

THE HUMAN SIDE *of* WORK

2019-2020 ANNUAL REPORT

**This year has been our
greatest challenge yet.**

note from the director

LEE NEWMAN



HAVE YOU LOOKED BACK at what you wrote last year, pre-pandemic? I did, and it surprised me. In last year's annual report, I shared some success stories focusing on how our center helped employers and employees address sustainability. At the time, that meant tackling an epidemic of work-related kidney disease in Latin America associated with climate change and helping organizations improve leadership capacity to promote a culture of worker safety and well-being. It meant training record numbers of occupational safety and health professionals in our graduate school and medical residency programs to become future leaders in research and practice, and, prophetically, sharing that we would reduce our own center's carbon footprint.

In rereading, I was reminded of what effective leaders know: If you have good fundamentals guided by the right values, your organization can not only handle the unexpected but even rise to a higher plane, when needed.

As a center committed to improving worker health, safety, and well-being, this year has been our greatest challenge yet. People now know that worker health and safety are central concerns for public health and economic survival. Our world has been fractured by the COVID-19 pandemic, most

especially because of its tragic impact on the health, safety, and well-being of workers, their families, and communities.

At the same time, we awakened to the systemic and structural racism that exists in our country and workplaces. We began confronting our complicity. Black lives matter. The pandemic has amplified the consequences of racism. It is a tragic fact that during the pandemic, Blacks, Latinx, and Native Americans have been disproportionately affected. Front-line, essential workers who could not work from home include millions of people of color. In the 22-44 age group, the majority of deaths due to SARS-CoV-2 have been among Blacks and Latinx, many of whom were infected because of unsafe working conditions in industries such as healthcare, extended/home care, nursing homes, protein processing plants, and grocery stores. We all know that infection-related fatalities are only part of the story, when we also consider indirect consequences of the pandemic such as the fatalities due to untreated chronic and acute illnesses like cardiovascular disease and diabetes, the profound mental health impacts, as well as the consequences of unemployment—again hitting hardest those who, pre-pandemic, already suffered from health disparities.

...WE AWAKENED TO THE SYSTEMIC AND
STRUCTURAL RACISM THAT EXISTS IN
OUR COUNTRY AND WORKPLACES.

We began confronting our complicity. Black lives matter.

In this year's annual report, you will learn why I am proud to say that in the face of adversity, the committed faculty, staff, and students of the Center have stepped up. We have significantly pivoted to address these challenges and, at the same time, retain our focus on the important work that was ongoing.

On a final note, early in 2020, my wife, Dr. Lori Szczukowski, and I were pleased to create the Endowed Fund for Worker Health through the University of Colorado Foundation. This fund will provide additional support for the Center, for advancing strategic initiatives and addressing areas of greatest need. We hope you will join us with your support for the Center's mission and in celebrating our achievements over the past year.



Lee Newman, MD, MA
Director, Center for Health, Work & Environment
Distinguished Professor, Colorado School of Public Health

TABLE *of* CONTENTS

03

*Note from the
Director*

06

Impact Snapshot

08

Publications

12

Research

14

Pilot Projects

16

Outreach

21

Health Links™

24

Student Profiles

31

*Continuing
Education*

33

Faculty Features

36

Financials

39

*Supporters
& Partners*



27

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

\$51,108

in MAP ERC
Pilot Grants

\$50,000

in Total Worker Health®
Pilot Grants

1,410

former energy workers
screened (from NSSP)

8,208

professionals trained

83

publications

240.5

training hours completed

OUR CARBON FOOTPRINT

As her capstone project for earning her Master's in Public Health from the Colorado School of Public Health, one of our former student employees, Sarah Levine, completed a research study on the carbon footprint of our center. She specifically studied the travel practices of the Center, as travel is a significant producer of greenhouse gas (GHG) emissions, one of the major contributing factors to climate change. The project supported our center's mission to help organizations create more sustainable workforces, and as such, aimed to promote the sustainability of the planet by lowering our own carbon footprint. Based on the results of her project, Sarah created [these tips](#) for ways academic organizations can decrease their carbon footprint, specifically regarding travel practices.

Impact snapshot

JULY 1, 2019 – JUNE 30, 2020

THE CENTER

Our center homepage reached 4,449 visits—an 8% increase from the past fiscal year.



Followers: 383



Followers: 644

HEALTH LINKS™

In the past fiscal year, 158 organizations participated in Health Links. 140 organizations enrolled, representing 124,640 workers in eight states.



Followers: 1,874



Followers: 784

196 advising sessions

113,516 workers reached

6,784 professionals trained

COVID RESPONSE

Beginning in March 2020, Health Links hosted a weekly town hall series that brought together leaders in business, public health, and Total Worker Health® to present pressing issues related to how COVID-19 was affecting individuals and businesses. Over **3,240 people** attended the webcasts and participated in rich discussions about worker health, remote work, return to work, mental health, legal issues, and supporting working parents during the COVID-19 pandemic.

2,085 COVID resource page views

106 employers received advising

NEWS, FEATURES, AND STORIES

Our Newsroom has been quite active over the last year, with links to our interviews in the Denver Post, Reuters, Vox, the Verge, the Hill, the Denver Channel, Safety + Health Magazine, stories in the greater CU system, and occupational safety and health trade publications. Explore features on our faculty, staff, projects, and announcements not all featured in this report.

OUR NEWSROOM bit.ly/CHWE_news

FEATURE STORIES



Study published on the well-being of small business workers during COVID-19



COVID-19, work & motherhood



Preventive medicine meets occupational health with Ngozi Obi



Integrating work, life, health, and safety with David Shapiro



*eighty-three
publications*

CHWE publications

Brooks-Russell A, Hall K, Peterson A, Graves J, **Van Dyke M**. Cannabis in homes with children: use and storage practices in a legalised state. *Inj Prev*. 2020;26(1):89-92.

Butler-Dawson J, Dally M, Johnson RJ, Johnson EC, Krisher L, Sánchez-Lozada LG, Griffin BR, Brindley S, Newman LS. Association of Copeptin, a Surrogate Marker of Arginine Vasopressin, with Decreased Kidney Function in Sugarcane Workers in Guatemala. *Ann Nutr Met*. 2020;76(1):30-36.

Butler-Dawson J, Krisher L, Yoder H, Dally M, Sorensen C, Johnson RJ, Asensio C, Cruz A, Johnson EC, Carlton EJ, Tenney L, Asturias, EJ, Newman, LS. Evaluation of heat stress and cumulative incidence of acute kidney injury in sugarcane workers in Guatemala. *Int Arch Occup Environ Health*. 2019;92(7):977-90.

Crain, TL, Brossoit, RM, Robles-Saenz, F, Tran, M. Fighting Fatigue: A Conceptual Model of Driver Sleep in the Gig Economy. *Sleep Health*. 2020;6(3):358-365.

Dally M, Butler-Dawson J, Cruz A, Krisher L, Johnson RJ, Asensio C, Piloni WD, Asturias EJ, Newman LS. Longitudinal trends in renal function among first-time sugarcane harvesters in Guatemala. *PloS one*. 2020;15(3):e0229413.

Dally M, Butler-Dawson J, Johnson RJ, Krisher L, Jaramillo D, Newman KL, Newman LS. Creatinine Fluctuations Forecast Cross-Harvest Kidney Function Decline Among Sugarcane Workers in Guatemala. *Kidney Int Rep*. 2020;5(9):1558-1566.

Deutchman M, **Macaluso F**, Chao J, Duffrin C, Hanna K, Avery DM Jr, Onello E, Quinn K, Griswold MT, Alavi M, Boulger J, Bright P, Schneider B, Porter J, Luke S, Durham J, Hasnain M, **James KA**. Contributions of US Medical Schools to Primary Care (2003-2014): Determining and Predicting Who Really Goes Into Primary Care. *Fam Med*. 2020;52(7):483-490.

El Hajj D, Cook PF, **James KA**, Battaglia C, Prochazca AV. Newer Forms of Tobacco Products: Characteristics of Poly Users Among Adults Living in Colorado—A Secondary Data Analysis of the Attitudes and Behaviors Survey on Health 2015. *Tob Use Insights*. 2019;12:1-6.

Goldenhar LM, **Schwatka N**, Johnson SK. Leadership skills for strengthening jobsite safety climate. *J Safety Res*. 2019;70:263-271.

James KA, Gralla J, Ridall LA, Do TN, Czaja AS, Mourani PM, Ciafaloni E, Cunniff C, Donnelly J, Oleszek J, Pandya S, Price E, Yang ML, Auerbach SR. Left ventricular dysfunction in Duchenne muscular dystrophy. *Cardiol Young*. 2020;30(2):171-176.

Keteyian C, **Schwatka N**, **Dally M**, **Tran M**, **Shore E**, Weitzenkamp D, **Newman LS**. The impact of industry and body part injured on repeat workers' compensation claims. *Am J Ind Med*. 2019;62(8):680-90.

Sato Y, Roncal-Jimenez CA, Andres-Hernando A, Jensen T, Tolan DR, Sanchez-Lozada LG, **Newman LS**, **Butler-Dawson J**, **Sorensen C**, Glaser J, Miyazaki M. Increase of core temperature affected the progression of kidney injury by repeated heat stress exposure. *Am J Physiol Renal Physiol*. 2019;317(5):F1111-21.

Schwatka NV, **Dally M**, **Tenney L**, **Shore E**, **Brown CE**, **Newman LS**. Total worker health leadership and business strategies are related to safety and health climates in small business. *Int J Environ Res Public Health*. 2020;17(6):2142.

Schwatka NV, Goldenhar LM, Johnson SK, Beldon MA, Tessler J, Dennerlein JT, Fullen M, Trieu H. A training intervention to improve frontline construction leaders' safety leadership practices and overall jobsite safety climate. *J Safety Res*. 2019;70:253-262.

Schwatka NV, Sinclair RR, **Fan W**, **Dally M**, **Shore E**, **Brown CE**, **Tenney L**, **Newman LS**. How does Organizational Climate Motivate Employee Safe and Healthy Behavior in Small Business?: A Self-Determination Theory Perspective. *J Occup Environ Med*. 2020;62(5):350-358.

Schwatka NV, **Tenney L**, **Dally M**, vS Brockbank C. Health Risk Calculator: An online, interactive tool to estimate how health impacts workers' compensation claim incidence and cost. *J Occup Environ Med*. 2019;61(7):597-604.

Scott JG, **Shore E**, **Brown C**, Harris C, Rosen MA. Highlights from occupational safety and health continuing education needs assessment. *Am J Ind Med*. 2019;62(10):901-907.

Shore E, **Schwatka N**, **Dally M**, **Brown CE**, **Tenney L**, **Newman LS**. Small Business Employees' Perceptions of Leadership Are Associated With Safety and Health Climates and Their Own Behaviors. *J Occup Environ Med*. 2020;62(2):156-162.

Stewart SB, Bhatia D, Burns EK, Sakai JT, Martin LF, Levinson AH, Vaughn AM, Li Y, **James KA**. Association of Marijuana, Mental Health, and Tobacco in Colorado. *J Addict Med*. 2020;14(1):48-55.

Stumpf AM, Erlandson G, Ruths J, Meinke D, **Newman LS**, **Krisher L**, Pilloni D, Cruz A, Asensio C. Noise exposures of sugar cane mill workers in Guatemala. *Int J Audiol*. 2020;59:S38-S53.

Tenney L, **Fan W**, **Dally M**, **Scott J**, **Haan M**, **Rivera K**, **Newman M**, **Newman LS**. Health Links™ Assessment of Total Worker Health® Practices as Indicators of Organizational Behavior in Small Business. *J Occup Environ Med*. 2019;61(8):623-34.

Tenney L, **Newman LS**. Total Worker Health® Approaches in Small to Medium-Sized Enterprises. In: Chosewood C. (ed.) *Total Worker Health®* American Psychological Association (2019).

MAP ERC publications

Health Physics

Meengs, M.; Brogan, J.; **Brandl, A.** Optimization of spectral string data analysis using a binomial discriminator for weak-source detection decisions. Health Phys. 2019;117(1):28-35.

Hayes J, **Johnson TE**, Anderson D, Nanba K. Effective half life of 134Cs and 137Cs in Fukushima prefecture when compared to theoretical decay models. Health Phys. 2020;118(1):60-64.

Industrial Hygiene

Erlandson G, **Magzamen S**, Carter E, Sharp JL, **Reynolds SJ**, **Schaeffer JW**. Characterization of Indoor Air Quality on a College Campus: A Pilot Study. Int J Environ Res Public Health. 2019;16(15):2721.

Martenies SE, **Schaeffer JW**, Erlandson G, Bradford M, Poole JA, Wilson A, Weller Z, **Reynolds SJ**, **Magzamen S**. Associations Between Bioaerosol Exposures and Lung Function Changes Among Dairy Workers in Colorado. J Occup Environ Med. 2020;62(6):424-430.

Occupational and Environmental Medicine

Garshick E, Abraham JH, Baird CP, Ciminera P, Downey GP, Falvo MJ, Hart JE, Jackson DA, Jerrett M, Kuschner W, Helmer DA, Krefft, SD, **Rose, CA**. Respiratory Health after Military Service in Southwest Asia and Afghanistan. An Official American Thoracic Society Workshop Report. Ann Am Thorac Soc. 2019;16(8):e1.

Pérez ER, Sprunger D, Ratanawatkul P, **Maier LA**, Huie TJ, Swigris JJ, Solomon JJ, Mohning M, Keith RC, Brown KK. Reply to Hall et al.: Hypersensitivity Pneumonitis Mortality by Industry and Occupation. Am J Respir Crit Care Med. 2019;200(4):518.

Occupational Ergonomics and Safety

Lagerstrom E, **Magzamen S**, **Brazile W**, **Stallones L**, Ayers, & **Rosecrance J**. A Case Study in the Application of The Systematic Approach to Training in the Logging Industry. Safety 2019;5(3):43.

Masci F, **Rosecrance J**, Mixco A, Cortinovis I, Calcante A, Mandic-Rajcevic S, Colosio C. Personal and occupational factors contributing to biomechanical risk of the distal upper limb among dairy workers in the Lombardy region of Italy. Appl Ergon. 2020;83:102796.

Occupational Health Psychology

Menger-Ogle LM, Kaufman MR, **Fisher GG**, Ryan EP, **Stallones L**. Using Peer Education to Promote Psychosocial and Occupational Health and Empowerment Among Female Sex Workers in Nepal. Violence Against Women. 2019;26(11):1445-1466.

Brossoit, RM, **Crain, TL**, Hammer, LB, Lee, S, Bodner, TE, Buxton, OM. Associations among patient care workers' schedule control, sleep, job satisfaction and turnover intentions. Stress Health. 2020;36(4): 442-456.

RESEARCH

THE SSWELL Study

We concluded the Small+Safe+Well (SSWell) study of Total Worker Health® (TWH) in small business this year. Findings from our research shed light on ways small businesses can successfully implement TWH in a variety of industries and geographic locations. We found that when small businesses offer more TWH policies and programs, they signal to employees that they care for their health, safety, and well-being, elevating the health and safety climates in those organizations. Yet for employers who wish to create a culture where employees are proactively engaged in TWH, company leadership must demonstrate a commitment to these initiatives and take steps that support day-to-day practice of these efforts. Under these conditions, employees are more internally motivated to participate in TWH activities, and this internal motivation drives their overall engagement in health and safety programs. Importantly, the SSWell study demonstrated that a TWH leadership program can help small-business decision-makers develop a TWH strategy through increased practice of TWH leadership skills.

As the COVID-19 pandemic took hold in Spring 2020, the SSWell team quickly pivoted to better understand how the pandemic was affecting employee well-being and how employees perceived their organization's response to the challenge of keeping business going and workers safe. Throughout the SSWell study, we learned that a strong culture of workplace health and safety is important, but our research with businesses during the pandemic revealed that it may be especially critical for business success to support employee well-being during emergency situations such as a pandemic.

Understanding how COVID-19

IMPACTED EMPLOYERS IN COLORADO

From April to August 2020, the Center developed rapid surveys to assess the impact of COVID-19 on businesses and the

mental health of workers. A total of 116 businesses responded that the pandemic had significantly impacted their workforce and operations. Some 93% reported that their employees were working remotely. In addition to concerns about lost revenue (affecting 68% of organizations), stress and work-family balance challenges were top employee concerns. Respondents noted positive impacts, including less commuting time (74%), more family time (57%), and higher productivity (24%). We used the survey results to identify trainings and additional resources that businesses needed. Primarily, we offered one-on-one advising support to help translate and prioritize federal, state and local public health guidance.

PROTECTING FIRST RESPONDERS

from Opioid Exposures

Members of the Center, including Dr. Mike Van Dyke, are working directly with NIOSH to extend specifications for personal protective equipment (PPE) for emergency responders. This taskforce is specifically focused on protecting them from exposure to opioids (among other illicit drugs), which they can come in contact with during routine job duties. **LEARN MORE** bit.ly/CDC_exposure

The Work of DR. KATHY JAMES

Metal Contamination in Rural Colorado

Kathy James, PhD, MSCH, MSCE, and her team continued work on establishing the Metals and Metal Mixtures: Cognitive Aging, Remediation, and Exposure Sources in the San Luis Valley (MEMCARE-SLV) study examining the association between maternal and early-life metals exposure and later-life neurocognitive outcomes in southern Colorado. In light of the COVID-19 pandemic, they adapted the study to be fully remote while maintaining connection and interaction with the

community through virtual town halls, Facebook, Twitter, and YouTube, where the research team will provide updates on study activities, shares posts from community partners, and creates and posts educational videos about topics related to the study.

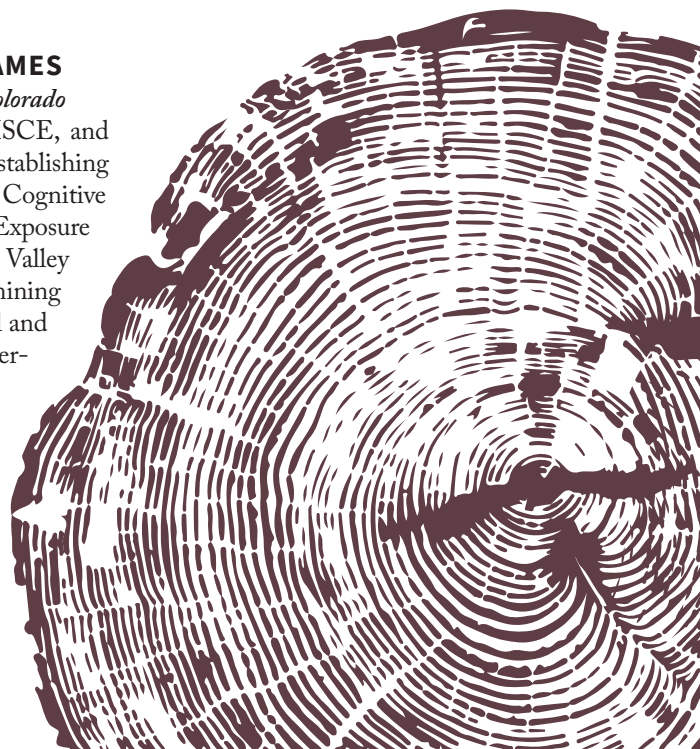
Maternal Care in Rural Hospitals

Dr. James and her team published a manuscript addressing how reporting inconsistencies by medical schools may inadvertently contribute to the primary care physician shortage in the U.S. by interfering with accurate workforce planning. They further investigated issues surrounding access to healthcare with a study of access to maternity care in rural hospitals. The manuscript for this project is in development.

Tobacco Consumption of Colorado Youth

The team collaborated with the Community Epidemiology and Program Evaluation Group at ColoradoSPH and the Colorado Department of Public Health and Environment to prepare reports on tobacco use patterns among Colorado adults and susceptibility to cigarette and e-cigarette use among Colorado youth. The research team also worked to redefine some of the groups previously designated as most vulnerable to tobacco-related health outcomes.

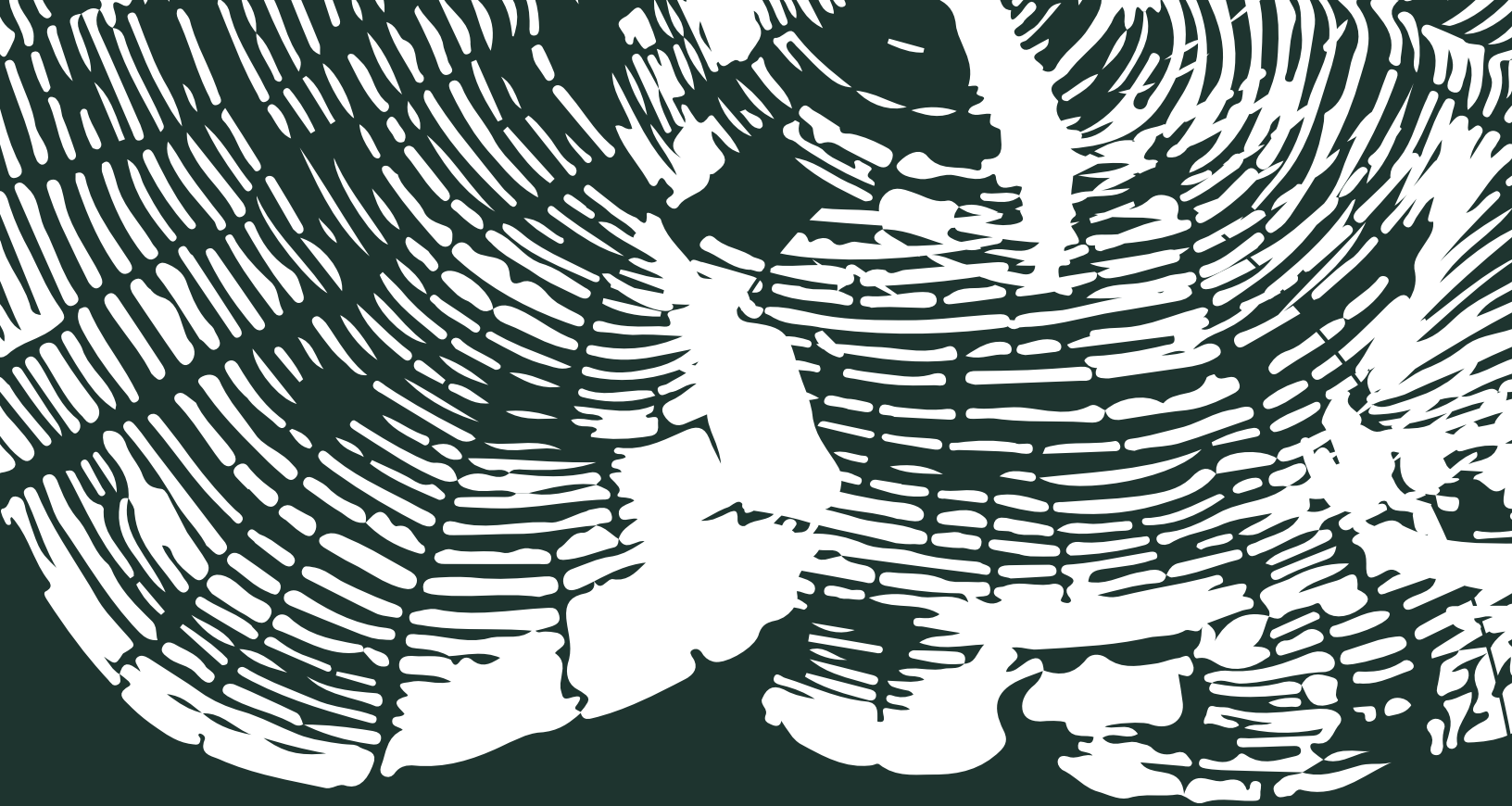
PHOTO BY Tomás Bernal





“It’s been stressful for everybody to navigate how everything is changing. We’ve implemented a morning check-in: How are you coming into the day? What are your needs for the day? How can we support each other?”

CAITIE MILLER *Bike Mechanic, Bikes Together*



Pilot Projects

Each year, we award funding to junior investigators and established researchers in other fields of discipline with support from the Mountain & Plains Education and Research Center (MAP ERC) and the Total Worker Health® (TWH) Pilot Project Awards programs. These research grants support innovative studies and research-to-practice projects in occupational safety and health and TWH. This year, we funded six innovative projects, addressing the health, safety, and well-being of early childhood education providers in Colorado; pilot testing the implementation of a safety and health curriculum for young workers; and a unique application of a design sprint process to quickly develop a health and safety intervention for day laborers.



MAPERC

Julia Buck, BA

DEPARTMENT OF PSYCHOLOGY Colorado State University

TELEWORK, WORK ABILITY AND WELL-BEING AMONG WORKERS WITH CHRONIC HEALTH CONDITIONS

This project seeks to improve our scientific knowledge about the role of telework as an organizational practice and work design feature to facilitate work for employees managing chronic health conditions.

Emily Cothorn, MS & William Brazile, PhD

ENVIRONMENTAL AND RADIOLOGICAL HEALTH SCIENCES Colorado State University

THE MEASUREMENT OF AMBIENT AND TASK-GENERATED SILICA CONCENTRATIONS DURING OSHA TABLE 1 CONSTRUCTION TASKS TO DERIVE A CONCENTRATION MODEL ADJUSTMENT

This project will evaluate construction workers' exposure to airborne silica dust using OSHA-mandated controls to determine if those controls are effective. It will also evaluate ambient levels of silica dust present on construction sites that contribute to worker exposures.

Sol Lim, PhD

SYSTEMS AND INDUSTRIAL ENGINEERING University of Arizona

PROVIDING REAL-TIME FEEDBACK ON ERGONOMIC RISK FACTORS USING WEARABLE SENSORS IN CONSTRUCTION WORK

The goal of this project is to investigate the effectiveness and acceptability of wearable sensor-based assessment tools that can assess exposures to biomechanically hazardous work conditions and provide immediate feedback for proactive prevention of musculoskeletal disorders.

Total Worker Health[®]

Abby Holm, MS (PD)

CO-INVESTIGATORS: Daniel Graham, PhD, Joshua Prasad, PhD, Meara Faw, PhD, & Elizabeth Parks, PhD

DEPARTMENT OF PSYCHOLOGY Colorado State University

MINORITY STRESS, WORK STRESS, & HEALTH EQUITY FOR LATINX AND HISPANIC K-12 TEACHERS

This project will examine perceived stress related to work and minority status as it relates to health among Latinx and Hispanic K-12 teachers in Colorado, in an effort to protect worker health and safety, and survey teachers' attitudes toward developing and integrating diversity affinity groups in their own Colorado school districts.

OUTREACH

OUR OUTREACH CORE IS VITAL TO OUR MISSION OF IMPROVING WORKER SAFETY AND HEALTH THROUGH COMMUNICATION AND DISSEMINATION, EDUCATION, AND IMPLEMENTATION. BY DELIVERING SCIENCE-BASED INFORMATION TO KEY STAKEHOLDERS, IN COLLABORATION WITH PARTNERS AND ACROSS DISCIPLINES, WE HAVE INCREASED AWARENESS, KNOWLEDGE AND ADOPTION OF BEST-PRACTICES IN OCCUPATIONAL SAFETY AND HEALTH AND TOTAL WORKER HEALTH®.

A 15-YEAR HEALTH SCREENING PROGRAM for former energy workers

At our center's first annual recognition event, held in July 2020, we honored Oak Ridge Associated Universities (ORAU) with the Partner of the Year award to celebrate our 15-year partnership and their significant achievements in improving the lives of workers.

Since 2005, faculty and staff from our center have partnered with ORAU and the Department of Energy (DOE) to administer the National Supplemental Screening Program (NSSP). This program provides free medical screenings to former DOE site workers, as part of the DOE's Former Worker Program. Former employees of national energy laboratories and nuclear weapons facilities are screened for occupational-related health conditions such as chronic respiratory illnesses, hearing loss, kidney or liver disease, and certain cancers. The NSSP screening also identifies other significant health problems for former energy site workers such as diabetes, hypertension, and lipid disorders.

New worker exams halted when preventative services were paused around the country due to COVID-19. The team quickly established new COVID safety procedures for the clinics and began tracking COVID case numbers for the various counties we were testing in. We have had good success in continuing exams in a limited capacity, with favorable safety reports.

To date, we have screened more than 20,000 former energy site workers. About 41% of those screened have been diagnosed with a work-related condition and 96% have been diagnosed with a non-work-related health condition, according to a 2016 study. Tens of thousands of workers have sought follow-up care and received federal compensation as a result of this program.



INT NTL

TOTAL WORKER HEALTH*

in agribusiness

For more than five years, in partnership with multinational groups, we have been investigating the epidemic of chronic kidney disease of unknown cause (“Mesoamerican Nephropathy”) in agriculture workers. Our research and translational projects have resulted in new knowledge and interventions for improved screening and prevention of noise-induced hearing loss, workplace algorithms to prevent the spread of COVID-19, and business Total Worker Health leadership training focused on developing skills and knowledge needed to help prevent stress, fatigue, and chronic disease in the workforce. This past year, we published six manuscripts summarizing our projects.

Pantaleon, one of the largest agribusinesses in Latin America, called on us to consult on the company’s critical response to the ongoing threat of the coronavirus. Pantaleon has rapidly implemented COVID-19 symptom-based screening strategies at its mills, and as part of its larger protection strategy. Leaning on our expertise, we are helping Pantaleon establish COVID-19 testing-based screening strategies in conjunction with updated screening strategies at each of their operations in six countries (Guatemala, Nicaragua, Mexico, Brazil, Chile, and United States).

OUR RESPONSE

worker health and safety

LANDMARK TATTOO



"We were closed for almost two months. In one month, I'm only able to do a week's worth of appointments. It's tricky."

JACOB MCWHIRTER *Tattoo Artist, Landmark Tattoo*

PHOTO BY *Tomás Bernal*

IS THIS THE TIME TO START REVISIONING PUBLIC HEALTH AS WE CONTINUE TO CONTEND WITH THE PANDEMIC AND LOOK TO THE FUTURE? I THINK SO.

JONATHAN SAMET, MD, MS *Dean, Colorado School of Public Health*

Our team's response to COVID-19 leaned heavily on our expertise in occupational safety and health. Dr. Lee Newman and Dr. Mike Van Dyke consulted local hospitals on appropriate personal protective equipment (PPE) protocols for healthcare workers. Additionally, they worked with a Governor-directed statewide procurement group to connect them to appropriate facilities for quality testing on PPE obtained outside the normal supply chain. They consulted with a local hospital on design and best practices of homemade face covers for source control among COVID-suspected patients as well as methods for testing expired PPE. Most predominantly, they worked with NIOSH and a large meat production company on assessing and implementing best practices to prevent COVID-19 transmission among its essential workers.

Our center created a [COVID resource page](#) to provide credible resources for international, national, and regional organizations, employers, and individuals. This page also linked to the [Health Links COVID Town Hall series](#): weekly virtual webcasts we hosted to address the current state of the pandemic and guidance addressing employer and employee concerns. Over eight months, the town halls were attended by **3,244 participants**, who tuned in to hear information from experts on crisis communication and emergency preparedness, leadership for reducing stress and fatigue, supporting working parents, mental health, and return-to-work public health guidelines.

Support for **EMERGENCY MEDICAL SERVICES**

At the request of NIOSH, our center is helping EMS providers across the country. We developed and monitor a Facebook group, "[Sustaining Emergency Medical Services during COVID-19](#)." More than 1,700 EMS providers use this site to ask questions, share resources, and support one another around the impacts that COVID-19 is having on their profession. Further, we facilitated a bi-weekly meeting open to EMS agencies, sharing educational topics related to COVID-19 and best practices during the pandemic.



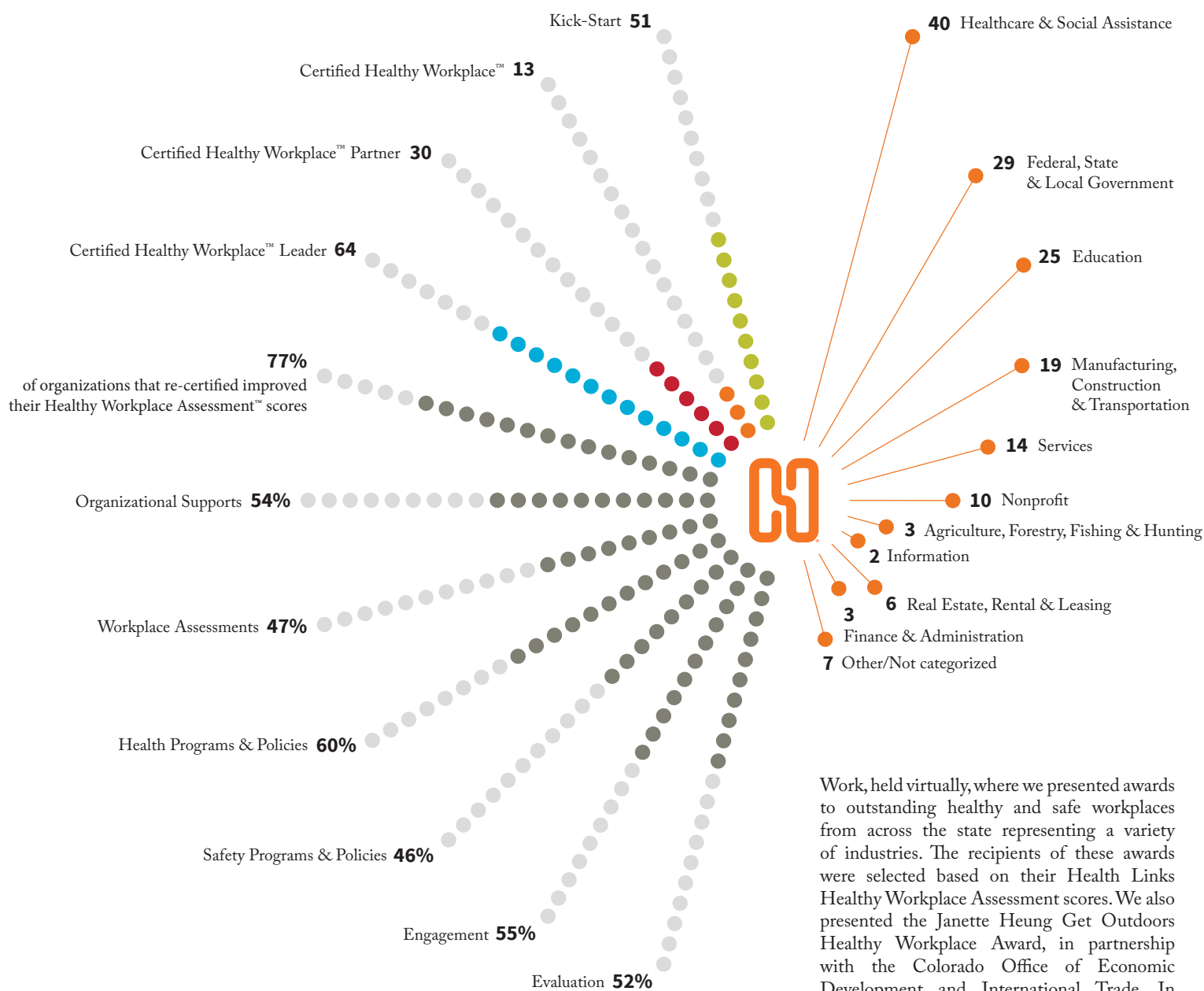
"We thought, how can we do stuff safely, but still deliver people on our vision: connection, reading, and discovery?"

AMBER DEBERRY
Director of Community Engagement, Douglas County Libraries

organizations participated in Health Links in FY 2019–20 (739 overall)

158 15+

Industries represented



HEALTH LINKS™

Last year, we wrote, “employee health, safety, and well-being are at the forefront of how modern employers aim to attract and retain top talent and increase productivity.” In 2020, worker (and business) health, safety, and well-being became the central focus of every employer on earth. The pandemic does not discriminate in how it impacts organizations and their workforces. Putting people first is top-of-mind for moving public health into practice—and we’ve been here to help businesses do just that.

Over the last year, our Health Links program has continued to help over 800 organizations implement Total Worker Health (TWH) by providing a roadmap to integrate workplace health and safety efforts. Now more than ever, employers are looking for easy-to-understand advice on how to put public health guidance into realistic action steps that ensure the safety of employees. In March,

we responded to the pandemic by quickly organizing a weekly Health Links Town Hall series that brought together leaders in business, public health, and TWH to present pressing issues related to how COVID was affecting individuals and businesses. Over 3,240 people attended the webcasts and participated in rich discussions about worker health, remote work, return to work, mental health, legal issues, and supporting working parents during COVID.

Colorado Governor Jared Polis issued an annual proclamation recognizing August 22, 2020, as Total Worker Health® Day in the state of Colorado. The proclamation outlined the state’s commitment to TWH, commending the universal approach to promoting the health, safety, well-being, and productivity of workers. We celebrated this commitment with our annual Health Links awards ceremony, Celebrating Colorado’s Healthiest Places to

Work, held virtually, where we presented awards to outstanding healthy and safe workplaces from across the state representing a variety of industries. The recipients of these awards were selected based on their Health Links Healthy Workplace Assessment scores. We also presented the Janette Heung Get Outdoors Healthy Workplace Award, in partnership with the Colorado Office of Economic Development and International Trade. In conjunction with the annual event, we hosted a half day of workshops on TWH. This past year’s workshops (conducted virtually) were: “Understanding Mental Wellness and Suicide Prevention,” “Leadership Tips for Fostering Well-being at Work,” “Preventing and Coping with Burnout,” and “Safety and Health for Non-safety Professionals.”

We have learned a lot this year. We have worked with several organizations to transition TWH activities to the remote work environment. We have assisted employers with communications and messaging campaigns to raise awareness of how to help slow the spread of the virus. We have consulted with companies on best practices to improve mental health in the workplace and provided resources to help employees manage stress. Our employer-facing strategy ensures that Health Links continues to put public health into practice, especially when it is needed most.

OUR RESPONSE

addressing racism

THE HUMAN BEAN

**RACISM HARMS HEALTH THROUGH MANY PATHWAYS;
THE PATH TO CHANGE IS NOT MORE RESEARCH, BUT
USING WHAT WE ALREADY KNOW TO EFFECT CHANGE.**

JONATHAN SAMET, MD, MS *Dean, Colorado School of Public Health*

In response to the events of 2020 and the increased recognition of the role that systemic racism plays in all facets of society, we are identifying ways our center can combat racism in the workplace. We have identified goals in our outreach, education, and research activities to address health inequities and racism in the workplace. We have hosted webinars, reaching over 2,500 participants, with topics including why patterns of racism and discrimination remain so consistent in the workplace and what organizations can do to change these outcomes; why racial disparities persist in hiring; what contemporary forms of racial discrimination look like; how Black workers experience work in various occupational settings; and the rights of vulnerable workers in the COVID-19 pandemic.

Follow-up activities have focused on outreach to Black-owned businesses through Health Links™ to better engage with the community and offer Total Worker Health® support. In addition, the Center has initiated a collaboration with the University of Colorado Latino Research and Policy Center to enhance our outreach to Latinx businesses. Our goal is to identify what resources Latinx businesses need to improve worker safety and health.

PHOTO BY Tomás Bernal

“After implementing [health and safety] systems, I feel a lot more comfortable and confident when I go to work. We’re being pushed to our limits, and it’s a really cool opportunity for all of us baristas to grow.”

MADLINE PRATT *Barista, The Human Bean*



CONFERENCES & EVENTS

Mental Health in the Mountains

In fall of 2019, we partnered with community groups in Summit County, Utah, inviting local employers to share their perspectives on mental health in mountain communities. Representatives from the tourism and service industries expressed their concerns over the significant mental health struggle their workforces and communities face. Overall, we heard from local business leaders that mental health is an issue they care about.

In response to the workforce needs of these communities, our center partnered with the Helen and Arthur E. Johnson Depression Center to host two days of workshops in February for mental health and suicide prevention in the workplace. The in-person trainings focused on reducing stigma, identifying warning signs, gaining crucial conversation skills, and establishing adaptable workplace supports. The first day, we trained 150 employees from Vail Resorts, representing seven company divisions, including base and mountain operations, hospitality, skier services, and corporate administration. The second day was hosted by the Park City Chamber of Commerce and brought together managers and supervisors from the service and tourism industries.

WestON

The 12th Annual Western States Occupational Network (WestON) gathering was held in Denver, Colorado on September 26, 2019. The Council of State and Territorial Epidemiologists, the NIOSH Western States Division, and the Mountain and Plains Education and Research Center hosted the two-day program attended by a group of 75 people. The keynote was delivered by Jim Morris of the Center for Public Integrity and author of *Death in the Oilfields*. Other topics included disseminating safety and health messages, gender inequality in the workplace, and utilizing data.

AIHA's Rocky Mountain Section Safety Conference

Our center co-hosted AIHA's Rocky Mountain Safety Conference virtual event in June 2020. The theme, COVID-19: Lessons Learned, featured Dr. Mike Van Dyke, who discussed his consulting work with major US meatpacking companies and their efforts to fight the spread of COVID among workers in their facilities.

Rocky Mountain Safety Conference hosted by Colorado Safety Association

On October 28, 2019, safety professionals from across the Rocky Mountain Region joined together for a two-day conference in Aurora, Colorado hosted by the Colorado Safety Association. The Center for Health, Work & Environment participated as part of the planning committee and an exhibitor. 135 people were in attendance for the event that included multiple keynotes and a variety of breakout sessions. Topics included Fighting Fatigue, Managing a Drug Safe Workplace, Safety Training Ninja, and Reputation Risk Management among others.

We are the MAP ERC.

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 FIVE OCCUPATIONAL SAFETY AND HEALTH DISCIPLINES.

This year, the MAP ERC was awarded a \$9 million, five-year training and research grant from NIOSH to continue offering tuition support, research funds, and stipends to qualified students. Our grant submission received one of the highest scores possible, acknowledging our excellence in training and impact.

NAME:

Kayna Hobbs



PROGRAM:

Occupational Ergonomics and Safety

TELL US ABOUT YOUR MAIN PROJECT.

My research will involve analyzing facial 3D body scan data to understand key facial landmarks for face masks. Because COVID-19 has made face masks into an essential wearable item for most people, this research seeks to understand how to improve the fit of masks using actual facial anthropometric data from over 2,000 people. This research project utilizes my background in apparel design and my current education in ergonomics.

WHAT IS ONE SURPRISING DISCOVERY YOU'VE MADE OR EXPERIENCE YOU'VE HAD IN YOUR TRAINING?

Most people, including myself, are surprised to find someone who used to work in the NYC high-fashion world studying ergonomics at a PhD level! However, I think even more surprising is how much I am enjoying learning about new things in this field—things I never thought I would learn about! Specifically, in my first semester I've really enjoyed learning about all the different occupational hazards, how to quantify them, and how to manage them.

WHAT IMPACT HAS THE MAP ERC HAD ON YOUR TRAINING?

Having the MAP ERC as a community during this program has been not only comforting, but helpful. I've found the community to be a resource, in that everyone is happy to meet to talk about my research. Because of the diverse background as well as the friendliness of the MAP ERC community, I feel supported in my educational and career pursuits.

HOW HAVE YOU BENEFITED FROM THE RELATIONSHIPS YOU'VE MADE IN THE MAP ERC?

Though relationships and coursework look a bit different due to the pandemic, I've definitely benefited from the relationships I've built with others within the MAP ERC. I've found it so inspiring to become friends with people from totally different backgrounds than my own! I've made friends with people who come from engineering, psychology, health physics, industrial hygiene, and more. By building relationships with these people, I've benefitted in being able to see different perspectives to both class and world issues.

HOW HAS COVID IMPACTED YOUR TRAINING?

This past semester was my first in the MAP ERC and Ergonomics PhD program at CSU, so the pandemic did not specifically affect my training. Though the COVID pandemic has been so unfortunate for many people all over the world, it has presented many unique opportunities for research. My research will focus on face masks: a wearable product that will likely be in many people's lives for at least the next year, if not longer. The pandemic has made face masks a part of daily life, and it has allowed for me to be able to study wearer facial anthropometrics to improve design understanding.

WHAT DOES THE FUTURE HOLD FOR YOU?

After I complete my degree program at CSU, I plan to stay in the academic world and seek out an apparel design faculty job at a university, where I can continue to do research as well as teach. Within a role like this, I hope to continue collaborations between apparel and ergonomics, and even teach students about the interdisciplinary relationship between apparel and ergonomics. Within the scholarly field of apparel, there are constantly collaborations happening, and new ideas about the impact of clothing being presented. I hope to use my education in ergonomics and safety to help me stand out as a strong candidate for a faculty position.

"Most people, including myself, are surprised to find someone who used to work in the NYC high-fashion world studying ergonomics..."

— KAYNA HOBBS

NAME:

Jacqueline Wong



PROGRAM:

Occupational Health Psychology

TELL US ABOUT YOUR MAIN PROJECT.

My work is focused on what employees, supervisors and organizations can do to support employees as they manage their work and nonwork roles. My master's thesis examined how employees can effectively communicate about their work-nonwork needs to their supervisors, and my current project explores the work and health outcomes of using a compressed work week schedule.

WHAT IS ONE SURPRISING DISCOVERY YOU'VE MADE OR EXPERIENCE YOU'VE HAD IN YOUR TRAINING?

During my internship with a labor union, I gained a better understanding of how critical unions are in supporting worker health and safety.

WHAT IMPACT HAS THE MAP ERC HAD ON YOUR TRAINING?

The MAP ERC has provided multiple invaluable practical experiences working with local organizations and an interdisciplinary team to apply our knowledge and skills.



HOW HAVE YOU BENEFITED FROM THE INTERDISCIPLINARY COURSES IN THE MAP ERC?

The interdisciplinary courses have encouraged me to constantly revisit what I know about worker health and safety and how to best evaluate problems and implement solutions. In many ways, these courses and interactions with others in the MAP ERC have made me a better critic AND proponent of OHP, its underlying assumptions, and what we can bring to the table.

HOW HAS COVID IMPACTED YOUR TRAINING?

Due to COVID, all of my training is online—and I miss being able to regularly interact in-person with folks in my program and in the MAP ERC. Although none of my current projects address COVID, I expect that the upcoming ones will at least touch on the elements regarding working from home and work-nonwork management.

WHAT DOES THE FUTURE HOLD FOR YOU?

I hope to pursue a career in applied research and policy related to improving working conditions and worker well-being.

“I hope to pursue a career
in applied research and
policy related to improving
working conditions and
worker well-being.”

— JACQUELINE WONG

NAME:

David Rojas, MD



PROGRAM:

Occupational & Environmental
Medicine Fellowship

TELL US ABOUT YOUR MAIN PROJECT.

I have recognized the need for a healthcare service that is more culturally aware and language-sensitive to the working Latino community in Colorado. My goal is to not only provide a holistic and “all-Spanish” occupational medicine service, but to also support the health and stimulate the overall well-being of this vulnerable minority. I am currently developing a Latino-specific program that will serve as a platform to perform public health interventions and research. My ultimate goal is to empower the Latino working community, while encouraging social inclusion.

“My ultimate goal is to
empower the Latino working
community, while encouraging
social inclusion.”

— DAVID ROJAS, MD

WHAT IS ONE SURPRISING EXPERIENCE YOU’VE HAD IN YOUR TRAINING?

Latinos make up to ~20% of the workforce in the U.S. and in Colorado. Yet, these numbers are only estimations due to the large number of undocumented immigrants. During my fellowship it has been alarming to see such a large volume of injured Latino workers. This is generally pushed by multiple factors and social disadvantages such as culture, education, language/communication barriers, high-risk jobs, inequity and discrimination. As a result, these communities face a constant and serious burden affecting their overall health and well-being.

WHAT IMPACT HAS THE MAP ERC HAD ON YOUR TRAINING?

The ERC has provided me with all the necessary tools and knowledge to not only advance in my education and professional growth, but to shape the person and physician that I have become.

HOW HAVE YOU BENEFITED FROM THE RELATIONSHIPS YOU’VE MADE IN THE MAP ERC?

Without the MAP ERC insight, my “Latino-workforce project” would still only be an idea. Thanks to the interdisciplinary courses, knowledge gain and networking within the MAP ERC program, this idea is taking structure.

HOW HAS COVID IMPACTED YOUR TRAINING?

When the COVID-19 pandemic outbreak happened in NYC, I was working as a surgical resident in Brooklyn, NY. I helped cover the frontlines, rotating between the emergency department and the intensive care unit. I can remember the ICU rush of never-ending alarms and codes, which led into those interminable shifts. I am humbled and thankful for the opportunity to serve many people throughout this unpredictable year.

WHAT DOES THE FUTURE HOLD FOR YOU?

Something that I have learned throughout life is to focus and live “day by day.” However, I do envision a clinical practice with a specific focus on the Latino worker. Particularly, to expand the management of musculoskeletal injuries by utilizing novel solutions in regenerative medicine within the field of occupational medicine.

NAME:

Sarah Boland, MPH

PROGRAM:

Certificate in Total Worker Health®



TELL US ABOUT YOUR MAIN PROJECT.

As a first-year candidate, I am interested in looking at the mental health benefits of anti-racist workplace policies and environments. Discrimination in the workplace has been shown to negatively impact employee health and functioning, so more inclusive and equitable workplaces are likely to bolster mental health.

WHAT IS ONE SURPRISING DISCOVERY YOU'VE MADE OR EXPERIENCE YOU'VE HAD IN YOUR TRAINING?

It has been exciting to see the intersections between methods used in community health and in occupational health. Both fields are highly participatory and tailored to the needs of each group (community or workplace).

WHAT IMPACT HAS THE MAP ERC HAD ON YOUR TRAINING?

As a doctorate student, the financial support provided by the MAP ERC is particularly meaningful. Without it, I would not be able to pursue additional coursework in this interest area.

HOW HAVE YOU BENEFITED FROM THE RELATIONSHIPS YOU'VE MADE IN THE MAP ERC?

Without the support of the MAP ERC, I would not be able to bridge departments to create a truly interdisciplinary educational experience. The MAP ERC has connected me with students and professions in other fields, such as business and environmental health, which has expanded my worldview and set of tools.

HOW HAS COVID IMPACTED YOUR TRAINING?

In addition to my classwork, I hold a research position in the Centers for American Indian and Alaskan Native Health at Colorado School of Public Health. Our community partners on both tribal reservations and in urban centers have been hit hard by COVID. Due to in-person restrictions and the crisis, much of our research has slowed down, but this time has also provided a chance to deepen our relationships with community partners. The events of the pandemic have reaffirmed my commitment to justice and community health.

WHAT DOES THE FUTURE HOLD FOR YOU?

The future, at least for the next four years, will likely include continuing my work with tribal populations, wrapping up coursework, and pursuing my dissertation. In the long term, I hope to teach at a university and practice public health on the systems level.

“The events of the pandemic have reaffirmed my commitment to justice and community health.”

— SARAH BOLAND, MPH



NAME:*Matthew Meengs***PROGRAM:**

Health Physics

TELL US ABOUT YOUR MAIN PROJECT.

I am conducting statistical research on the detection of weak radiation sources. The research is focused on spectral data (i.e. data that includes information about the radiation energy as well as total counts of radiation) and using Bayesian statistics rather than the more traditional frequentist statistics.

WHAT IS ONE SURPRISING DISCOVERY YOU'VE MADE OR EXPERIENCE YOU'VE HAD IN YOUR TRAINING?

My project requires the use of computer simulation. The programming language I am using is R, which is a language specifically designed for statistical work. I began this project with some programming experience and, even with meager knowledge, it is surprising what a powerful tool this programming language is. It has become clear that R can be used to solve essentially any health physics problem that I will encounter. This additional skill is not just useful for my current project but will be immensely useful in solving other problems later in my career.

WHAT IMPACT HAS THE ERC HAD ON YOUR TRAINING?

The MAP ERC has provided perspective on how my job is included within a larger worker health and safety narrative. I especially enjoyed the spectrums class.

HOW HAVE YOU BENEFITED FROM THE RELATIONSHIPS YOU'VE MADE IN THE MAP ERC?

I have found the interdisciplinary courses helpful in gaining a deeper understanding of other similar (and not so similar) professions related to worker safety and health. I have also met great people whom I have networked and formed great friendships with.

HOW HAS COVID IMPACTED YOUR TRAINING?

I am fortunate that COVID has not greatly impacted my training. My research does not require the use of a laboratory and all my data has been collected and is in digital form. I need only a working computer. Like many others, however, I have undoubtedly found it challenging to stay on task while working at home.

WHAT DOES THE FUTURE HOLD FOR YOU?

I most likely see myself working at the Idaho National Lab. I had a good experience there as a graduate student intern in the summer of 2019 and have heard through some back-channels that they eagerly await my return.

"The MAP ERC has provided perspective on how my job is included within a larger worker health and safety narrative."

— MATTHEW MEENGs

NAME:*Emily Cothorn***PROGRAM:**

Industrial Hygiene

TELL US ABOUT YOUR MAIN PROJECT.

My project aims to measure ambient and task-generated silica concentrations during OSHA Table 1 construction tasks. Not only will this data allow us to determine the ambient silica contribution to the overall silica exposure, but it will allow us to determine whether the current engineering controls are offering appropriate protection under the new OSHA standard.

WHAT IS ONE SURPRISING DISCOVERY YOU'VE MADE OR EXPERIENCE YOU'VE HAD IN YOUR TRAINING?

Regarding the silica research I am currently conducting, I have been surprised at how difficult it is to collect data that closely reflects the construction industry employee's actual experience and exposure.

WHAT IMPACT HAS THE MAP ERC HAD ON YOUR TRAINING?

The MAP ERC has made my training possible both financially through offering funding, as well as through the professional connections it warrants.

HOW HAVE YOU BENEFITED FROM THE RELATIONSHIPS YOU'VE MADE IN THE MAP ERC?

I have benefited greatly by the disciplinary diversity that these courses offer. This program has many ways for each student to tailor their education to reach specific goals. I have enjoyed the ability to specialize in industrial hygiene, while also shaping other skills through courses offered in the other departments.

HOW HAS COVID IMPACTED YOUR TRAINING?

COVID brought budget cuts and changes to data collection procedures that created some hurdles, but I believe that the faculty, staff, and participating members did a great job at adjusting to keep the project moving forward. During the shutdowns we lost some valuable time in the field collecting data, but I was able to put in extra hours once our project was approved to resume.

WHAT DOES THE FUTURE HOLD FOR YOU?

My goals for the future are to complete my doctoral research and publish the findings. Upon graduation I hope to secure a position working for a government research agency such as NIOSH, or perhaps Idaho National Laboratory. I am interested in policy and the research necessary to improve the current standards by which we operate in industry. I am specializing in occupational respiratory hazards such as harmful particulates or aerosols, and I aim to use my industrial hygiene background to mitigate these conditions for the betterment of our working population and public health.

“...I aim to use my industrial hygiene background to mitigate [respiratory hazards] for the betterment of our working population...”

— EMILY COTHERN, MSPH, GSP

ONLINE TOTAL WORKER HEALTH® CERTIFICATE & LEADERSHIP PROGRAMS

We are excited to announce that the fully online, 15-credit hour, graduate Total Worker Health (TWH) Certificate Program at the Colorado School of Public Health is now a NIOSH MAP ERC training program. We can now offer our students scholarships to complete the program. It is one of the few certificate programs funded by a NIOSH ERC as well as one of the few TWH graduate training programs in the country.

As a product of the Smart + Safe + Well (SSWell) study, we developed an executive-style TWH Leadership Program involving three months of in-person and virtual training and coaching. We are now pleased to offer this program to anyone who wishes to obtain in-depth, personalized training and coaching. We also created an online, 1-hour TWH leadership 101 training as well as a live 1.5-hour workshop (partially funded by a grant from the Pinnacol Foundation) that helps participants apply what they learned in the online 101 TWH leadership training to their organization.



CONTINUING EDUCATION

OVER THE PAST YEAR, OUR CENTER HAS TRAINED 7,323
PARTICIPANTS OVER 16,500 HOURS THROUGH EDUCATIONAL
ACTIVITIES INCLUDING LIVE WORKSHOPS, ONLINE COURSES,
AND CONFERENCE PRESENTATIONS.

We proudly completed the long-awaited [Occupational Health Nursing Prep Course](#) to help prepare those looking to obtain their OHN certification. We expanded our offering of Certified Health Education Specialist (CHES) courses, our most popular being [Working Off Stress](#); [Suicide Prevention in the Workplace](#); and [Leadership Skills for Managing Worker Stress and Fatigue During COVID-19](#). Our Health Links™ webinars reached 6,099 professionals, including business leaders, human resource managers, and health and safety professionals, who tuned in to gain skills across a range of topics—employee engagement, disordered eating and workplace culture, and racism in the workplace.

I THOUGHT THIS WEBINAR WAS A PERFECT BLEND OF
INFORMATION AND PERSONAL STORY. IT IS A DIFFICULT
SUBJECT, BUT ONE THAT IS SO IMPORTANT TO LEARN
ABOUT.

— ATTENDEE, *Eating Disorders in the Workplace Webinar*

I CONSIDER THE LECTURES, DETAILS
FROM EACH LESSON, AND OVERALL
EXPERT PRESENTERS TO BE THE BEST
ASPECTS OF THE OHN PREP COURSE.

— ATTENDEE, *OHN Prep Course*

THANK YOU FOR TAKING THE LEAD ON STIMULATING
THOUGHT AND DISCUSSION SO THAT CRUCIAL
CONVERSATIONS MAY BE HAD FOR THE IMPROVEMENT OF
WORKPLACES, AND THE ENJOYMENT OF EQUITY BY ALL.

— ATTENDEE, *Racism in the Workplace Webinar*

Early on in the pandemic, our center knew we needed to advise business leaders. Federal, state and local guidelines were confusing, and the overload of information was overwhelming. We quickly launched the [COVID Town Halls](#), a weekly webcast, which was attended by over 3,244 individuals across the country. Topics ranged from employee mental health and communication to supporting working parents, to PPE and workplace health and safety guidance. Most recently, our center has partnered with the Center for Bioethics and Humanities at CU Anschutz Medical Campus to launch a new monthly webinar series, *Work & Play in a Pandemic: Ethics and Occupational Health*. Topics have explored COVID's intersection with a range of areas from collegiate sports to racial inequality and politics.

**My superhero name became
the Gas and Grass Guy.**

discovering industrial hygiene

WITH MIKE VAN DYKE



WHEN HE WAS IN UNDERGRAD, Dr. Mike Van Dyke had no idea what industrial hygiene was.

He can sympathize with people who do not think it is an actual field of occupation. After earning his BS in pre-medicine from the University of Southern Colorado, Van Dyke took a brief respite from school to work at his father's office furniture company. This short stint sparked Van Dyke's interest in ergonomics, which he later decided to study.

While earning his Master's at Colorado State University (CSU), Van Dyke was introduced to the field of industrial hygiene. For Van Dyke, this was the perfect opportunity to apply his knowledge of chemistry and biology to prevent workers from getting sick or injured.

"Industrial hygiene was presented to me as the opportunity to be a scientist without having to be in a lab and without having to touch people," says Van Dyke. "It was perfect!"

At the recommendation of his professors, Van Dyke sought a job with the Tri-County Health Department after graduating. It was here that he met his longtime colleague and mentor, Dr. John Martyny. After a few years, Van Dyke left his role at Tri-County to work in the OSHA Consultation Program while also earning his doctorate in industrial hygiene at CSU.

PhD in hand, Van Dyke found his way back under the leadership of Martyny, who was working for National Jewish Health. **"John and I are some of the only people to have cooked meth legally,"** says Van Dyke. **"We cooked and smoked meth, but we never inhaled it."** The purpose of their major projects was to determine how to protect law enforcement from exposure to meth and marijuana.

Later, at the Colorado Department of Public Health and Environment, Van Dyke was researching the public

health effects of two hot topics at the time—marijuana and fracking. "My superhero name became the **Gas and Grass Guy**," says Van Dyke. In addition, he helped rewrite the law on reportable diseases to take into account the health effects from environmental exposures.

Van Dyke, who had been teaching a course in the Environmental and Occupational Health Department at the Colorado School of Public Health (ColoradoSPH) since 2009, joined the Center as the continuing education director in July of 2019.

As is clear from his career history, Van Dyke thrives in the variety of opportunities industrial hygiene affords him. **He never does any one thing all the time.** While he leads the Center's continuing education efforts for working professionals, Van Dyke continues to teach at ColoradoSPH as well as participate in research and consult businesses in workplace health safety.

Since the COVID-19 pandemic, Newman and Van Dyke have been advising employers, including one of America's largest meatpacking companies, on how to keep workers and products safe from the spread of the novel coronavirus. As more businesses reopen their doors and employees return to work, Van Dyke's expertise in workplace hygiene has been called upon regularly.

"As a public health and safety professional in an academic environment, when you have a huge public health issue like this pandemic, you feel like you should be out on the front lines somehow. You almost feel antsy if you can't do anything," says Van Dyke. **"The consulting we've done around COVID-19 has allowed me to go out and practice public health and do my part."**

**Workers are the most important
asset a company has...**

remaining hopeful

WITH GWEN FISHER



COVID-19 HAS HIGHLIGHTED SOMETHING Dr. Gwen Fisher has always known to be true: worker health and well-being is important.

Throughout childhood, Gwen wanted to be a medical doctor, but during high school, she became interested in psychology as another avenue for helping people. “In college I discovered industrial-organizational psychology. As someone who worked part-time jobs, I identified with the subjects (work motivation, leadership, personnel selection, performance appraisal/performance management, etc.),” says Gwen. “I enjoyed how these topics applied psychology to solve practical problems to improve the workplace and individuals.”

As a result of her growing passion for supporting the worker, Gwen opted to specialize in occupational health psychology during the last two years of graduate school and earned her doctorate in industrial/organizational psychology (psychology applied to work settings). The average full-time working adult spends half of their waking life at work. In light of this staggering amount of time spent, Gwen believes that **“it behooves us to design work and the work environment in a way that is beneficial for worker health and well-being.”**

Gwen has been the program director for the [Occupational Health Psychology program](#) at the Mountain & Plains Education and Research Center (MAP ERC), housed at Colorado State University in Fort Collins, CO, for over six years. Her commitment to the program is grounded in appreciation for the people she works with and “the opportunity to make a real difference for workers in our region. I am thrilled and fortunate to work with such outstanding colleagues and students.”

Gwen’s courses and research primarily focus on the health and well-being of older workers and the work/non-work interface, including work/non-work conflict, enhancement, and work/life balance.

The MAP ERC’s interdisciplinary nature is unique among graduate programs and is one of the reasons Gwen finds it so impactful for students. “I am always struck by the strength of the research collaborations across our various fields of study and the opportunities to collaborate on projects serving organizations in our region,” she says.

While continuing to conduct research on multiple topics under the umbrella of occupational health psychology, Gwen and her students have also conducted webinars for local organizations to address the impact of COVID-19 on employee mental health and well-being—a top concern of businesses across the country. The stressors of at-home online learning for many working parents have disrupted the way they function in all areas of life, most certainly in work. **“COVID-19 has brought higher levels of work-related stress for multiple reasons,”** says Gwen. “It has changed the nature of work itself (e.g. increased workload), and has brought economic insecurity/job insecurity, and far too much work/non-work and work/family conflict.”

Gwen hopes that the pandemic will lead business leaders, organizations, and workers to more effectively prioritize worker safety, health, and well-being. “I hope that we have learned the importance of taking care of their employees—**workers are the most important asset a company has, but too often one that is treated as expendable,**” says Gwen. “By investing in and taking care of their employees, businesses can be more successful in the long run and benefit society as a whole.”

For the future of the MAP ERC OHP program, and considering the current climate, Gwen remains hopeful. “I look forward to working collaboratively across disciplines to solve occupational health issues for organizations and workers and identifying new areas of overlap across fields that really facilitate occupational health research and practice.”

FY 2020

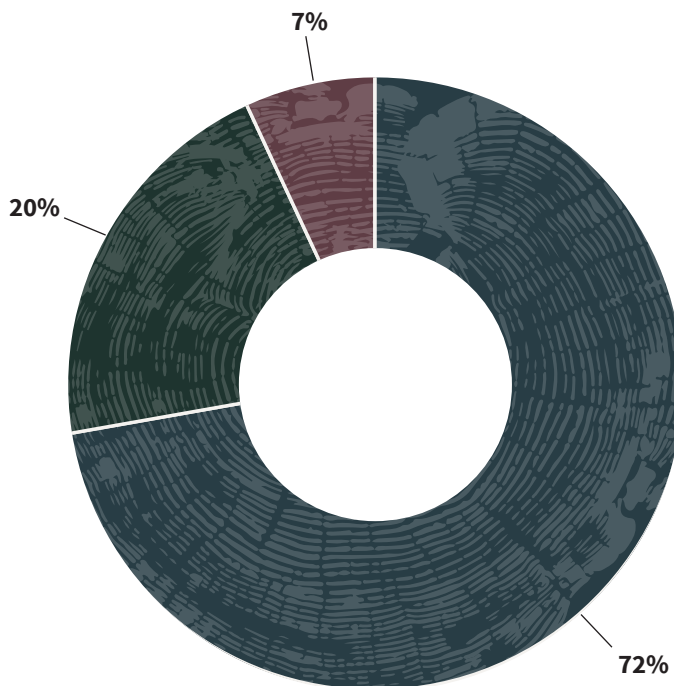
financials

REVENUE

FY20 total

\$4,733,634

*FY20 runs July 2019–June 2020

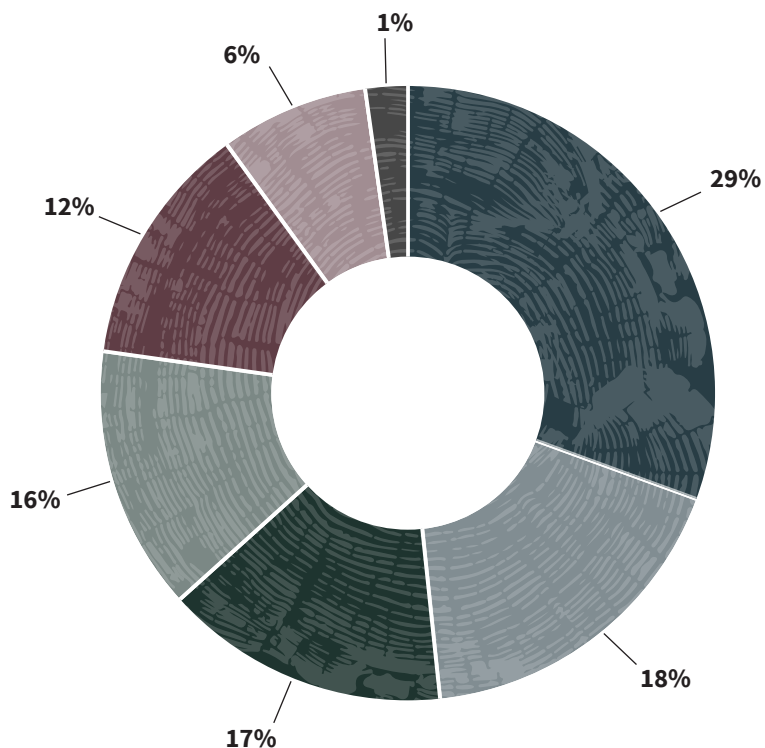
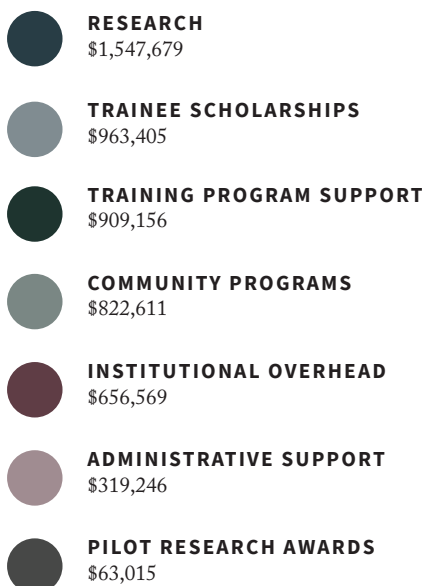


EXPENSES

FY20 total

\$5,324,304

*FY20 runs July 2019–June 2020





"We strongly believe in taking care of our employees. We don't want to lay anyone off. We don't want to reduce anyone's hours. People have to live through this. If you feel sick, stay home. You'll still get paid. If you're scared to come to work, stay home. We'll take care of you."

BRETT HEKKERS *Manager, Choice Market*

*We are
grateful.*

While this year has not been without its challenges, our center has found many reasons to celebrate. We celebrated our partners and local organizations who have remained committed to worker health and safety in our first annual recognition event and our 12th annual Health Links' Colorado's Healthiest Places to Work awards. The Governor of Colorado helped us celebrate workers by proclaiming August 20, 2020, Colorado's Total Worker Health® Day. We celebrated the hard work and research of students during Research Day. Our staff made noteworthy personal achievements—Lee Newman became a distinguished professor and Lili Tenney earned her Doctorate in Public Health. Lee Newman and his wife, Lori Szczukowski, generously established the Endowment Fund for Worker Health, which will be cause for celebration for years to come. We also celebrated the life and achievements of a dear friend and champion of worker safety who passed away this year at age 90, Eula Bingham.

IN LOVING MEMORY

SUPPORTERS

Chancellor for the University of Colorado Anschutz Medical Campus | Colorado Department of Public Health and Environment (CDPHE) | Harold and Robert Hollis Family Trust | Lee Newman and Lori Szczukowski | National Institutes of Health | National Institute of Environmental Health Sciences (NIEHS) | National Institute for Occupational Safety and Health (NIOSH) | Oak Ridge Associated Universities (ORAU) | Pantaleon | Pinnacol Assurance

PARTNERS

American Industrial Hygiene Association – Rocky Mountain Section | American Society of Safety Professionals | Association of American Subcontractors | Association for Occupational Health Professionals in Healthcare | Center for Bioethics and Humanities at the University of Colorado | 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 Safety Association | Colorado School of Public Health | Colorado Small Business Development Center Network | Colorado State University | Denver Health | Health Physics Society | Helen and Arthur E. Johnson Depression Center | High Plains Intermountain Center for Agricultural Health & Safety | Johns Hopkins University Education and Research Center for Occupational Safety and Health | National Jewish Health | Rocky Mountain Academy of Occupational and Environmental Medicine | The Center for Construction Research and Training | Tri-County Health Department | United Way for Greater Austin

PHOTOGRAPHY

In the COVID-19 era, we wanted to capture the new realities many workers face. Our own Amanda Kujawa took to the field—masked and distanced—to capture these powerful images.

Tomàs Bernal

The photos in this report capture the workforce of our region, highlighting the people behind the work. Their industries, backgrounds, and experiences may be diverse, but they share a common pride in their work that inspires the Center to continue our own work in support of them. Photographer Tomàs Bernal is a senior at the University of Colorado Denver, studying visual media production and marketing. Working on building his portfolio, Tomas seeks out projects that nurture his love for exploring the human condition.

Featured in this report

The Human Bean, Health Links Certified Healthy Workplace™ | Bikes Together | Douglas County Library, Health Links Certified Healthy Workplace™ | Landmark Tattoo | Choice Market



SUPPORT OUR MISSION bit.ly/CHWE_giving



coloradosph.cuanschutz.edu/chwe



[/company/chwe](https://www.linkedin.com/company/chwe)



[@chwenews](https://twitter.com/chwenews)



[@chwenews](https://www.facebook.com/chwenews)

This publication was supported, in part, by grant T42OH009229 and cooperative agreement U19OH011227, 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.

The images in this report reflect the real experiences of workers and do not necessarily reflect occupational health and safety regulations or best practices. We collaborate with employers to improve all health and safety conditions, striving to reach as many workers as possible.