Laboratory Outreach Communication System (LOCS) Call

Monday, February 27, 2023, at 3:00PM ET

- **Welcome**
  - Jasmine Chaitram, CDC Division of Laboratory Systems
- **SARS-CoV-2 Variants Update**
  - Natalie Thornburg, CDC Division of Viral Diseases
- **H5 Situation Report**
  - John Barnes, CDC Influenza Division
- **Resilient Supply Chain Program**
  - Tammy Beckham, U.S. Food and Drug Administration (FDA)

About DLS

Vision

Exemplary laboratory science and practice advance clinical care, public health, and health equity.

Mission

Improve public health, patient outcomes, and health equity by advancing clinical and public health laboratory quality and safety, data and biorepository science, and workforce competency.

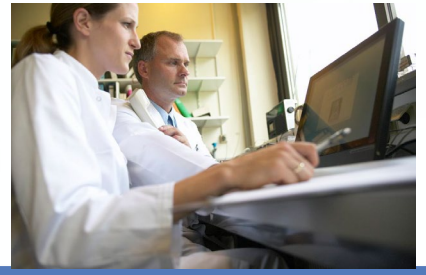
Four Goal Areas

Quality Laboratory Science

- Improve the quality and value of laboratory medicine and biorepository science for better health outcomes and public health surveillance

Highly Competent Laboratory Workforce

- Strengthen the laboratory workforce to support clinical and public health laboratory practice



Safe and Prepared Laboratories

- Enhance the safety and response capabilities of clinical and public health laboratories

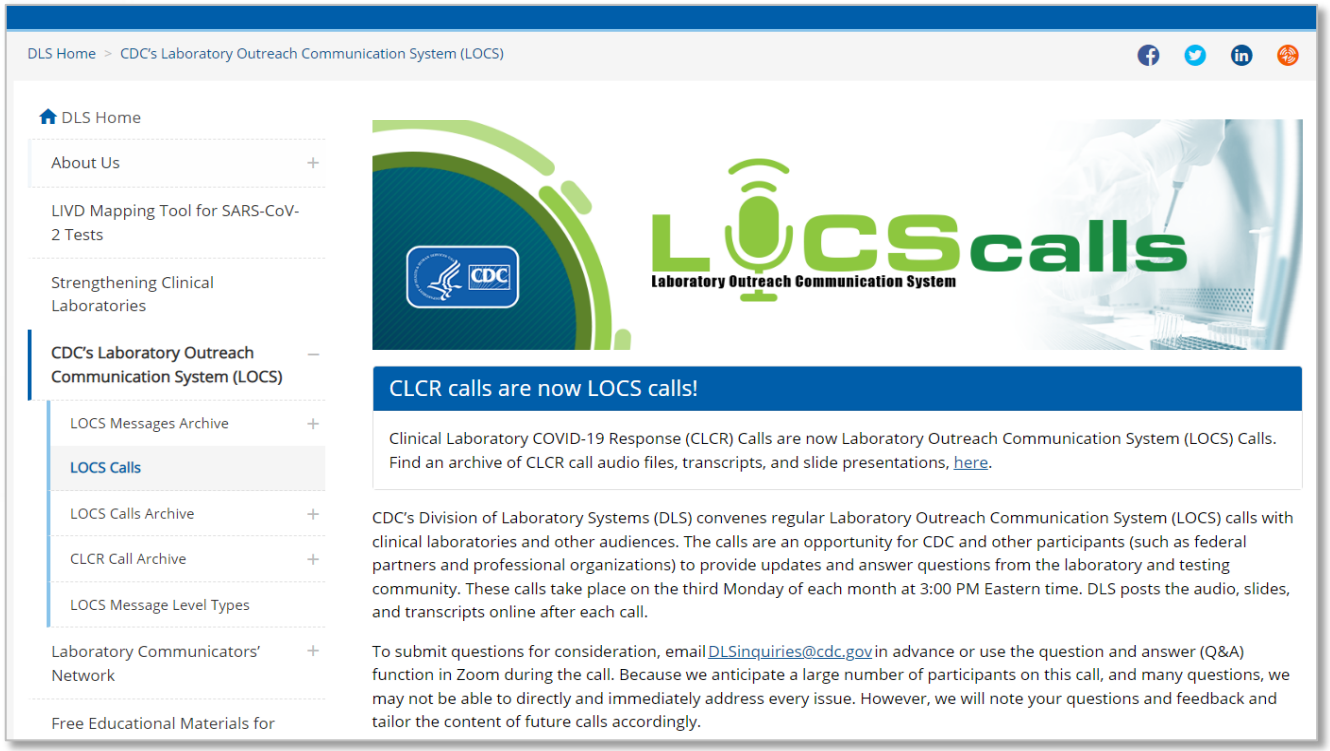
Accessible and Usable Laboratory Data

- Increase access and use of laboratory data to support response, surveillance, and patient care

LOCS Calls

https://www.cdc.gov/locs/calls

Find LOCS Call information, transcripts, and audio recordings on this page



We Want to Hear From You!

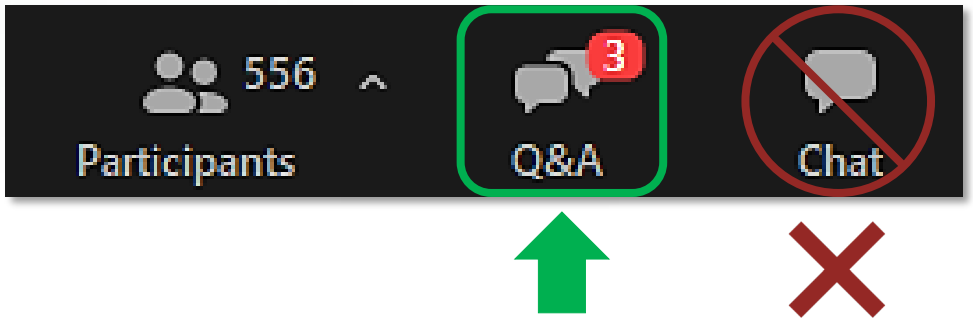
Training and Workforce Development

Questions about education and training?

Contact LabTrainingNeeds@cdc.gov

How to Ask a Question

- **Using the Zoom Webinar System**
  - Click the **Q&A button** in the Zoom webinar system
  - Type your question in the **Q&A box** and submit it
  - Please do not submit a question using the chat button



- For media questions, please contact CDC Media Relations at media@cdc.gov
- If you are a patient, please direct any questions to your healthcare provider

Slide decks may contain presentation material from panelists who are not affiliated with CDC. Presentation content from external panelists may not necessarily reflect CDC's official position on the topic(s) covered.

SARS-CoV-2 Variants Update

Natalie Thornburg
CDC Division of Viral Diseases

H5 Situation Report

February 27, 2023

CDC LOCS call

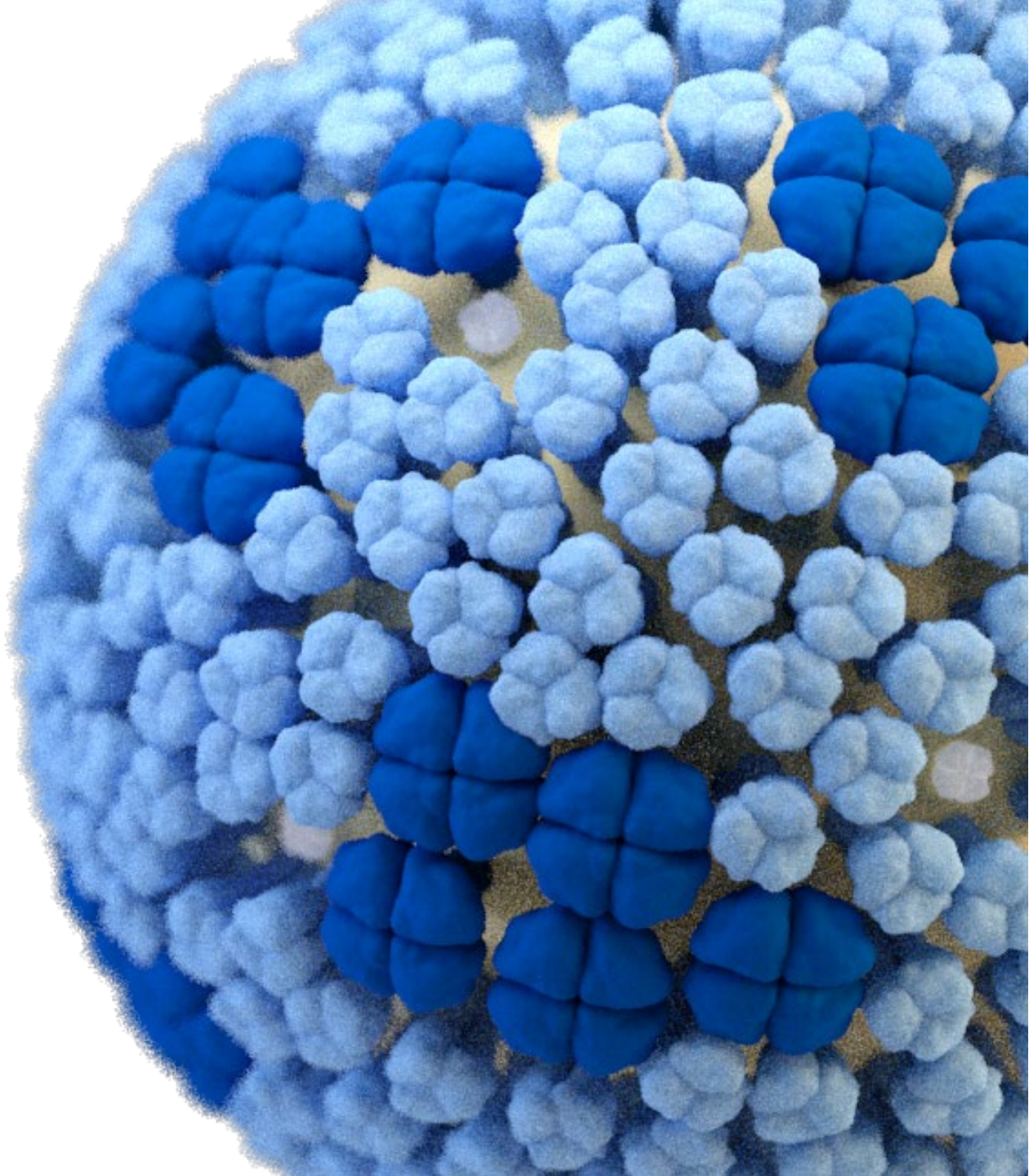
John R Barnes, PhD

Team Lead Genomic and Diagnostics Team

Influenza Division

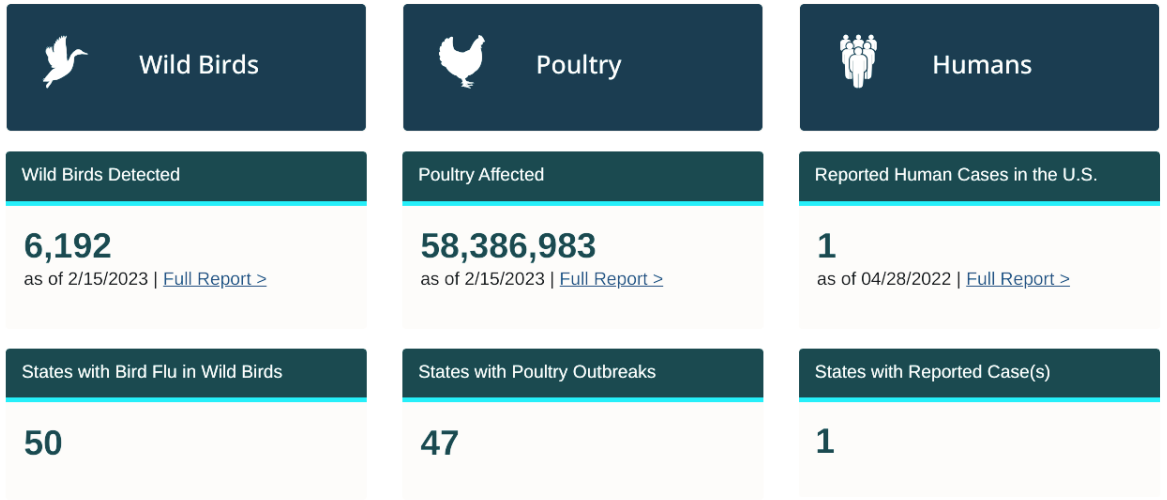
National Center for Immunization and Respiratory Diseases

CDC



Human H5N1 cases, 2021-present

- Seven human cases reported globally
  - **Ecuador** (1) -- January 2023
  - **China** (1) -- November 2022 (fatality)
  - **Vietnam** (1) -- October 2022
  - Spain (2) -- October 2022
  - United States (1) -- April 2022
  - UK (1) -- Jan 2022
- No human-to-human transmission has been identified
- CDC considers the risk to the general public to be low

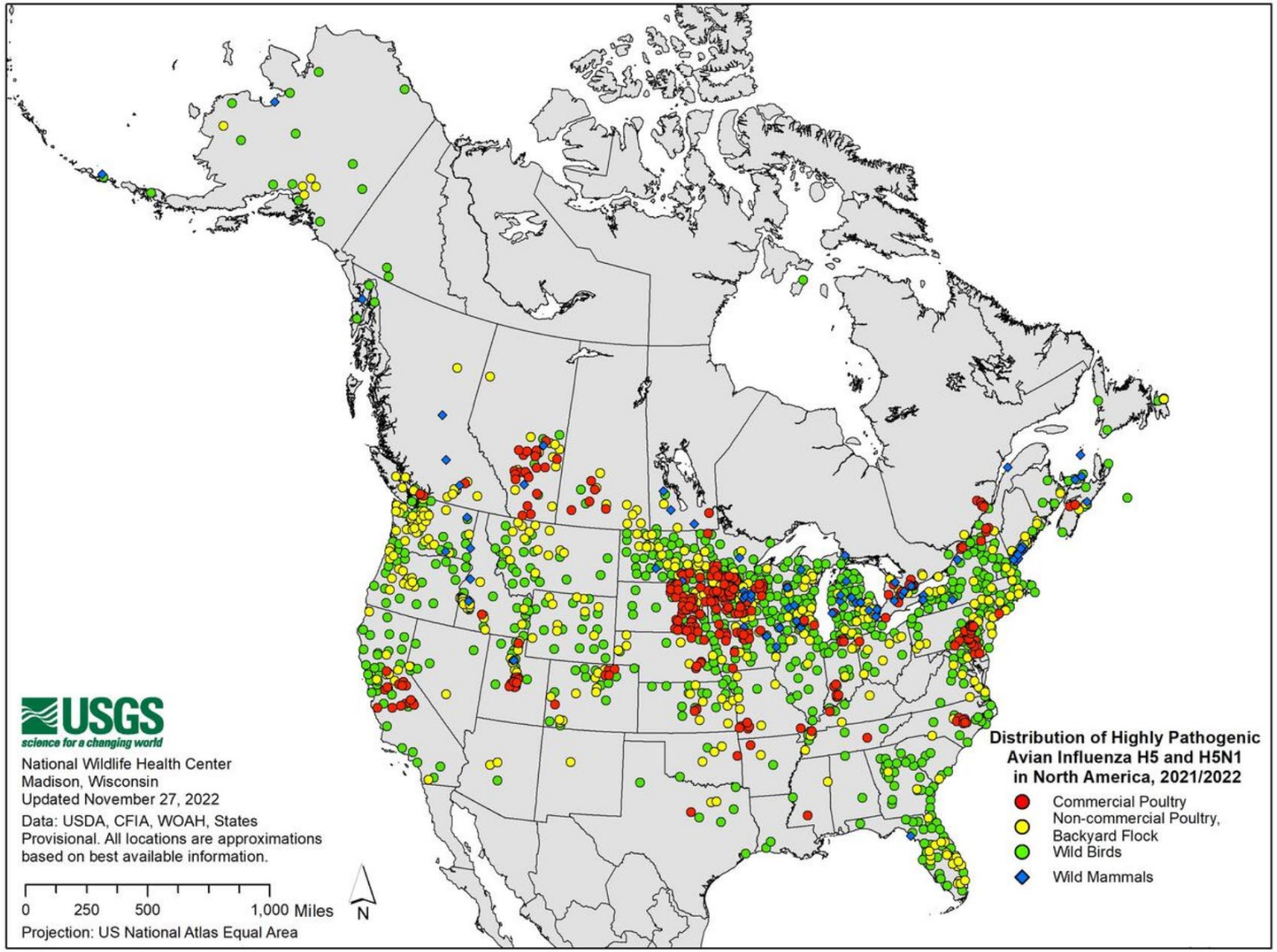


CDC Influenza

Data as of 02/16/2023 https://www.cdc.gov/flu/avianflu/avian-flu-summary.htm

2023 – HPAI A(H5): Current U.S. Situation

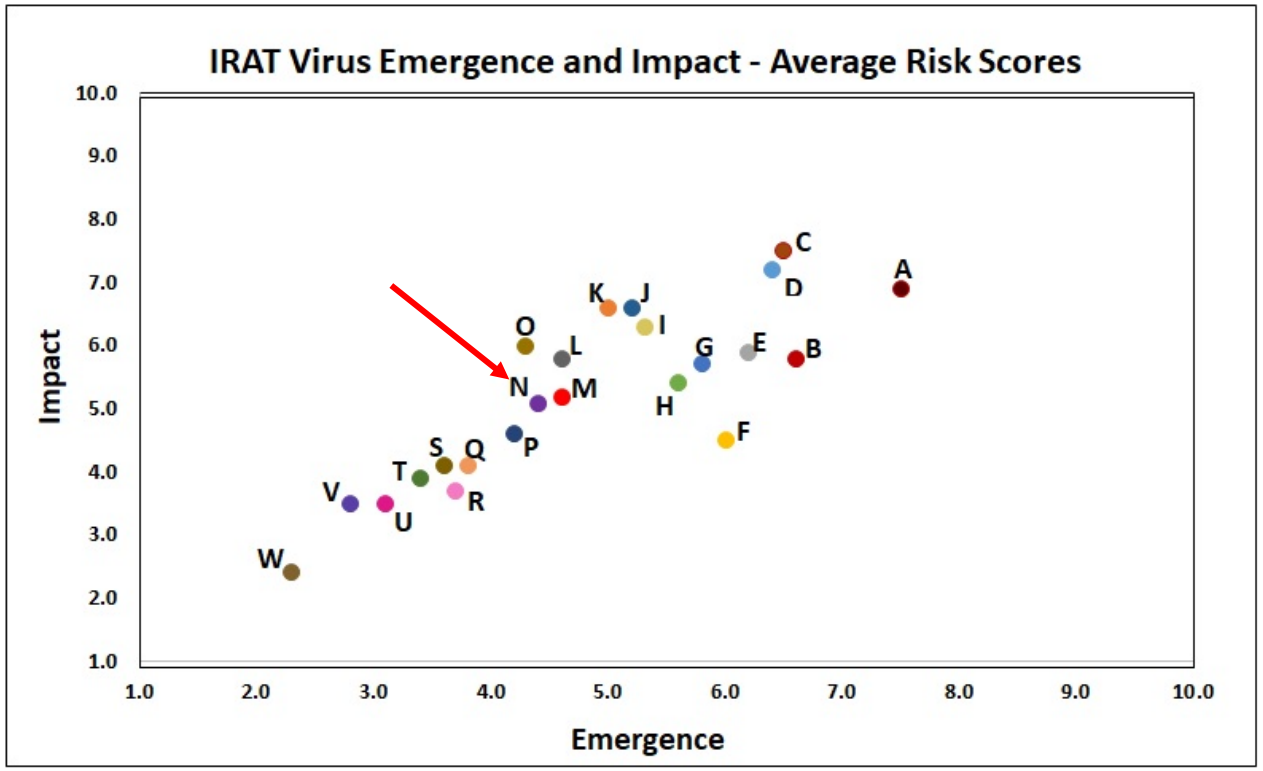
- Distribution of Highly Pathogenic Avian Influenza H5 and H5N1 in North America, 2021/2022



https://www.usgs.gov/centers/nwhc/science/distribution-highly-pathogenic-avian-influenza-north-america-20212022

CDC Influenza

Influenza Risk Assessment Tool (IRAT) for Potential Pandemic Risk



	Influenza Virus	Emergence Score	Impact Score	Risk Assessment Year
A	A(H1N1) [A/swine/Shandong/1207/2016]	7.5	6.9	Jul 2020
B	A(H3N2) variant [A/Ohio/13/2017]	6.6	5.8	Jul 2019
C	A(H7N9) [A/Hong Kong/125/2017]	6.5	7.5	May 2017
D	A(H7N9) [A/Shanghai/02/2013]	6.4	7.2	Apr 2016
E	A(H9N2) Y280 lineage [A/Anhui-Lujiang/13/2018]	6.2	5.9	Jul 2019
F	A(H3N2) variant [A/Indiana/08/2011]	6.0	4.5	Dec 2012
G	A(H1N2) variant [A/California/62/2018]	5.8	5.7	Jul 2019
H	A(H9N2) G1 lineage [A/Bangladesh/0994/2011]	5.6	5.4	Feb 2014
I	A(H5N6) clade 2.3.4.4b [A/Sichuan/06681/2021]	5.3	6.3	Oct 2021
J	A(H5N1) Clade 1 [A/Vietnam/1203/2004]	5.2	6.6	Nov 2011
K	A(H5N6) [A/Yunnan/14564/2015] – like	5.0	6.6	Apr 2016
L	A(H7N7) [A/Netherlands/219/2003]	4.6	5.8	Jun 2012
M	A(H5N8) clade 2.3.4.4b [A/Astrakhan/3212/2020]	4.6	5.2	Mar 2021
N	A(H5N1) clade 2.3.4.4b [A/American wigeon/South Carolina/AH0195145/2021]	4.4	5.1	Mar 2022
O	A(H10N8) [A/Jiangxi-Donghu/346/2013]	4.3	6.0	Feb 2014
P	A(H5N8) [A/gyrfalcon/Washington/41088/2014]	4.2	4.6	Mar 2015
Q	A(H5N2) [A/Northern pintail/Washington/40964/2014]	3.8	4.1	Mar 2015
R	A(H3N2) [A/canine/Illinois/12191/2015]	3.7	3.7	Jun 2016
S	A(H5N1) [A/American green-winged teal/Washington/1957050/2014]	3.6	4.1	Mar 2015
T	A(H7N8) [A/turkey/Indiana/1573-2/2016]	3.4	3.9	Jul 2017
U	A(H7N9) [A/chicken/Tennessee/17-007431-3/2017]	3.1	3.5	Oct 2017
V	A(H7N9) [A/chicken/Tennessee/17-007147-2/2017]	2.8	3.5	Oct 2017
W	A(H1N1) [A/duck/New York/1996]	2.3	2.4	Nov 2011

- Eurasian Avian/swine H1N1 in China (A) has highest emergence score
  Emergence = 7.5, Impact = 6.9
- Avian H7N9 in China (C) has highest Impact score
  Emergence = 6.5, Impact = 7.5
- **Avian H5N1 clade 2.3.4.4b [A/American wigeon/South Carolina/AH0195145/2021] (N)**
  Emergence = 4.4, Impact = 5.1

IRAT-Virus-Report-H5N1-clade-2.3.4.4b.pdf (cdc.gov)
Influenza Risk Assessment Tool (IRAT) | Pandemic Influenza (Flu) | CDC

CDC Influenza

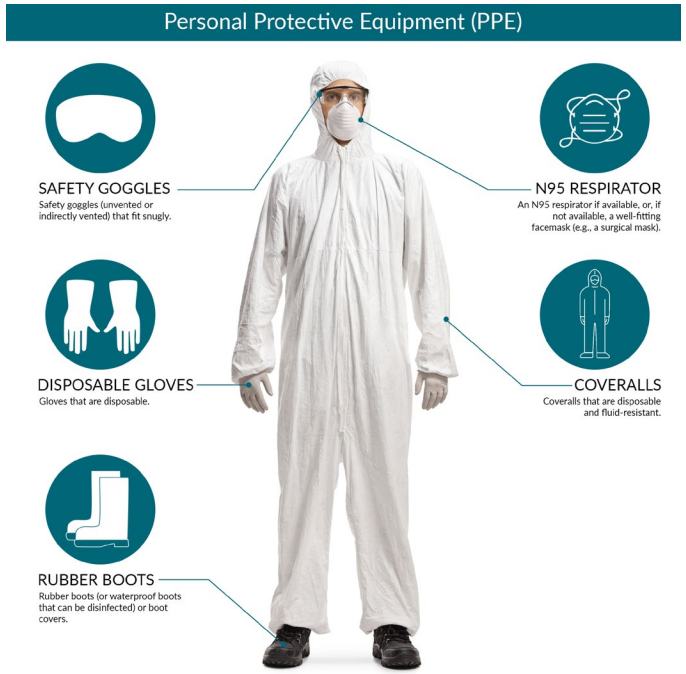
Influenza A(H5) Surveillance

- CDC and state and local health departments actively monitor people exposed to infected birds and poultry for 10 days after exposure
  - >6,200 people in 52 jurisdictions
  - 162 people who were monitored reported symptoms and tested for novel influenza A

- Existing seasonal influenza surveillance can identify human cases of avian influenza A
  - Seasonal influenza assays in 128 public health laboratories in all 50 U.S states and 170 laboratories globally
  - Influenza A(H5) virus assays in 99 public health laboratories in all 50 U.S. states and 129 international laboratories

Overview of Guidance

- Monitor birds for signs and symptoms of avian flu and report sick birds to animal health authorities
- Avoid direct contact with sick birds and the environment
- Take precautions around wild birds (wash hands, avoid touching face) and wear appropriate PPE when in direct contact with potentially infected birds
- Monitor for symptoms for 10 days after last exposure
- If symptomatic, avoid contact with others and contact your local health department



CDC guidance

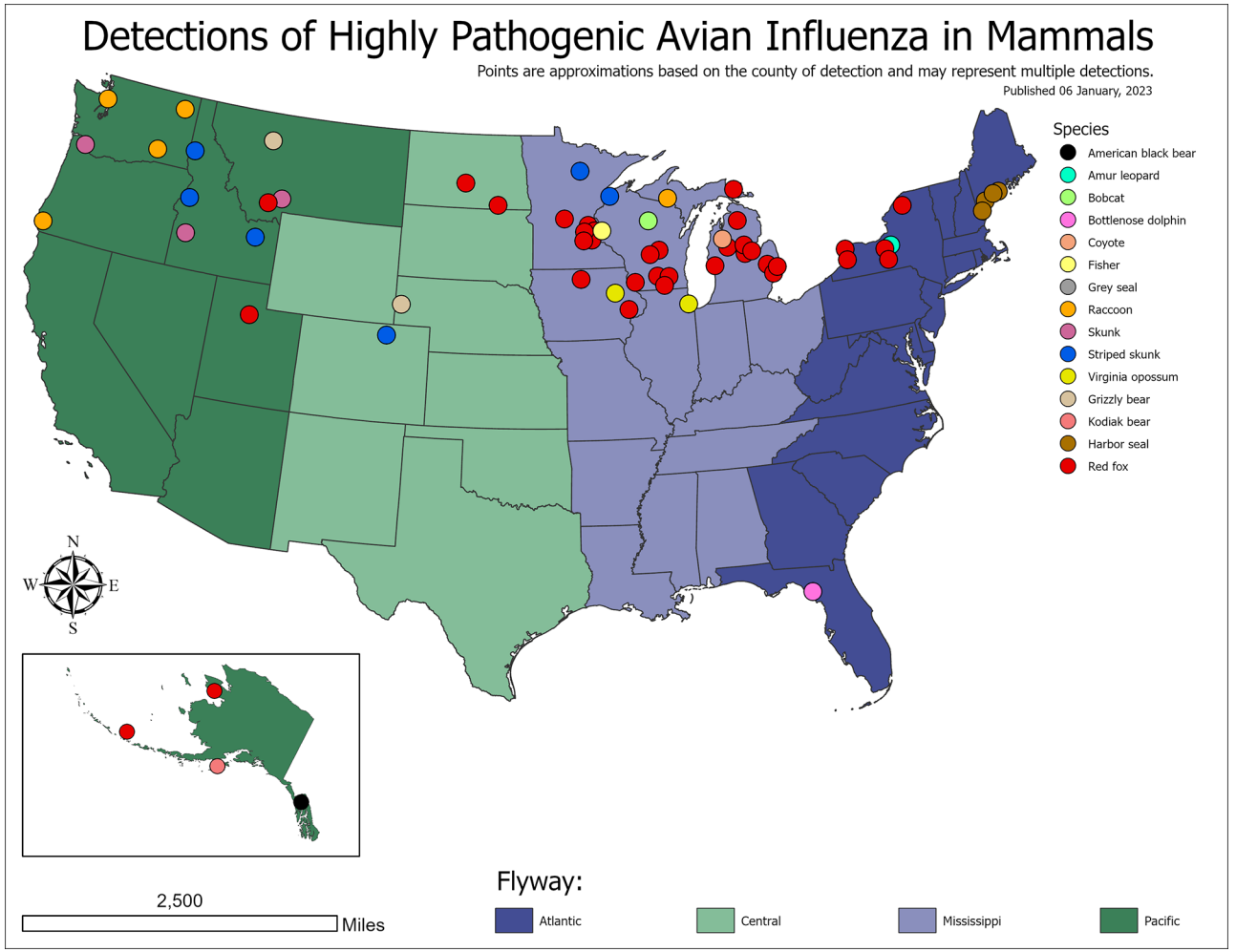
[Poultry workers]
[Bird flu responders]
[Backyard flock owners]
[Hunters and bird enthusiasts]
[Anyone known to be exposed to infected birds]

CDC Influenza

Public Health Monitoring Plan for USDA/APHIS Responders to Detections of Avian Influenza Virus in Poultry https://www.aphis.usda.gov/animal_health/downloads/animal_diseases/ai/ai-monitoring-plan.pdf
CDC Information for People Exposed to Birds Infected with Avian Influenza Viruses https://www.cdc.gov/flu/avianflu/h5/infected-birds-exposure.htm

H5 Infections in Mammals

- H5N1 viruses have been detected in some mammals
- An October outbreak in a mink farm in Spain suggested the possibility of mink-to-mink transmission
- Overall, these outbreaks do not raise CDC's threat assessment
  - Viruses contained a genetic change related to RNA replication that may have aided transmission or disease in mink, but did not contain changes that would suggest increased risk for humans



USDA APHIS | 2022-2023 Detections of Highly Pathogenic Avian Influenza in Mammals

CDC Influenza

Medical Countermeasures

- Sequence analyses indicate that currently available influenza antiviral treatments would be effective against more than 99% of A(H5) viruses
- A Candidate Vaccine Virus (CVV) was developed and made available to vaccine manufacturers in early 2022
  - CVV & mink H5 are 100% identical for HA1
- CDC continues to analyze viral sequence data for genetic markers associated with greater disease severity, more efficient infectivity/transmissibility to people, reduced susceptibility to antiviral drugs, or impact on candidate vaccine viruses and diagnostics

CDC Priorities

- CDC continues to be in a posture of readiness
- Pandemic preparedness planning activities are ongoing should the situation change
  - Surveillance activities and monitoring of exposed individuals
  - Continued viral genomic analyses
  - Pandemic vaccine risk mitigation - outlining potential A(H5) virologic and epidemiologic changes
  - National testing capacity readiness
    - Engaging FDA and interagency partners
    - Exploring commercial interest for A(H5) assay development, manufacturing, testing
  - Vaccine effectiveness, safety and immunization data systems

H5 Testing Guidance

A/H5: Specimens with presumptive positive or inconclusive results

- A specimen is only presumptively positive for influenza A/H5 if all three targets (InfA, H5a and H5b) are positive.
- A result is inconclusive for A/H5 if the test is positive for InfA and has only one of the two H5 markers testing positive.

Our interpretation of current USDA's Division of Agricultural Select Agents and Toxins (DASTAT) guidance is that **a specimen that tests positive for H5 or other avian virus is considered a select agent** and must be reported to APHIS by phone or email IMMEDIATELY (even prior to confirmation by CDC).

https://www.selectagents.gov/sat/list.htm

- The lab would have 7 days to submit a Form 4
- All shipping and handling of that specimen to CDC would have to abide by select agent rules until the specimen has been verified to be in an excepted category (**Note: don't ship while testing**)

- We encourage you to consult USDA/DASTAT site and your institutes Responsible Official (RO) for more information.

Further instructions on how to handle and report the specimen can be found here:

https://www.selectagents.gov/compliance/faq/reporting.htm

Questions?

Resilient Supply Chain Program Overview

Tammy Beckham
U.S. Food and Drug Administration

These slides were shared during the call but are not available for public distribution.

Next Scheduled Call

Monday, March 20
3 PM - 4 PM ET

CDC Social Media

https://www.facebook.com/CDC

https://twitter.com/cdcgov

https://www.instagram.com/cdcgov

https://www.linkedin.com/company/cdc

Thank You For Your Time!

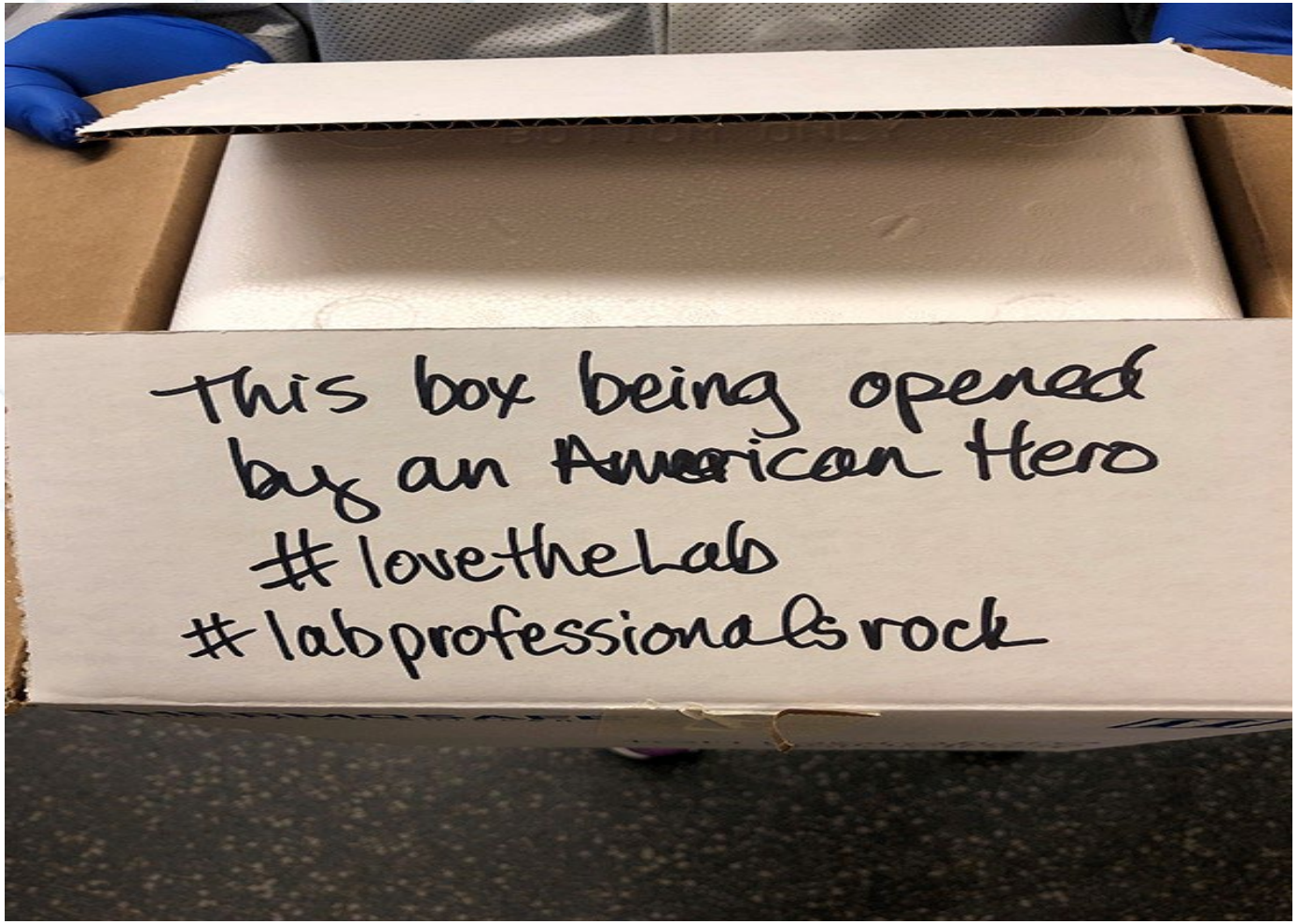


Photo submitted by the Microbiology Laboratory at The University of Pittsburgh Medical Center

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov