



Personal Protective Equipment for Influenza A (H5N1) in High-Risk Farm Settings

A Workshop

Agenda

Day 1: September 29, 2025 | 10:00 AM – 4:30 PM ET

Day 2: September 30, 2025 | 10:00 AM – 4:00 PM ET



SPONSOR

Sponsored by the National Institute for Occupational Safety and Health's National Personal Protective Technology Laboratory.

OBJECTIVES

This workshop will examine personal protective equipment (PPE) needs and best practices to protect workers in high-risk U.S. farm settings and control Influenza A (H5N1) transmission between livestock and humans. The workshop will feature invited presentations and discussions to:

- Discuss the latest scientific evidence on Influenza A (H5N1) transmission and remaining uncertainties and implications for PPE use in high-risk farm settings, including the role of PPE relative to other kinds of controls (e.g., engineering, administrative).
- Examine U.S. regulatory frameworks and explore needed reforms to improve PPE use for preventing zoonotic disease transmission, with a focus on current guidance, best practices, and gaps in high-risk farm settings.
- Highlight individual-level and systemic barriers to PPE access and use in high-risk farm settings and explore potential solutions to overcome these barriers, including the roles of novel technologies, communication, and education and training.
- Highlight key research needs to evaluate and improve the effectiveness of PPE when used in high-risk farm settings to protect workers and control the spread of zoonotic diseases.
- Consider opportunities to improve future responses to emerging and re-emerging infectious diseases that have the potential to spread between livestock and humans.

DAY 1 – MONDAY, September 29, 2025

Day 1 will explore how H5N1 spreads across species and what this means for PPE use in high-risk farm environments. Sessions will cover transmission risks, PPE regulatory structures, and current biosecurity practices, while highlighting real-world challenges farmworkers face when using PPE. Participants will also examine how risk perception, education, and trust influence PPE adoption, and identify community-level and systemic barriers to PPE access. Emphasis will be placed on the role of trusted organizations and what they need to better support worker protection and pandemic preparedness in the agricultural sector.

Welcome and Overview of the Workshop (45 min)

10:00 a.m. Chair Welcome and Opening Remarks (15 min)

Shawn Gibbs, Workshop Chair
Dean, School of Public Health
Dean's Chair and Professor of Environmental and Occupational Health
Texas A&M University

10:15 a.m. National Institute for Occupational Safety and Health (NIOSH) Opening Remarks (15 min)

Maryann D'Alessandro
Director
National Personal Protective Technology Laboratory (NPPTL)
National Institute for Occupational Safety and Health (NIOSH)
Centers for Disease Control and Prevention (CDC)

National Center for Immunization and Respiratory Diseases (NCIRD) Opening Remarks (15 min)

Lizette Durand
Chief Veterinary Officer
Influenza Division
National Center for Immunization and Respiratory Diseases (NCIRD)
Centers for Disease Control and Prevention (CDC)

Session 1 Stage Setting: Current State of Knowledge on H5N1 Transmission and Implications for PPE Use (60 min)

10:45 a.m. Session Introduction (5 min)

Matthew Nonnenmann, Planning Committee Member
Professor
University of Nebraska Medical Center

- *Examine viral transmission within and across species and infection characteristics (common symptoms and severity) in animals and humans.*
- *Discuss the knowns and unknowns about animal-to-human transmission risks in high-risk farm activities, and examine the implications for PPE use in high-risk farm settings, including the role of PPE relative to other kinds of controls (e.g., engineering, administrative).*

- *Consider current science- and risk-based understanding of airborne disease transmission.*

10:50 a.m. Panel Presentations (40 min)

Animal Infection and Transmission

Jason Lombard

Veterinary Epidemiologist
Colorado State University

Environmental Transmission

Seema Lakdawala

Associate Professor
Emory University

Human Infection and Transmission

Rachel Herlihy

State Epidemiologist and Deputy Chief Medical Officer
Colorado Department of Public Health and Environment

11:30 a.m. Audience Q&A (15 min)

Session 2 Stage Setting: Current Practices and Policies for H5N1 Infection Control and Prevention in Farm Settings (60 min)

11:45 a.m. Session Introduction (5 min)

Michelle Kromm, Planning Committee Member

Principal
Food Forward, LLC

- *Explore federal, state, and local oversight systems, regulatory variation, and opportunities for industry engagement in infection control.*
- *Review current best practices for PPE and biosecurity plans across agricultural settings, including how guidance is developed within the hierarchy of controls.*

11:50 a.m. Panel Presentations (40 min)

Systems or Federal Perspective

John Gibbins

Office of Agriculture Safety and Health (OASH)
National Institute for Occupational Safety and Health (NIOSH)

Public Health Perspectives

Stacy Holzbauer

State Public Health Veterinarian
Career Epidemiology Field Officer
Minnesota Department of Health
Centers for Disease Control and Prevention (CDC)

Poultry Perspectives

Caitlin Green

Poultry Veterinarian
Michigan Turkey Producers

Dairy Perspective

Joe Armstrong

Technical Service Veterinarian
Zoetis

12:30 p.m. Audience Q&A (15 min)

12:45 p.m. BREAK (30 min)

Session 3 Problem Setting: Individual Barriers to PPE Use for H5N1 Infection Control and Prevention in High-Risk Farm Settings (90 min)

1:15 p.m. Session Introduction (5 min)

Beth Lipton, Planning Committee Member
Washington State Public Health Veterinarian
Washington State Department of Health

- *Hear firsthand perspectives on PPE use challenges in farm settings, including practical limitations, secondary health risks, and decision-making on protective options.*
- *Examine how risk perception influences PPE use, including task-based risk assessments, perceived protection, and individual risk tolerance.*
- *Identify barriers to effective PPE use, including education, training, language, cultural factors, and trust.*

1:20 p.m. Panel Presentations (60 min)

Insights from Farm Workers and Producers

Brent Wilson

Wilson Centennial Farm
Member of the Michigan Milk Producers Association

Research-Based Perspectives from the Field and Practical Experiences from Researchers

Anabel Rodriguez

Assistant Professor
Department of Environmental and Occupational Health
Texas A&M University

Bethany Alcauter

Director of Research and Public Health Programs
National Center for Farmworker Health

Training and Education Programs

Anna Meyerhoff

Senior Bilingual Agricultural Safety

Education Coordinator

New York Center for Agricultural Medicine and Health

Northeast Center for Occupational Health and Safety in Agriculture, Forestry, and Fishing

Agricultural Extension Perspectives

Gino Lorenzoni

Associate Professor, Poultry Science and Avian Health

PennState Extension

2:20 p.m. **Audience Q&A** (25 min)

Session 4 Problem Setting: Systemic Barriers to H5N1 Infection Control and Prevention in High-Risk Farm Settings (90 min)

2:45 p.m. **Session Introduction** (5 min)

Anabel Rodriguez, Planning Committee Member

Assistant Professor

Department of Environmental and Occupational Health

Texas A&M University

- *Discuss community and societal barriers to PPE access and use.*
- *Identify the needs of trusted organizations to better support worker PPE access and adoption.*

2:50 p.m. **Panel Presentations** (60 min)

Farmworker Advocacy Organizations

Amy Liebman

Chief Program Officer

Migrant Clinicians Network

Producers and Coops

Martín J. Carrasquillo-Mangual

Dairy Extension Educator

Michigan State University Extension

Promotoras and Community Partners

Lus Chávez

Community Health Worker

Texas Panhandle

Ma Elena Gutierrez

Executive Director

Fe Y Justicia

3:50 p.m. **Audience Q&A** (25 min)

Day 1 Wrap-Up (15 min)

4:15 p.m. **Chair's Reflection and Preview of Day 2** (15 min)

Shawn Gibbs, Workshop Chair
Dean, School of Public Health
Dean's Chair and Professor of Environmental and Occupational Health
Texas A&M University

4:30 p.m. **Day 1 Adjourns**

DAY 2 – TUESDAY, SEPTEMBER 30, 2025

Day 2 focuses on forward-looking strategies to enhance PPE effectiveness and adoption through innovation, training, and systems integration. Sessions will highlight successful behavior-change programs, communication strategies, and collaborative efforts to strengthen farm-level preparedness within a broader national health and food security framework.

Welcome and Recap of Day 1 (15 min)

10:00 a.m. **Chair Welcome and Opening Remarks** (15 min)

Shawn Gibbs, Workshop Chair
Dean, School of Public Health
Dean's Chair and Professor of Environmental and Occupational Health
Texas A&M University

Session 5 **Opportunities: Improving Existing PPE Access and Feasibility of Use** (60 min)

10:15 a.m. **Session Introduction** (5 min)

Ximena Vergara, Planning Committee Member
Chief, Hazard Evaluation System and Information Service
California Department of Public Health
Adjunct Assistant Professor of Epidemiology
University of California, Los Angeles – Fielding School of Public Health

- *Identify administrative and engineering controls to improve PPE feasibility, reduce transmission, and lower costs.*
- *Explore the potential alternatives to NIOSH-approved respirators in high-risk farm settings and implications for respiratory protection program.*
- *Identify barriers in the PPE supply chain and assess solutions to improve access, availability, and distribution of respiratory protection where it is most needed.*

- *Highlight key research needs to evaluate and improve the effectiveness of PPE to protect workers.*

10:20 a.m. Panel Presentations (40 min)

Worker Health – Project PROTECT

Elon Ullman

Research Scientist – Industrial Hygienist

California Department of Public Health – Project PROTECT

Engaging Partners in PPE Distribution

Heather Riden

Manager

Western Center for Agricultural Health and Safety at UC Davis

Research Priorities

Jin Pan

Assistant Professor

Occupational and Environmental Health

University of Iowa

11:00 a.m. Audience Q&A (15 min)

Session 6 Opportunities: Innovative PPE Technology and Research (90 min)

11:15 a.m. Session Introduction (5 min)

Herek Clack, Planning Committee Member

Associate Professor

Department of Civil and Environmental Engineering

University of Michigan, Ann Arbor

Co-founder, Co-Chief Executive Officer, and Chief Scientific Officer for Taza Aya

- *Highlight technologies and products, as well as key research needs, to improve the effective implementation of PPE for use in high-risk farm settings to protect workers from and control the spread of H5N1.*
- *Highlight advanced and emerging technologies with the potential to strengthen the hierarchy of controls, with a focus on PPE.*
- *Explore strategies to drive sustainable innovation in PPE and engineering controls, including certifications for consumer trust.*

11:20 a.m. Panel Presentations (60 min)

Research Priorities and Gaps

James Coburn

Senior Advisor for Emerging Technologies; U.S. Food and Drug Administration (FDA)

On detail as Portfolio Lead to ARPA-H

Lessons Learned from Innovative Respirators

Richard Gordon

CEO

Airgami Respirators

Air99 LLC

Wearable Air Curtains: Novel Respiratory Protection Against Airborne Pathogens

Herek Clack, Planning Committee Member

Associate Professor

Department of Civil and Environmental Engineering

University of Michigan, Ann Arbor

Co-founder, Co-Chief Executive Officer, and Chief Scientific Officer for Taza Aya

Wearable Technologies and Design of PPE

Lucy Dunne

Professor, Department of Design Innovation

Co-Director, Wearable Technology Lab

University of Minnesota

Regulatory Pathways and Standards

Sundaresan Jayaraman

Professor

School of Materials Science and Engineering

Georgia Institute of Technology

12:20 p.m. **Audience Q&A** (25 min)

12:45 p.m. **BREAK** (30 min)

Session 7 **Implementation Considerations: Communications, Training, and Education Needs and Strategies** (60 min)

1:15 p.m. **Session Introduction** (5 min)

Bethany Boggess Alcauter, Planning Committee Member

Director of Research and Public Health Programs

National Center for Farmworker Health

- *Explore strategies to improve health communication and information accessibility for farm workers.*
- *Highlight successful training and education programs that have changed behavior and increased PPE adoption.*
- *Identify needs of both trainers and workers to enhance training and education effectiveness, and provide space for multi-stakeholder reflection on gaps, opportunities, and innovations.*

1:20 p.m. Panel Presentations (40 min)

Health Communications and Information Accessibility

Sara Floor

Creative Unit Supervisor
California Department of Public Health

Lisbeth Gall

Associate Director of Population Health Programs
National Center for Farmworker Health

Training and Education Programs

Carolyn Sheridan

Executive Director/Founder
Ag Health and Safety Alliance

Jenna Gibbs

Director of Operations
Ag Health and Safety Alliance

2:05 p.m. Audience Q&A (15 min)

Session 8 Optimizing PPE for High-Risk Farm Settings: Next Steps Stakeholder Roundtable (75 min)

2:15 p.m. Session Introduction (5 min)

Michael Payne, Planning Committee Member
Dairy Outreach Coordinator
Western Institute for Food Safety and Security
Director, California Dairy Quality Assurance Program

- *Acknowledge this is an evolving issue with new scientific and social information constantly coming to the forefront.*
- *Acknowledge the societal public and animal health, food safety and security importance of PPE and infection prevention at the human-animal interface.*
- *Position PPE, not just a workplace issue, but as a national health and food security imperative.*
- *Introduce the One Health lens as the context in which these strategies must operate, connecting farm-level practices to national pandemic preparedness and food system resilience.*
- *Identify research investments, infrastructure, and cross-sector collaboration needed for pandemic preparedness.*

2:20 p.m. Roundtable Discussion (70 min)

Industry Stakeholders

Ashley Peterson

Senior Vice President of Scientific and Regulatory Affairs
National Chicken Council

Anja Raudabaugh

CEO

Western United Dairies

Oscar Garrison

Senior VP Food Safety Regulatory Affairs

United Egg Producers

Research Stakeholders

Edie Marshall

Branch Chief, Antimicrobial Use and Stewardship

California Department of Food and Agriculture

Public Health, Emergency Management, and Agricultural Department Stakeholders

Jennifer Nuzzo

Professor of Epidemiology

Director of the Pandemic Center

Brown University School of Public Health

One Health Experts

Meghan Davis

Associate Professor

Director of the Johns Hopkins P.O.E. Total Worker Health Center in Mental Health

Johns Hopkins Bloomberg School of Public Health

Day 2 Wrap-Up (30 min)

3:30 p.m. Sponsor Closing Remarks (15 min)

Maryann D'Alessandro

Director

National Personal Protective Technology Laboratory (NPPTL)

National Institute for Occupational Safety and Health (NIOSH)

Centers for Disease Control and Prevention (CDC)

3:45 p.m. Workshop Closing Remarks (15 min)

Shawn Gibbs, Workshop Chair

Dean, School of Public Health

Dean's Chair and Professor of Environmental and Occupational Health

Texas A&M University

4:00 p.m. ADJOURN