



WISCONSIN
CHEESE MAKERS
ASSOCIATION

EST. 1891

H5N1 & Employee Safety

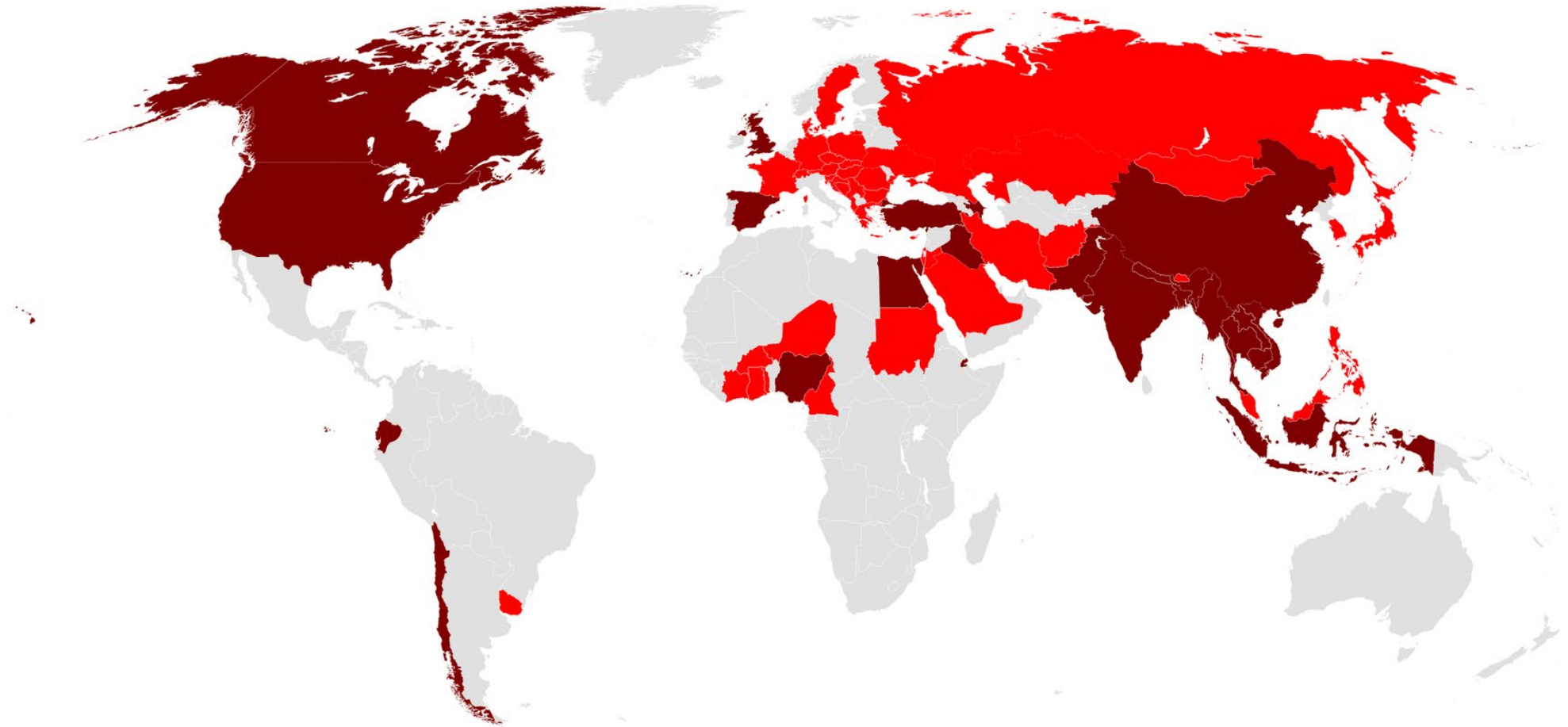
July 30, 2024

Agenda

- **H5N1 Situation Report**
 - Speaker: Rebekah Sweeney, WCMA
- **How H5N1 Spreads**
 - Speaker: Dr. Carrie Reed, Centers for Disease Control and Prevention (CDC)
- **Strategies to Safeguard Your Dairy Processing Employees**
 - Speaker: Dr. John Gibbins, CDC
- **H5N1 Resources for Dairy Processors**
 - Speaker: Rebekah Sweeney, WCMA
- **Live Question & Answer Session**

H5N1 Situation Report

Global Spread of H5N1



Current U.S. H5N1 Outbreak Timeline



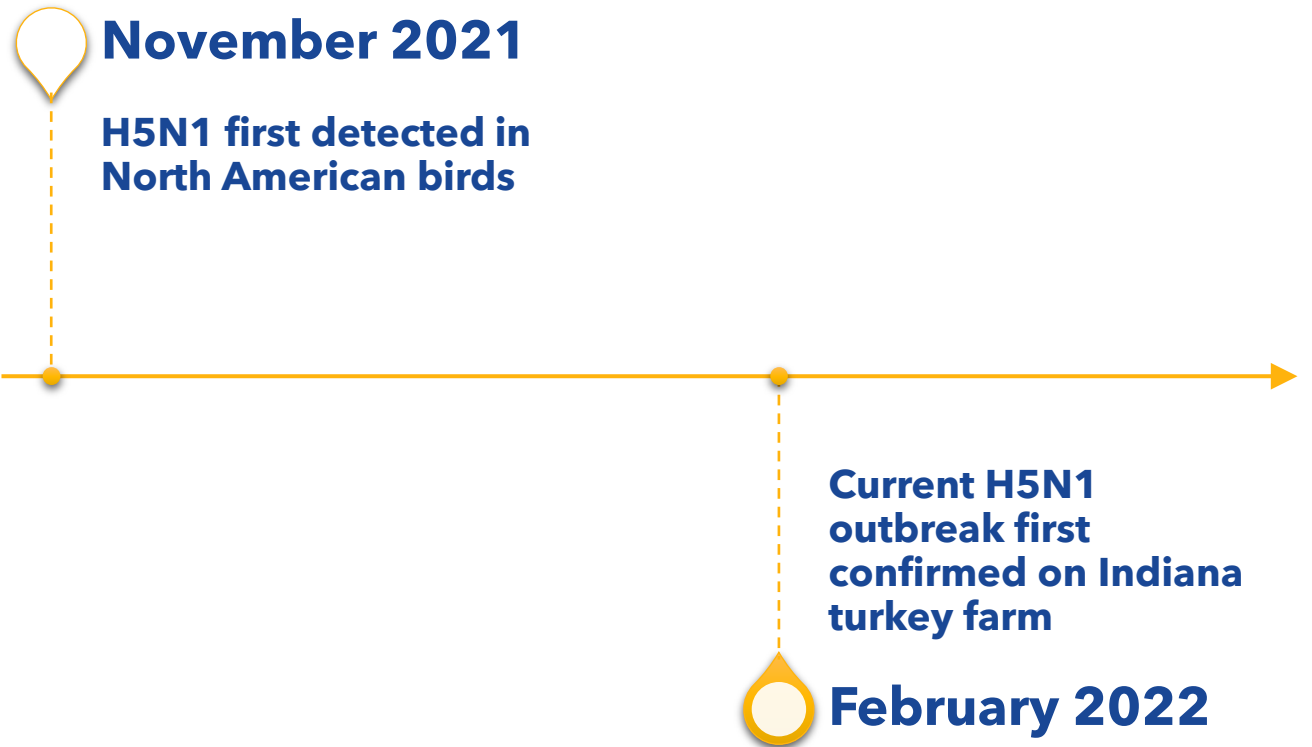
November 2021

H5N1 first detected in North American birds



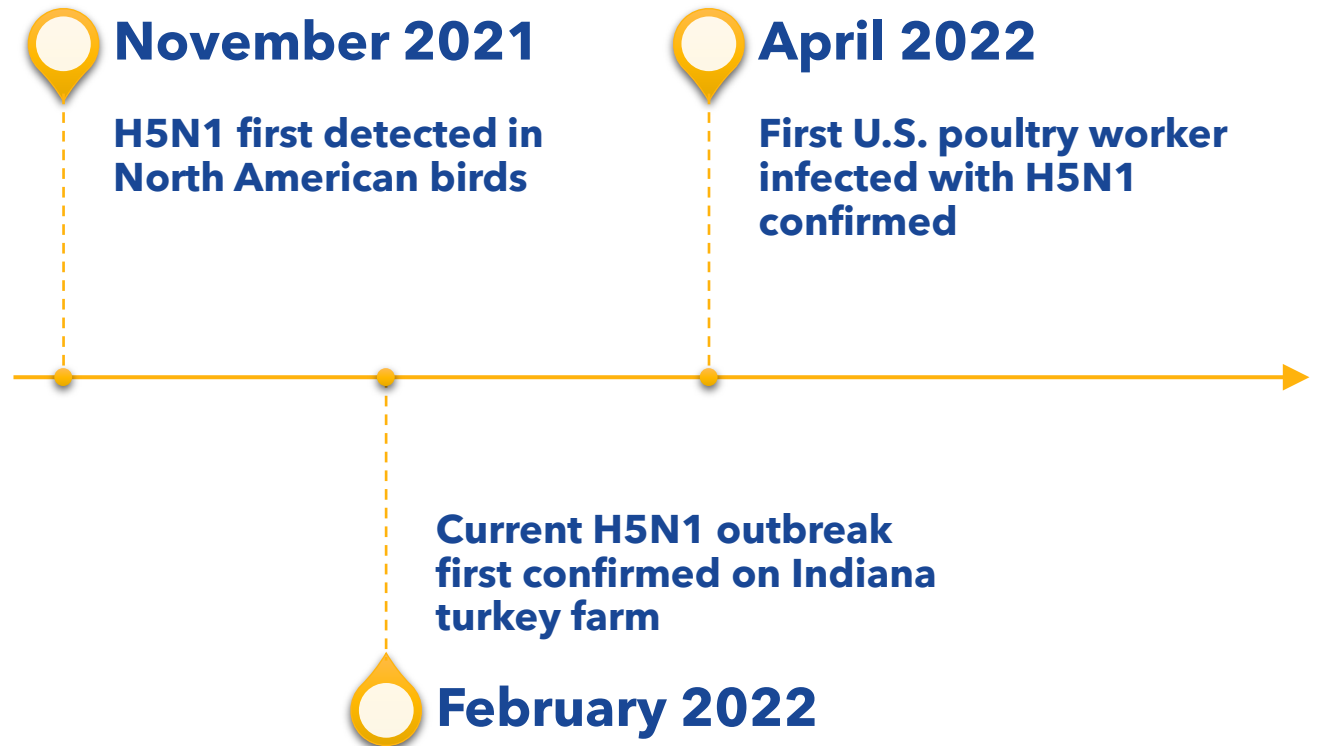
Courtesy: CDC

Current U.S. H5N1 Outbreak Timeline



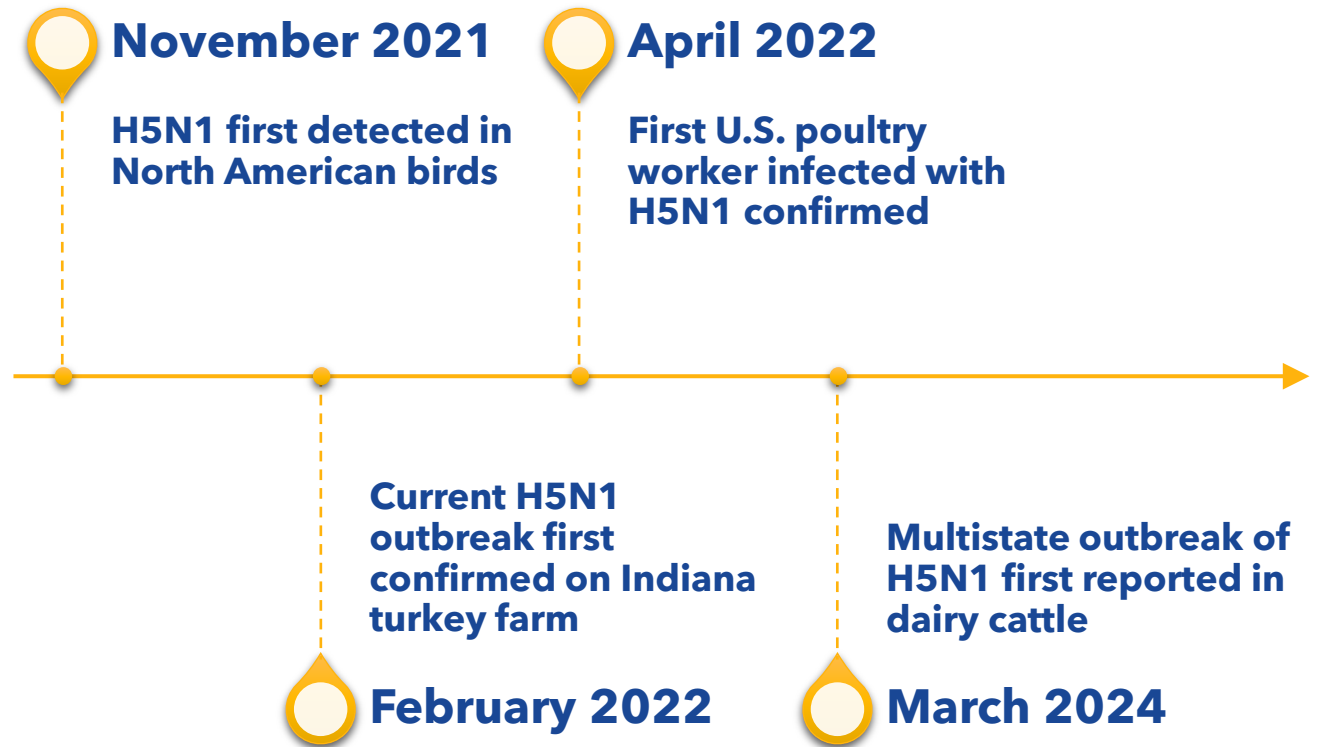
Courtesy: CDC

Current U.S. H5N1 Outbreak Timeline



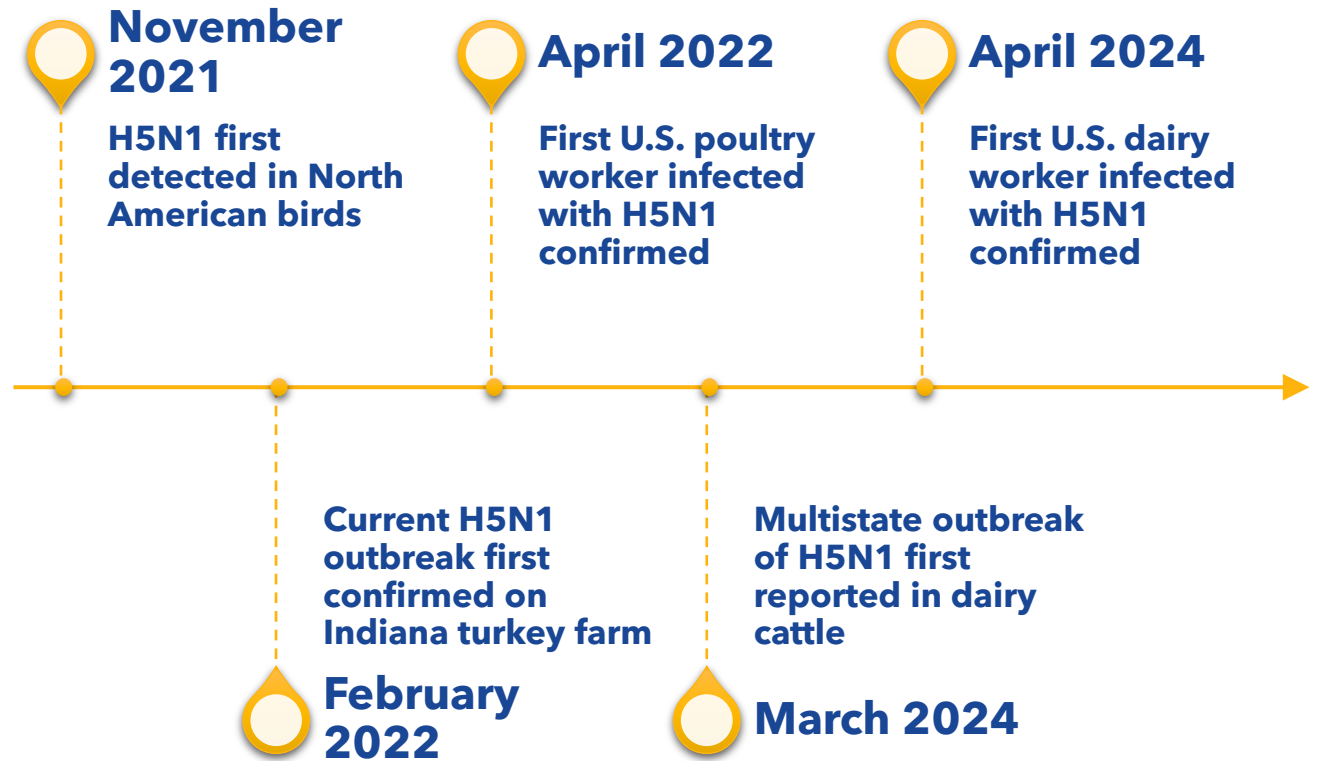
Courtesy: CDC

Current U.S. H5N1 Outbreak Timeline



Courtesy: CDC

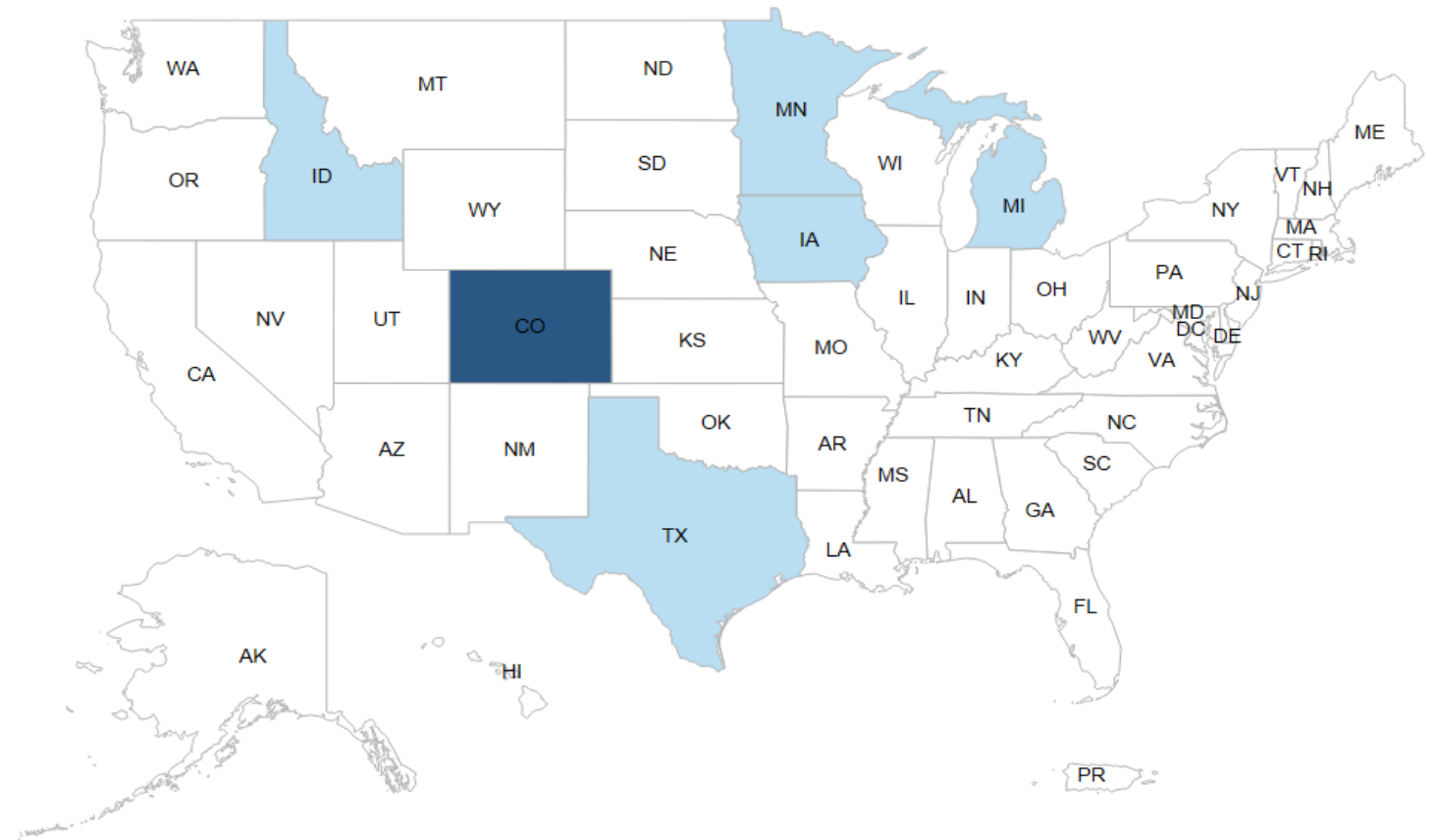
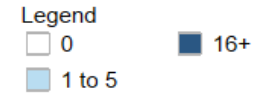
Current U.S. H5N1 Outbreak Timeline



Courtesy: CDC

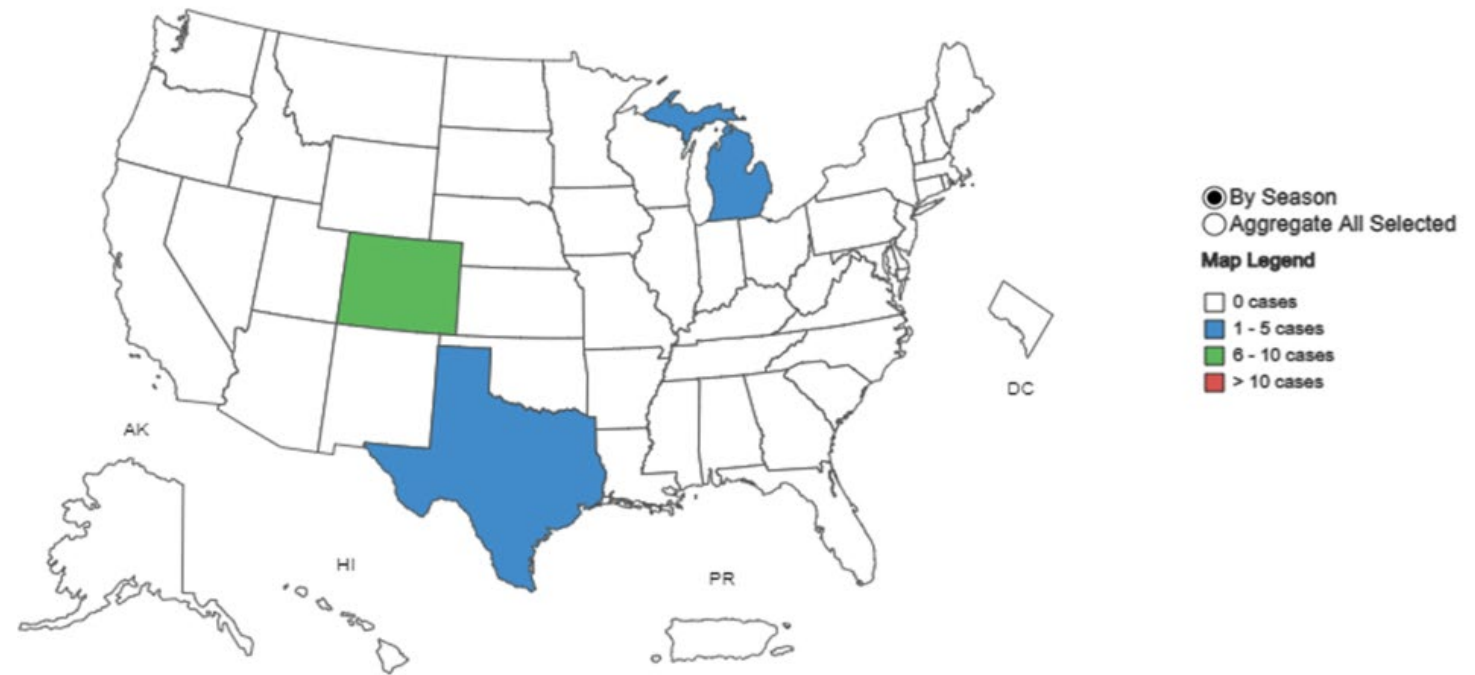
H5N1 Spread: Dairy Herds

Number of Confirmed Cases
by State



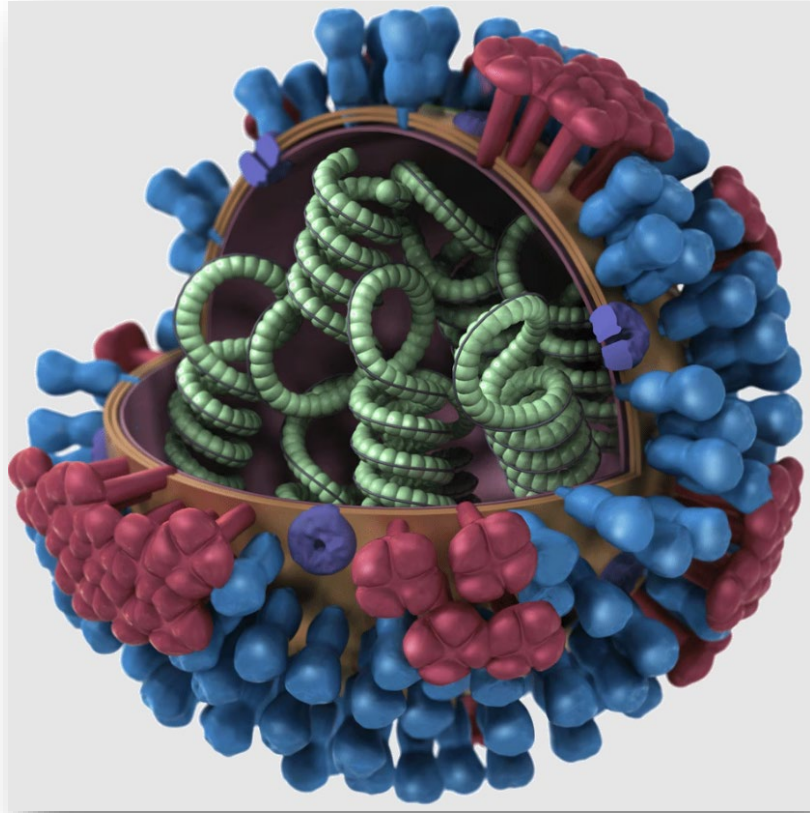
Courtesy: USDA

H5N1 Spread: Humans



Courtesy: CDC

H5N1 Findings & Recommendations



- H5N1 remains, primarily, a virus infecting animals, but the virus continues to evolve.
- Pasteurization works! Do not consume raw milk.
- Sanitization and personal protective equipment are important to safety through the dairy supply chain.

How H5N1 Spreads

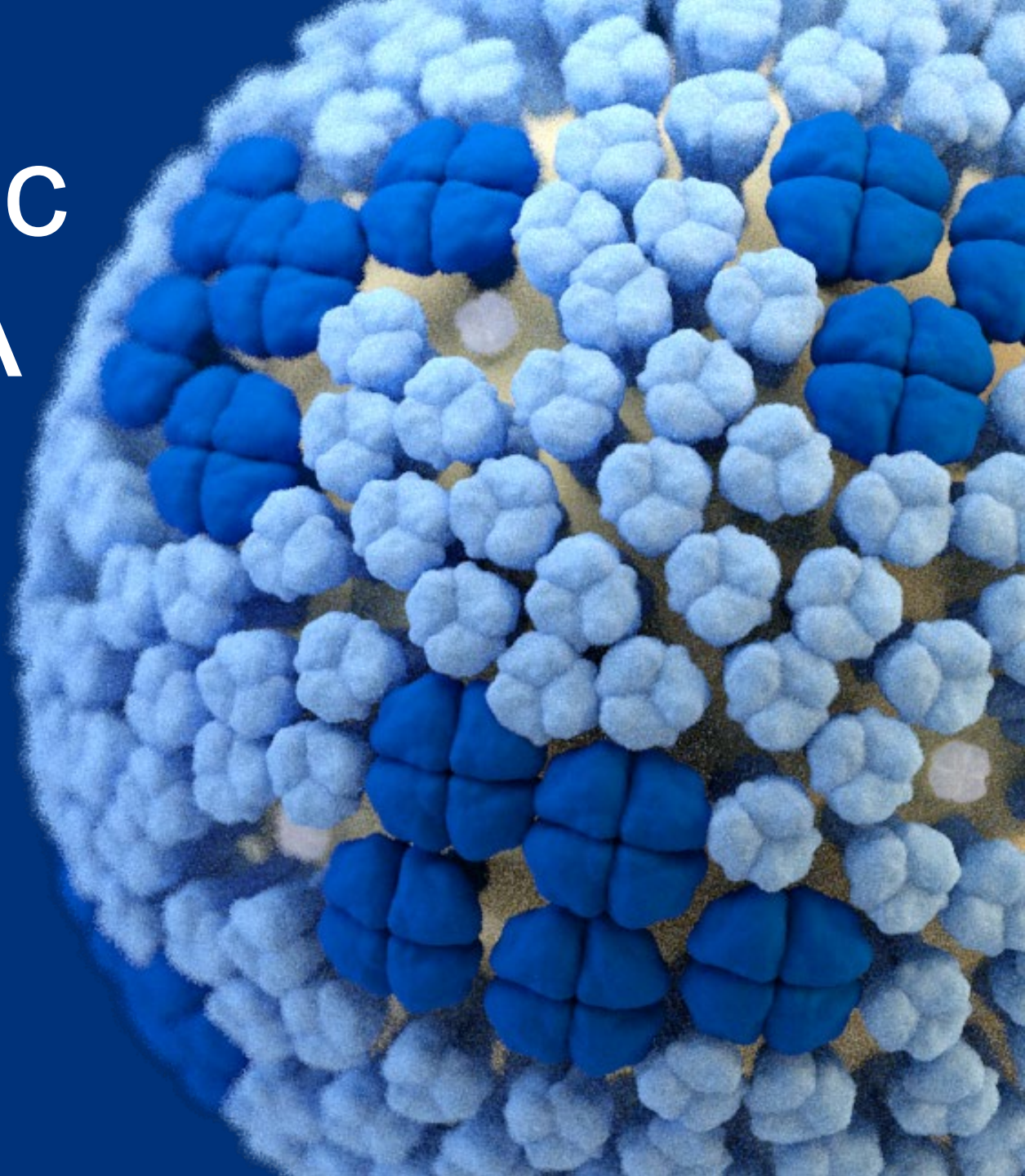
Highly Pathogenic Avian Influenza A (H5N1)

Dr. Carrie Reed

Epidemiology and Prevention Branch Chief

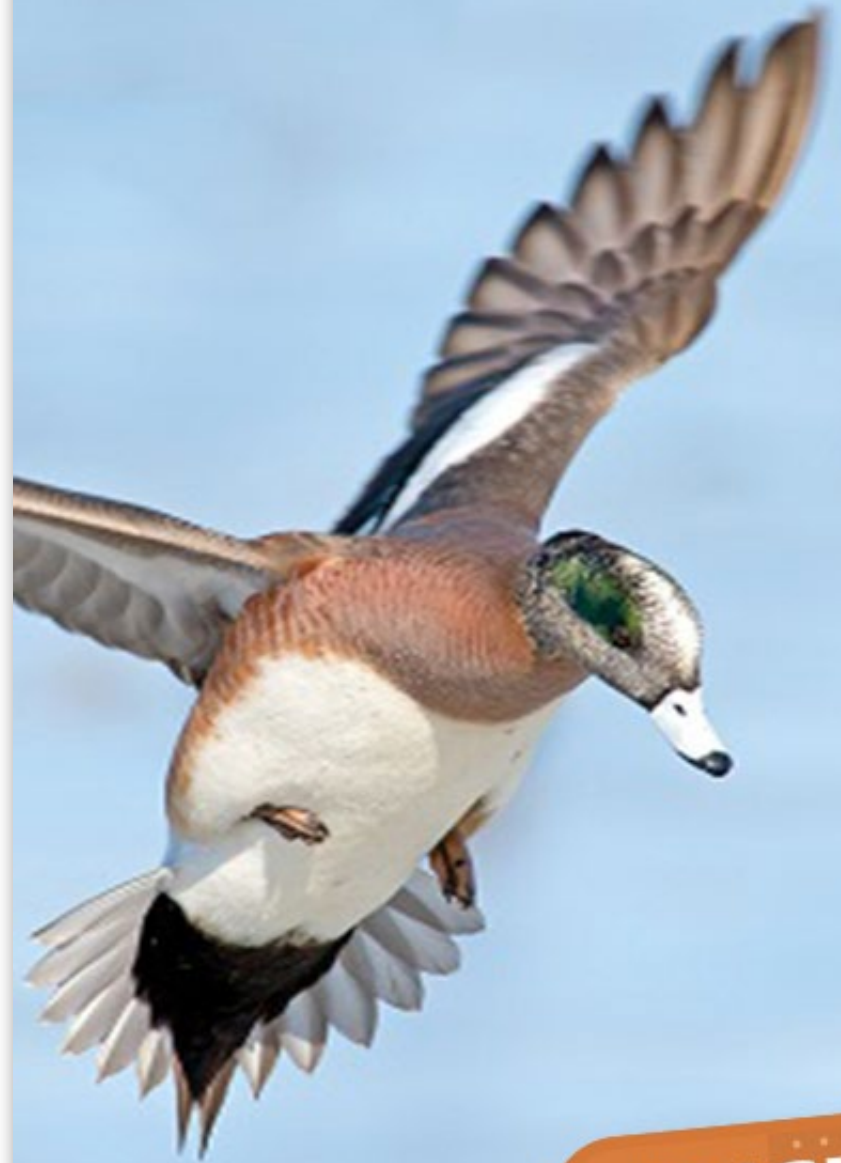
Influenza Division, National Center for
Immunization and Respiratory Diseases (NCIRD)

WCMA - 07/30/2024



CDC's Priorities

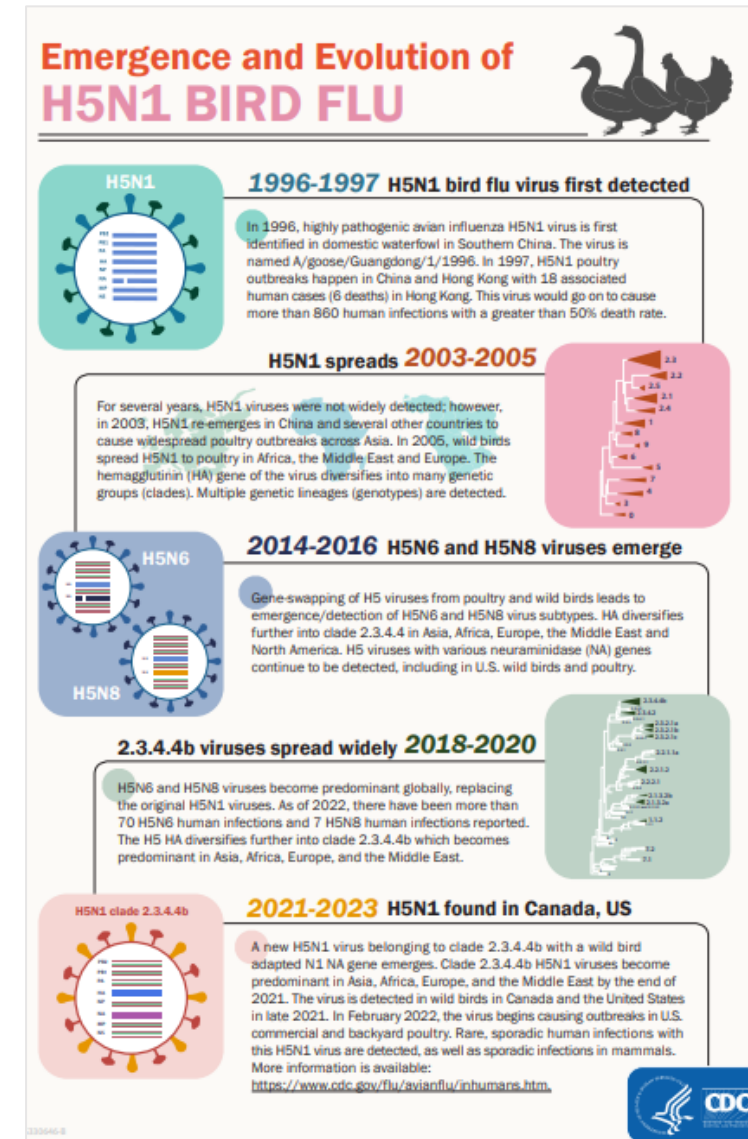
- Supporting and engaging public health and agricultural partners
- Protecting human health and safety
- Understanding risk to people from H5N1 viruses
- Assessing H5N1 viruses for genetic changes



#FIGHT FLU

Overview of Highly Pathogenic Avian Influenza (HPAI) A(H5N1) virus

- Virus first detected in a poultry outbreak in Scotland (1959)
 - Infect respiratory and gastrointestinal tracts of birds
 - High mortality in infected poultry
 - Continue to evolve (classified into virus genetic clades)
- Clade 2.3.4.4b viruses emerged in 2020 in wild birds
 - Unprecedented wide global spread
 - Many bird species infected, poultry outbreaks
 - Many terrestrial and marine mammals infected (often fatal)
 - Detected in wild birds in North America (end of 2021)
 - Poultry outbreaks, wild bird detections since 2022 (ongoing)
 - **>99 million commercial poultry/backyard birds affected (48 states)**
 - >9500 wild birds (50 states or territories)
 - 2024: Livestock (goats, dairy cattle)

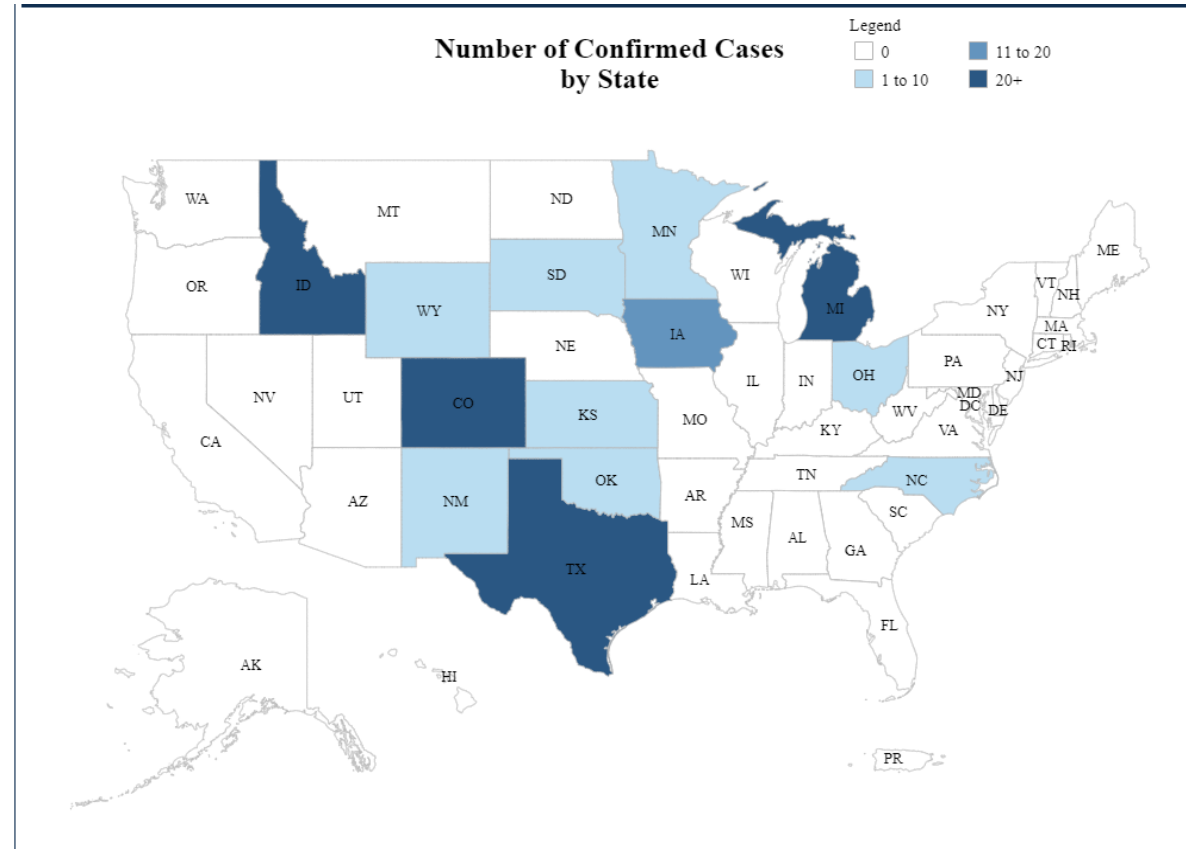


Human Infections with HPAI A(H5N1) virus

- From January 2022 through March 2024, 26 sporadic human cases of A(H5N1) were reported from nine countries
 - Including 15 cases of severe or critical illness, and 7 deaths
 - Six cases of mild illness, and eight asymptomatic cases
- Most human cases of HPAI A(H5N1) reported since January 2022 had recent exposure to sick or dead poultry, and no cases of human-to-human HPAI A(H5N1) virus transmission were identified.

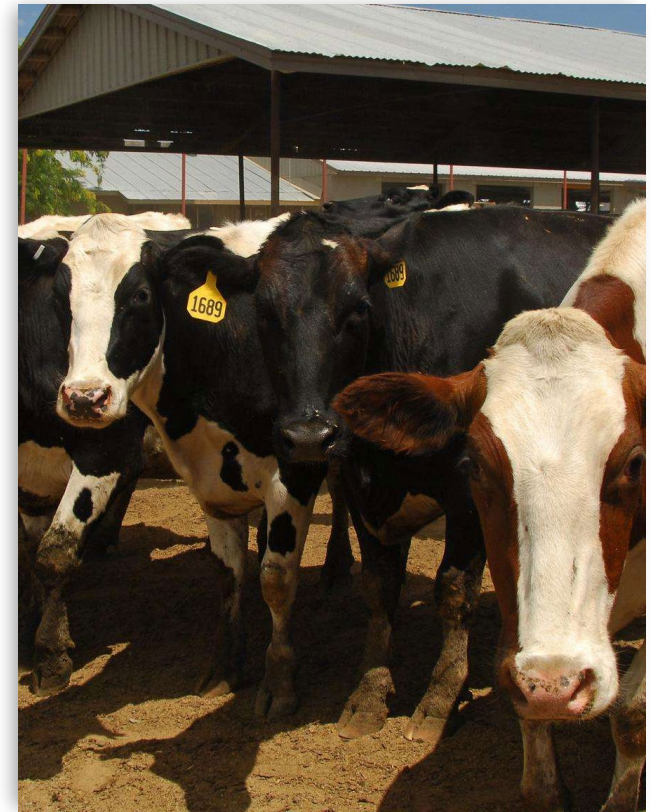
HPAI H5N1 Situation Update – Dairy Herds

- Dairy cow illness began in early 2024
 - Significant decreases in milk production and quality
- **March 25:** USDA reported H5N1 confirmed in cows from TX and KS
- To date, USDA confirmed H5N1 in dairy herds in 171 farms across 13 states



HPAI A(H5) Cases, U.S. 2022-2024

- **Human cases (n=14)**
 - **Associated with poultry exposures: 10**
 - April 2022: 1 case reported fatigue while depopulating poultry (CO)
 - July 2024: 9 cases in poultry workers performing poultry depopulation (CO)
 - All cases were clinically mild, not hospitalized
 - **Associated with dairy cattle exposures: 4**
 - March - July 2024: 4 cases in dairy farm workers (TX, MI, CO)
 - All cases were clinically mild, not hospitalized

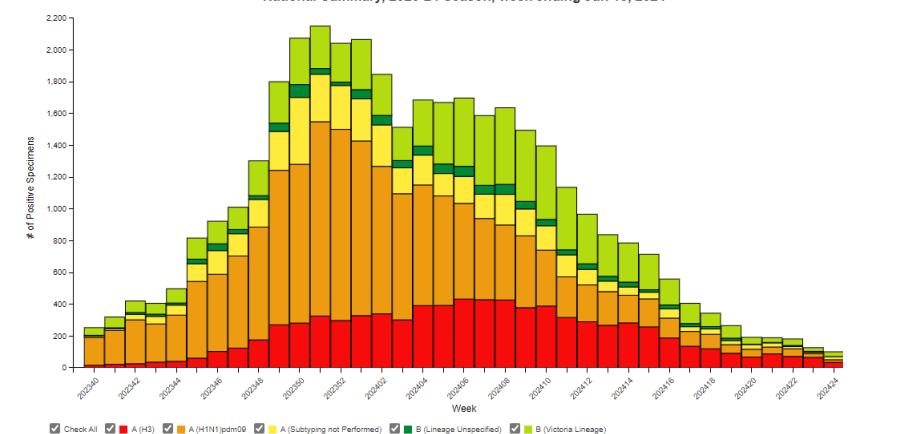
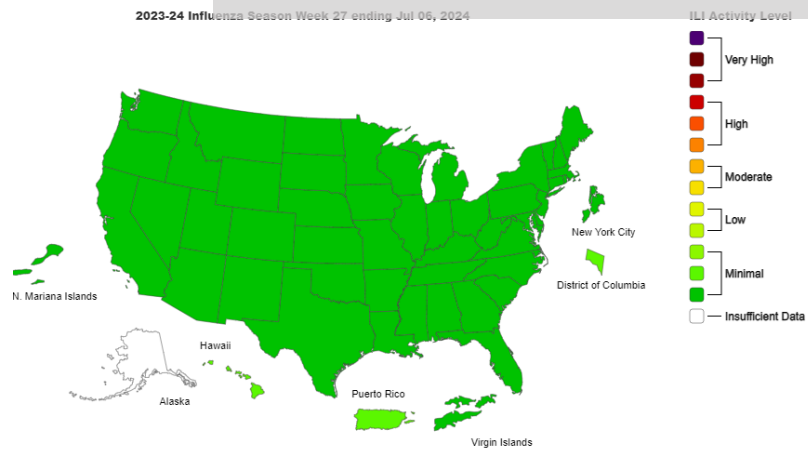
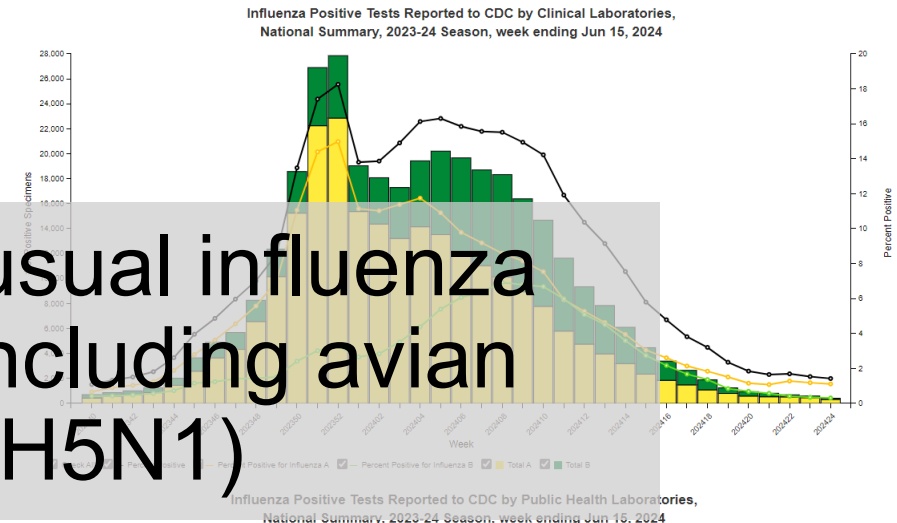
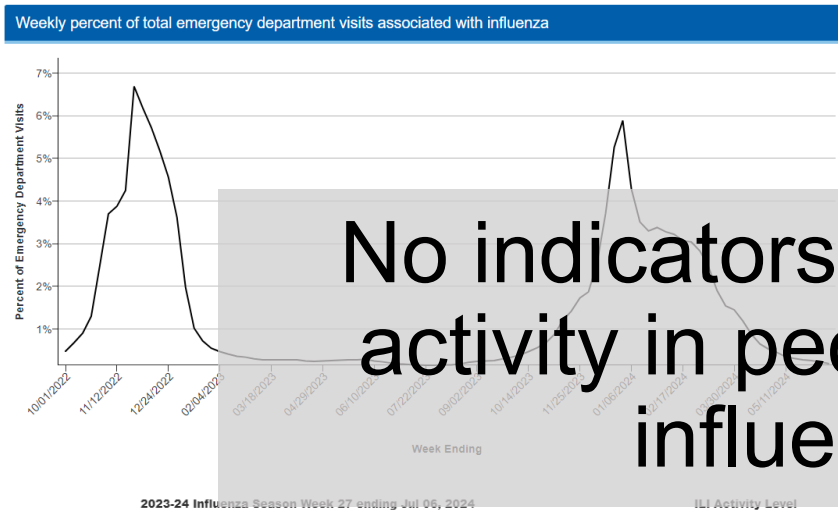


Surveillance, Human Monitoring, and Testing

- **CDC and state and local health departments:**
 - Monitor people exposed to infected/sick animals for 10 days after exposure,
 - Test people that develop signs/symptoms of possible infection after exposure, and
 - Conduct follow-up case and contact outreach and interviews
- **Between March 24, 2024 and now, there have been:**
 - At least 4,100 people monitored
 - At least 1,700 with exposures to dairy cows
 - At least 2,400 with exposures to birds and other animals including poultry (non-dairy cow source)
 - At least 200 persons tested for novel influenza A viruses, including A(H5)
 - At least 69 with exposures to dairy cows
 - At least 140 with exposures to birds and other animals including poultry (non-dairy cow source)

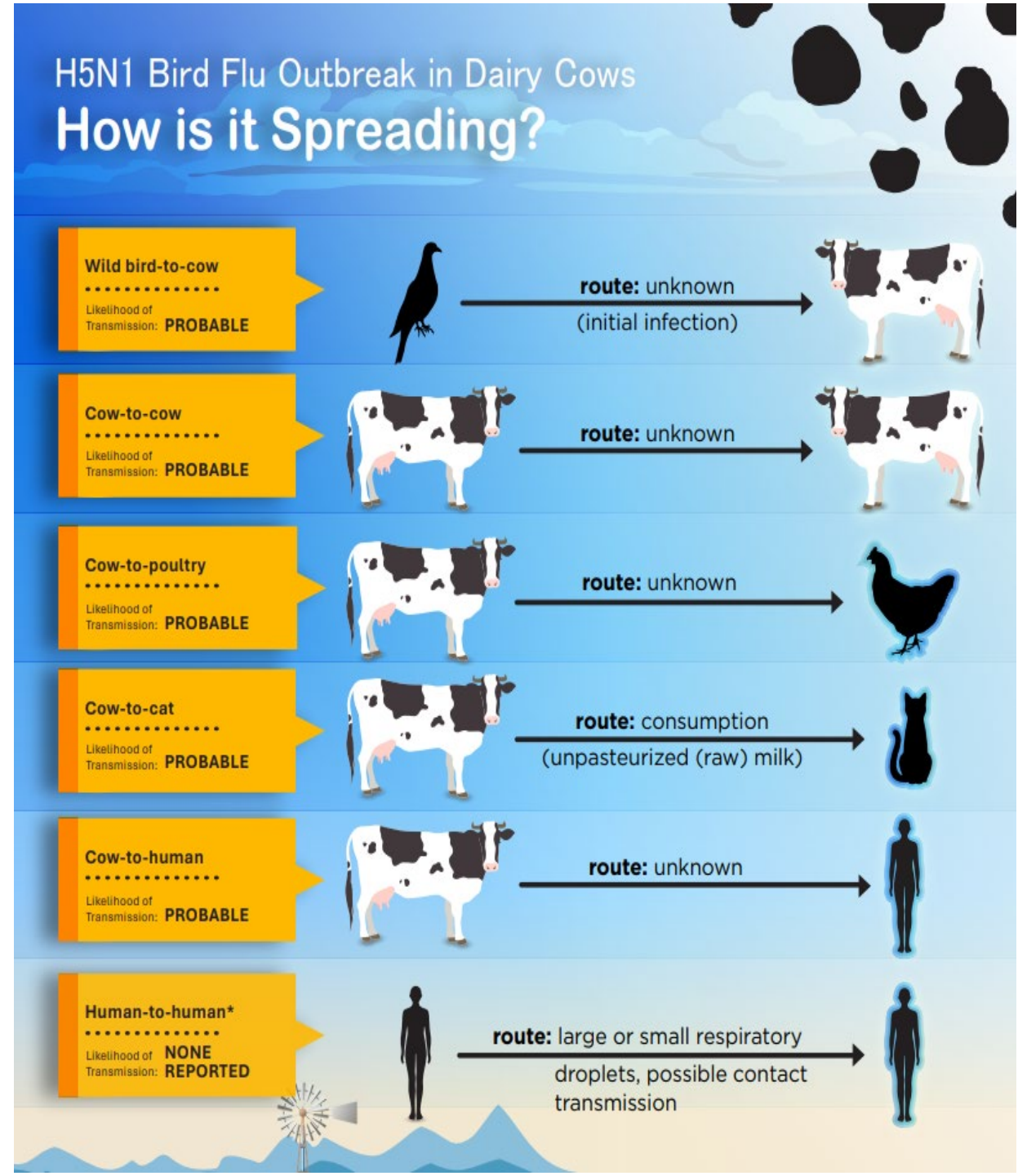
Surveillance, Human Monitoring, and Testing

- Since February 2024, broader public health laboratory monitoring includes testing of **>36,000 specimens** using a protocol that would have detected HPAI A(H5N1)



Epidemiologic Investigations

- Health and agricultural partners at local, state and federal level, and affected farms
- Important public health questions
 - Evidence of infection in exposed populations?
 - Spectrum of illness and rate of asymptomatic infections?
 - Types of exposure on farms/dairies?
 - Behaviors associated with human infections or protection from infection?
- Assess risk for symptomatic and asymptomatic infection and a survey to assess exposures



CDC Recommendations on Raw Milk

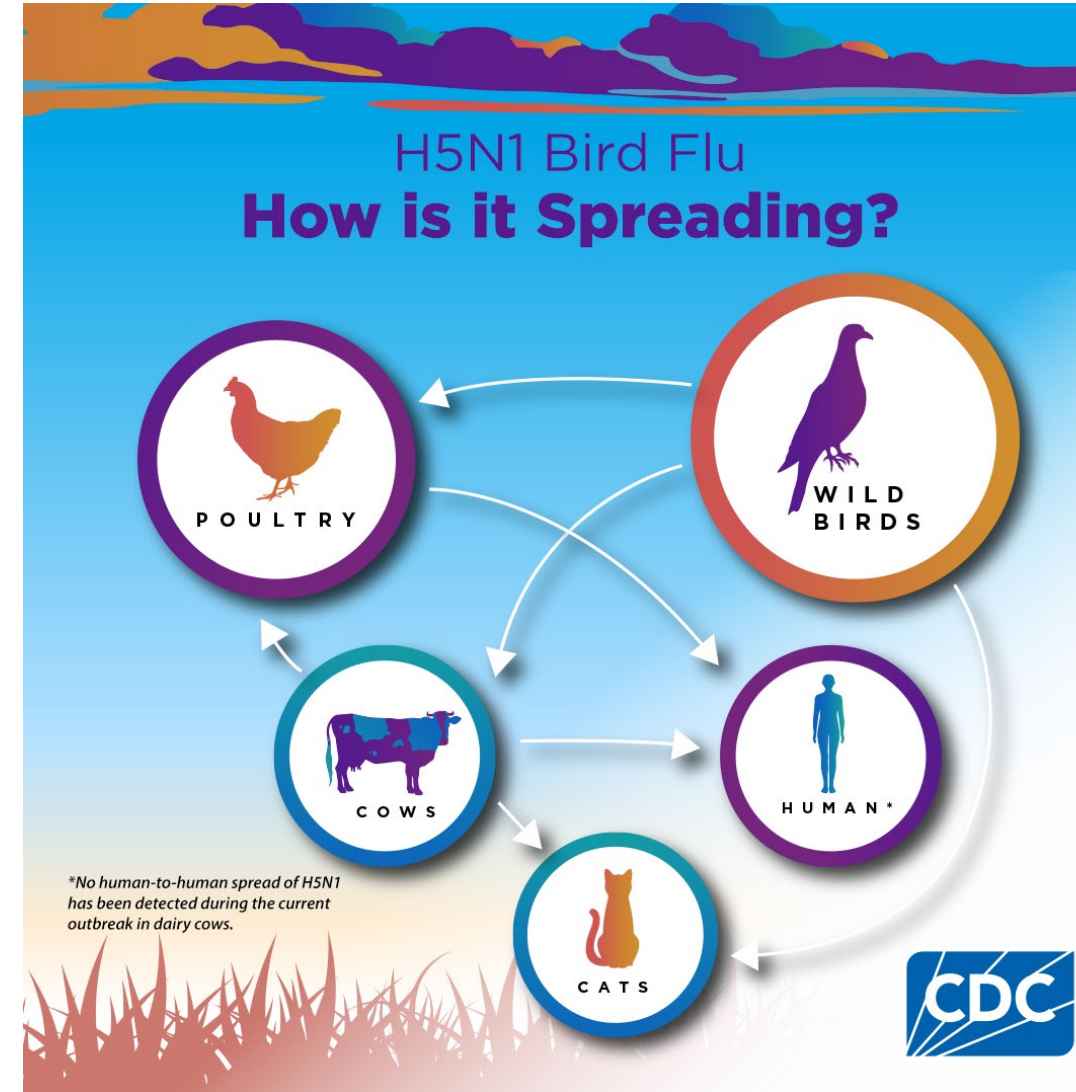
- A(H5N1) virus has been detected in raw cow milk of infected cows.
- Pasteurization kills A(H5N1) viruses and pasteurized milk is safe to drink.
- People should not drink raw milk or consume products made from raw milk.
- CDC recommends against consuming raw milk contaminated with live A(H5N1) virus as a way to develop antibodies against A(H5N1) virus to protect against future disease.



<https://www.cdc.gov/food-safety/foods/raw-milk.html>

Public Health Risk

- Overall risk to the public remains **low**
- Increased risk with exposure to infected animals or environment – occupational, recreational
- Exposed individuals should monitor for symptoms after first exposure and for 10 days after last exposure



Resources from CDC

— Situation Updates:

- [CDC A\(H5N1\) Bird Flu Response Update | Avian Influenza \(Flu\)](#)

— Surveillance Updates

- [How CDC is monitoring influenza data among people to better understand the current avian influenza A \(H5N1\) situation | Avian Influenza \(Flu\)](#)

— Technical Report

- [Technical Report: Highly Pathogenic Avian Influenza A\(H5N1\) Viruses | Avian Influenza \(Flu\) \(cdc.gov\)](#)

— Updated Recommendations

- [Highly Pathogenic Avian Influenza A\(H5N1\) Virus in Animals: Interim Recommendations for Prevention, Monitoring, and Public Health Investigations](#)
- [Recommendations for Worker Protection and Use of Personal Protective Equipment \(PPE\) to Reduce Exposure to Novel Influenza A Viruses Associated with Severe Disease in Humans](#)

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives. Protecting People™

Influenza (Flu)

Avian Flu > News & Spotlights

Avian Flu

- Current Situation +
- Bird Flu in Birds
- Bird Flu in Pets and Other Animals
- Bird Flu in People +
- Avian Influenza Type A Viruses
- Prevention and Antivirals
- Information for Specific Groups +
- Highlights in the History of Avian Influenza
- Past Outbreaks +
- Health Care & Laboratorian Guidance +
- What CDC Does +
- Avian Influenza Communication Resources

News & Spotlights

CDC A(H5N1) Bird Flu Response Update | Avian Influenza (Flu)

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What's this?

INFECTED POULTRY CAN SPREAD BIRD FLU TO PEOPLE

Human infections with bird flu viruses rare, but possible

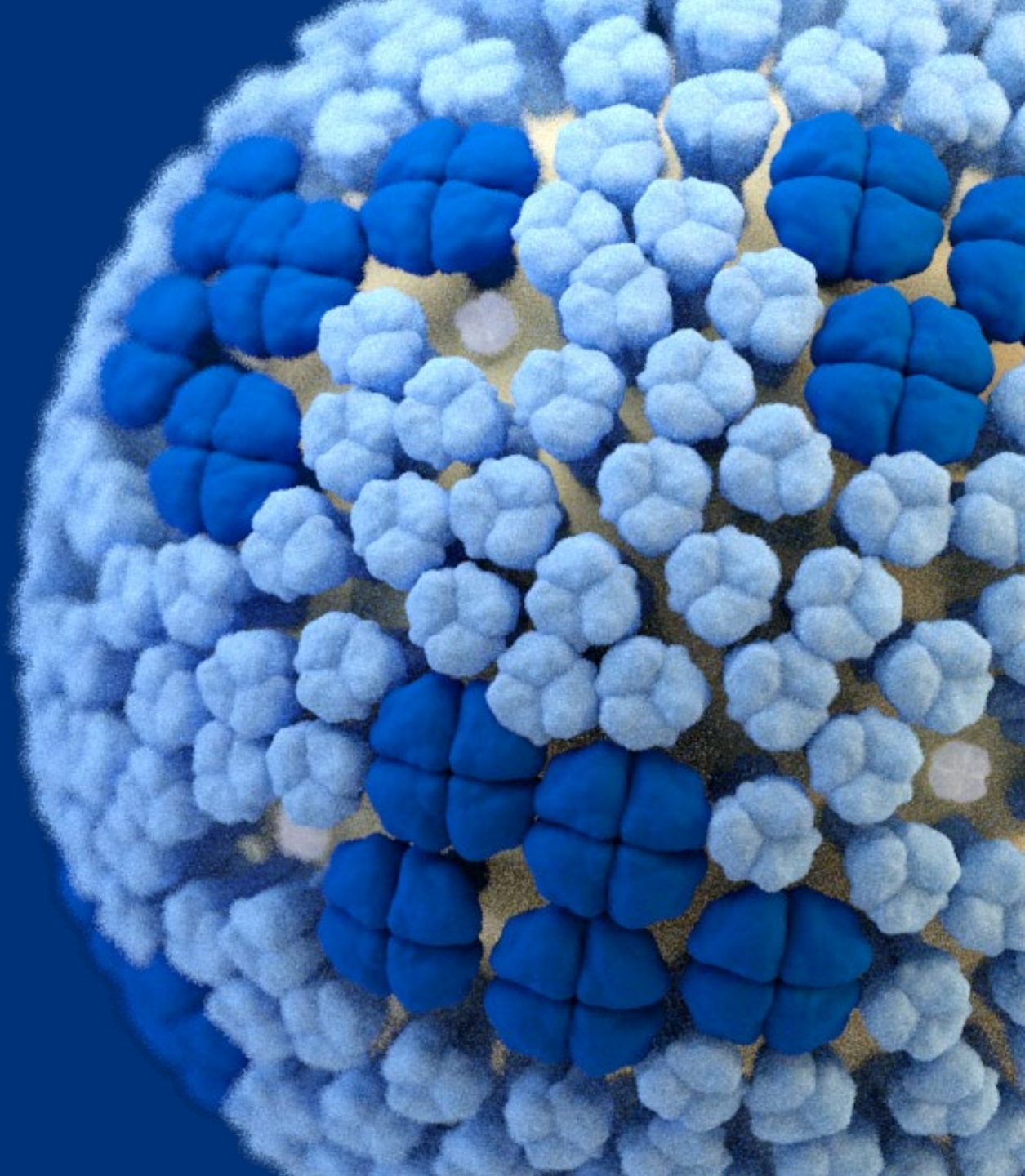
CDC A(H5N1) Bird Flu Response Update

May 3, 2024 – CDC continues to respond to the public health challenge posed by a multistate outbreak of avian influenza A(H5N1) virus, or “A(H5N1) virus,” in [dairy cows and other animals in the United States](#). CDC is working in collaboration with the U.S. Department of Agriculture (USDA), the Food and Drug Administration (FDA), state public health and animal health officials, and other partners using a [One Health approach](#). Currently, one human case has been confirmed in a person with exposure to presumably infected dairy cows [reported](#) by Texas on April 1, 2024⁽¹⁾⁽²⁾.

CDC’s response to this outbreak of influenza A(H5N1) virus in dairy cattle and other animals most recently includes:

- Continuing to support states that are monitoring people with exposure to cows, birds, or other domestic or wild animals infected, or potentially infected with, avian influenza A(H5N1) viruses. Testing of symptomatic people who have exposures is being done by state or local officials, and CDC is conducting confirmatory testing when needed.
 - Monitoring and testing data are now being [reported](#), and will be updated weekly on Fridays. Since March 2024, at least 220 people have been monitored for A(H5N1) after relevant exposures and at least 30 people have been tested.
- Having ongoing discussions with multiple states about state-led field investigations to explore key scientific and public health questions related to the ongoing outbreak. CDC is playing a coordinating role with regard to investigation protocols so that data collection can be standardized across states and results can be pooled. In addition, CDC has multilingual and multidisciplinary epidemiological field teams ready to deploy to support on-site studies if requested.
- Continuing work to better characterize the virus from the human case in Texas.
 - Beginning cell and animal laboratory studies, including to:
 - Learn how the virus reproduces in both human and cow respiratory tract epithelial cells and cow mammary epithelial cells.
 - Assess the severity of illness and transmissibility of the virus under different scenarios by infecting ferrets and assessing the outcome. Ferrets are used as a model for people because they get sick and spread influenza viruses in a manner similar to humans.
 - Testing human sera (blood) from people previously vaccinated with pre-pandemic A(H5) vaccines during clinical trials to see how their antibodies cross-react to the virus isolated from the human case in Texas. Data to date – including genetic analysis and testing of ferret antisera from multiple clade 2.3.4.4b candidate vaccine viruses (CVVs) (Reference table below⁽³⁾) – suggest vaccination will offer good cross-protection against cattle outbreak viruses. (The human case in Texas was a 2.3.4.4b virus). Antigenic characterization of the virus isolated from the human case in Texas (A/Texas/37/2024) with ferret antisera produced against existing pre-pandemic CVVs confirmed clade 2.3.4.4b A(H5) CVVs have good cross-reactivity to this virus.
- Engaging with manufacturers of commercial diagnostic tests and clinical partners to make progress toward the goal of having an A(H5N1) test that is widely available for consumers.
- Working so that states can conduct A(H5N1) testing on eye specimens. This week, use of eye swabs with the CDC H5 assay was approved by the CDC Clinical Laboratory Improvement Amendment (CLIA) director for use at CDC, which means results can be reported back for patient care. Originally, the A(H5N1) test was designed for use with respiratory specimens.
- Developing information for health care provider organizations to share with their membership related to the health concerns around consumption of raw milk in the context of the current A(H5N1) outbreak, since A(H5N1) virus fragments have been detected at high levels in raw milk. CDC and FDA recommend against the consumption of raw milk. [Testing at FDA](#) ⁽⁴⁾ has indicated that pasteurization kills A(H5N1) virus in milk.
- Continuing to engage One Health partner organizations from public health, agriculture, wildlife, milk regulatory officials, and others to share information and ensure preparedness to prevent and respond to this emerging infectious disease threat and for any potential human infections.
- Continuing to monitor flu surveillance data, especially in areas where A(H5N1) viruses have been detected in dairy cattle or other animals, for any unusual trends in flu-like illness, flu, or conjunctivitis.
 - CDC maintains a webpage on [How CDC is monitoring influenza data to better understand the current avian influenza A\(H5N1\) situation in people](#) that is updated weekly.
 - CDC flu surveillance systems show no indicators of unusual flu activity in people, including avian influenza A(H5N1) viruses, for the most recent week.

Thank you



Strategies to Safeguard Your Dairy Processing Employees

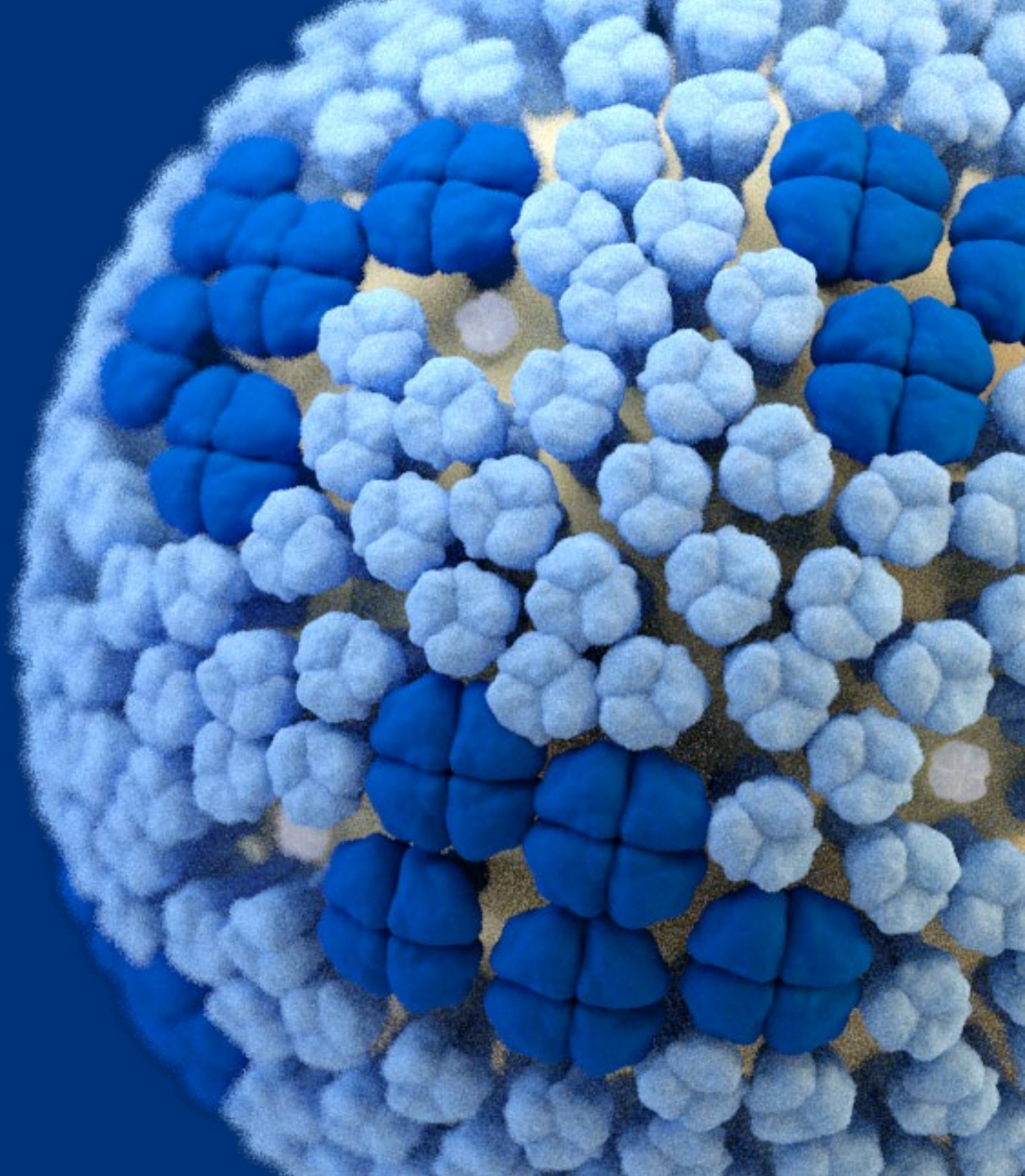
Highly Pathogenic Avian Influenza A (H5N1) Safety Recommendations

Dr. John Gibbins

Senior Veterinary Advisor

NIOSH Office of Agriculture Safety and Health

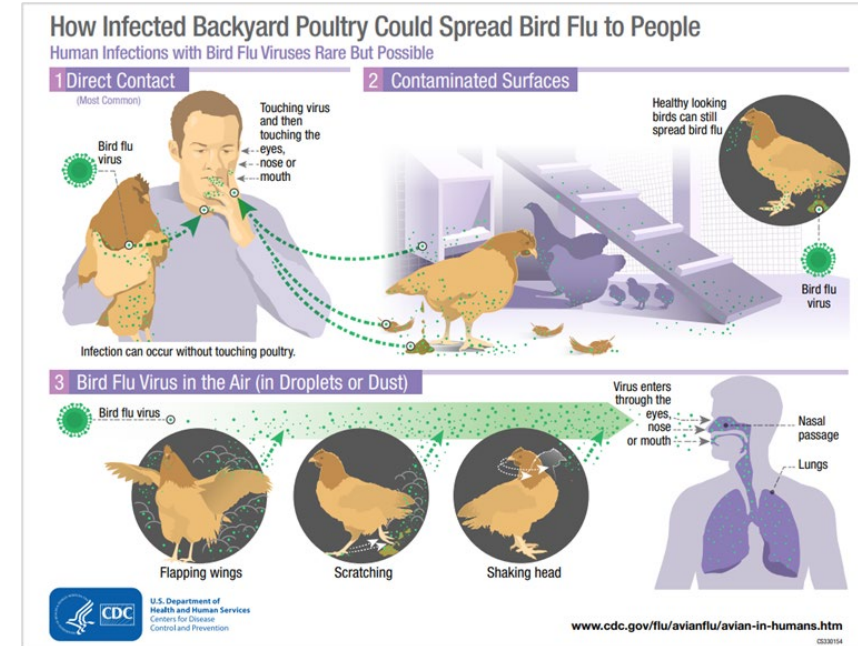
WCMA – 07/30/2024



Human Infections with HPAI A(H5N1) Viruses

➤ **Unprotected exposures** (without respiratory or eye protection)

- **Poultry exposures**
 - **Direct/close contact with sick/dead poultry**
 - Visiting a live poultry market
- **Exposure to other infected animals**
 - **Direct contact or close exposure (swans, dairy cows)**
- Limited, non-sustained human-to-human transmission from prolonged exposure to a symptomatic H5N1 patient (last reported 2007)



H5N1 Bird Flu Might Spread from Cows to People in Several Ways



Worker Protection

- H5N1 has been found at high levels in the raw milk of dairy cows and also in the lungs, muscle, and udder tissue of cows.
- Workers should wear PPE when in contact with (or around) dairy cows, raw milk, other animals, or surfaces and other items that might be contaminated with virus.
- Communication materials are available online in English, Spanish, and various tribal languages

Protect Yourself From H5N1 When Working With Farm Animals

H5N1 is a bird flu virus that could make you sick. Wear recommended personal protective equipment (PPE) when working directly or closely with sick or dead animals, animal feces, litter, raw milk, and other materials that might have the virus.



Wash hands with soap and water, then put on PPE in this order:

1. Fluid-resistant coveralls
2. Waterproof apron, if needed for job task
3. NIOSH Approved® Respirator (e.g., N95® filtering facepiece respirator or elastomeric half mask respirator)
4. Properly-fitted unvented or indirectly vented safety goggles or face shield
5. Head cover or hair cover
6. Gloves
7. Boots

Scan to learn how to put on and take off a respirator



While wearing PPE

- Use separate designated clean areas, one for putting on PPE and one for taking off PPE.
- Avoid touching your eyes, mouth, and nose after touching any contaminated material.
- Do not eat, drink, smoke, vape, chew gum, dip tobacco, or use the bathroom.

Follow these steps to safely remove PPE

1. Remove the apron, if worn
2. Clean and disinfect boots
3. Remove boots
4. Remove coveralls
5. Remove gloves
6. Wash hands with soap and water or alcohol-based

After removing PPE

- Shower at the end of the work shift.
- Leave all contaminated clothing and equipment at work.
- Watch for symptoms of illness while you are working with potentially sick animals or materials. Continue watching for symptoms for 10 days after finishing working. If you get sick, tell your supervisor and talk with a doctor.

Reusable and disposable PPE

- While removing PPE, dispose of all disposable PPE appropriately and set aside reusable PPE
- Clean and disinfect reusable PPE after every use

Resources from CDC

Updated Recommendations

- [Recommendations for Worker Protection and Use of Personal Protective Equipment \(PPE\) to Reduce Exposure to Novel Influenza A Viruses Associated with Severe Disease in Humans](#)
- Resources available in English, Spanish, various tribal languages (K'eich', Nahuatl, others)
- Guidance being updated for employers and employees
- Hazard Assessment guidance for dairy producers in the works

Protéjase del virus H5N1 si trabaja con animales de granja

El H5N1 es un virus de la influenza aviar que podría enfermarlo. Use el equipo de protección personal (EPP) recomendado cuando trabaje directamente o de cerca con animales enfermos o muertos, heces, camas (litter) y leche cruda de animales u otros materiales que podrían tener el virus.

Lávese las manos con agua y jabón y luego póngase el EPP en este orden:

1. Overoles resistentes a líquidos.
2. Delantal a prueba de agua, si es necesario para las tareas del trabajo.
3. Respirador aprobado por NIOSH (NIOSH Approved® Respirator; p. ej., respirador con pieza facial filtrante N95® o respirador con media máscara elastomérica).
4. Gafas protectoras o protector facial que no tengan canales de ventilación o que tengan ventilación indirecta y se ajusten de manera adecuada.
5. Cubierta para la cabeza o el cabello.
6. Guantes.
7. Botas.

Mientras tenga puesto el EPP:

- Use áreas designadas para el aseo separadas, una para ponerse el EPP y otra para quitárselo.
- Evite tocarse los ojos, la boca y la nariz después de tocar cualquier material contaminado.

Después de quitarse el EPP:

- Dúchese al final de la jornada laboral.
- Deje toda la ropa y los equipos contaminados en el trabajo.
- Esté atento a si presenta síntomas de enfermedad mientras trabaje con animales posiblemente enfermos o materiales contaminados. Si presenta síntomas en los días siguientes a su trabajo, consulte a un médico.

Escanee para saber cómo ponerse y quitarse un respirador

Chachajij awib' che le H5N1 are taq katchakun pa le K'olib'al re ak'

H5N1 jun chikop yab'il re le q'aq' yab'il kech ak' kakowinik kaq'ax chwe. Chakojoj' le jastaq on atz'yaq katuto'o (personal protective equipment, PPE) ri b'm chwe are taq katchakun kuk' on chkinaqaj ri e yowab' taq awaj on e kaminaj awaj, ruk' kimes awaj, mes, tu'wakax man tz'akon taj xuquje' e nik'aj ch'i jastaq jawje' k'o ri uchikop yab'il.

Chach'aja' le ac'ab' ruk' ch'i'paq xuquje' ruk' ja' k'atek'uri' chakojoj' le (personal protective equipment, PPE) pa' je' wa' ucholik:

1. K'oj atz'yaq k'o uchiq'ab' rech kakiritaj taj
2. Uwoch awa' man kacha'qi' taj, we rajawaxik rumal le chak
3. Jik' b'al kyeqiq' ya'om b'e che rumal NIOSH® (p. ej., Jik' b'al Kyeqiq' ruk' jun jastaq k'o karesaj N95® on jik' b'al Kyeqiq' rech nik'aj k'oj kayuqupjiik)
4. Lemowachaj katob'anik on jun k'oj (carena) qas xaquare, man karesaj ta kyeqiq' on karesaj kyeqiq'
5. Ch'uqb'al jolomaj on chuqb'al wi'
6. Pisp'al q'ab'aj
7. Tob'o taq xajab'

Are taq kakoj le (personal protective equipment, PPE)

- Chakojoj' jun k'olib'al ch'ojch'oj naj k'o apanoq, jun k'olib'al che ukojik le (personal protective equipment, PPE) xuquje' jun chik che resaxik le PPE.
- Man kachap taj ri ab'oq'och, ri ch'i' xuquje' ri atza'm are taq xchap jastaq etzil on k'o uchikop yab'il che.
- Man katwa' taj, katij ta jastaq, katsik'an taj, kakach'uj ta kach' xuquje' man katbe' ta pa b'anb'al chuluj.

Chaterenej ub'anik le taqanik rech qas kel ri (personal protective equipment, PPE)

1. Chawesaj ri uwo awa', we akojom
2. Chach'ojch'ob'ej xuquje' chajosq'ij ri tob'o taq xajab'
3. Chawesaj ri tob'o taq xajab'

Are taq kawesaj ri (personal protective equipment, PPE)

- Katatinik we katto'taj che ri achak.
- Chaya'kan ri awatz'yaq xuquje' ri jastaq on atz'yaq xatuto'o ri k'o uchikop yab'il che.
- Chananab'ela' ri uk'ax'ollil ri yab'il are taq katchakun kuk' awajib' on jastaq eyowab'. Chaterenej' rilik ri uk'ax'ollil ri yab'il are taq kok'ow ri 10 q'ij at chakunaq. We katyowajik chaya' ub'ixik che ri a sollinel xuquje' chach'ab'ej jun ajkun.

Kakamulix ukojik xuquje' xa jumul ukojik PPE

- Are taq kawesaj ri (personal protective equipment, PPE), utz uk'yaqik kab'ano ri xa jumul ukojik xuquje' utz uk'olik kab'ano ri kekamulix ukojik

Chach'oj' re rech kawesaj' naq' on uk'ojik xuquje' (pa' je' wa' ucholik) k'ameq'

Additional Resources

Additional resources

Heat

- [Heat Stress | NIOSH | CDC](#)
- [Heat - Overview: Working in Outdoor and Indoor Heat Environments | Occupational Safety and Health Administration \(osha.gov\)](#)

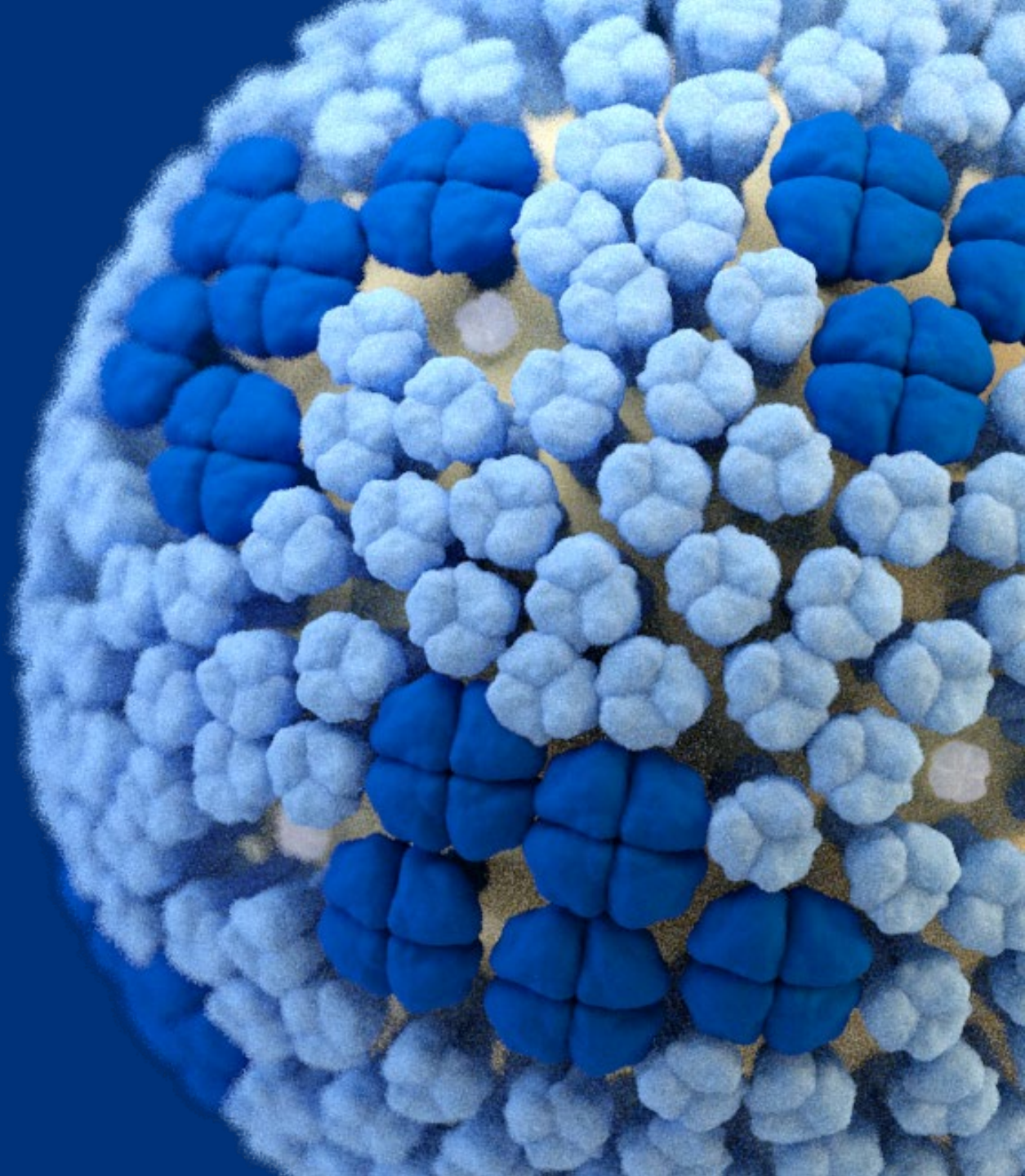
EPA guidance on disinfectants

- [Antimicrobial Products Registered for Disinfection Use against Avian Influenza on Poultry Farms and Other Facilities | US EPA](#)

Additional Resources

- [Biosafety Considerations in Milk and Dairy Testing_v1.pdf \(aphl.org\)](#)
(American Public Health Laboratories)
- [FDA-HPAI-Biosafety-Recommendations.pdf \(aphl.org\)](#)
- [Avian Flu | Laboratory Workers \(osha.gov\)](#)
- FDA sanitation guidelines unchanged

Thank you



H5N1 Resources for Dairy Processors

Online Resources

- WisCheeseMakers.org
- Centers for Disease Control and Prevention
- Food and Drug Administration
- U.s. Department of Agriculture
- Wisconsin Department of Agriculture, Trade and Consumer Protection
 - Request Form for Free PPE
 - Dairy Processing Fact Sheet (English & Spanish)

Questions and Answers

Q&A

Do all people handling raw milk need to wear PPE, or is it just if you think the milk might be affected with H5N1?

Q&A

Do you have any data you can share on what portion of the dairy industry are following PPE recommendations from the CDC? Are you planning to monitor this?

Q&A

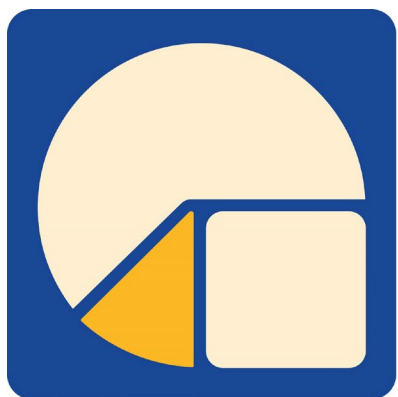
What would make CDC - or OSHA - move toward regulation, as opposed to recommendation, when it comes to PPE for H5N1 protection?

Q&A

The people who've gotten H5N1 in the U.S. seem to have gotten conjunctivitis, mostly. Does that mean that eye protection is more important than respirators? Are you more likely to contract it when the virus gets in your eye?

Q&A

As a food processor, sanitation practices are always essential. Is there anything we should know about different types of sanitizing solutions we should use to specifically guard against H5N1?



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Tuesday, August 6
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Enhancing On-Farm Biosecurity
Practices Amid H5N1

Tuesday, August 6
10:30 a.m.-3:00 p.m. (CT)
Free online or \$25 in-person