

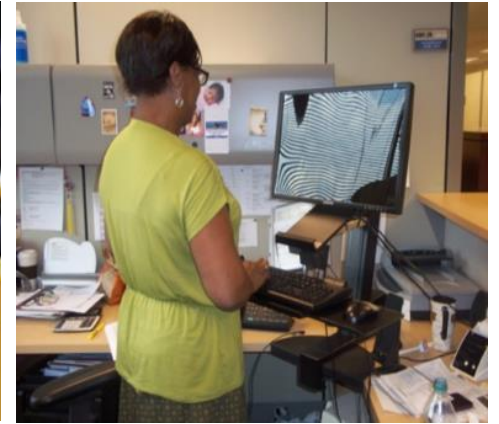
Looking Forward, After Looking Back with a Total Worker Health Lens

Lauralynn Taylor McKernan, ScD CIH



Acknowledgements

- Casey Chosewood
- Paul Schulte
- Todd Niemeier
- Larry Sloan
- Fred Boelter
- Eric Glassford
- Kat Navarro



Disclaimer

The findings and conclusions in this presentation have not been formally disseminated by the National Institute for Occupational Safety and Health and should not be construed to represent any agency determination or policy.



Presentation Overview

- Total Worker Health
- Total Worker Health + this year
- What have we done and learned?
- Where do we go from here? (Interactive time)
- What will be different?
- Are we ready for the new challenges?



Total Worker Health[®] Approach Defined

Policies, programs, and practices that **integrate** protection from work-related safety and health hazards **with** promotion of injury and illness prevention efforts to advance worker well-being



Total Worker Health[®]

Keep Workers Safe



**Establish workplace policies, practices and programs
that grow health**



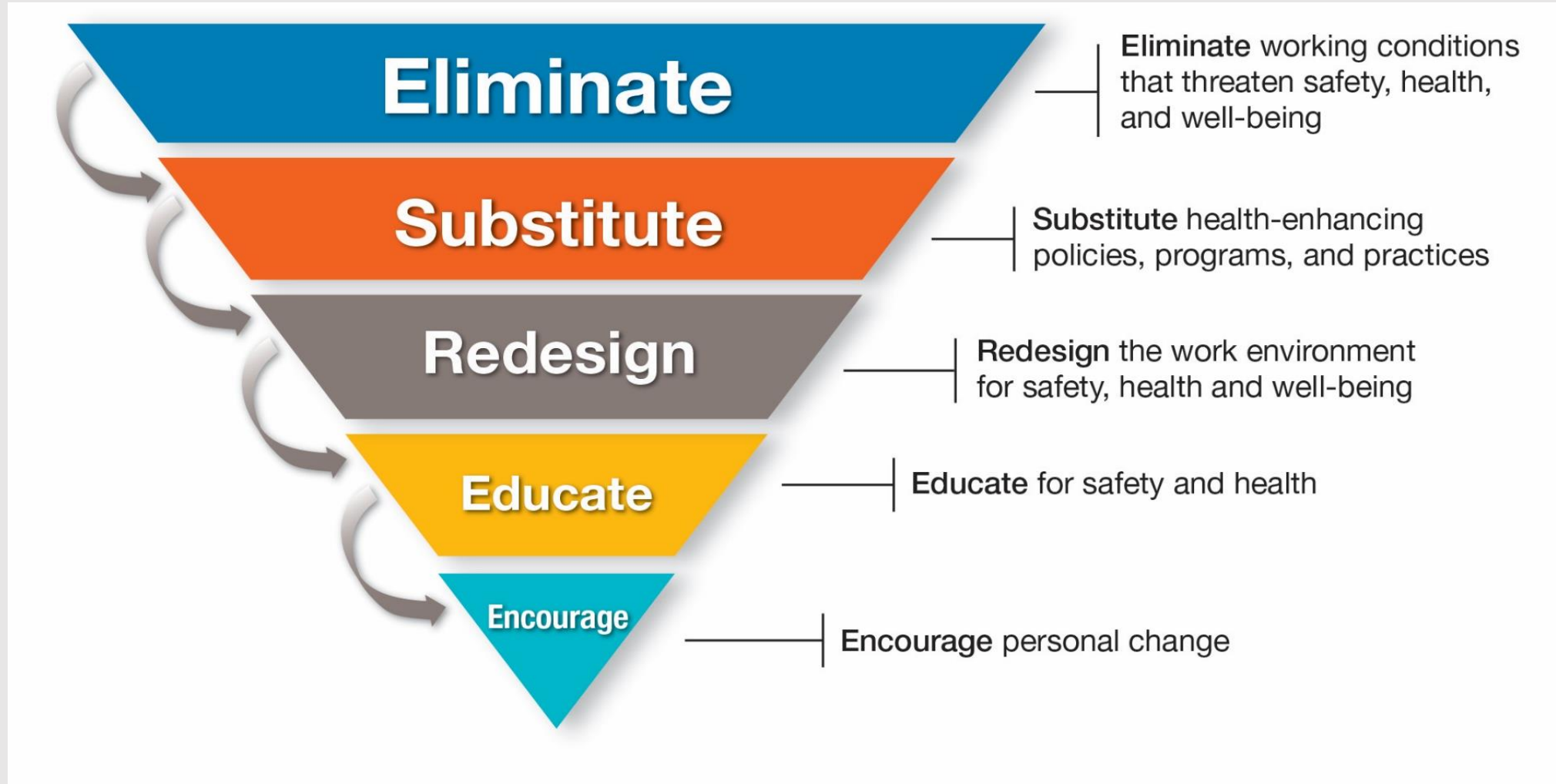
Create Worker Well-being

Total Worker Health® Approach Explained

- Builds on NIOSH efforts to keep workers safe
- Broadens worker safety and health efforts to include other factors influencing health risks on/off the job
- Comprehensive focus on higher quality work, better-designed work
- Takes a systems approach
- Views organization of work as a strong exposure/opportunity
- Participatory, worker-centered
- Focuses on evidence-based research
- Provides holistic solutions for workers and employers



Hierarchy of Controls Applied to TWH





Today's workers still face many hazards from work, some traditional, some new.

Why do we need holistic approaches?

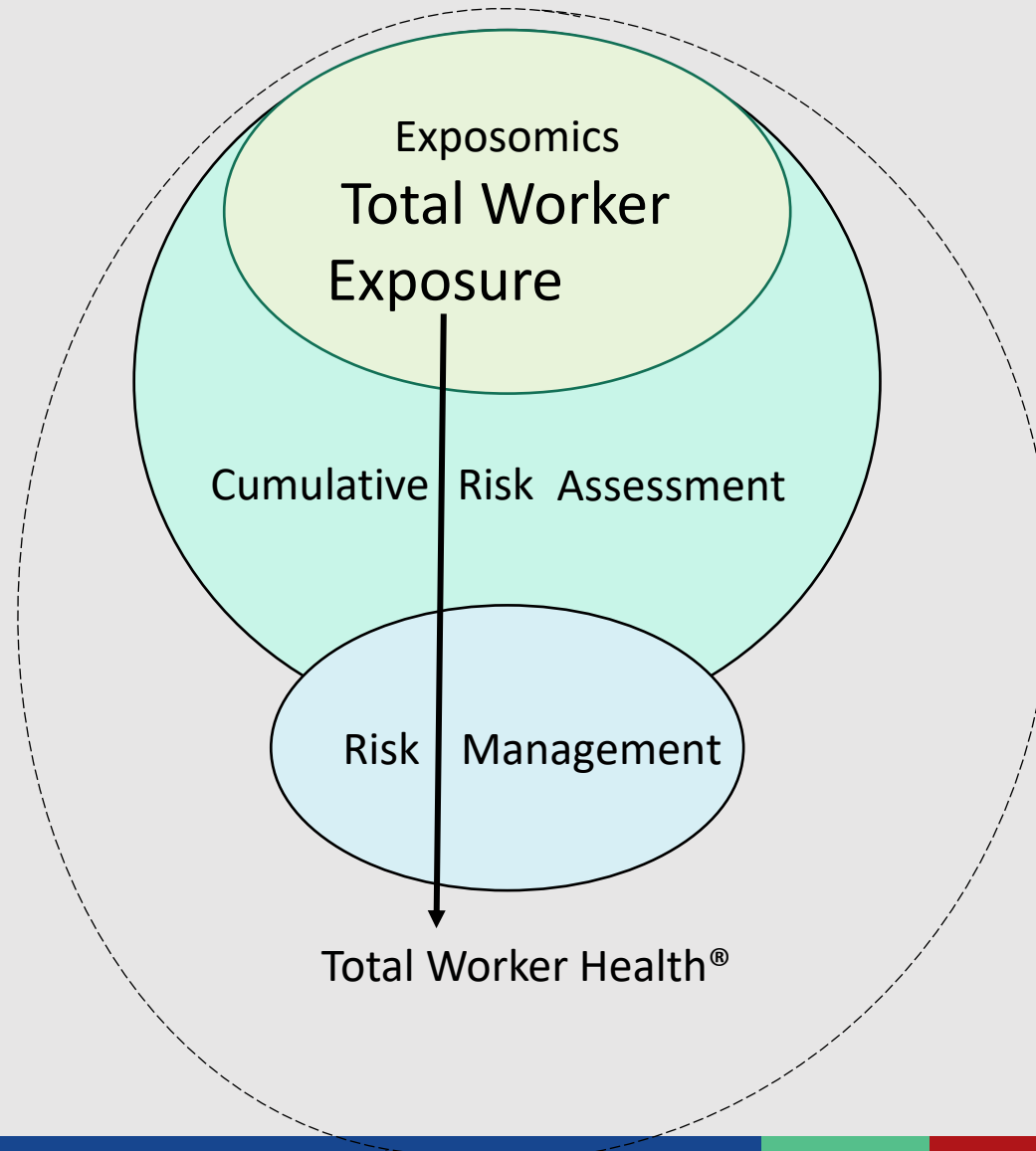
- Total Worker Exposure (TWE)
- Total Exposure Health (TEH)
- Cumulative Risk Assessment
- Total Worker Health[®] (TWH)

Total Exposure Health vs Total Worker Health

- Total Exposure Health is a strategy to evaluate individuals' exposures to hazards at work, from the environment, and lifestyle choices, integrating these evaluations with health promotions initiatives to better ensure the long-term health of the individual
- Total Worker Health is the policies, programs, and practices that **integrate** protection from work-related safety and health hazards **with** promotion of injury and illness prevention efforts to advance worker well-being



Overview of holistic approaches to protect workers



Chronic Diseases Known to be Related to Work

(at least some of the time)

Cancer

- Lung (& bronchus): 5-10%
- Mesothelioma: 75-98%
- Bladder: <1%
- Leukemia: 2%
- Laryngeal: 1-3%
- Melanoma (skin): 3-8%
- Sinonasal & nasopharynx: 12-19%
- Kidney (& renal pelvis): <1%
- Liver: <1%

Non-cancer

- Pneumoconiosis: 100%
- Asthma: 11-26%
- COPD: 22%
- Coronary Heart Disease: 8-21%
- Tuberculosis: 5%
- Hepatitis B: <1%
- Hepatitis C: <1%
- Hearing Loss: 2-11%

In blue, the attributable fraction (AF): based on % of population exposed and relative risk (RR)





BOOM

Poll: What kind of workplaces requested technical support?

- Mining
- Food processing
- Agricultural sectors
- Manufacturing
- Protein processing facilities
- Mushroom manufacturing
- Schools
- Prisons
- Courthouses
- Healthcare
- Wildland firefighters

All of the above



Interim Guidance

Interim Guidance for Businesses and Employers Responding to Coronavirus Disease 2019 (COVID-19), May 2020

Plan, Prepare and Respond to Coronavirus Disease 2019

[Other Languages](#) [Print Page](#)

Older adults and people who have severe underlying chronic medical conditions like heart or lung disease or diabetes seem to be at higher risk for developing more serious complications from COVID-19 illness. [Find more information here.](#)

Summary of Changes to the Guidance:

Below are changes as of May 6, 2020

- Updated strategies and recommendations for employers responding to COVID-19, including those seeking to resume normal or phased business operations:
 - Conducting daily health checks
 - Conducting a hazard assessment of the workplace
 - Encouraging employees to wear cloth face coverings in the workplace, if appropriate
 - Implementing policies and practices for social distancing in the workplace
 - Improving the building ventilation system
- A table outlining the engineering controls, administrative controls, and personal protective equipment (PPE) that employers may use to help prevent the spread of COVID-19 in the workplace

CDC Industry Guidance

- [Resources for Airlines](#)
- [Resources for the Ship Industry](#)

OSHA/HHS Guidance

- [Guidance on Preparing Workplaces for COVID-19](#)

Manufacturing Workers and Employers

Interim Guidance from CDC and the Occupational Safety and Health Administration (OSHA)

[Other Languages](#) [Print Page](#)

On This Page

[Exposure risk among manufacturing workers](#)

[Controls](#)

[Create a COVID-19 assessment and control plan](#)

Manufacturing facilities are an integral part of the United States' supply chain. Some facilities are part of the [critical manufacturing sector](#), identified by the U.S. Department of Homeland Security's Cybersecurity and Infrastructure Security Agency. CDC's [Critical Infrastructure Guidance](#) advises that critical infrastructure workers may be permitted to continue work following potential exposure to coronavirus disease 2019 (COVID-19), provided they remain asymptomatic, have not had a positive test result for COVID-19, and additional precautions are implemented to protect them and the community. Facilities that are not part of the critical manufacturing sector should follow the [CDC Public Health Recommendations for Community-Related Exposure](#) following a workers' potential exposure to COVID-19.

All manufacturing facilities developing plans for continuing operations in the setting of COVID-19 occurring among workers or in the surrounding community should:

1. Work directly with appropriate state and local public health officials and occupational safety and health professionals;
2. Incorporate relevant aspects of CDC guidance, including but not limited to this document and the CDC's [Critical Infrastructure Guidance](#); and
3. Incorporate guidance from other authoritative sources or regulatory bodies as needed.

Manufacturing Industries and Industrial Facilities

- Apparel and Footwear
- Battery Manufacturing
- Chemical Manufacturing
- Concrete and Concrete Products
- Fireworks
- Food Processing
- Lead Smelters
- Lubricant Manufacturing
- Metal Manufacturing
- Plastics Industry
- Furniture Manufacturing
- Automobile Manufacturing
- Printing Industry
- Pulp, Paper, and Paperboard Mills
- Semiconductor Industry
- Textiles
- Wood Product Industry

COVID-19 Employer Information for Office Buildings

[Other Languages](#) [Print Page](#)

Workers in office buildings may be at risk for exposure to the virus that causes coronavirus disease 2019 (COVID-19). Office building employers, building owners and managers, and building operations specialists can take steps to create a safe and healthy workplace and protect workers and clients.

Create a [COVID-19 workplace health and safety plan](#).

- Start by reviewing the [CDC Interim Guidance for Businesses and Employers](#). This will provide guidelines and recommendations that all employers can use to protect their workers and clients.

Before resuming business operations, check the building to see if it's ready for occupancy.

- Ensure that ventilation systems in your facility operate properly. For building heating, ventilation, and air conditioning (HVAC systems) that have been shut down or on setback, review new construction start-up guidance provided in [ASHRAE Standard 180-2018, Standard Practice for the Inspection and Maintenance of Commercial Building HVAC Systems](#).
- Increase circulation of outdoor air as much as possible by opening windows and doors, using fans, and other methods. Do not open windows and doors if doing so poses a safety or health risk for current or subsequent occupants, including children (e.g., allowing outdoor environmental contaminants including carbon monoxide, molds, or pollens into the building).
- Evaluate the building and its mechanical and life safety systems to determine if the building is ready for occupancy. Check for hazards associated with prolonged facility shutdown such as [mold growth](#), [rodents or pests](#), or [issues with stagnant water systems](#), and take appropriate remedial actions.



<https://www.cdc.gov/niosh/>



Kathleen Navarro, PhD, MPH

knavarro@cdc.gov | 513-841-4257

2020 Wildfire Season

- **Guidance and recommendations for COVID-19**
 - CDC FAQs for Wildland Firefighters
- **Wildfire Deployments**
 - Arizona (June) - assessed COVID-19 mitigations at the Bighorn wildfire
 - Oregon (Sept) - evaluated occupational and public exposure to wildfire smoke
 - Navarro K, Vaidyanathan A. Notes from the Field: Understanding Smoke Exposure in Communities and Fire Camps Affected by Wildfires— California and Oregon, 2020. MMWR 2020;69:1873–1875.
- **Wildfire Smoke and COVID-19 Risk**
 - Exposure to smoke may influence the risk of SARS-CoV-2 infection and severity of COVID-19 illness.
 - Navarro KM, KA Clark, DJ Hardt, CE Reid, PW Lahm, JW Domitrovich, CR Butler, JR Balmes. Wildland Firefighter Exposure to Smoke and COVID-19: A New Risk on the Fire Line. Sci Total Environ. 2021. Mar 15;760:144296.

Wildland Firefighters & COVID-19

Wildfires are dangerous and pose several hazards to firefighters. COVID-19 is another hazard wildland firefighters must be aware of. Here are actions wildland firefighters can take to prevent the spread of COVID-19:



Wear a Cloth Mask

- Cover your mouth and nose with a cloth mask during non-arduous fire operations when in contact with people outside your module or crew



Cover Coughs

- Cover your mouth and nose with a tissue when you cough or use the inside of your elbow
- Dispose of used tissues appropriately and wash your hands



Practice Social Distancing

- Stay at least 6 feet apart from others outside your module or crew, when possible
- Use radios, remote units, and virtual technology in place of person-to-person communications



Clean and Disinfect

- Regularly clean and disinfect shared areas and high touch surfaces in workspaces, living spaces, vehicles, and on equipment, making sure to wear appropriate personal protective equipment (PPE) and follow cleaning and disinfectant product instructions
- Disinfect equipment and PPE according to manufacturer guidelines and limit equipment sharing, when possible



Wash Your Hands Often

- Wash your hands with soap and water for at least 20 seconds, especially if visibly dirty
- If soap and water are not available, try to remove visible dirt and grime with a wipe before using hand sanitizer with at least 60% alcohol
- Avoid touching your eyes, nose, and mouth



Monitor Your Health Daily

- Rest and get proper hydration and nutrition
- Know the symptoms of COVID-19 and self-monitor for symptoms daily
- Let your supervisor know if you are experiencing symptoms to prevent spreading COVID-19 to others



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

For more information on how to stay safe
at work, visit

www.cdc.gov/coronavirus



IPA Assignees

- Increase current NIOSH capacity to provide technical assistance
- 47 Interagency Personnel Act (IPAs) agreements w/ 27 Universities/Centers
- 23 states + territory
- Wide areas of expertise, some examples:
 - Exposure Assessment
 - Risk/Hazard Evaluation and Mitigation
 - Engineering Controls
 - Epidemiology
 - PPE
 - Education and Training
 - Guidance Development

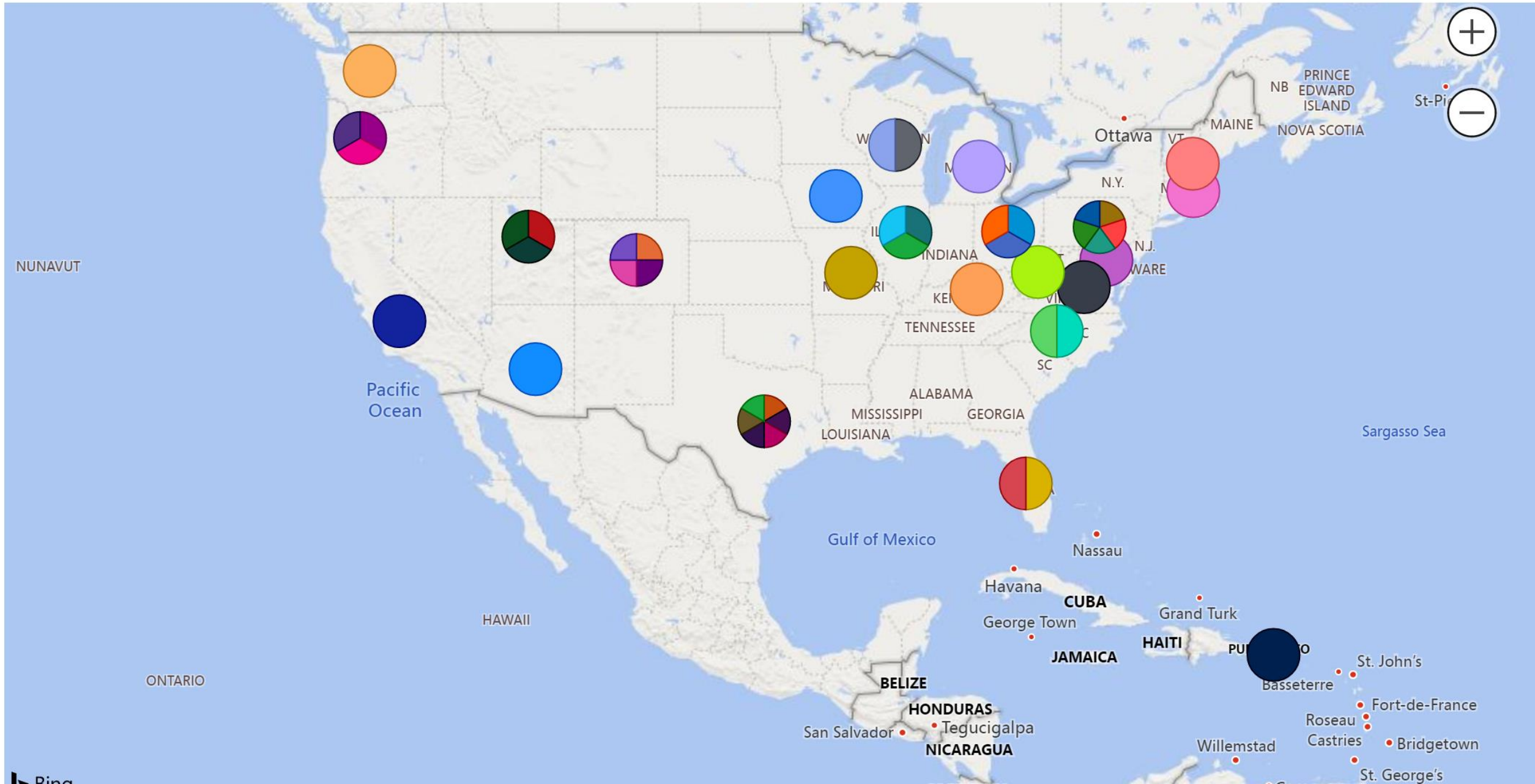
Purpose of IPA Program

Assist employers, workers, government and public health officials with responding to the COVID-19 pandemic:

- Provide virtual assistance to local health departments and businesses
- Assist with speaking engagements, podcasts
- Conduct outreach or education and training
- Join NIOSH on site visits
- Assist on NIOSH guidance
- Conduct specialty research on targeted areas of interest
- Topical outreach



Assignee ● Armenti,... ● Baker, ... ● Ball, Cyn... ● Benishe... ● Bonney,... ● Butler-D... ● Caballos... ● Caban-... ● Cali, Sal... ● Caporali... ● Casanov... ● Choi, Sa... ● Dale, Ann



IPA projects centered on variety of issues

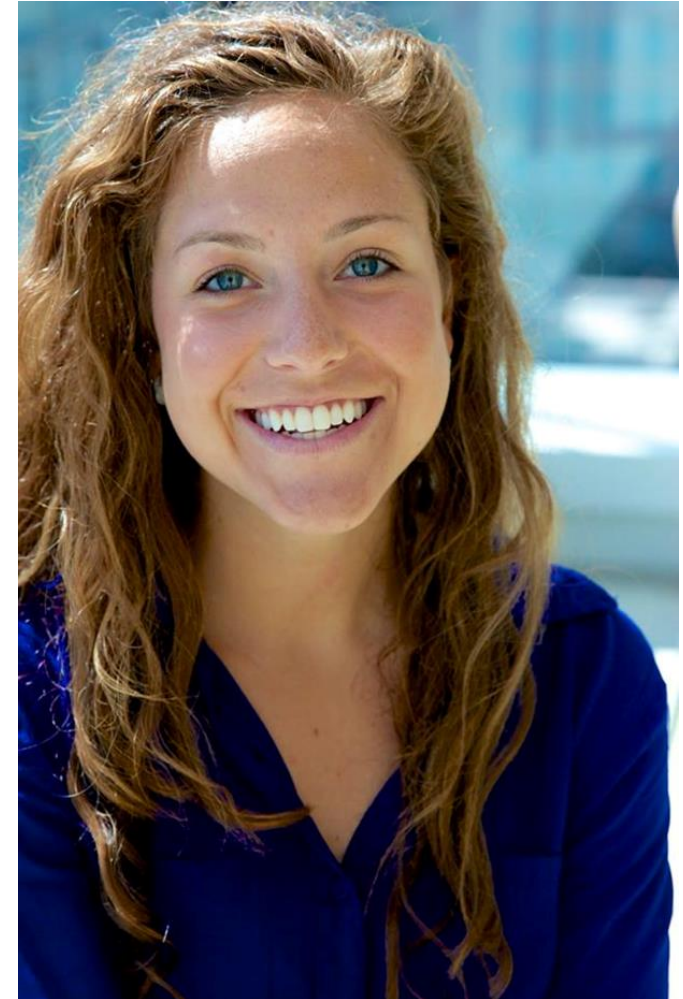
- Survey on knowledge, attitudes, beliefs, issues likely to affect acceptance of COVID-19 vaccination
- Determine facilitators and barriers to testing workers and factors which enhance or support testing workers for SARS-CoV-2
- Create small business webinar series on SARS-CoV-2 transmission, hazard mapping, and technical assistance per business/industry specific needs
- Identify gaps in current infection control (IC) protocols for the public safety sector (first responders, fire, police, 911 communication centers, EMS)
- Agriculture/Fishing: Needs assessment fishing vessels, seafood workers, mariners
- Construction-related efforts: Fact sheets, informational materials, outreach, engineering controls, ventilation, PPE, etc.

Quarter 1 Impact – Overall summary

- CDC guidance document reviews and input provided
- Presentations to a variety of stakeholders
- Literature reviews on a variety of topics
 - COVID-19 education materials
 - COVID-19 hazards and prevention methods among autopsy and mortuary workers
- Mental health and COVID-19 survey for mariners
- Guidance for virtual home office workers and ergonomic hazards
- Technical assistance to small business owners in vulnerable populations
- Networking and collaboration efforts

Quarter 1 Impact – Highlights – Tessa Bonney

- Tessa Bonney
PhD, MPH
University of Illinois at Chicago
- Expertise in occupational health and safety, industrial hygiene, and precarious employment.



Quarter 1 Impact – Highlights – Tessa Bonney

- Reviewed COVID-19 employer & employee safety checklists – provided feedback on language and alignment with hierarchy of controls; added relevant items
- Reviewed The Center for Construction Research and Training (CPWR) COVID exposure control planning tool – aligned with hierarchy of controls, added additional links to resources and language for contractors without OS&H experience
- Gathered examples of communication strategies for promotion of health and safety best-practices for construction workers
- Drafted NIOSH science blog communication summarizing OS&H best-practices for small construction firms

Quarter 1 Impact – Highlights – Diana Ceballos

- Diana Ceballos
Assistant Professor
Boston University School of Public Health
Boston
- Expertise and Interests: Exposure Sciences, Environmental Sampling, Biomonitoring, Occupational and Environmental Health, Personal Protective Equipment, Education and Outreach, New technologies, Vulnerable Populations



Quarter 1 Impact – Highlights – Diana Ceballos

- “Developing critical partnerships to reach limited-English proficient Latinx essential workers for COVID-19 vaccine promotion and distribution”
- “Developing critical partnerships to reach limited-English proficient meat/poultry/seafood processing workers during emergencies – Demonstration project”
 - Assisted numerous meetings on the project and assisted with technical expertise in the planning stages of the project
 - Data and intervention committees joined to further contribute to specific plans as they develop further
 - Extensive literature review on any COVID-19 educational materials, and any specific to the meats industries, exploring the peer-review literature, grey literature, news, and non-profit and health department websites
 - A library of articles created in the peer review literature related to COVID-19 or similar infectious diseases that is relevant to meatpacking workers

Quarter 1 Impact – Highlights – Marissa Baker

- Marissa Baker, PhD
Assistant Professor
Environmental & Occupational Health
Sciences
University of Washington, Seattle
- Expertise and Interests: General IH and
exposure assessment, risk communication,
vulnerable workers, burden of occupational
exposure



Quarter 1 Impact – Highlights – Marissa Baker

- Mental health and COVID-19 survey for mariners, working with the COVID-19 Working Group (C-19 WG) of the federal interagency U.S. Committee on the Marine Transportation System (CMTS)
 - Survey is part of a larger effort to characterize mental health in mariners, and the impacts COVID-19 has had in exacerbating mental health outcomes
 - The results used by federal agencies, vessel owners/operators, mariner unions, maritime training institutions, seafarer welfare organizations and MTS stakeholders to develop effective solutions that benefit our mariner's mental health
 - A final report will be developed, as will guidance for mariners about how to manage mental health symptoms during COVID-19, and how to access health both when ashore and at sea

Quarter 1 Impact – Highlights – Tran Huynh

- Tran Huynh, PhD, CIH
Assistant Professor
Dornsife School of Public Health, Drexel
University Philadelphia, PA
- Areas of expertise: occupational hygiene,
development of community-based
occupational health intervention program to
help immigrant-owned small businesses
(Vietnamese nail salons)



Quarter 1 Impact – Highlights – Tran Huynh

- Meetings with founders of the National Nail Association of America (NNAA) (nnaa.org)
 - Discussed educational programs initiatives related to COVID and other health and safety topics for future programs next year
 - Accepted as honorary member and moderator for private NNAA Facebook group to help answer questions related to health and safety in nail salons. The group currently has close to 1000 Vietnamese nail salon owners from all over the states and other countries
 - Answered questions and posted relevant COVID-19 news and guidance for their members to follow
- Collaborated with the NNAA host to offer COVID-19 webinar focusing on de-mystifying contact tracing and what to do if you have a positive case in the salon
 - Event was live streamed on Facebook on Nov 17th and was in Vietnamese
- Collaborated with Vietlead and the Philadelphia Department of Labor to host a COVID-19 webinar focusing on Philadelphia COVID-19 testing sites, community resources for COVID-19 infected individuals, and paid sick leave regulations for Vietnamese small businesses and workers
 - Event took place on Dec 10th, 2020 and was in Vietnamese
- Provided individual consultations to two Vietnamese nail salon owners (in WI and CA)
 - Individuals were NNAA members



More connections coming

Poll: How has the profession changed this year?

- Communication
- Flexibility of workplace
- Workplace equity
- Digital divide
- Highlighted climate change
- Impact of automation
- Relaxed attire
- Learning opportunities altered
- Blurred line between work and home

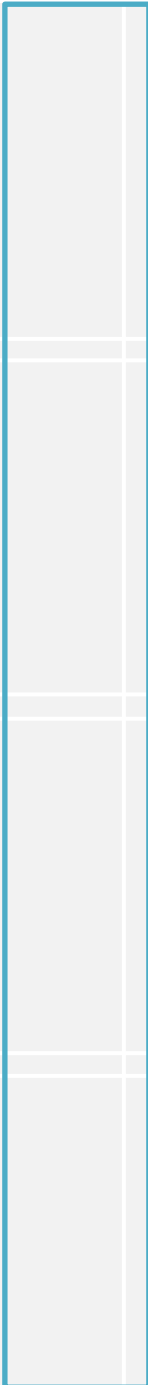
Work

Home

Poll: What are the greatest challenges facing the profession?

- Risk communication
- Rebuilding trust
- Mental health issues
- Rapid evolution of technology
- Emerging scientific issues
- Attracting and keeping talent
- Privacy and security
- *Write in other issues in chat*





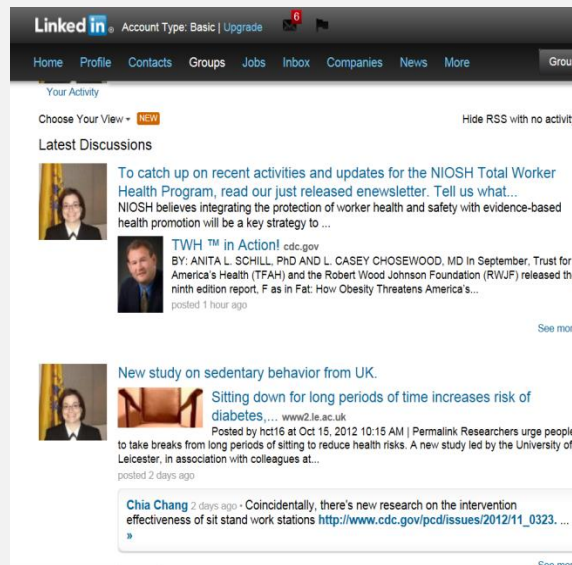
How Can You Connect to *Total Worker Health*®?

Google us or send an email TWH@cdc.gov

Twitter ([@NIOSH_TWH](https://twitter.com/NIOSH_TWH))



LinkedIn ([NIOSH Total Worker Health](https://www.linkedin.com/company/NIOSH_TWH))



TWH in Action! e-Newsletter

