Avian Influenza: Public Health Response

Wisconsin Virology Conference

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Agenda

- Routine Influenza Surveillance
- Avian Influenza in People
- Novel Influenza Surveillance
- Prevention

Routine Influenza Surveillance

Reportable Diseases

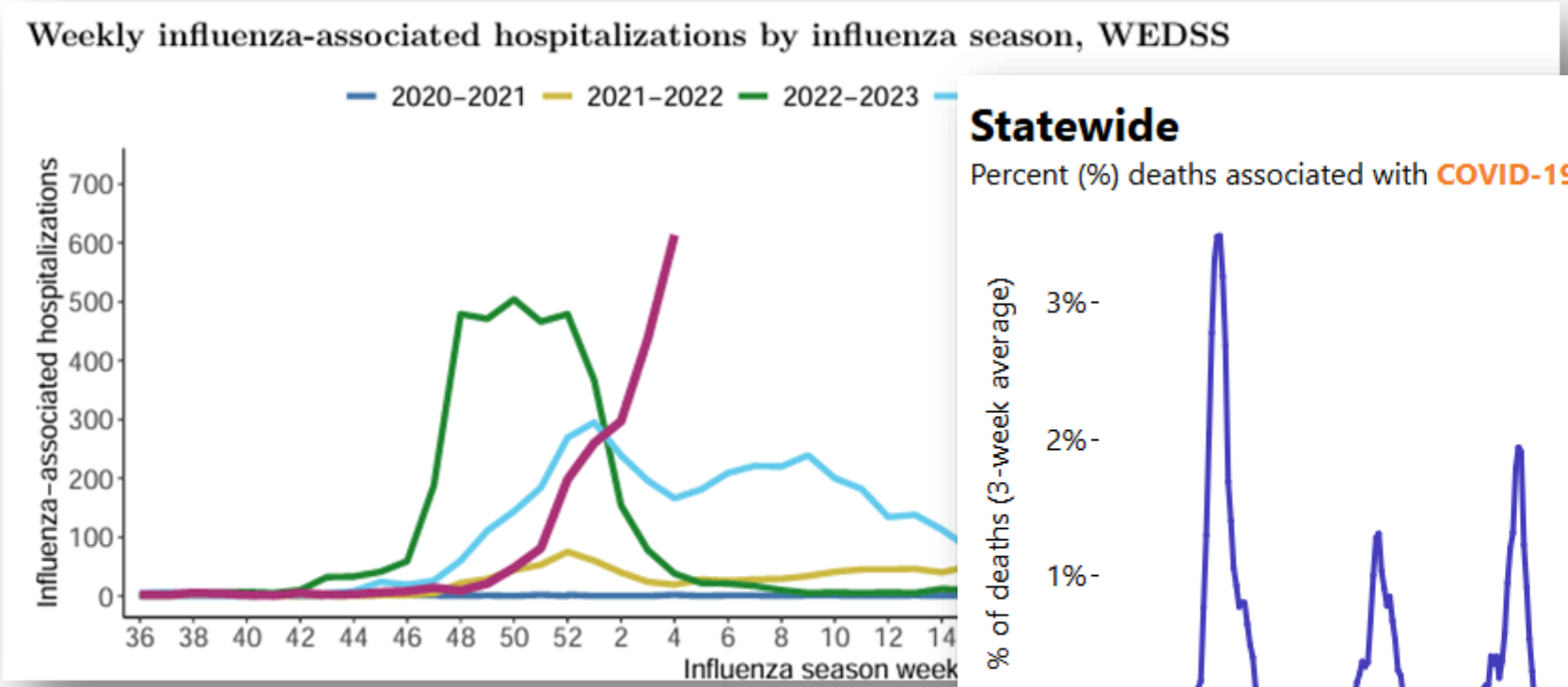
Laboratory Surveillance

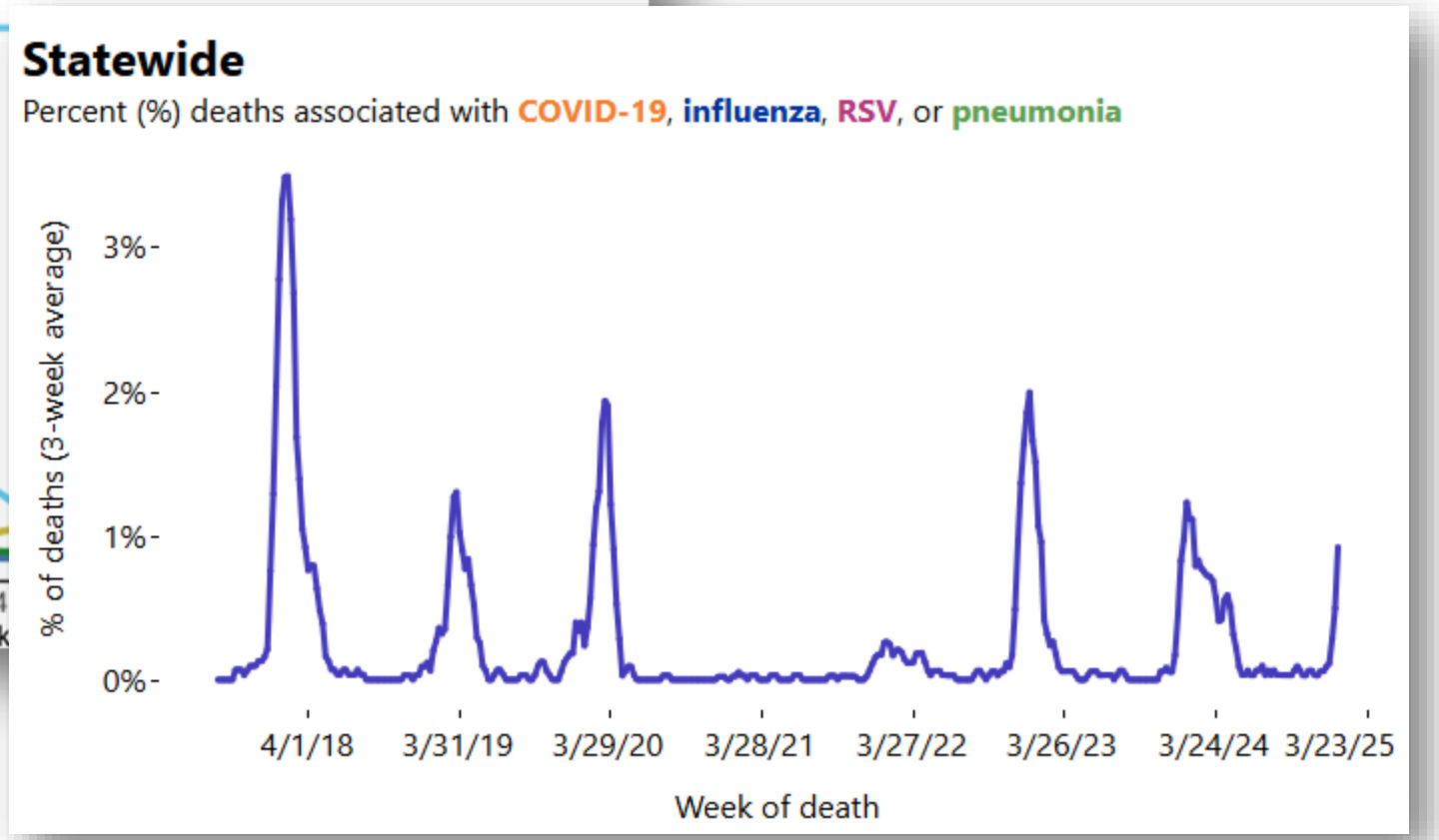
Wastewater Surveillance

Reportable Diseases

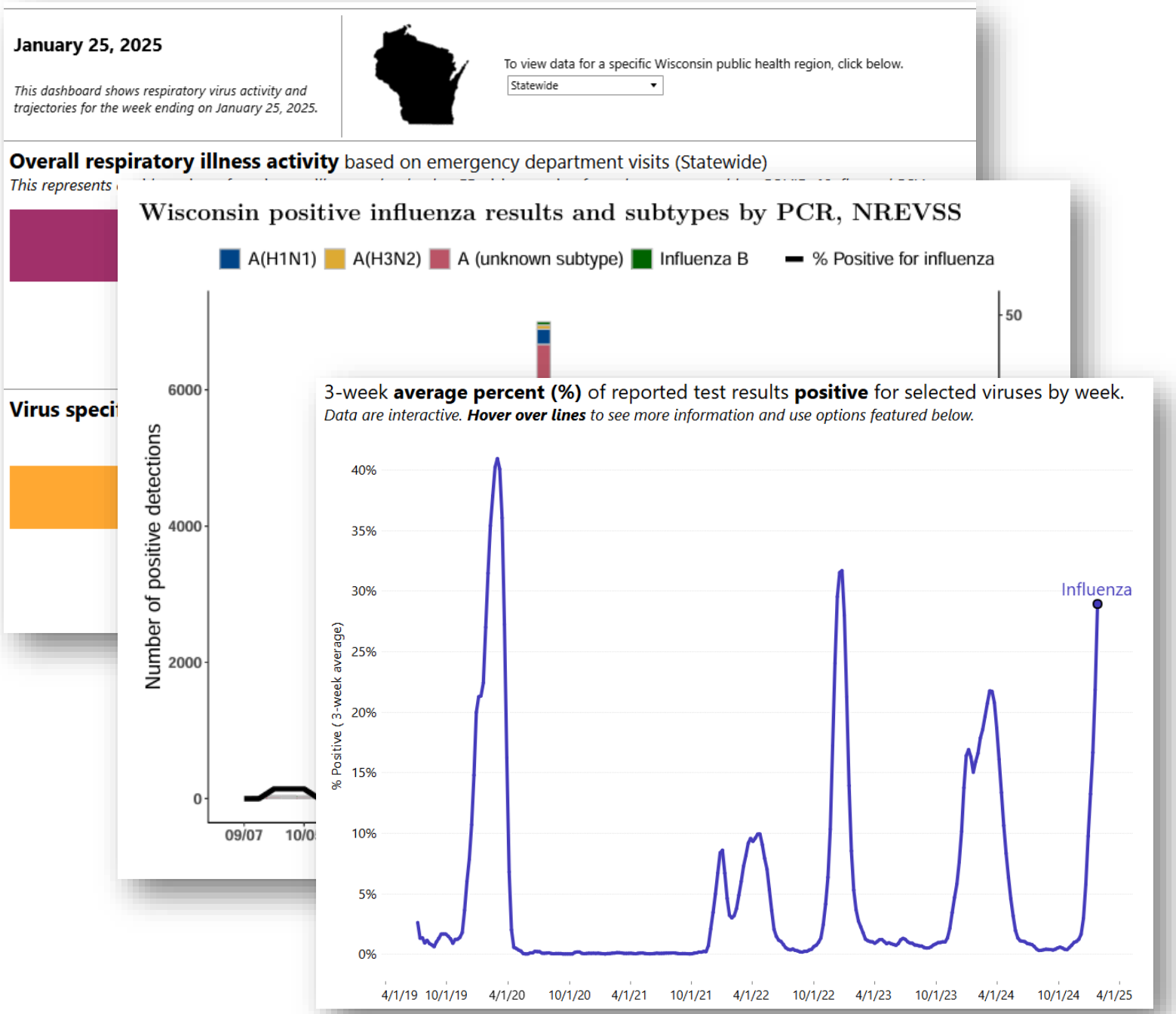
- Influenza-associated hospitalizations
- Influenza-associated pediatric deaths
- Novel Influenza A infections

Reportable Diseases





Laboratory Surveillance



Wastewater Surveillance

Respiratory Wastewater Surveillance in Wisconsin

Select a virus below to view its data

Influenza A | Influenza B | RSV

Not Detected | Low | Medium | High

Select a community below to view its data

Select a Date (copy)

(Multiple values)

Influenza A Levels by Community

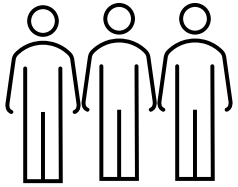
Black River Falls
Clintonville
Eau Claire
Fond du Lac
Green Bay
Hudson
Janesville
Kenosha
La Crosse
Madison
Marinette
Marshfield
Milwaukee Jones Island
Milwaukee South Shore
Oregon
Oshkosh
Peshtigo
Platteville
Racine
Sheboygan
Superior
Viroqua
Walworth
Wausau

Sep 17, 23 | Dec 10, 23 | Mar 3, 24 | May 26, 24 | Aug 18, 24 | Nov 10, 24 | Feb 2, 25

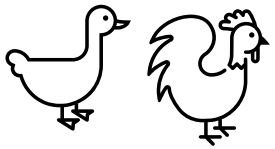
Week of Sample Collect Date

Avian Influenza in People

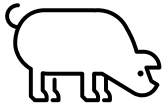
Influenza Viruses



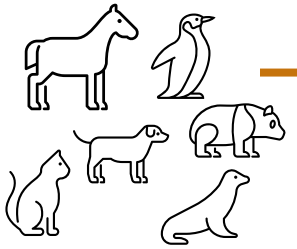
— Human influenza viruses



— Avian influenza viruses



— Swine influenza viruses



— Other animals with periodic outbreaks

Examples: Horses, cats, dogs, seals, ostriches, pandas, penguins, ferrets/mink

What is Avian Influenza?

- Influenza A viruses that occur naturally in **wild birds around the world** and can cause disease in wild and domestic birds
- Disease varies in severity depending on the strain and species affected

High vs Low Path Influenza

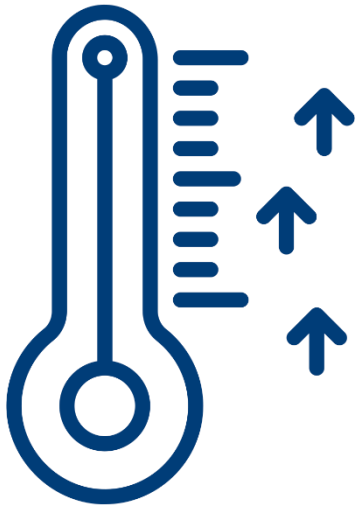
- HPAI = Highly pathogenic avian influenza
- LPAI = Low pathogenicity avian influenza
- The categories refer to viral molecular characteristics and morbidity and mortality in **chickens in a laboratory setting**

Spread to Other Animals

- Many non-avian species are potentially susceptible to HPAI
- HPAI and LPAI do not refer to or predict severity of illness in humans

Symptoms

Conjunctivitis



Fever

Cough

Influenza-like Illness

Situation summary of confirmed and probable human cases since 2024

Confirmed Cases | Probable Cases

State or territory

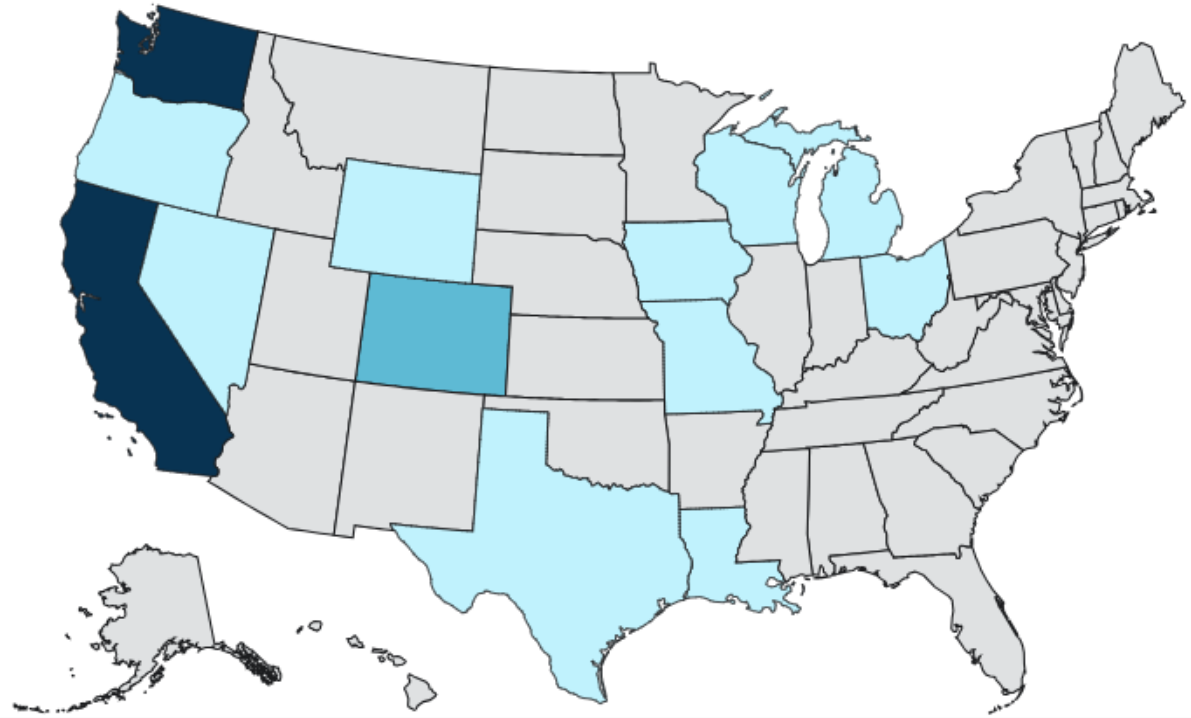
National

National Total Cases: 70

Cases	Exposure Source
41	Dairy Herds (Cattle)*
24	Poultry Farms and Culling Operations*
2	Other Animal Exposure†
3	Exposure Source Unknown‡

NOTE: One additional case was previously detected in a poultry worker in Colorado in 2022. Louisiana reported the first H5 bird flu death in the U.S.

*Exposure Associated with Commercial Agriculture and Related Operations
†Exposure was related to other animals such as backyard flocks, wild birds, or other mammals
‡Exposure source was not able to be identified



Total cases

0 | 1-5 | 6-10 | >10

Download Data (CSV)

Novel Influenza Surveillance

Surveillance: Monitoring

- Monitoring for illness among people with a known exposure to infected animals (highest risk).
- Monitoring for illness in contacts of human cases.

Surveillance: Testing

Surveillance for infection among people without a known exposure:

- Subtyping of influenza samples
- Wastewater surveillance
- Syndromic surveillance tools

National flu surveillance (since February 25, 2024)

Specimens tested

198,286+ specimens tested that would have detected influenza A(H5) or other novel influenza viruses

Human cases

6 case detected through national flu surveillance

Targeted H5 surveillance (since March 24, 2024)

Total people monitored

17,500+ after exposure to infected animals

Total people tested

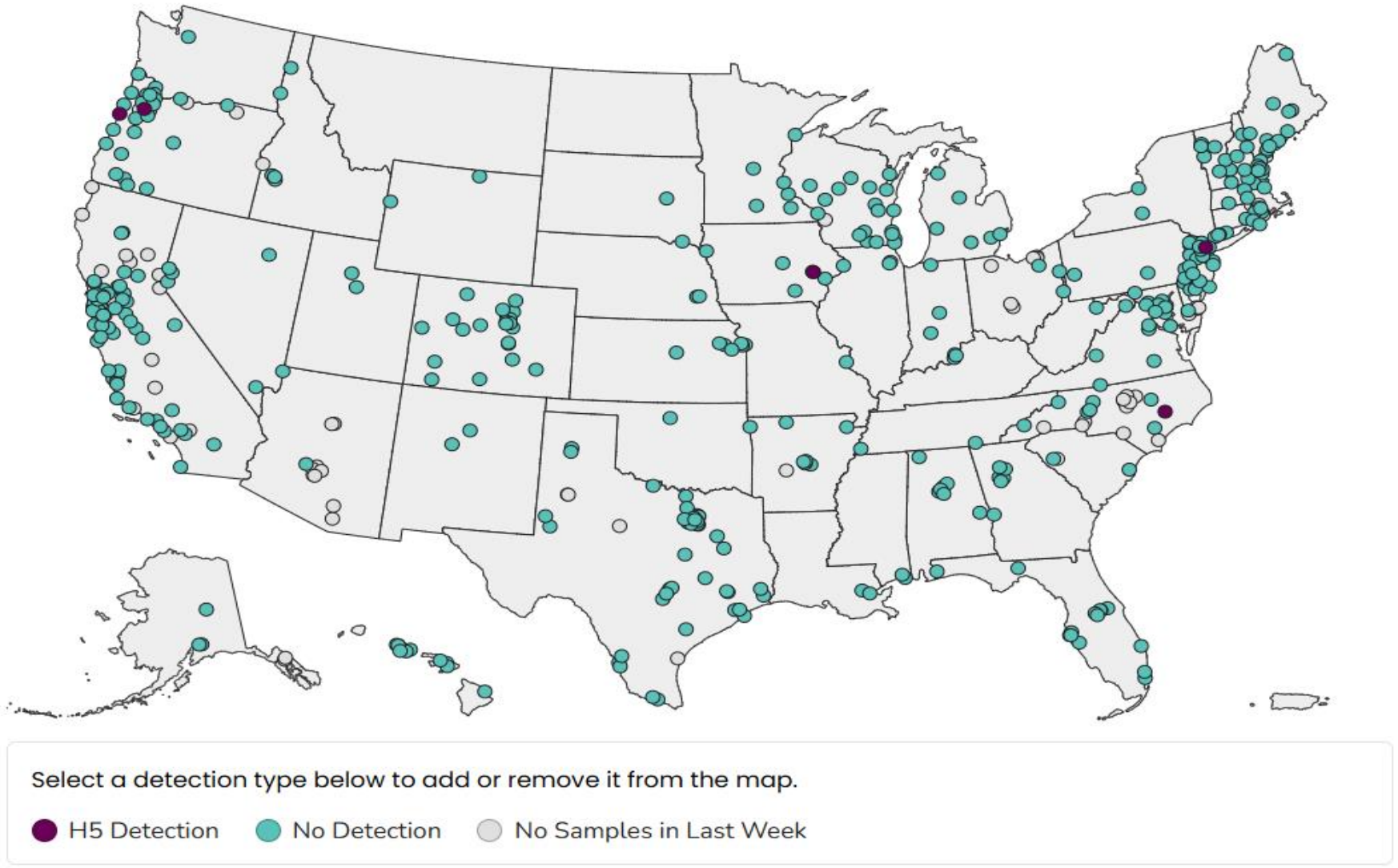
880+ after exposure to infected animals

Human cases

64 cases detected through targeted H5 surveillance

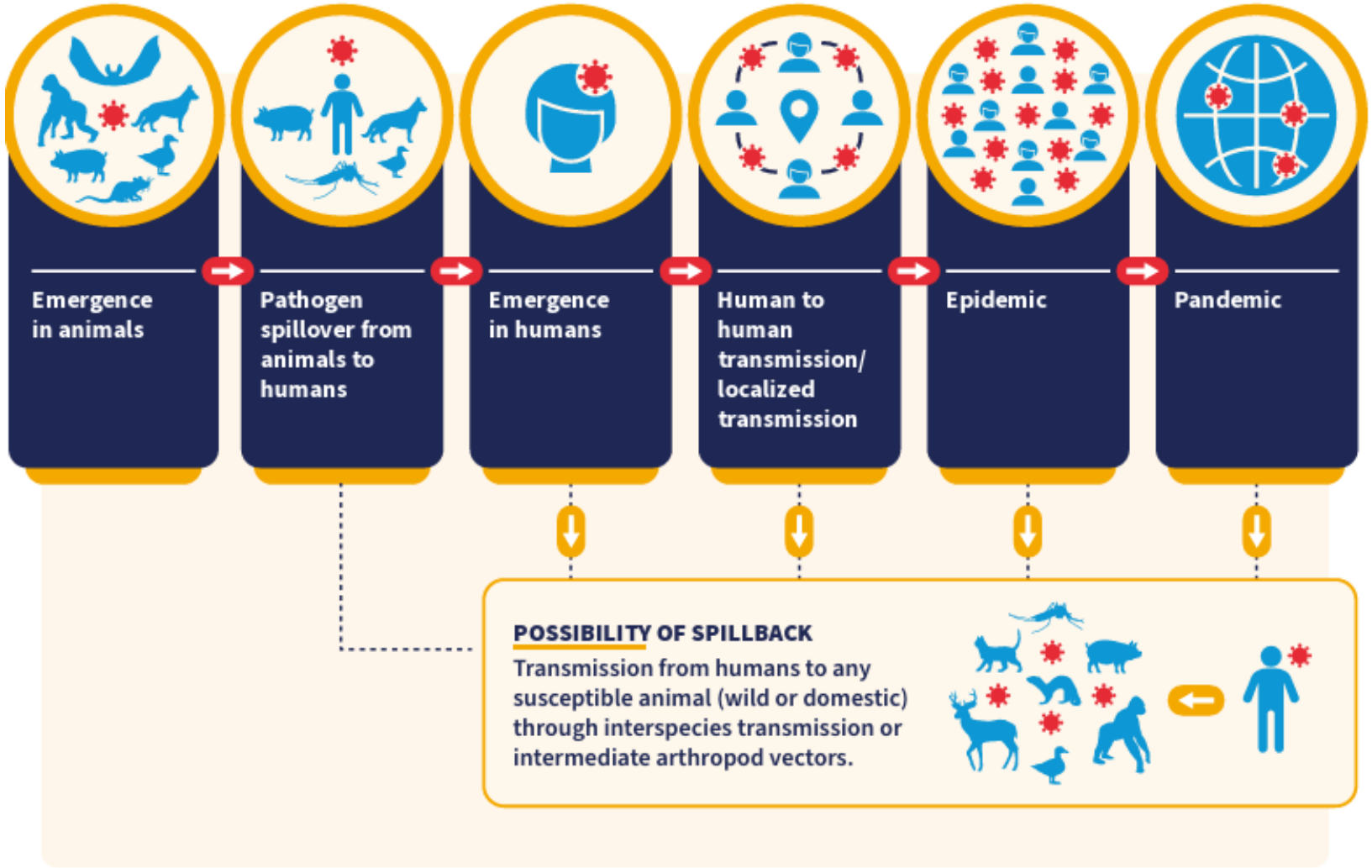
Source: CDC (https://www.cdc.gov/bird-flu/situation-summary/index.html)

Surveillance: Wastewater



Prevention

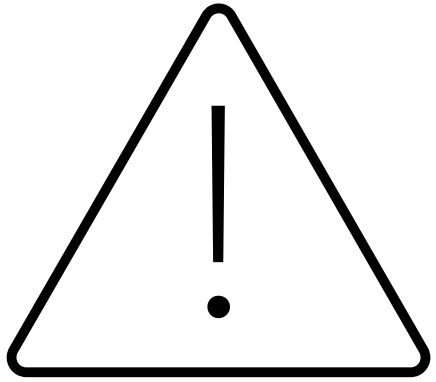
Stages of Emergence



World Health Organization global framework to define and guide studies into the origins of emerging and re-emerging pathogens with epidemic and pandemic potential; World Health Organization; 2024

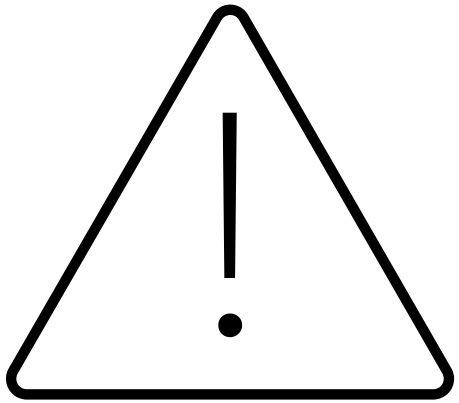
Risk Assessment Considerations

- No evidence of human-to-human transmission in the U.S.
- Most U.S. cases have resulted in mild symptoms
- All human infections have been susceptible to antiviral



Risk Assessment Considerations

- Current candidate vaccine virus likely still effective
- Few sporadic cases identified without a risk factor



Prevention

- Protect **people who work with animals or animal products** on daily basis
- Protect **workers responding** to animal outbreaks
- Protect **contacts of a case patient** (health care, household, occupational)

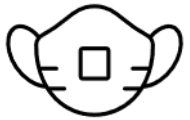
Prevention

- Protect the public from exposure through food
- Minimize opportunities for co-infections

Worker Protection

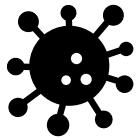
- Decrease human exposure to sick animals
- Personal protective equipment (PPE) guidance and availability
- Identify exposed workers
- Increase outreach and information sharing

Public Health Role



Education and PPE for exposed workers

Monitor exposed workers for signs of influenza



Arrange testing and post-exposure prophylaxis for sick workers

Key Points

- ✓ Risk to public remains low
- ✓ People with contact with infected animals are at higher risk
- ✓ Case-based control measure strategy:
  - Isolation, treatment
  - Post-exposure prophylaxis of contacts
- ✓ Surveillance and testing critical

Questions?

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