

Occupation is a social determinant of health.

Wildfires Make Dangerous Air For Farmworkers: 'It's Like You Can't Breathe'



CDC: Farmworkers die 20 times more than other workers from extreme heat

Lost Both Arms and a Leg: Life and Death for Farmworkers

AGRICULTURE

Farmworkers face illness and death in the fields

'The reality is that the machinery of growers is taken better care of than the lives of farmworkers.'

What Happens if America's 2.5 Million Farmworkers Get Sick?

Their cramped living and working conditions threaten their health and the nation's food supply.



Farmworkers are risking their lives to feed a nation on lockdown.



Farmworkers at risk for obesity, high blood pressure

Farmworkers are dying in extreme heat. Few standards exist to protect them

Undocumented Farmworkers Are Refusing COVID Tests for Fear of Losing Their Jobs

What Are PFAS, and How Do These "Forever Chemicals" Impact Farmworker Communities?

COVID-19 community outreach, education, vaccination, training, resources



2020-2021

CDC/National Center for Farmworker Health
Rodriguez, PI
\$44,012

1,000 PPE kits, in-person education to >900 ag workers, and facilitated the on-farm vaccination of >1,000 (first dose) worker & families.



2021-2022

CDC/Reach, Immunizations, System Change for Equity (RISE)
Rodriguez, PI
\$350,000

*Gave rise to **Sembrando el Sueño**, a program that provides services to ag workers in upper 26 counties of Panhandle*



2021-2023

Texas DSHS/Texas A&M Health
Rodriguez, PI
\$372,674

Three phases: >1,200 on-farm vaccines, >4,770 door-to-door education, & social media campaign 31 rural counties, 61 zip codes in Texas



2021 - 2025

Texas Epidemic Public Health Institute (TEPHI)
Rodriguez, Program Lead
Small Rural Healthcare
>\$400,000 (program)

Created and distributed 30,000 rural county resource lists in the Panhandle, El Paso, RGV.



2022-2023

OSHA Susan Harwood Training Program
Rodriguez, PI
\$160,000

Vaccine-preventable infectious disease training for >1,000 ag and bodega workers in the RGV (English, Spanish, Nahuatl).



2023-2024

USDA Farm and Food Worker Relief Program
Rodriguez, PI
\$231,000 (program)
\$3,000,000 (relief payments)

Provide \$600 relief payments to 5,000 ag workers in TX, NM, KS, and ID.

>4.5 million USD leveraged for dairy worker health, safety, and well-being in Texas (2020 – 2024)

Reported needs

*Diabetes type 2, hypertension, musculoskeletal (MS) pain, dental hygiene problems, undiagnosed/untreated mental health disorders, social isolation, **infectious diseases***

Systemic barriers to health service access

- **Cost, lack of health insurance**
- **Communication, culture, literacy** (*lack of English-proficiency; indigenous languages*)
- **Conflicting work schedules** (*dawn-to-dusk*)
- **Lack of childcare**
- **Limited knowledge of health center locations**
- **Lack of specialty services in rural regions** (*health 'deserts' | medically underserved*)
- **Transient lifestyles** (*im/migration*)
- **Lack of [public] transportation**
- **Fear of law and immigration enforcement** (*deportation; incarceration*)



U.S. Dairy Industry



- Non-seasonal (*365 days a year, 7 days a week, 24-hours a day*)
- Integrated system with inherent hazards (*injury prone*)
- >90% family owned & operated
- High dependency on foreign labor (*increase in H2A, TN visas*)

Dairy Workers

- Immigrant
- Hispanic
(*Mexico, Guatemala*)
- Male
- 30-35 yrs of age
- < 5 yrs in U.S.



- Limited English-proficiency
(*Spanish, K'iche'*)
- Limited literacy
(*3rd - 6th grade levels*)
- Living below poverty level

Category of cattle exposure *(Torres-Gonzalez et al., 2013)*

- Limited understanding of TB among dairy workers
 - LTBI *(Rodriguez et al., 2020)*
 - TB knowledge *(Rodriguez et al., 2021)*
 - Occupational exposures *(Rodriguez et al., 2021)*
- Proxy exposure – category of cattle exposure (particular job tasks)
 - Can be applied to H5N1 – prevalence, knowledge, occupational exposures, etc.

Category	Definition	Job positions
High	Direct contact with cattle in confined spaces	milkers, pusher, veterinarians, supervisors, manager, hospital workers, slaughter
Medium	Direct contact with cattle in non-confined spaces	feeders, tractor operators, breeders, calf caretaker, maternity, hoof trimmer, maintenance
Low	No direct contact with cattle in any type of space	owners, office staff

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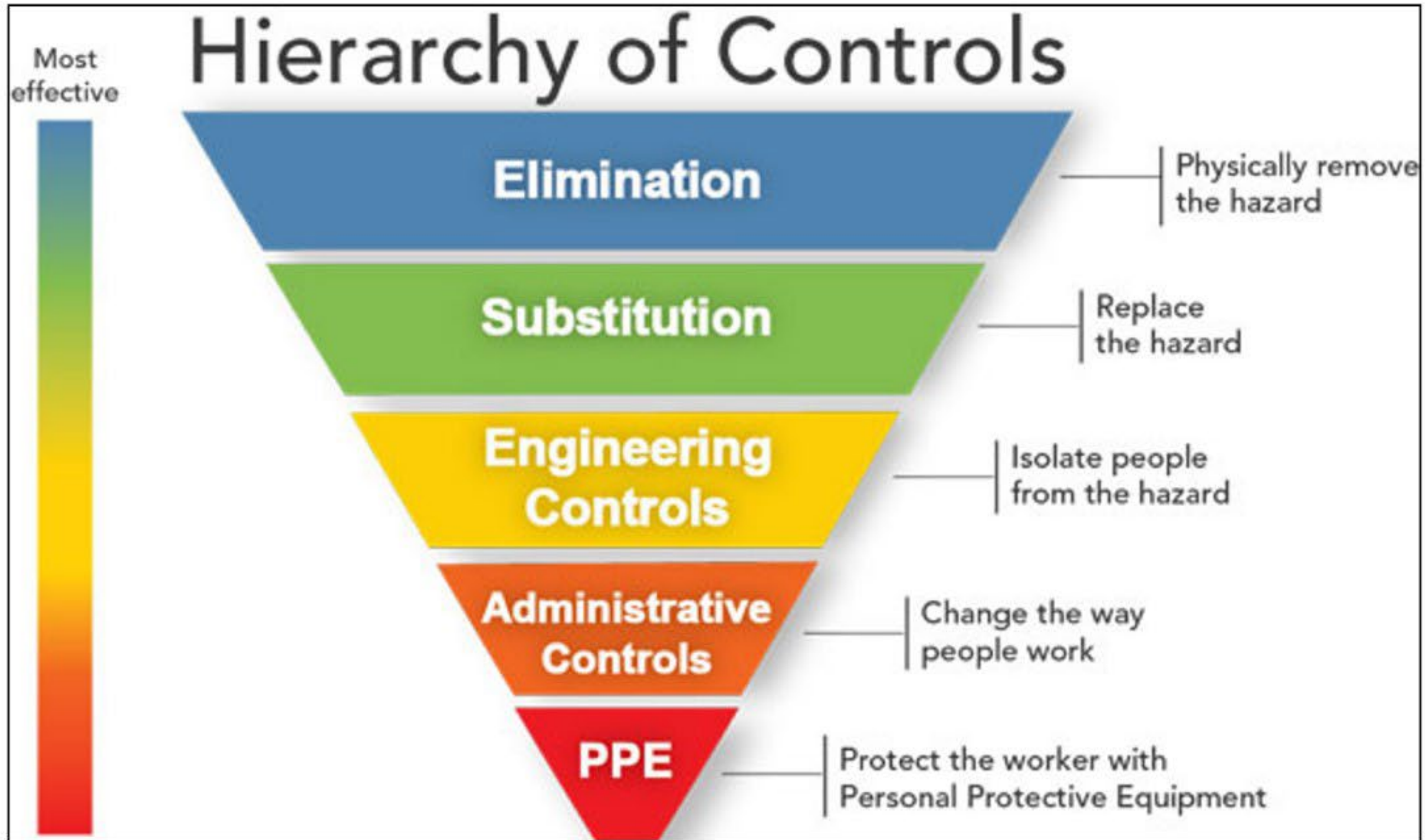
One Health: Research Needs in Dairy Production – H5N1

Matthew Nonnenmann, MS, PhD, CAIH, CIH
Department of Environmental, Agricultural and Occupational Health



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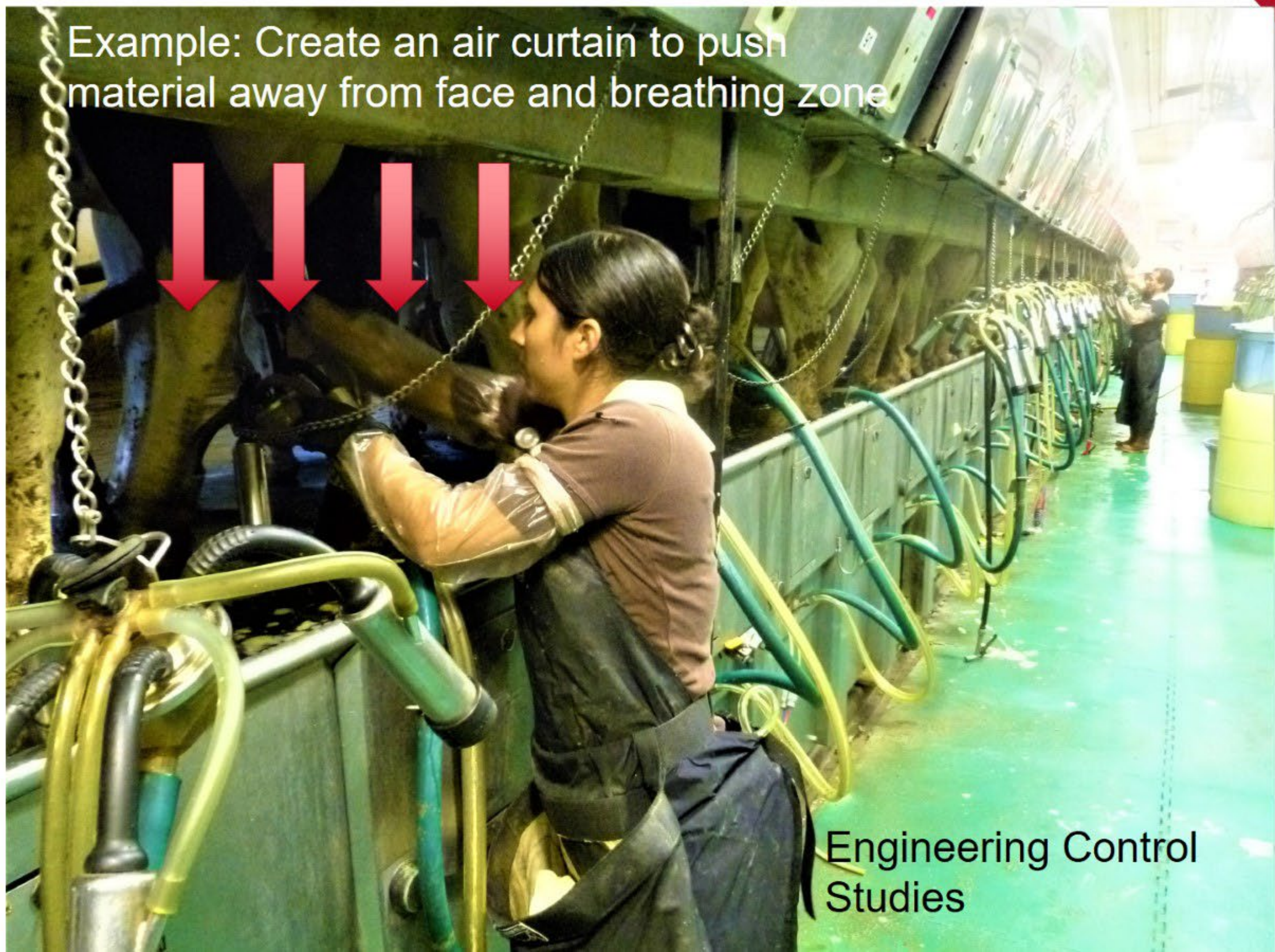
National Institute for Occupational Safety and Health (CDC)



Control Studies:

- Engineering:
 - Work with agricultural engineering colleagues on barrier options
 - Additional of biosecurity equipment and procedures
 - Are non-farm vehicles being soiled?
- Administrative:
 - Hygiene practices, food consumption, clothing changes, laundry etc. other approaches to increase biosecurity
- PPE: When does PPE fail?
 - Barrier clothing, eye and face protection to keep material out of the face, prevent face touching etc.
- Emergency Preparedness:
 - Increase infrastructure on farms to respond to an animal illness event using a One Health approach – we need to do a better job here
 - CS-CASH - NIOSH AFF 1U54OH010162

Example: Create an air curtain to push material away from face and breathing zone



Engineering Control
Studies



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UNIVERSITY OF
Nebraska
Medical Center

Veterinarian's Perspective

Cherissa Abdul Hamid, DVM, MPH
Texas Department of State Health Services
Regional Zoonosis Veterinarian



TEXAS
Health and Human
Services

Texas Department of State
Health Services



Veterinarian's Perspective

Multimodal Approach



Veterinarian's Perspective

Multimodal Approach

Enhance Trust

Producers

Employees

Associate veterinarians



Veterinarian's Perspective

- Multimodal Approach

 - Enhance Trust

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- Provide Support

 - Transparency

 - Upholding reporting standards



Veterinarian's Perspective

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- Resources

 - Timely

 - Appropriate

 - Achievable

RELATIONSHIP- BUILDING WITH FARMWORKERS

Bethany Boggess Alcauter, PhD, MPH
National Center for Farmworker Health



NCFH

National Center for Farmworker Health, Inc.



Research Values

- Relationality & relationship-building
 - Research emerges from our relationships
- Relational accountability
 - When we do research, we are accountable to many relationships: to funders, to agencies, to collaborators, and to participants
- Reciprocity
 - If we ask for something, give in return

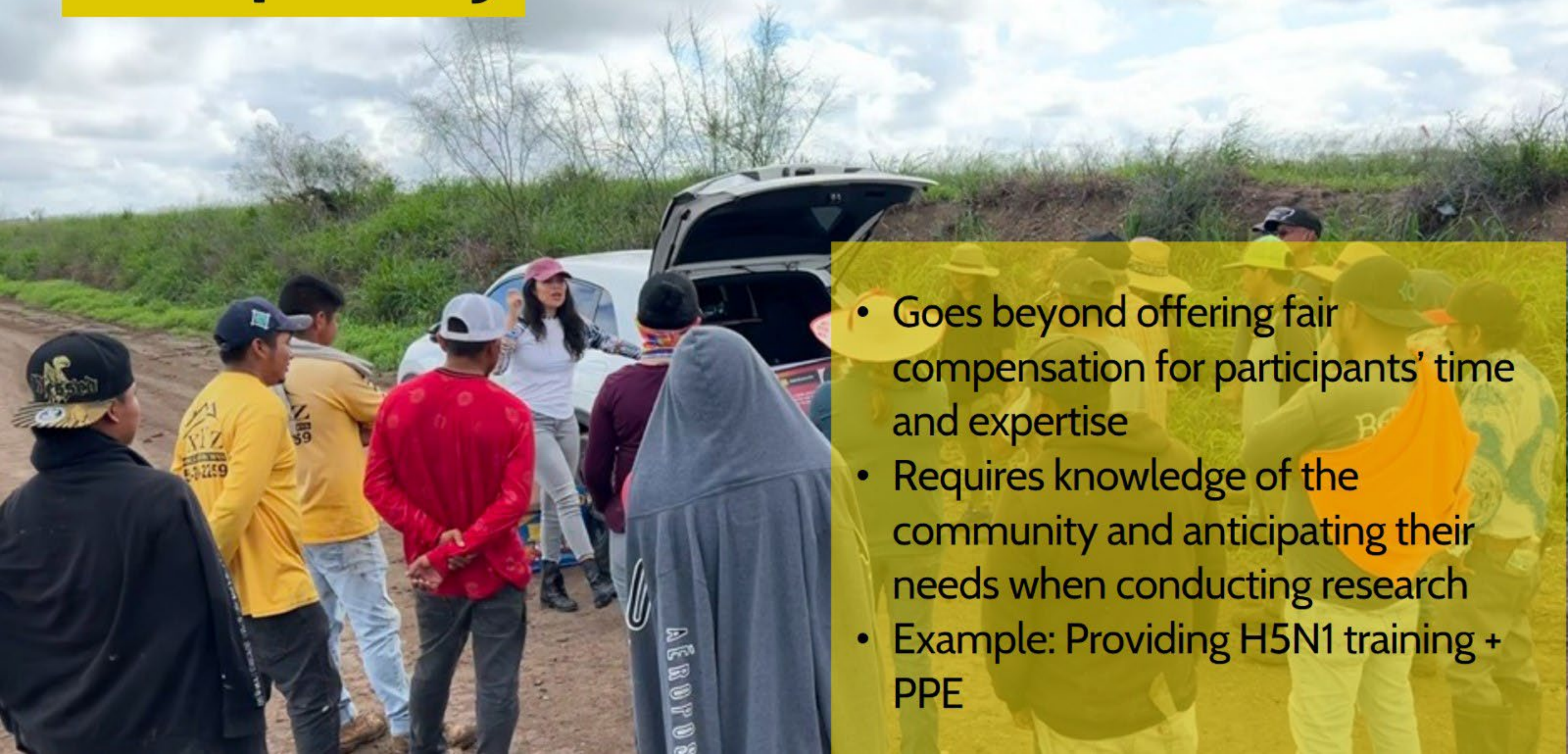
See Dr. Shawn Wilson's work: [Research is Ceremony](#)

Understanding Reality



- Limited time off, long hours, lack of overtime pay
- Limited OSHA enforcement, few workplace trainings
- Meeting workers in spaces that are convenient and comfortable for them
- Conducting research when it works for for workers
- Involving/welcoming family members

Reciprocity



- Goes beyond offering fair compensation for participants' time and expertise
- Requires knowledge of the community and anticipating their needs when conducting research
- Example: Providing H5N1 training + PPE

Building this into our protocols

Sample farmworker research participant support action table.

	Immediate action	Short-term action	Medium- or long-term action
Definition & Criteria	Action should be taken within 24 hours. - Farmworker needs urgent medical care - Detection of human trafficking or labor trafficking - Dangerous child labor conditions - Staff witness an injury or extreme abuse	Action should be taken within 3-5 days. - Farmworker needs medical care for any condition or reason - Family or group of farmworkers needs COVID-19 vaccines - Farmworker requests social service referral (mental health care, labor issues, immigration issues, etc.)	Action should be taken within two to six months and will depend on local partner priorities and capacities. - Farmworker vaccination rates are substantially lower than surrounding county - Major health care access issues are identified, such as lack of interpreters - Other priorities identified by partners, such as overcrowding or lack of training
Data analysis timeline	Issues are identified during data collection and discussed within the data collection team the same day the issue arises. No analysis needed.	Issues are identified in the field and discussed within the data collection team. Data collection team works with Call for Health and homebase staff who in turn work with local partners to quickly meet the need. No analysis needed.	Qualitative and quantitative data are analyzed and presented to local stakeholders within 4-6 weeks after completing data collection, depending on stakeholder availability.
NCFH role	NCFH staff discuss situation and make appropriate referrals. In emergency medical situations, any staff can call 911. Complaints to OSHA or WHD may be made.	NCFH staff discuss situation and make appropriate referrals. CFH and homebase staff may work with local partners to identify appropriate referrals.	NCFH does initial presentation to local stakeholders. Input is gathered from local stakeholders and used to inform community report. NCFH may also provide TA to

Examples from the Pandemic

- Paid time off/sick leave
- Free interpretation
- Training & education
- Free, high-quality isolation housing with welfare/health care checks
- Off-set incentives for vaccinations
- Health care system navigation support
- Referrals to legal support

