to train providers and prescribers on best practices for treating patients' chronic pain. Opioids, in fact, are rarely needed for more than a few days after surgery or acute injury. We offer an online course that trains healthcare providers, from physicians to veterinarians, to apply current state and federal guidelines intended to prevent prescription drug abuse. Since the training was released in 2012, more than 2,800 providers have completed the course, and 90% report using the information they learned in their practice. In partnership with the Colorado Consortium for Prescription Drug Abuse Prevention, we are updating the training. Highlights include new treatment guidelines, up-to-date information on the prescription drug monitoring program, and, for the first time, a focus on prenatal and postnatal care.

Learn more > ucdenver.edu/chwe/preventingrxabuse

Convening Leading Researchers at National and International Conferences

This year, we held two conferences in collaboration with NIOSH that brought together experts from across the country and around the world to share ideas and encourage collaboration. An international group of more than 140 researchers, small-business owners, and health and safety professionals attended the fourth international Understanding Small Enterprises (USE) Conference, held in downtown Denver in October 2017. USE is the only conference that focuses on worker health, safety, and well-being specifically in small businesses — where workers face a greater risk of being injured or becoming ill as a result of their work. This was the first time the conference was held in the U.S. We also co-hosted the Expanding the State of the Science Conference with NIOSH on the CU Anschutz campus in June 2017. More than 240 NIOSH researchers and those working on projects funded by the institute came together to share scientific discoveries and discuss future opportunities to collaborate on ways to improve worker health and safety.

Check out the conference presentations > ucdenver.edu/chwe/pastevents

[STUDENT PROFILES]

Mountain & Plains Education and Research Center (MAP ERC) Training

Through the MAP ERC, we provide financial support and interdisciplinary learning opportunities to trainees in five graduate and postgraduate training programs: occupational ergonomics, industrial hygiene, occupational medicine, occupational health psychology, and health physics.

Courtland is the first physician to join our newly launched occupational and environmental medicine fellowship, which provides a pathway to certification for physicians already board-certified in a different specialty. Having earned MD, MPH, and MBA degrees, he brings a unique blend of public health and business experience to his medical practice and research. Courtland spends most days in the clinic, helping patients heal and return to work after a work-related injury or illness. When not learning in the clinic, Courtland is analyzing workers' compensation claims data, studying repeat injury claims to better understand what factors predict future injuries. Repeat work-related injuries have not been studied extensively. Courtland and his co-investigators hope this research will help inform future injury-prevention strategies.

Courtland Keteyian
Fellow
Occupational & Environmental Medicine



Elise Lagerstrom
PhD student
Occupational Ergonomics



Elise's research focuses on hazards in the logging industry and the best ways to keep loggers safe. Her study of more than 800 workers' compensation claims from the logging industry of Montana and Idaho found that new employees with less than one year of experience accounted for roughly 45% of the reported work-related injuries. Using analysis of workers' compensation claims, focus group findings, and surveys of musculoskeletal symptoms, safety climate, and training preferences, Elise and her co-investigators developed safety communication materials, training programs, and an emergency first-aid course that was attended by 1,000 professional loggers in Montana.

Joshua Hayes
PhD student
Health Physics



In 2011, a major earthquake damaged the Fukushima-Daiichi nuclear power plant in Fukushima, Japan, sending radioactive material into the environment. Residents were evacuated and humans have not inhabited the area since. In their absence, other animals have taken up residence. Josh and his co-investigators are studying how wild boars and mice in the area have been affected by exposure to low doses of radionuclides. The aim of this project is to understand the impact of this disaster on the environment and how humans — residents and workers cleaning up the area — might be affected. This research will help inform safety standards for workers cleaning up the site and a timeline for when residents can safely return home.

Lauren is studying indoor air quality in three types of buildings at Colorado State University to understand the relationship between each building's characteristics and the quality of the air in those buildings. To evaluate air quality, she is testing for bacteria, specifically a Gram-negative bacteria marker, endotoxin. Gram-negative bacteria are known to cause a range of health problems including respiratory diseases, asthma aggravation, and generalized inflammation. Lauren and her co-investigators plan to build upon this investigation with future research into how indoor air quality affects students' learning. When Lauren is not busy studying or testing air samples, she works as a graduate intern at the Los Alamos National Laboratory, a leading national security research and design facility where the first nuclear weapon was developed.

Lauren Massengill
Master's student
Industrial Hygiene



Kevin Walters
PhD student
Occupational Health Psychology



In early 2017, Kevin and his co-authors released a report on worker health, safety, and well-being in the Colorado marijuana industry, the first report of its kind. His survey of more than 200 cannabis workers found wide variations in health and safety training within the industry. Approximately half of the workers surveyed reported receiving little to no safety training on the job. One in five reported receiving no safety training at all. His research has been highlighted in local news outlets, including Denverite and KUNC radio, and has been submitted for publication in peer-reviewed journals.

BUILDING SAFETY CULTURE

HOW NATALIE SCHWATKA'S RESEARCH IS CHANGING THE CONSTRUCTION INDUSTRY

Six years ago, Dr. Natalie Schwatka stepped onto a construction site for the first time. It would not be the last. In fact, this would be the first of countless visits that would lead her to help develop a training program reaching thousands of construction workers across the country.

Natalie began her studies of safety culture in construction as a MAP ERC trainee in the ergonomics program at Colorado State University. Over the course of her graduate studies, she walked through dozens of construction sites — taking in the sights, smells, and hazards first-hand — and interviewed the managers and workers there. A clear picture emerged of what it is like to work in one of the most dangerous industries in America.

A clear picture emerged of what it is like to work in one of the most dangerous industries in America.

“The interviews with construction leaders were eye-opening,” said Natalie. “The biggest theme I heard from them was that, two decades ago, if you weren’t doing a good job, you were yelled at. Someone told me that even if you were doing a good job, you still got yelled at! If someone yelled at me while I tried to work, it certainly would not help me do my job better or safer. Luckily, now

the culture is starting to change.”

As part of her dissertation, Natalie worked with researchers at NIOSH to design and pilot a safety leadership course for construction supervisors. Using data she collected through hours of interviews, she crafted key messages that would resonate with construction workers. The pilot was so successful that Natalie and her partners at CPWR — The Center for Construction Research and Training, the project’s funder, and the University of Colorado Leeds School of Business — refined the original training to share it broadly across the industry.

In January 2017, that course, “Foundations for Safety Leadership” (FSL), was approved as an elective for OSHA’s 30-hour construction certification, one of the most widely recognized safety certificates in the industry. More than 3,500 supervisors have taken the FSL course since it was approved, and the course materials, which are available for free online, have been downloaded thousands of times. The training reaches a national audience and is making a difference right here in Colorado.

“It’s rare for construction leaders to thank us for a training, but that’s what we received from our supervisors after the FSL training,” said David Fiore, one of the owners of Fiore & Sons, a family-owned construction company in Colorado. “What’s even better is that they have been able to improve their communication and engagement with their team. This training was a key component of our safety program that earned



us the AGC Construction Safety and Health Excellence Award in 2016.”

The training covers five leadership skills that supervisors can use to improve safety on their job site, such as leading by example, recognizing employees for positive behaviors, and empowering employees to identify and address hazards. Unlike other leadership trainings, the FSL course uses animation to walk students through various construction-specific scenarios — based on real stories gleaned from workers’ experiences — that demonstrate how to use these skills on the job.

Leaders determine and demonstrate the values of their company, creating a healthy or harmful culture for their employees. Company culture affects whether workers feel that they can report safety violations without fear of losing their jobs, whether they wear proper protective equipment, and whether they feel empowered to find new ways to mitigate hazards they encounter. That is why Natalie and her co-investigators decided to home in on leaders as a target audience for safety training; changes in leadership have a ripple effect throughout a company.

“Sometimes companies assume that training workers to be safe and giving them the tools to do so is sufficient. But if leaders are not practicing safety themselves, the employees they manage will follow suit. That puts everyone at risk,” said Natalie. “Focusing on leadership is an effective way to ensure that safety becomes more than just policies and practices; it becomes part of the fabric of the organization — part of the culture. If we start at the top, chances are it will trickle down to the entire company.”

*If we start at the top,
chances are it will trickle
down to the entire company.*

Natalie has been a researcher in our center and an instructor in the Colorado School of Public Health’s Department of Environmental and Occupational Health for the past three years. This course is just one of her many accomplishments. She is the lead investigator on multiple research projects and was recently promoted to a tenure-track assistant professor position. While these titles suit her job description, she would not describe herself as a typical researcher. Yes, she spends a good portion of her work day managing research grants, analyzing data, and writing scientific manuscripts. But she says applying her research out in the community and working with people are her favorite parts of the job.

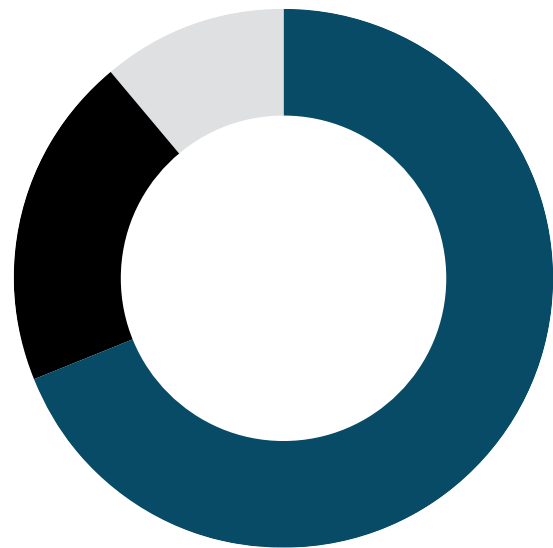
“Interviewing workers helps me understand the people I’m studying. I don’t see them as research subjects. They are people, with families and friends that they want to go home to at the end of the day,” said Natalie. “Analyzing data and writing publications is an important part of what I do. But what is most meaningful to me is knowing that my research is being used to help people stay safe and be well.”

“
**WHAT IS MOST
MEANINGFUL
TO ME IS
KNOWING THAT
MY RESEARCH IS
BEING USED TO
HELP PEOPLE STAY
SAFE AND BE WELL.**



Financials

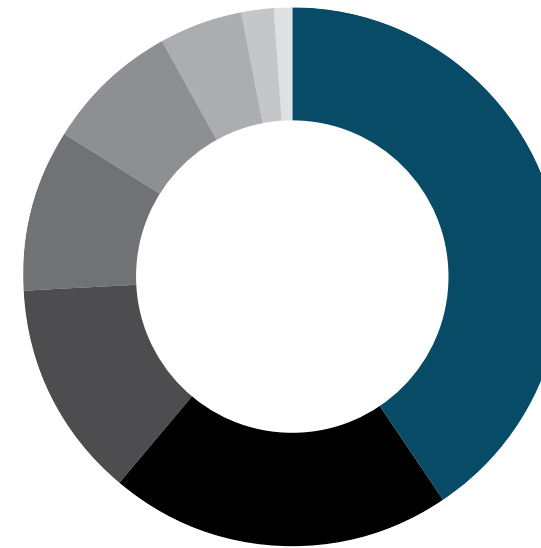
REVENUE & AWARDS



- 69% **Grants & Contracts**
\$3,414,986
- 20% **Philanthropy & Institutional Funds**
\$991,498
- 11% **Consulting Services**
\$531,155

FY17 total / \$4,937,639
FY17 increase over FY16 / \$1,794,383
FY17 % increase over FY16 / 57%

OPERATING EXPENSES



- 41% **Research Personnel**
\$1,677,494
- 21% **Direct Trainee Support**
\$844,644
- 13% **Research Expenses**
\$528,690
- 10% **Institutional Overhead**
\$399,679
- 8% **Administrative Personnel**
\$330,130
- 5% **Training Program Support**
\$217,732
- 2% **Small Business Support**
\$61,619
- 1% **Pilot Research Support**
\$47,294

FY17 total / \$4,107,282
FY17 increase over FY16 / \$854,647
FY17 % increase over FY16 / 26%



Supporters & Partners

We work with many stakeholders to advance worker health, safety, and well-being. Thank you to our partners and supporters.

To the many faculty, external advisers, and community partners we work with whom we could not list here—you are vital to our work.

Thank you.

SUPPORTERS

National Institute for Occupational Safety and Health (NIOSH)
Pinnacol Assurance
CU Anschutz Campus Chancellor
Oak Ridge Associated Universities
Pantaleon
U.S. Department of Energy
National Institutes of Health
University of Colorado Health and Welfare Trust
Eagle County Public Health
The Center for Construction Research and Training (CPWR)
Harold and Robert Hollis Family Trust
Denver Health Foundation
Blake Medical Center
Tri-County Public Health Department
Otero County Health Department
Delta County Department of Health and Human Services
Las Animas-Huerfanos Counties District Health Department
National Jewish Health
Denver Health and Hospital Authority

PARTNERS

AgroAmerica
American Industrial Hygiene Association—Rocky Mountain Section
American Society of Safety Professionals
Association for Occupational Health Professionals in Healthcare
Axion Health
Center for Global Health at the Colorado School of Public Health
Clemson University
Colorado Consortium for Prescription Drug Abuse Prevention
Colorado Department of Public Health and Environment
Colorado Office of Economic Development and International Trade
Colorado School of Public Health
Colorado Small Business Development Center Network
Colorado State University
Health Physics Society
High Plains Intermountain Center for Agricultural Health & Safety
International Commission on Occupational Health
International Social Security Association
National Behavioral Health Innovation Center
Rocky Mountain Academy of Occupational and Environmental Medicine
Veteran Affairs Medical Center
Western States Division of the National Institute for Occupational Safety and Health

This publication was supported, in part, by grant T42OH009229 and cooperative agreement U19OH11227, funded by the National Institute for Occupational Safety and Health (NIOSH). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of NIOSH, the Centers for Disease Control and Prevention or the Department of Health and Human Services.

**TOGETHER, WE CAN
BUILD A BRIGHTER
FUTURE FOR WORKERS,
OUR ECONOMY, AND
OUR COMMUNITIES.**

 **JOIN US.**

Center for Health, Work & Environment
colorado school of public health