



# NCCEH CAHSS HPAI presentation

October 31<sup>st</sup> , 2024



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Coordinator

Canadian Animal Health Surveillance System (CAHSS)

A division of Animal Health Canada

# Land Acknowledgement

Before I share my presentation, I wanted to acknowledge the land that I work, live and play on is the traditional unceded territory of the Wəlastəkwiyyik (Maliseet). This territory is covered by the “Treaties of Peace and Friendship” which Wəlastəkwiyyik (Maliseet), Mi’kmaq, and Passamaquoddy Peoples first signed with the British Crown in 1726.



# Presentation Outline

1. Epidemiology 101
2. What is CAHSS
3. HPAI – A new One Health challenge from an old foe
4. Questions/Discussion



# Epidemiology 101 – basic terms

**Epidemiology:** the study of how often diseases occur in different groups of people / animals and why.

**Stakeholder:** persons and organizations who contribute to, use, and benefit from surveillance.

**One Health:** is an integrated, unifying approach to balance and optimize the health of people, animals and the environment.

**Disease surveillance:** an information-based activity involving the collection, analysis, interpretation and sharing of large volumes of data originating from a variety of sources.



# What is CAHSS?

Canadian  
Animal  
Health  
Surveillance  
System



# CAHSS



# Animal Health Canada



## ADVANCING ANIMAL HEALTH AND WELFARE IN CANADA VISION

A sustainable agriculture and agri-food sector strengthened by an inclusive industry-governments partnership protecting the health and welfare of farmed animals.

### NATIONAL FARM ANIMAL CARE COUNCIL

The division is comprised of animal agriculture and food industry groups, animal welfare advocates, government representatives, scientists, and veterinarians. It addresses national animal care issues with a primary focus on animals raised for the production of food for humans.



### EMERGENCY MANAGEMENT

The division is enhancing the emergency management capabilities of Canada's livestock industry, for both a continually evolving disease landscape and adverse events, through increased industry awareness, capacity, and confidence.



### CANADIAN ANIMAL HEALTH SURVEILLANCE SYSTEM

The division advises on national animal health surveillance priorities and disease patterns. It is focused on the generation, exchange and application of data-driven information in order to track animal health, and rapidly detect and respond to changing patterns of disease.



# Mission

CAHSS brings together and uses data-driven information to demonstrate animal health, minimize impacts of disease, and guide planning on national animal health priorities.



# Network of Networks



Canadian  
Animal  
Health  
Surveillance  
System



CAHSS



# CAHSS Dairy Surveillance Network



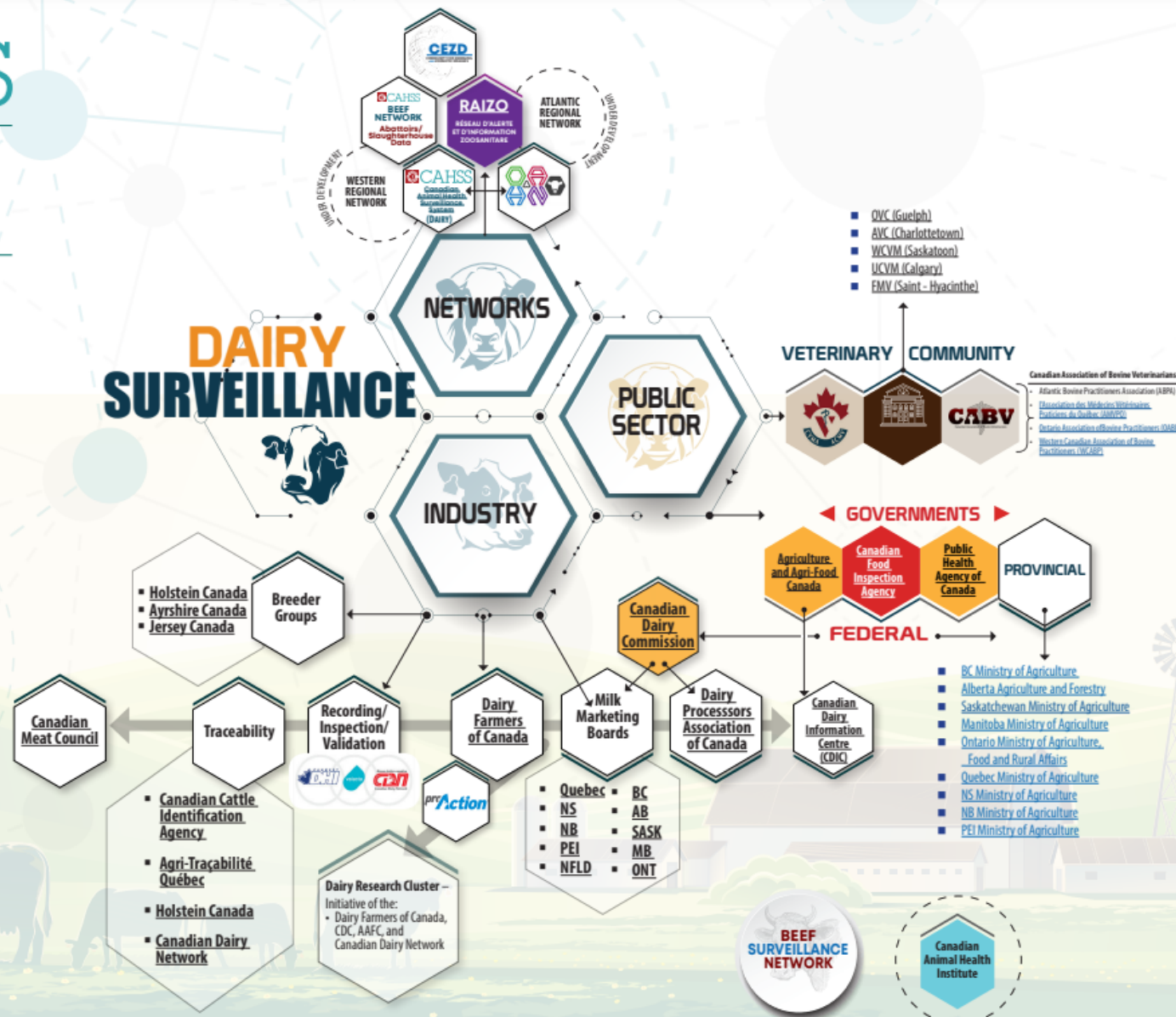
**CONTEXT**  
 The Dairy Network links the diverse dairy community to encourage and support integrated and whole-of-system dairy health surveillance. Effective and responsive dairy health surveillance safeguards the prosperity of Canada's dairy industry.

The CAHSS Dairy Network includes members from all areas from the Dairy Cattle sector, including Industry, Provincial, Federal, and Veterinary associations. The purpose of this group is to encourage sharing of information between Dairy Network members and to allow for a platform where members can access documents and events.

The Dairy Network is part of the Canadian Animal Health Surveillance System (CAHSS), which connects animal health, public health and wildlife health professionals from Canada's animal sectors. In addition to the Dairy Network, CAHSS member networks include poultry, swine, aquatic, and dairy cattle. CAHSS members work on diseases and issues of concern, including reportable and zoonotic diseases, production limiting diseases and antimicrobial use surveillance.

**Advancing dairy industry knowledge, together**

VERSION 04.06.2019



Find the network(s) that are right for you @ <https://www.cahss.ca>

Canadian  
Animal  
Health  
Surveillance  
System

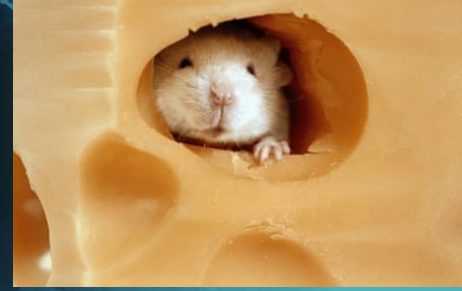


CAHSS

Members include:

- One Health Researchers
- Government staff (Fed/ Prov/ Terr)
- Industry
- Diagnostic lab staff
- Academia
- Surveillance partners
- Private practitioners / technicians
- Producers
- Students

# Swiss cheese model



ANY SAFEGUARD  
HAS INHERENT  
FLAWS OR "HOLES"

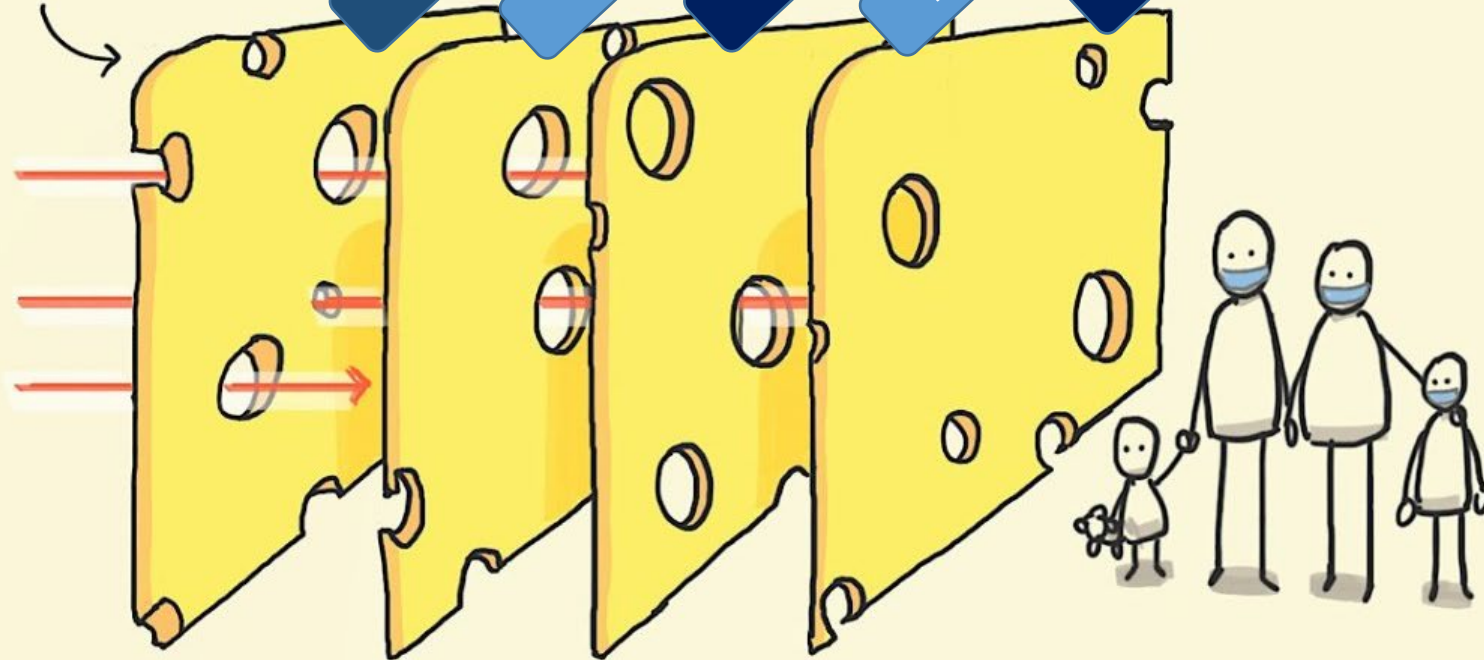
Horizon Scanning

Observing and Telling

Counting Cases

Monitoring for Signals

Active Testing



PROBLEMS OCCUR WHEN MULTIPLE "HOLES" LINE UP

MODEL: JREASON

sketchplanations

# Highly Pathogenic Avian Influenza (HPAI)

Climate and Agriculture adapting to One Health  
Challenges



# Climate change impacts on agriculture

Agricultural production is highly dependent on weather and climate.

**The opposite is also true:**  
weather and climate are influenced by agricultural practices.

Health of populations is dependent on our ability to make food





# Mystery Texas Disease?

15 March 2024

**Developing Story: Concerns Rise as Cows Fall Ill in Texas**

*March 20, 2024*

**Avian flu detected for first time in US livestock**





On **March 25**, 2024, the USDA, FDA, and CDC announced that highly pathogenic avian influenza (HPAI), specifically avian influenza virus type A (H5N1), had been identified in U.S. dairy cattle for the first time.

Tests so far indicate that the virus detected in dairy cattle is **H5N1, Eurasian lineage goose/Guangdong clade 2.3.4.4b, strain B3.13**. This is the same clade that has been affecting wild birds and commercial poultry flocks and that has caused sporadic infections in several species of wild and domestic mammals in the United States.

**Canada** has **tightened import requirements** on dairy cattle from the United States.



# HPAI Confirmed Cases in Livestock Herds

as of October 31, 2024

Last reported confirmed detection Tuesday, October 29, 2024

Data updated weekdays by 12pm Eastern

[Download Data](#)

Choose time period

Total Outbreak

## Situational Update

[Click for International Exports](#)

Confirmed Cases Total Outbreak

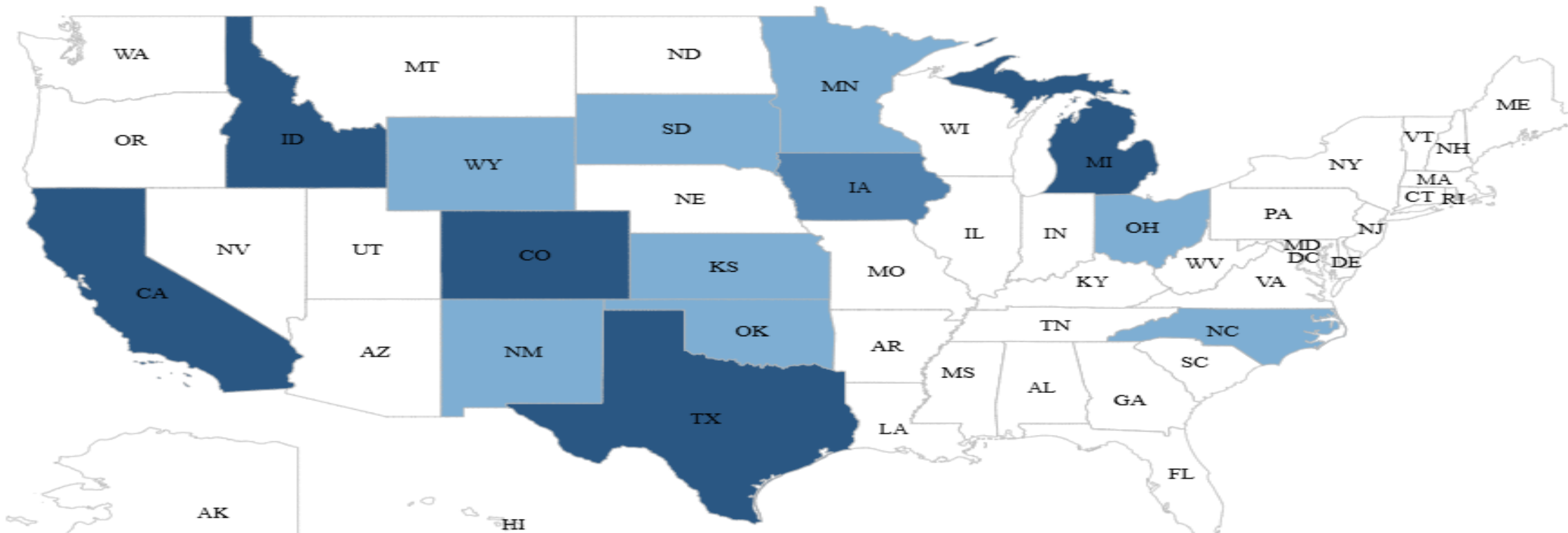
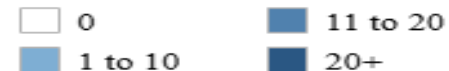
**404**

States Affected Total Outbreak

**14**

### Number of Confirmed Cases by State

Legend





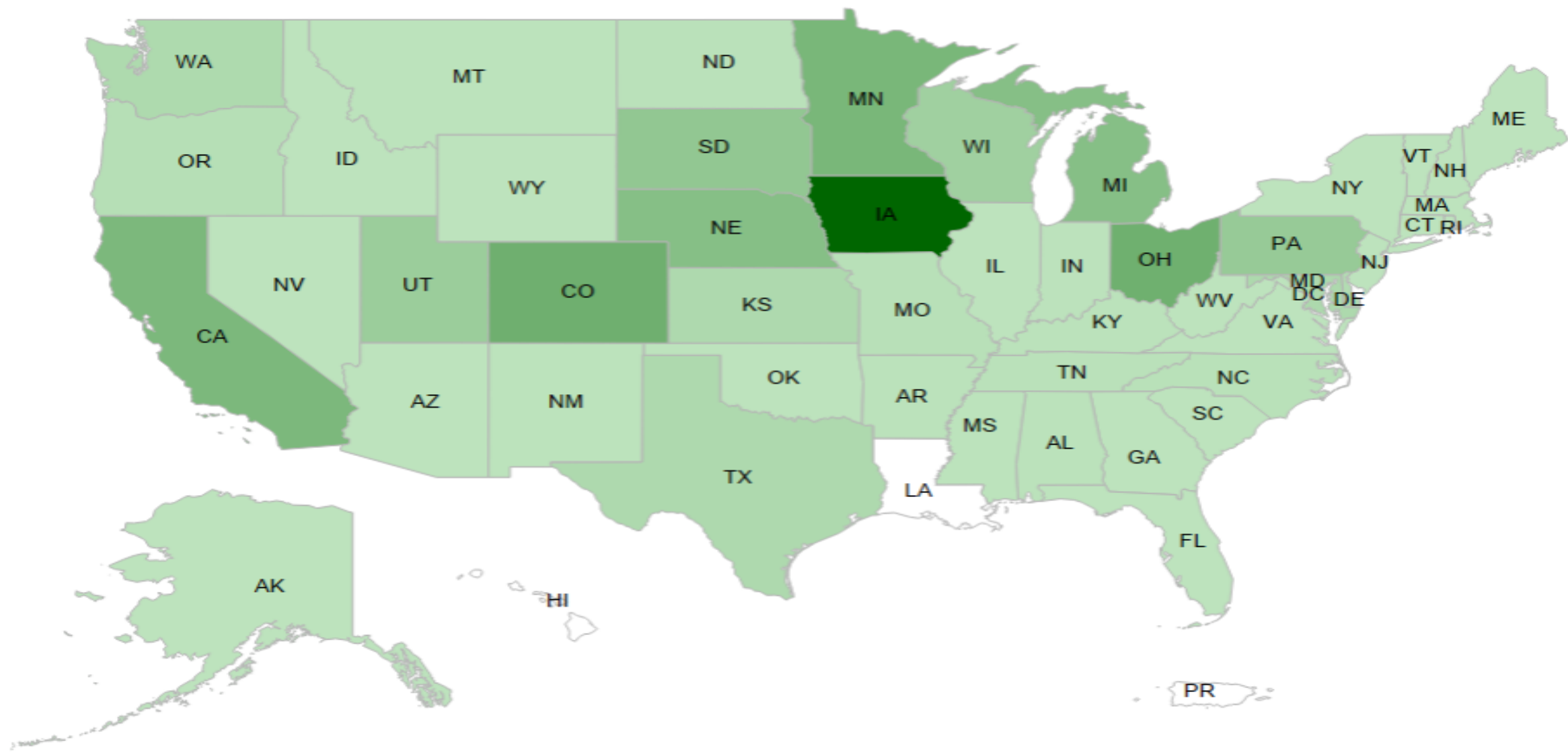
Choose variable  
Birds Affected

Choose time period  
Total Outbreak

# Birds Affected by State



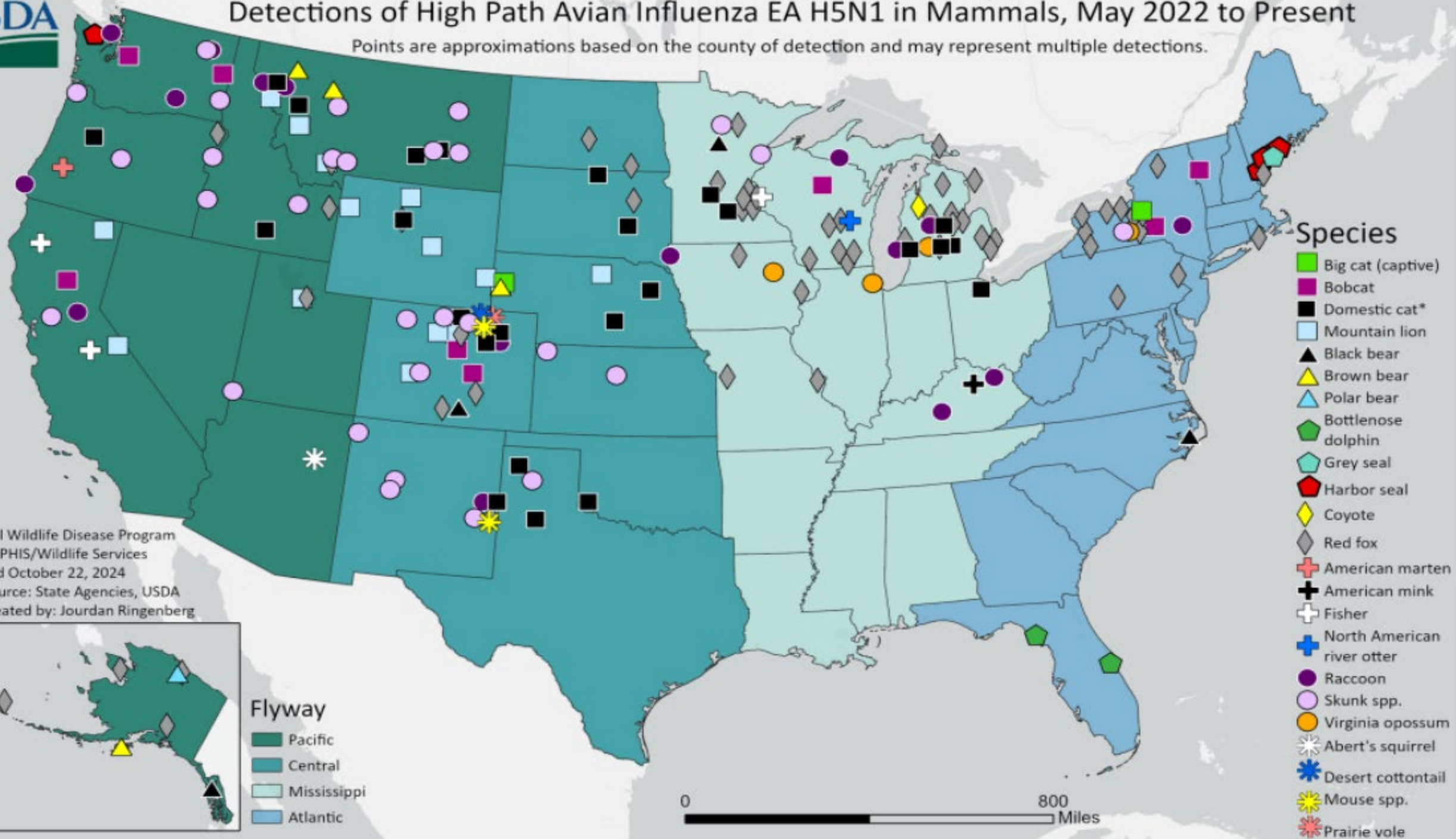
[Click For International Exports](#)





# Detections of High Path Avian Influenza EA H5N1 in Mammals, May 2022 to Present

Points are approximations based on the county of detection and may represent multiple detections.





# Domestic Summary

On April 1, CDC confirmed one human HPAI A(H5N1) infection in a person with exposure to dairy cows in Texas that were presumed to be infected with the virus. This is thought to be the first instance of likely mammal to human spread of HPAI A(H5N1) virus. In May 2024, CDC began reporting additional, sporadic



State	Cattle	Poultry	Unknown	State Total
California	16	0	0	16
Colorado	1	9	0	10
Michigan	2	0	0	2
Missouri	0	0	1	1
Texas	1	0	0	1
Washington	0	9	0	9
<b>Source Total</b>	<b>20</b>	<b>18</b>	<b>1</b>	<b>39</b>

## Matching Game: Match the species with the primary outcome

Poultry (Chickens, Turkeys)

Dairy Cows

Domestic Cats

Humans

Waterfowl (e.g. Ducks)

No Symptoms (Endemic)

Upper Respiratory Signs

Death

Neurologic Disease

Mastitis

Lower Respiratory Signs

Diarrhea

Conjunctivitis



# What have we done in Canada

- Collaborative multi-stakeholder approach (FPTI)
- Risk Assessment for Canada (CZED)
- Education, **Surveillance** and Data Synthesis (CAHSS)
- Biosecurity (AHC and DFC)
- Retail milk sampling (CFIA)
- Processor level surveillance (CFIA and DPAC)
- Farm level surveillance (CFIA, VSEN and DFC)
- Response (CFIA and CCVO)
- Public Health guidance (PHAC)



## Policy Horizons Canada

[About Us](#)

[Our Work](#)

[Futures Week](#)

[Resources](#)

## Disruptions on the Horizon



[Policy Horizons](#) | [Horizons de politiques](#)

### Top 10 most likely disruptions



People cannot tell what is true and what is not



Biodiversity is lost and ecosystems collapse



People cannot afford to live on their own



Biodata is widely monetized



Billionaires run the world



Downward social mobility is the norm



Emergency response is overwhelmed



Mental health is in crisis



### Top 10 highest impact disruptions



World war breaks out



Biodiversity is lost and ecosystems collapse



Healthcare systems collapse



Civil war erupts in the United States



Emergency response is overwhelmed



Basic needs go unmet



Cyberattacks disable critical infrastructure



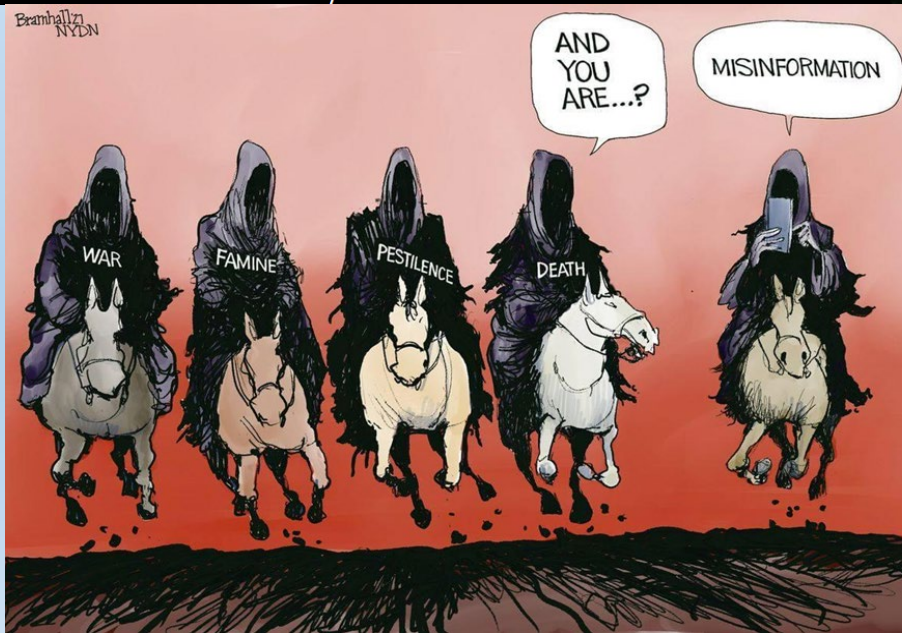
People cannot tell what is true and what is not



## Inside the Bungled Bird Flu Response, Where Profits Collide With Public Health

When dairy cows in Texas began falling ill with H5N1, alarmed veterinarians expected a fierce response to contain an outbreak with pandemic-sparking potential. Then politics—and, critics say, a key agency's mandate to protect dairy-industry revenues—intervened.

Bramhallz NYDN



# Help prevent the spread of avian influenza

Avian influenza mostly affects wild birds. It has also infected poultry and a variety of mammals.



## In nature



Keep your distance from wild birds and wildlife and don't touch, hand feed, or handle them.

## Outside with your pet



Keep your pets away from sick or dead birds and other wildlife.

Contact your veterinarian if you think your pet is sick.

Wash your hands thoroughly with soap and water or hand sanitizer after touching animals or being in animal enclosures.

Consume milk and milk products that are pasteurized.

Cook all foods made with poultry, meat and eggs thoroughly.



## Preparing food



## At animal exhibits

© The Minister of Health of Canada is represented by the Minister of Health, 2024. Ca: 1494-0492/04-PP-1089 (W: 040-2215) Plus: 34207



Scan to learn more  
[Canada.ca/avian-influenza](https://Canada.ca/avian-influenza)



Public Health  
Agency of Canada

Agence de la santé  
publique du Canada

Canada

# PLAN TO GET YOUR FLU SHOT

Getting your flu shot helps save lives and helps our health care system by reducing the number of people who need medical care.

## About the flu

- + The flu is very contagious and can spread quickly and easily.
- + Some people with the flu only get mildly ill. Others, like those over 65 years and young children, can get very sick.

## Who should get the flu shot?

- + Everyone 6 months and older should get the flu shot. It's especially important for people at high risk of health complications from the flu and COVID-19, and for people who can spread the flu to them.

## The flu shot is safe

- + You can't get the flu from the flu shot.
- + Serious side effects from the flu shot are very rare.

## The flu shot works

- + You should get the flu shot even if you've already had the COVID-19 vaccine. The COVID-19 vaccine doesn't protect you from the flu.
- + Being protected from both the flu and COVID-19 lowers your risk of severe health complications.

To learn more visit [Canada.ca/flu](https://Canada.ca/flu)



Canada

The flu vaccine doesn't protect against avian influenza but may reduce the risk of being infected with both seasonal flu and bird flu

# Not just North America and not just HPAI

## Mpox Worldwide

No. of Signals: 06

No. of weeks in report: 31

Avg. Rating: 2.0 - 2.7

- [Africa's](#) surge of mpox cases continues, with the number of fatal cases now >1000 for the year
- [Kenya](#) has recorded its first mpox fatality, with a total of 13 confirmed cases since the first detection in July
- [Uganda](#) continues to report cases of mpox (clade 1b), bringing the total number of confirmed cases to 104
- [Zambia](#) has reported its first case of mpox (clade unspecified) in the country
- [Australia](#) has reported an increase in mpox cases, with the 2024 outbreak now much larger than the initial 2022 outbreak

## Swine Fever Sweeps Italy's North, Parma Prosciutto Threatened

Published Oct 02, 2024 at 6:16 AM EDT

Updated Oct 02, 2024 at 10:15 AM EDT

### FEATURED NEWS

## Infectious Diseases A–Z: Why the Asian longhorned tick is more than a menace

Healthcare & Pharmaceuticals | Government Health Policy

## Tuberculosis returns as top infectious disease killer, WHO says

By Reuters

October 29, 2024 7:22 PM ADT · Updated 14 hours ago



## Bluetongue farm virus warning for sheep and cattle as midges blown into UK



# Acknowledgement

*Funding for CAHSS activities has been provided through the Agri Assurance Program under the Sustainable Canadian Agricultural Partnership, a federal-provincial-territorial initiative.*





# Thank you!

