

NH Infection Control & Epidemiology Professionals

Public Health Updates

March 24, 2023

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NH State Epidemiologist*

Topics for Today's Discussion

- Ending of the U.S. COVID-19 Public Health Emergency (PHE) on May 11, 2023
- H5N1 Highly Pathogenic Avian Influenza (HPAI)

U.S. Public Health Emergency Ends

May 11, 2023

Impact on Data and Reporting

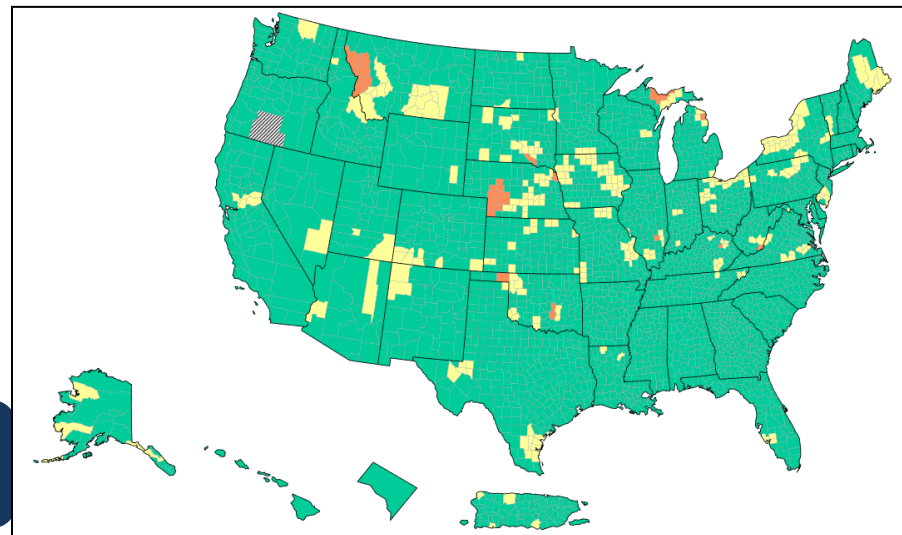
- Required SARS-CoV-2 laboratory result reporting will end – both negative and positive lab result reporting
 - Positive test reporting is dependent on state law/regulations, & positive SARS-CoV-2 tests are not explicitly reportable in NH
 - However, “Any suspect outbreak, cluster of illness, unusual occurrence of communicable disease, or other incident that may pose a threat to the public's health must be reported within 24 hours of recognition.” (*NH reporting requirements under NH RSA 141-C*)
 - This change WILL impact CDC’s [COVID-19 Transmission Levels](#), and likely also their [COVID-19 Community Levels](#)

CDC's COVID-19 Community Levels (CCLs)

New Cases ¹ (per 100,000 population in the last 7 days)	Indicator	Low	Medium	High
<200 cases	New COVID-19 admissions per 100,000 population (7- day total) ²	<10.0	10.0-19.9	≥20.0
	Percent of staffed inpatient beds in use by COVID-19 patients (7-day average) ³	<10.0%	10.0-14.9%	≥15.0%
≥200 cases	New COVID-19 admissions per 100,000 population (7- day total)	NA	<10.0	≥10.0
	Percent of staffed inpatient beds in use by COVID-19 patients (7-day average)	NA	<10.0%	≥10.0%

- CCLs are used by CDC for recommending general public prevention actions when levels are medium/high

https://covid.cdc.gov/covid-data-tracker/#county-view?list_select_state=all_states&list_select_county=all_counties&data-type=CommunityLevels



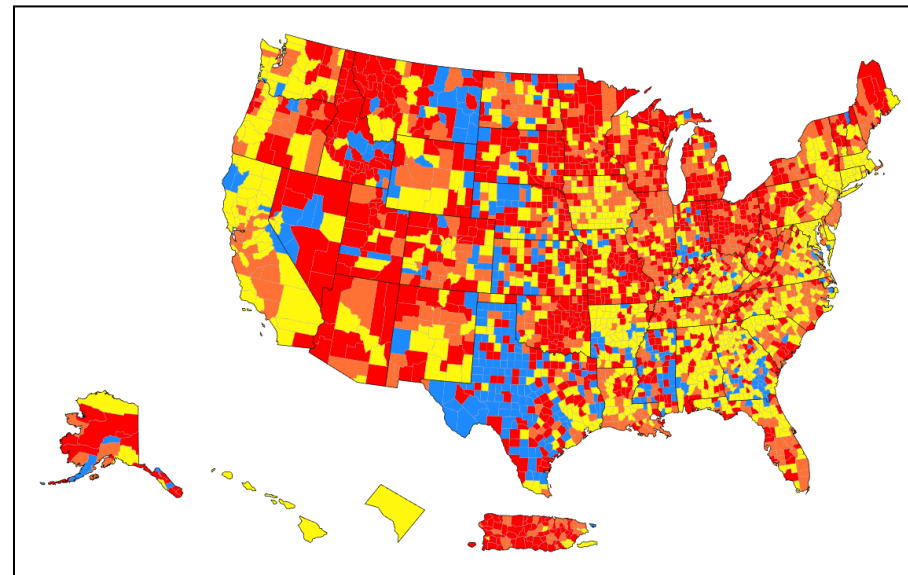
CDC's COVID-19 Transmission Levels

If the two indicators suggest different transmission levels, the higher level is selected



	Low	Moderate	Substantial	High
New cases per 100,000 persons in the past 7 days*	<10	10-49.99	50-99.99	≥100
Percentage of positive NAATs tests during the past 7 days**	<5%	5-7.99%	8-9.99%	≥10.0%

- “Transmission Levels” are used by healthcare organizations (as mandated by CMS) to determine infection prevention measures and strategies in healthcare settings



https://covid.cdc.gov/covid-data-tracker/#county-view?list_select_state=all_states&list_select_county=all_counties&data-type=Risk

CDC's Current Healthcare Infection Prevention & Control Recommendations for COVID-19

When SARS-CoV-2 Community Transmission levels are high, source control is recommended for everyone in a healthcare setting when they are in areas of the healthcare facility where they could encounter patients.

- HCP could choose not to wear source control when they are in well-defined areas that are restricted from patient access (e.g., staff meeting rooms) if they do not otherwise meet the criteria described below and Community Levels are not also high. When Community Levels are high, source control is recommended for everyone.

When SARS-CoV-2 Community Transmission levels are **not** high, healthcare facilities could choose not to require universal source control.

CDC's Current Healthcare Infection Prevention & Control Recommendations for COVID-19

As community transmission levels increase, the potential for encountering asymptomatic or pre-symptomatic patients with SARS-CoV-2 infection also likely increases. In these circumstances, healthcare facilities should consider implementing broader use of respirators and eye protection by HCP during patient care encounters. For example, facilities located in counties where [Community Transmission](#) is high should also consider having HCP use PPE as described below:

- NIOSH-approved particulate respirators with N95 filters or higher used for:
 - All aerosol-generating procedures (refer to [Which procedures are considered aerosol generating procedures in healthcare settings?](#)).
 - All surgical procedures that might pose higher risk for transmission if the patient has SARS-CoV-2 infection (e.g., that generate potentially infectious aerosols or involving anatomic regions where viral loads might be higher, such as the nose and throat, oropharynx, respiratory tract).
 - NIOSH-approved particulate respirators with N95 filters or higher can also be used by HCP working in other situations where additional risk factors for transmission are present, such as the patient is unable to use source control and the area is poorly ventilated. They may also be considered if healthcare-associated SARS-CoV-2 transmission is identified and universal respirator use by HCP working in affected areas is not already in place.
 - To simplify implementation, facilities in counties with high transmission may consider implementing universal use of NIOSH-approved particulate respirators with N95 filters or higher for HCP during all patient care encounters or in specific units or areas of the facility at higher risk for SARS-CoV-2 transmission.
- Eye protection (i.e., goggles or a face shield that covers the front and sides of the face) worn during all patient care encounters.

CDC's Future Healthcare Infection Prevention & Control Recommendations for COVID-19

- CDC's Healthcare Infection Prevention & Control recommendations will need to be updated
- New guidance hopefully will be:
 - More flexible and less proscriptive
 - Take a broader respiratory virus prevention approach
 - Informed by general respiratory virus surveillance data





Interim CSTE and APHL Strategic Framework for SARS-CoV-2 Infection and COVID-19 Surveillance: Priorities and Approaches for State, Territorial, Local, and Tribal Public Health Agencies

Trends and Severity Using:

- Syndromic surveillance: ED/UC visits for COVID-19 or COVID-Like Illness (CLI)
- Wastewater surveillance
- Hospitalization and Death data

CSTE SARS-CoV-2 Infection and COVID-19 Surveillance Goals for State, Territorial, Local, and Tribal Public Health Agencies

1. Track SARS-CoV-2 infection trends
2. Evaluate severity of COVID-19
3. Monitor spread and detect and respond to SARS-CoV-2 infection outbreaks in vulnerable populations
4. Conduct and advance SARS-CoV-2 genomic surveillance
5. Share surveillance data and adapt risk communication

COVID-19 Data Reporting That Will Continue

- Hospitalization data will continue to be reported through April 30, 2024 (under CMS CoP requirements)
 - Working to simplify data reporting requirements (fewer data elements)
 - Discussion of moving to weekly reporting
- Vital records data will continue to be used and monitored for COVID-19 mortality surveillance
- COVID-19 vaccination data will continue to be available through our NH IIS, and data-use agreements to share with CDC have been extended through end of 2023

Q&A

H5N1 Highly Pathogenic Avian Influenza (HPAI) *(AKA “Bird Flu”)*

UK reports more H5N1 avian flu in mammals

US reports more H5N1 avian flu detections in mammals

BUSINESS

Egg Prices Surge to Records as Bird Flu Hits Poultry Flocks

While worst outbreak in U.S. history tightens supplies, grocers avert shortages

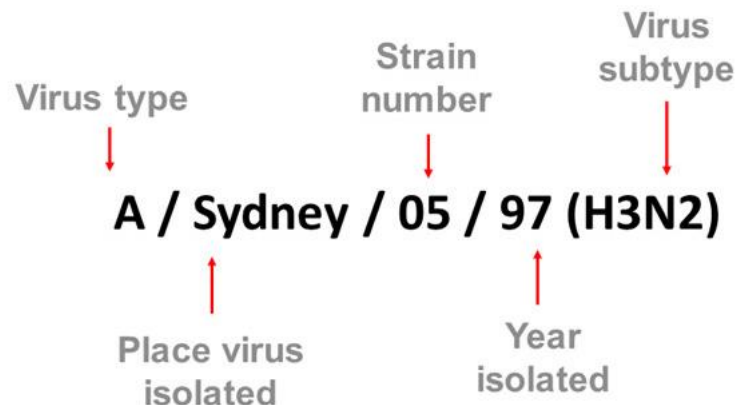
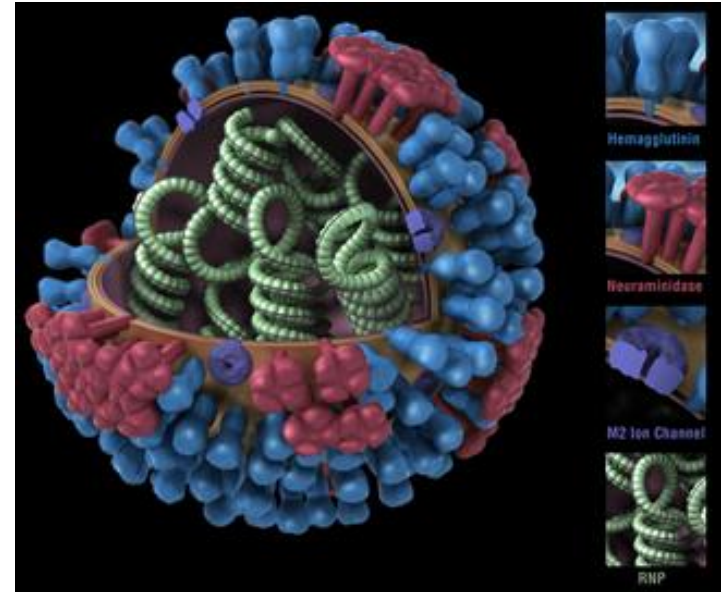
WHO urges vigilance for avian flu spillovers; Cuba reports first H5N1 outbreak

<https://www.cidrap.umn.edu/>

<https://www.wsj.com/articles/egg-prices-surge-to-records-as-bird-flu-decimates-poultry-flocks-11671689775>

Background Virology

Flu A viruses are divided into subtypes based on two proteins on the surface of the virus: hemagglutinin (HA) and neuraminidase (NA). There are 18 different HA subtypes (H1 through H18) and 11 different NA subtypes (N1 through N11).



Avian Influenza Terminology

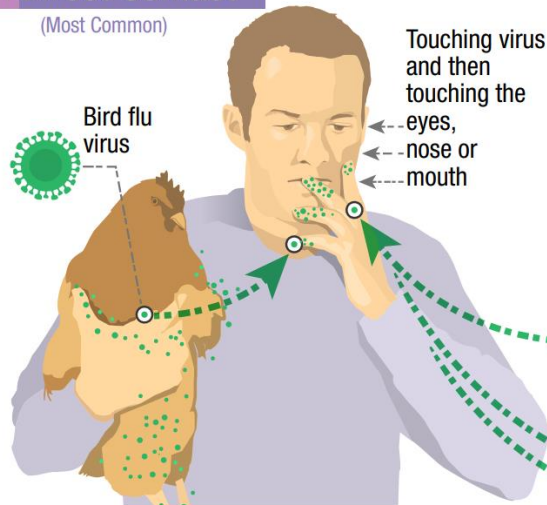
- Avian influenza A viruses are classified into two general categories:
 - Low pathogenic avian influenza (LPAI): cause no signs of disease, or only mild disease in poultry
 - Highly pathogenic avian influenza (HPAI): cause severe disease and high mortality in infected poultry – some strains cause 90-100% mortality in chickens within 48 hours
- LPAI and HPAI do NOT refer to, or correlate with, severity of illness in people who might become infected

How Infected Backyard Poultry Could Spread Bird Flu to People

Human Infections with Bird Flu Viruses Rare But Possible

1 Direct Contact

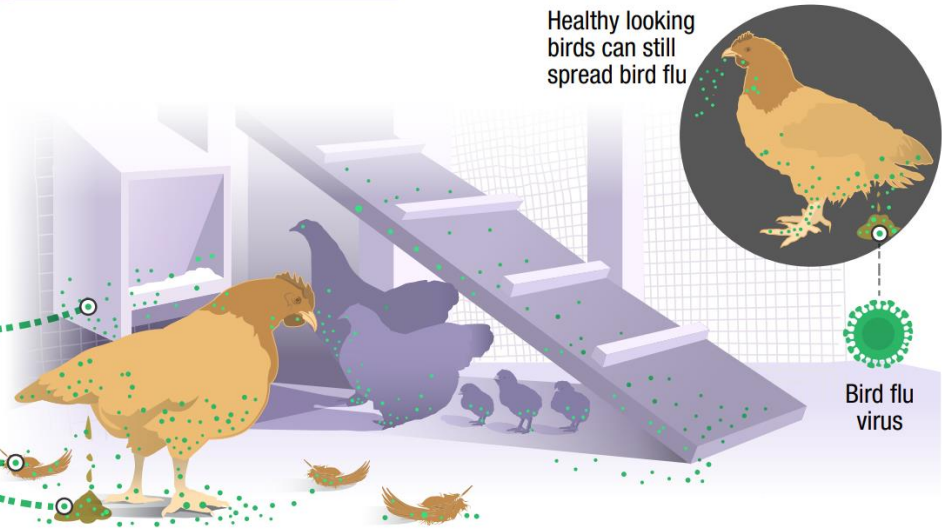
(Most Common)



Touching virus and then touching the eyes, nose or mouth

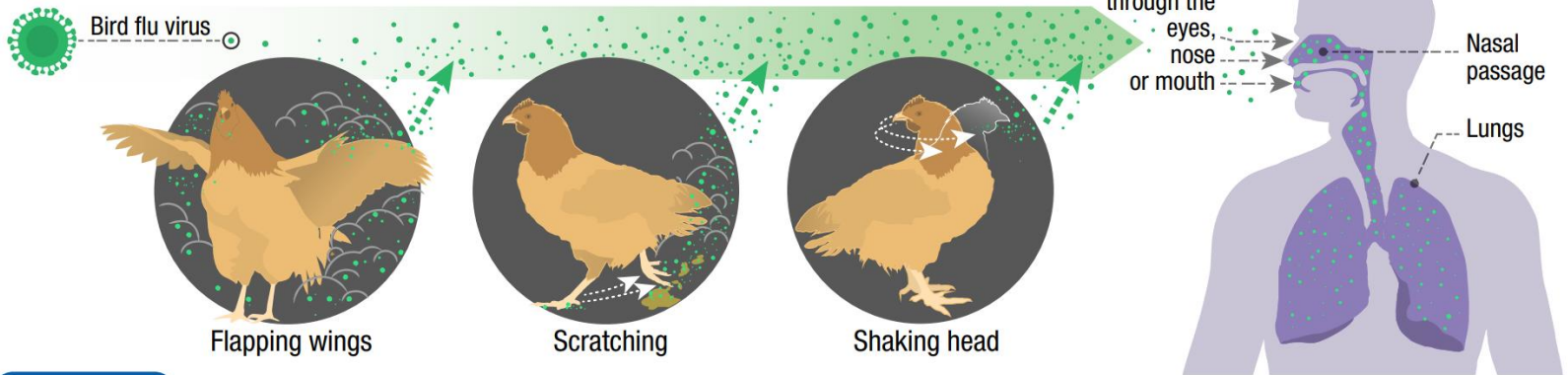
Infection can occur without touching poultry.

2 Contaminated Surfaces



Healthy looking birds can still spread bird flu

3 Bird Flu Virus in the Air (in Droplets or Dust)



Bird flu virus



Flapping wings



Scratching



Shaking head

Virus enters through the eyes, nose or mouth

Nasal passage

Lungs



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

www.cdc.gov/flu/avianflu/avian-in-humans.htm

CS330154



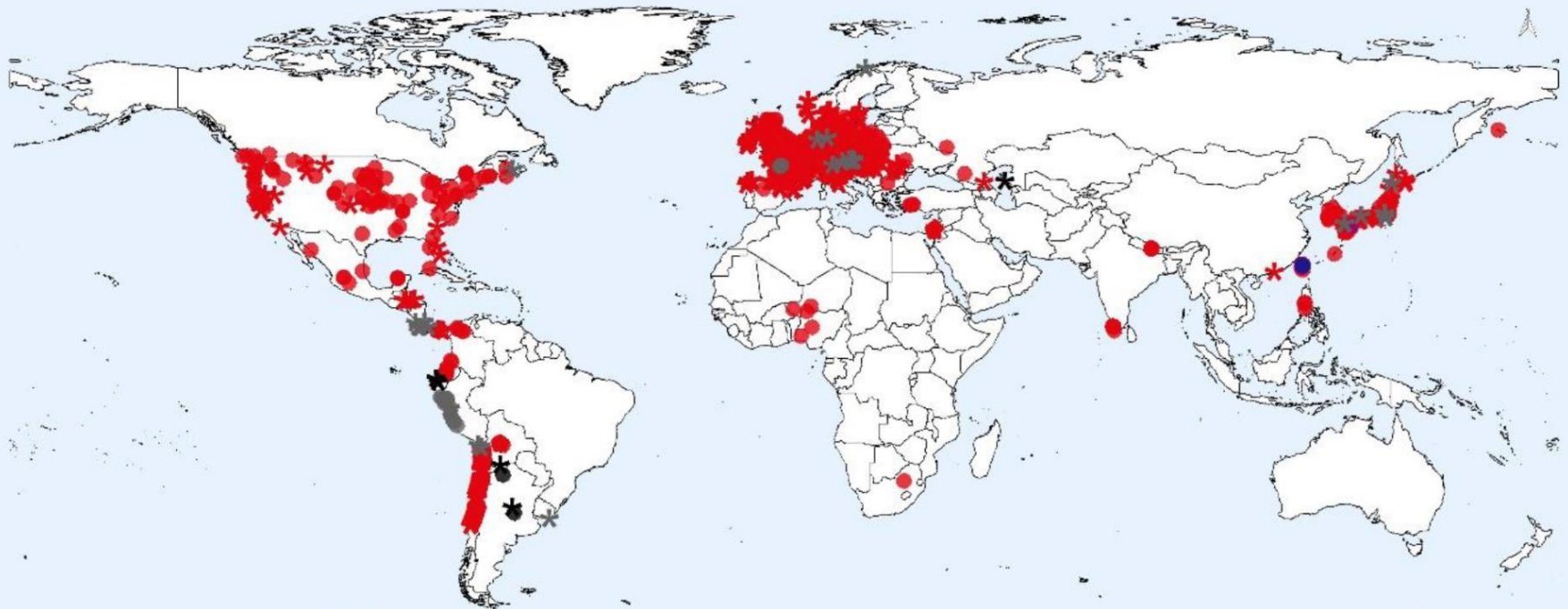
H5N1 Overview

- HPAI A(H5N1) first emerged in 1997, and has continued to evolve into different genetic groups called “clades” through re-assortment
- Eurasian lineage H5 clade 2.3.4.4b is currently circulating
- Initially introduced into the Americas in December 2021 via the Atlantic Flyway with spillover from wild birds into commercial and backyard poultry and mammals
- Very small numbers of human infections with H5N1 has occurred recently
- No evidence of human-to-human transmission

<https://www.biorxiv.org/content/10.1101/2023.03.10.532068v1>

<https://www.ecdc.europa.eu/en/publications-data/avian-influenza-overview-december-2022-march-2023>

Global HPAI Detection in Birds (Dec 2022 – Mar 2023)



HPAI detection			
●	A(H5N1), domestic birds (819)	●	A(Not typed), domestic birds (2)
★	A(H5N1), wild birds (1,250)	●	A(H5Nx), domestic birds (16)
●	A(H5N2), domestic birds (9)	★	A(H5Nx), wild birds (29)
●	A(H5N5), domestic birds (1)	★	A(Not typed), wild birds (5)

Author: EFSA
Data sources: ADIS, WOH
Date updated: 01/03/2023

Migratory Bird Flyways



<https://www.fws.gov/media/migratorybirdprogramadministrativeflywaysstateandprovincemap.jpg>

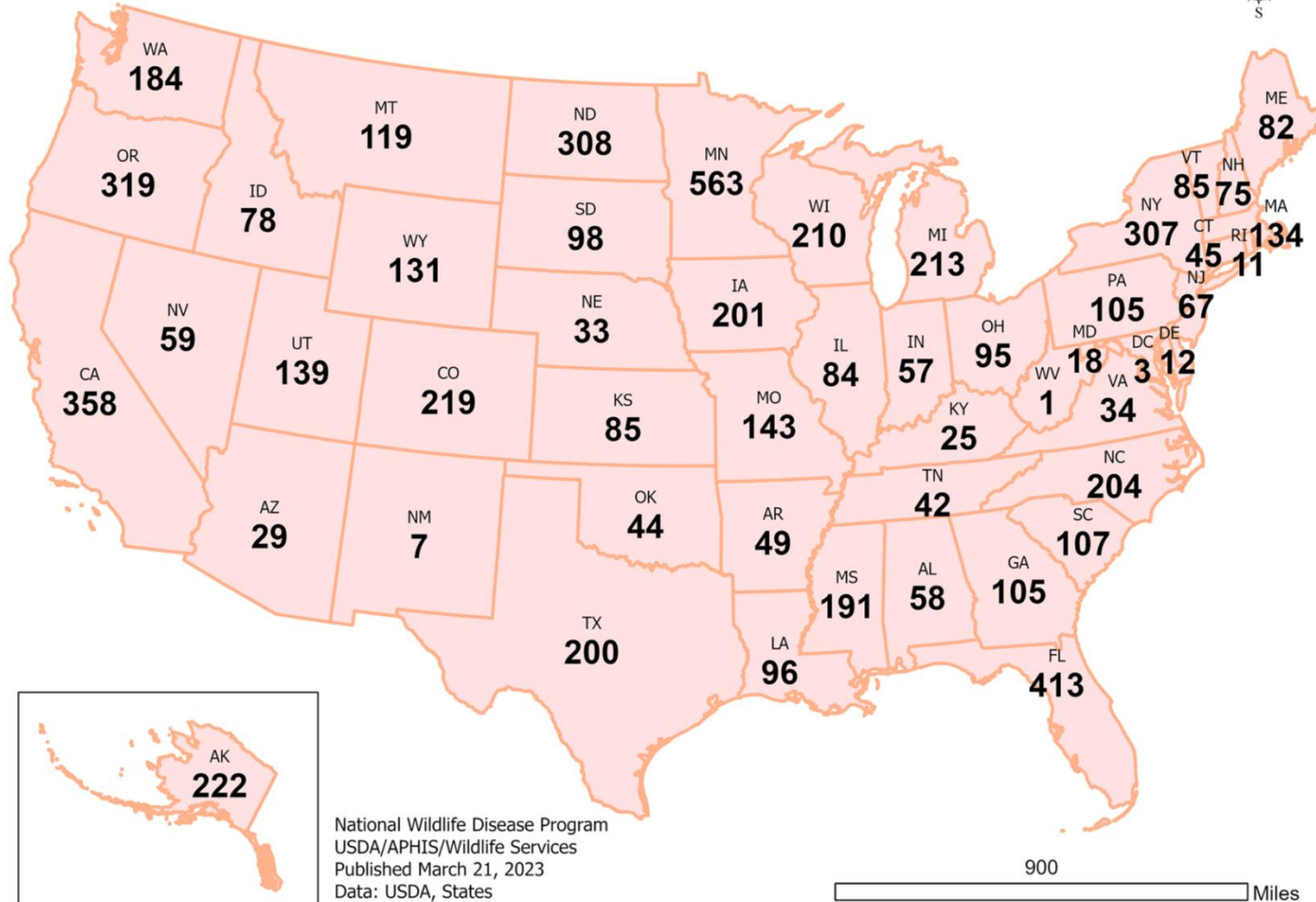


<https://www.fws.gov/media/migratory-bird-flyways-north-america>

Wild Bird Detections in the U.S. (2022-2023)



States with HPAI detections in wild birds (Total Count: 6,467)
Numbers indicate the number of positive wild bird samples.



<https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/avian-influenza/hpai-2022/2022-hpai-wild-birds>



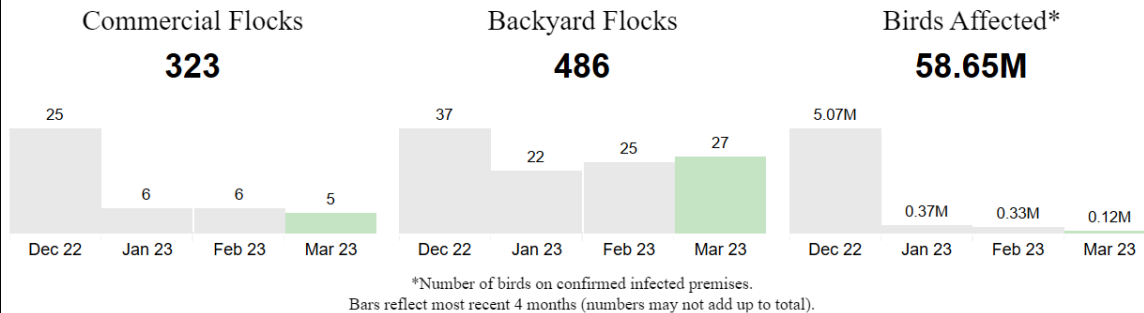
Commercial Flock Outbreaks (2022-2023)

809 Confirmed Flocks

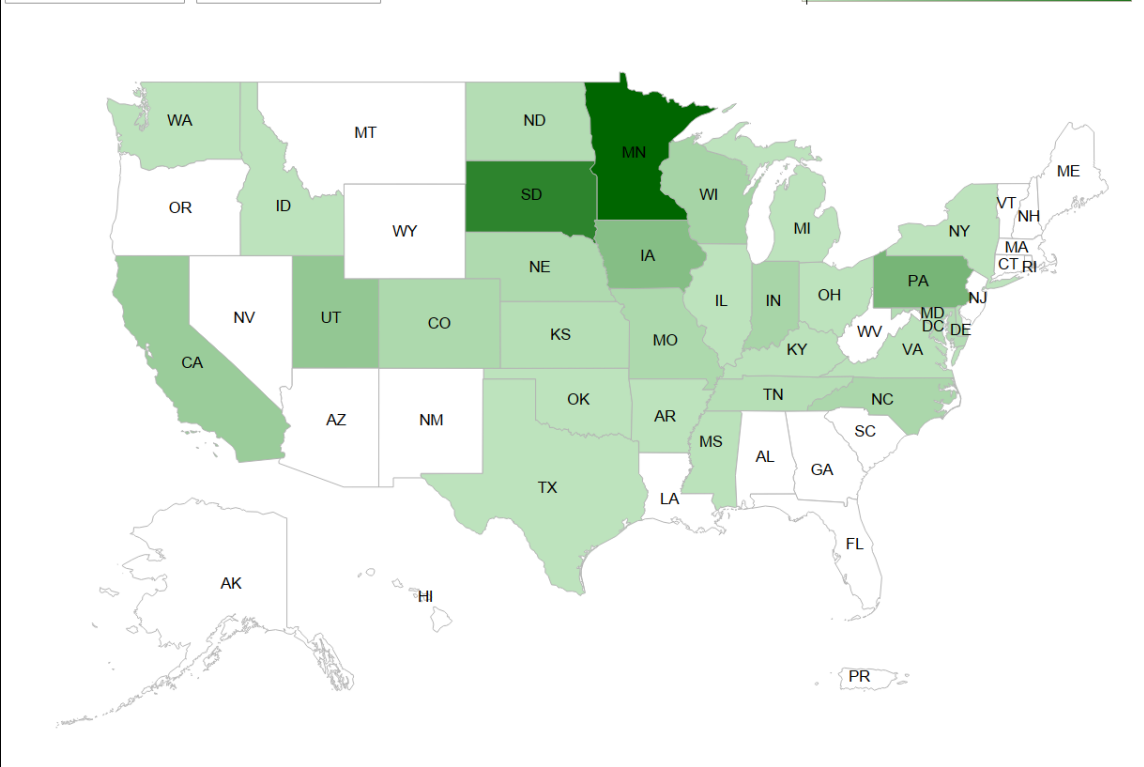
43 confirmed last 30 days
Birds tested and confirmed having HPAI

47 Affected States

15 states last 30 days
States with at least one confirmed infected flock



Choose variable: | Choose time period: | Legend: 0 to 81



<https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/avian-influenza/hpai-2022/2022-hpai-commercial-backyard-flocks>

Backyard Flock Outbreaks (2022-2023)

809 Confirmed Flocks

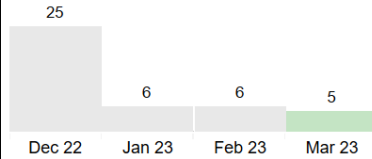
43 confirmed last 30 days
Birds tested and confirmed having HPAI

47 Affected States

15 states last 30 days
States with at least one confirmed infected flock

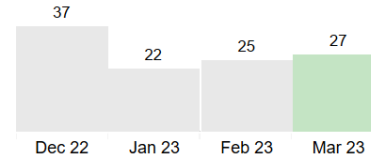
Commercial Flocks

323



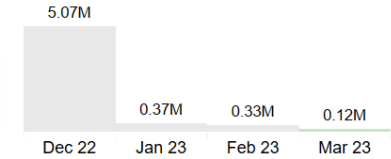
Backyard Flocks

486



Birds Affected*

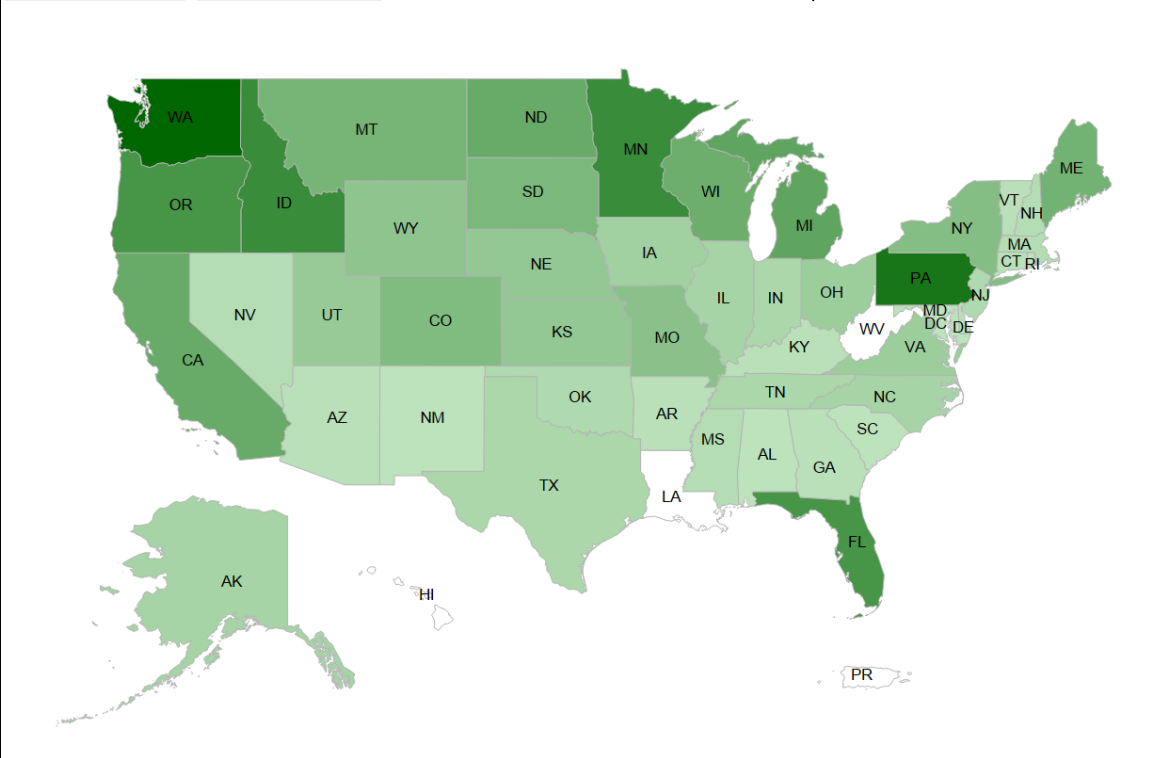
58.65M



*Number of birds on confirmed infected premises.

Bars reflect most recent 4 months (numbers may not add up to total).

Choose variable: Choose time period: Legend: 0 to 41



<https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/avian-influenza/hpai-2022/2022-hpai-commercial-backyard-flocks>

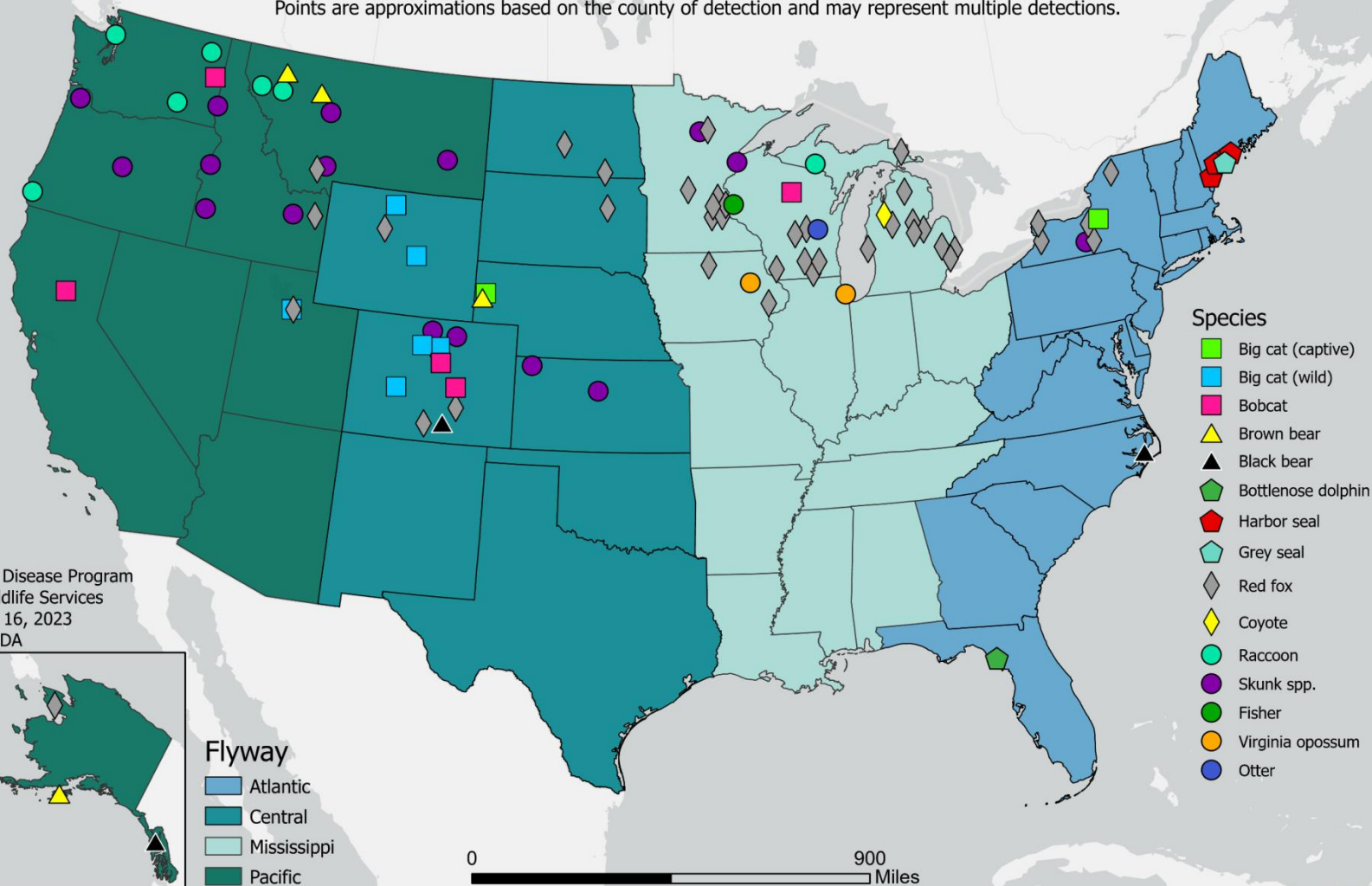


Detection in Mammals in U.S. (2022-2023)



Detections of Highly Pathogenic Avian Influenza in Mammals

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



National Wildlife Disease Program
 USDA/APHIS/Wildlife Services
 Published March 16, 2023
 Data: States, USDA



0 900 Miles

<https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/avian-influenza/hpai-2022/2022-hpai-mammals>



Possible Mammal-to-Mammal Transmission: Three Mass Mortality Events in Mammals

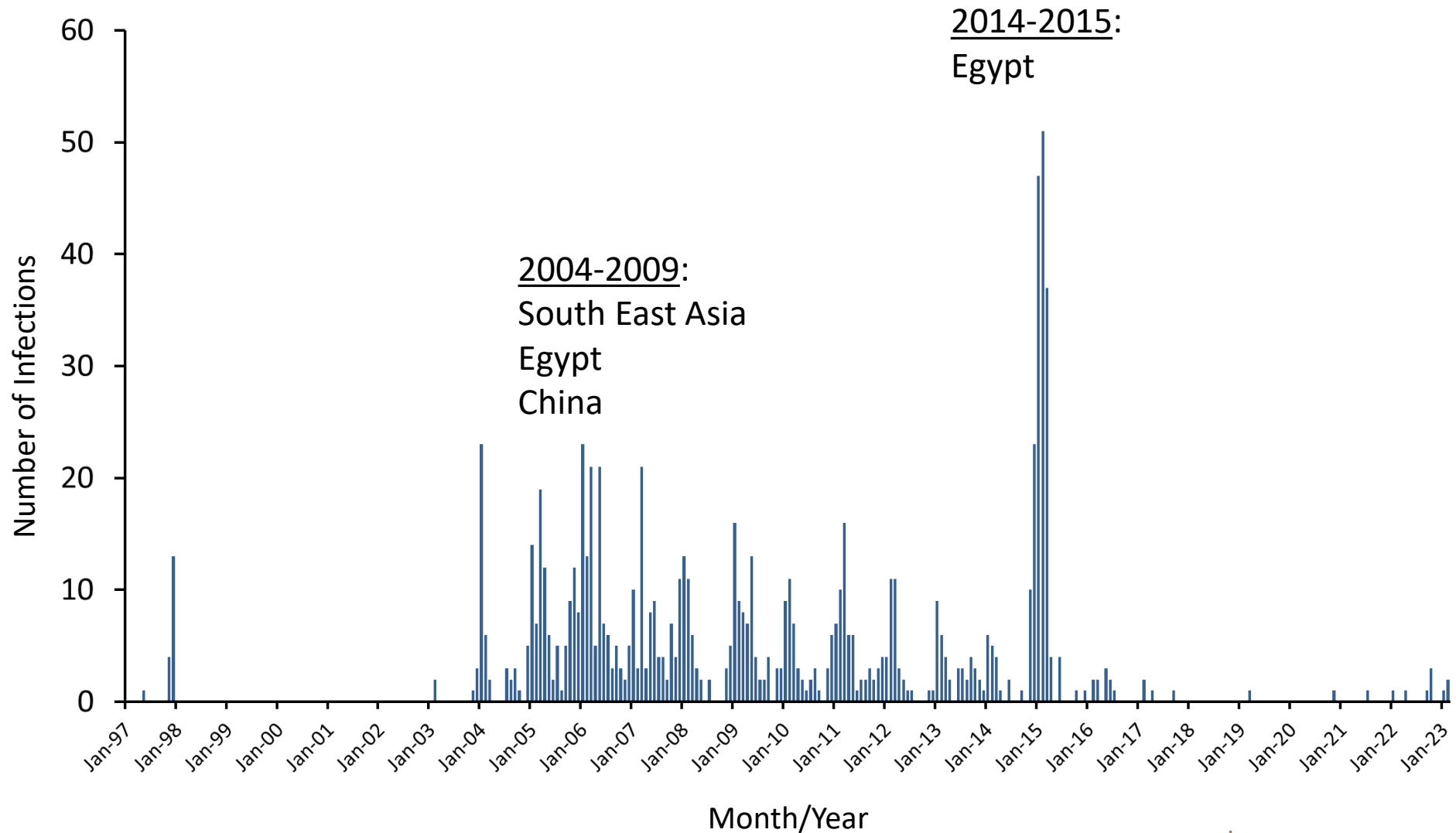
- June-July 2022: Seals in Maine, U.S.A.
- October 2022: Mink in Spain
- Jan-Feb 2023: Sea Lions in Peru

<https://www.ecdc.europa.eu/en/publications-data/avian-influenza-overview-december-2022-march-2023>

https://wwwnc.cdc.gov/eid/article/29/4/22-1538_article

<https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2023.28.3.2300001>

Global Human H5N1 Infections, 1997-2023



<https://www.cdc.gov/flu/avianflu/chart-epi-curve-ah5n1.html>

Cumulative number of confirmed human cases for avian influenza A(H5N1) reported to WHO, 2003-2023

Country	2003-2009*		2010-2014*		2015-2019*		2020		2021		2022		2023		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	8	5	0	0	0	0	0	0	0	0	0	0	0	0	8	5
Bangladesh	1	0	6	1	1	0	0	0	0	0	0	0	0	0	8	1
Cambodia	9	7	47	30	0	0	0	0	0	0	0	0	2	1	58	38
Canada	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1
China	38	25	9	5	6	1	0	0	0	0	1	1	1	0	55	32
Djibouti	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Ecuador	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Egypt	90	27	120	50	149	43	0	0	0	0	0	0	0	0	359	120
India	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1
Indonesia	162	134	35	31	3	3	0	0	0	0	0	0	0	0	200	168
Iraq	3	2	0	0	0	0	0	0	0	0	0	0	0	0	3	2
Lao People's Democratic Republic	2	2	0	0	0	0	1	0	0	0	0	0	0	0	3	2
Myanmar	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Nepal	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
Nigeria	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Pakistan	3	1	0	0	0	0	0	0	0	0	0	0	0	0	3	1
Spain	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0
Thailand	25	17	0	0	0	0	0	0	0	0	0	0	0	0	25	17
Turkey	12	4	0	0	0	0	0	0	0	0	0	0	0	0	12	4
United Kingdom of Great Britain and Northern Ireland	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
United States of America	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Viet Nam	112	57	15	7	0	0	0	0	0	0	1	0	0	0	128	64
Total	468	282	233	125	160	48	1	0	2	1	6	1	3	1	873	458

* 2003-2009, 2010-2014 and 2015-2019 total figures. Breakdowns by year available on subsequent tables.

Total number of cases includes number of deaths.

WHO reports only laboratory-confirmed cases.

All dates refer to onset of illness

Source: WHO/GIP, data in HQ as of 3 March 2023



H5N1 Detections* in Humans in Last 12 Months

Month/Year	Number of Human Infections	Countries
April 2022	1	U.S.
May 2022	0	
June 2022	0	
July 2022	0	
August 2022	0	
September 2022	2	Spain, China
October 2022	2	Spain, Vietnam
November 2022	0	
December 2022	1	Ecuador
January 2023	1	China
February 2023	2	Cambodia (2)
TOTAL	9	

*Not all “detections” indicate infection or disease

Influenza A(H5N1) detection in two asymptomatic poultry farm workers in Spain, September to October 2022: suspected environmental contamination

- Poultry farm outbreak in Spain, Sept 2022
- NP swabs taken “according to a national screening protocol for exposed workers”
 - H5N1 detected in 2 workers, both asymptomatic and never developed symptoms
- Absence of symptoms, low viral load on PCR testing, & negative serology suggested environmental/mucosal contamination and NOT true infection

Table 1. Reported A(H5N1) human cases, January 2022 to March 15, 2023

Country of Case	Month of illness onset or case detection	Disease Severity and Outcome	Virus Clade by sequencing or associated poultry outbreaks
Cambodia	February 2023	Critical illness, died	Clade 2.3.2.1c
Cambodia	February 2023	Mild illness, survived	Clade 2.3.2.1c
China	September 2022	Critical illness, died	Clade 2.3.4.4b
China	January 2023	Hospitalized, outcome not reported	Clade 2.3.4.4b
Ecuador	December 2022	Critical illness, survived	Clade 2.3.4.4b
Spain	September 2022	Asymptomatic	Clade 2.3.4.4b
Spain	October 2022	Asymptomatic	Clade 2.3.4.4b
United Kingdom	January 2022	Asymptomatic	Clade 2.3.4.4b
United States	April 2022	Fatigue only, survived	Clade 2.3.4.4b
Vietnam	October 2022	Critical illness, survived	Not reported

No Human-to-Human Transmission Identified in Current Avian Influenza Outbreaks



European Centre for Disease Prevention and Control

An agency of the European Union

Cluster of avian influenza in Cambodia

- Index case: 11-year old girl who died from H5N1
- Father subsequently developed infection
- Father and daughter lived apart
- Both exposed to backyard poultry outbreaks of H5N1
- 40+ contacts to father & daughter tested negative for H5N1
- Determined that both persons likely infected from birds

Have H5N1 Avian Influenza Viruses Developed Mutations Which Increase the Risk of the Virus Transmitting to Humans?

Highly pathogenic avian influenza A(H5N1) virus infection in farmed minks, Spain, October 2022

“Mink are susceptible... to both avian and human influenza A viruses, leading to the theory that this species could serve as a potential mixing vessel for the interspecies transmission among birds, mammals and human.”

“Viruses from minks present an alanine (A) at position 271 of PB2 (T271A), which enhances the polymerase activity of influenza A viruses in mammalian host cells and mice... the same mutation is present in the avian-like PB2 gene of the 2009 pandemic swine-origin influenza A(H1N1) virus.”

Routine Monitoring for Genetic Changes

Protein	Amino acid position/motif ^a	Phenotypic consequences ^b	H5N1 virus tested ^c	References ^d	PMID ^e	
PB2	Ile63Thr	Decreased pathogenicity in mice	A/Vietnam/1194/2004	Li et al., 2011	21367983	
	Asp256Gly	Enhanced polymerase activity, mammalian host adaptation	A/chicken/Yamaguchi/7/2004	Manzoor et al., 2009	19052090	
	Gln591Lys	Enhanced replication efficiency and increased virulence in mice	A/chicken/Indonesia/UT3091/2005, A/Indonesia/UT3006/2005	Yamada et al., 2010	20700447	
	Lys627Glu	Reduced polymerase activity		Webster, personal communication		
	Glu627Lys		Increased replication efficiency in cell culture and enhanced virulence in mice	A/Vietnam/1203/2004, A/Vietnam/1204/2004	Hatta et al., 2007	17922570
			Increased virulence in mice	A/chicken/Vietnam/NCVD5/2003	Kim et al., 2010	20016035
			Increased virulence in mice	A/Hong Kong/483/97, A/Hong Kong/486/97	Chen et al., 2007	17521765
			Enhanced polymerase activity and mammalian host adaptation	A/chicken/Yamaguchi/7/2004	Manzoor et al., 2009	19052090
			Increased virulence in mice	A/Hong Kong/483/97, A/Hong Kong/486/97	Hatta et al., 2001; Shinya et al., 2004	11546875; 15016548
			Increased virulence in mice	A/Hong Kong/483/97, A/Hong Kong/486/97	Fornek et al., 2009	19692471
			Mammalian host adaptation	A/Vietnam/1203/2004, A/Vietnam/1204/2004, A/Vietnam/3030/04	Le et al., 2009	19264775
			Mammalian host adaptation, increased virulence in mice	A/chicken/Yamaguchi/7/2004	Mase et al., 2006	17098982
			Enhanced polymerase activity	A/Vietnam/1203/2004	Bortz et al., 2011	21846828
			Mammalian host adaptation	A/swan/Germany/R65/2006	Bogs et al., 2011	21849466
		H5 virus transmissible among ferrets ^f	A/Indonesia/05/2005	Herfst et al., 2012	22723413	
	Asp701Asn		Enhanced replication efficiency and transmission in guinea pigs	A/duck/Guangxi/22/2001, A/duck/Guangxi/35/2001	Gao et al., 2009	20041223
			Mammalian host adaptation	A/Vietnam/1203/2004, A/Vietnam/1204/2004, A/Vietnam/3030/04	Le et al., 2009	19264775
			Enhanced replication efficiency; increased virulence and transmission in guinea pigs	A/Vietnam/1203/2004	Steel et al., 2009	19119420
			Mammalian host adaptation, increased virulence in mice	A/duck/Guangxi/22/2001, A/duck/Guangxi/352/2001	Li et al., 2005	16140781
		Met28Ile, Ala274Thr, Lys526Arg, Ile553Val, Leu607Val ^f	Decreased polymerase activity	A/duck/Fujian/01/2002, A/duck/Guangxi/53/2002	Leung et al., 2010	20211480
	Leu89Val, Gly309Asp, Thr339Lys, Arg477Gly, Ile495Val, Lys627Glu, Ala676Thr ^f	Enhanced polymerase activity and increased virulence in mice	A/wild duck/Hunan/021/2005	Li et al., 2009	19393699	
	Arg368Gln, Gln391Glu, Gln447His, Lys627Glu ^f	Reduction in replication efficiency in cell culture and virulence in mice and ferrets	A/Vietnam/1203/2004, A/chicken/Vietnam/C58/2004	Salomon et al., 2006	16533883	



Is There Increased Risk to Humans?

“While there was a genetic marker in the H5N1 viruses detected during the outbreak in mink in Spain that may have increased the amount of virus in infected mink, this marker is unlikely to make it easier for H5N1 virus to transmit to humans... Humans lack the type of cell receptor in the upper respiratory tract that H5N1 viruses use to cause infection.”

- Dr. Tim Uyeki, CDC

H5N1 Risk Assessments for General Public

- U.S. CDC: “Low”
- WHO: “Low”
- ECDC: “Low”
- UKHSA: “At present there are no indicators of increasing risk to human health; however, this is a low confidence assessment.”

Summary: ECDC Risk Assessment

“Mutations associated with mammalian adaptation such as in the PB2 that confer an increased replication have been observed, however, no mutations in the Hemagglutinin (HA) gene have been detected in A(H5N1) viruses from birds or mammals that would support a switch of the viruses from avian-like... to human-like... receptors.”

“Only sporadic human infections have been reported globally, and transmission to humans remains a rare event. No sustained transmission between humans has been observed.”

“However, the expansion of mammal species identified infected with A(H5N1) viruses as well as the detection of viruses carrying markers for mammalian adaptation in other genes such as the PB2 that correlated with increased replication and virulence in mammals, is of concern.”

Do We Have an H5N1 Influenza Vaccine?

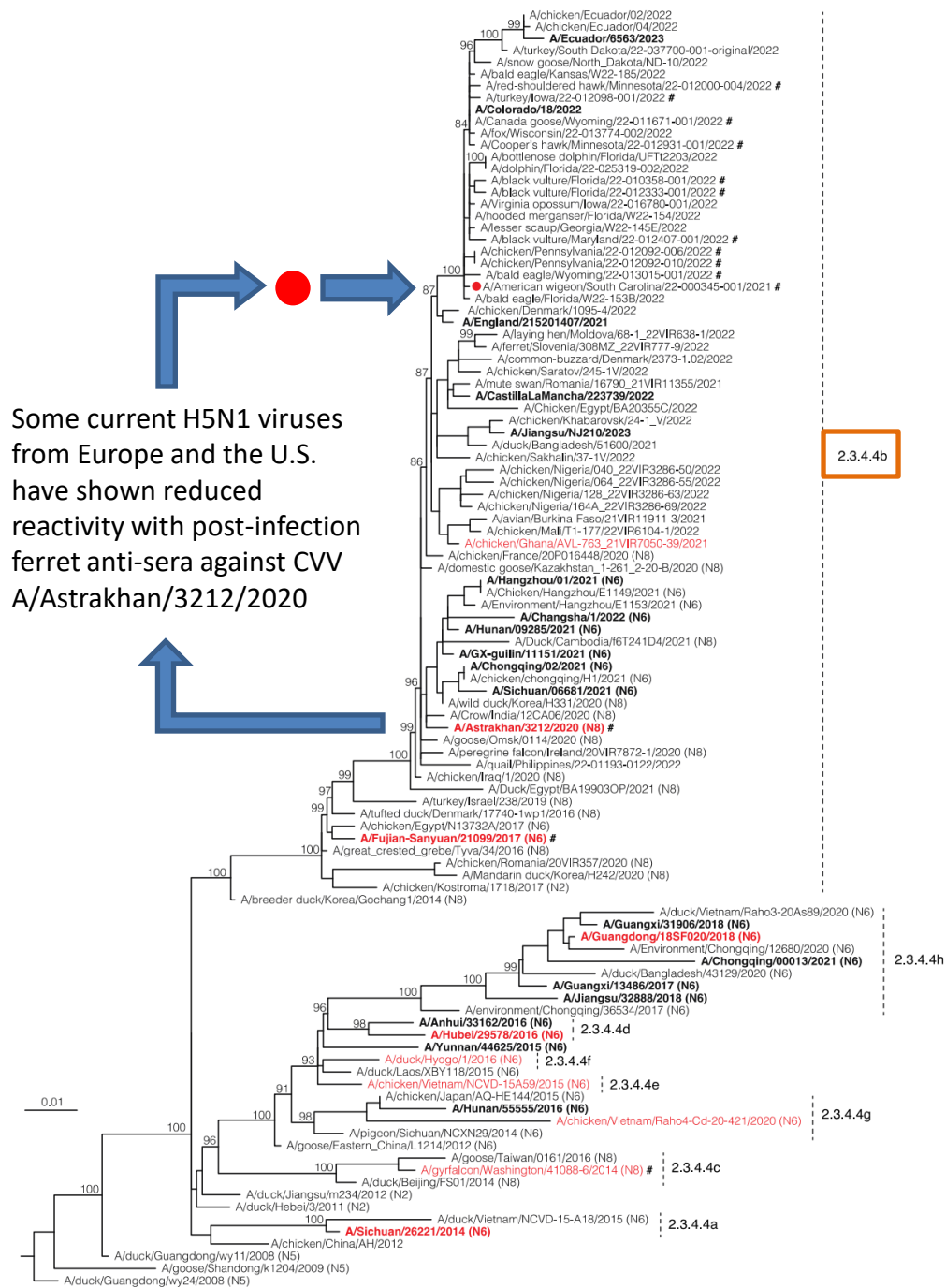
Influenza Candidate Vaccine Viruses (CVVs)

- The WHO Global Influenza Surveillance and Response system (GISRS) regularly evaluates candidate vaccine viruses (CVVs)
- CVVs can be used for pilot vaccine production, clinical trials, and other pandemic preparedness purposes
- CVVs are the first step toward timely vaccine production, but they are NOT a recommendation to initiate manufacturing
- As influenza viruses evolve from reassortment and genetic changes, there is a need to continually update/add CVVs

Phylogenetic Relationships of Influenza A(H5) Clade 2.3.4.4 Hemagglutinin (HA) Genes

Legend:

- Red font: currently available candidate vaccine viruses (CVVs)
- Bold font: viruses that have caused human infection
- Proposed CVV indicated by a red dot (●)



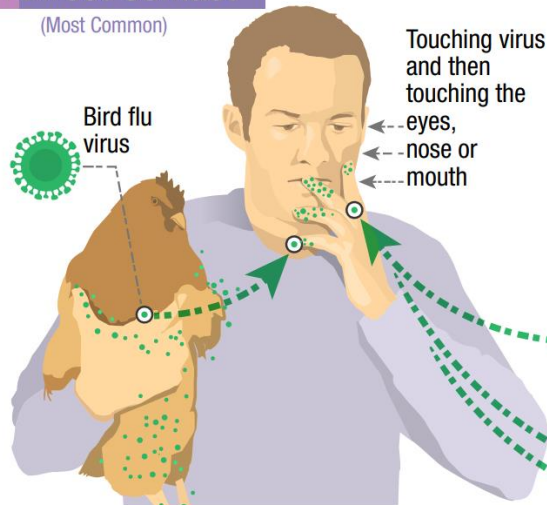
What Happens If Someone Is Exposed to H5N1 Infected Birds?

How Infected Backyard Poultry Could Spread Bird Flu to People

Human Infections with Bird Flu Viruses Rare But Possible

1 Direct Contact

(Most Common)

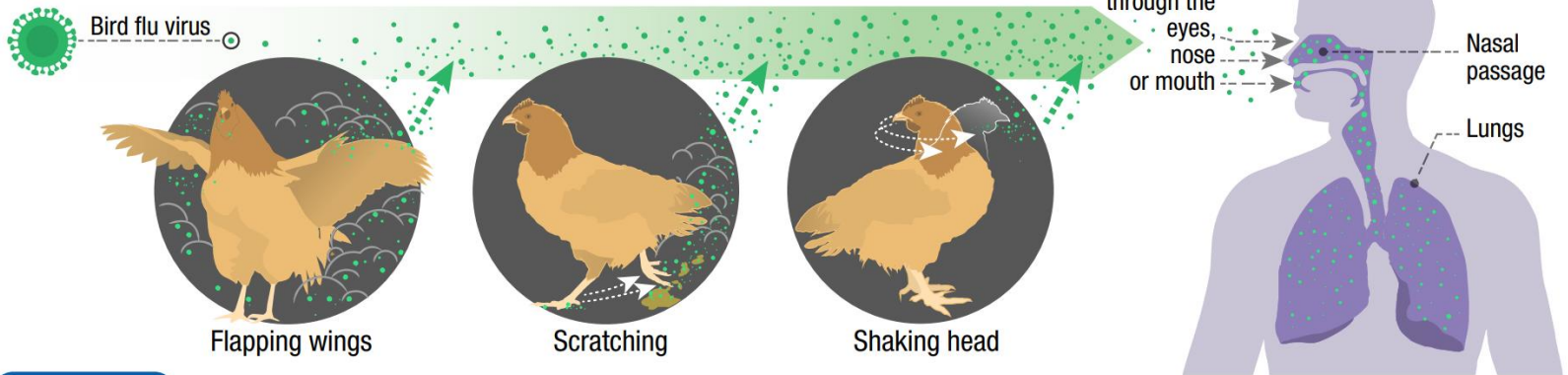


Infection can occur without touching poultry.

2 Contaminated Surfaces



3 Bird Flu Virus in the Air (in Droplets or Dust)



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

www.cdc.gov/flu/avianflu/avian-in-humans.htm

CS330154

Public Health Monitoring and Recommendations for Persons Exposed to Infected Birds (e.g., Backyard Flocks)

- Public health monitoring for 10 days after exposure
- Contaminated property should lay fallow for 120 days – avoid walking into or through contaminated areas on property
- Additional birds should NOT be kept on the property
- Avoid bringing contaminated clothing or supplies into home
- PPE should be worn by any person who needs to go into the contaminated area (contact NH DPHS first)
- Self-monitoring for 10 days if re-exposed
- Call NH DPHS if influenza symptoms develop after exposure to coordinate testing with a local healthcare facility

Highly Pathogenic Avian Influenza A(H5N1) Virus: Recommendations for Human Health Investigations and Response

Distributed via the CDC Health Alert Network

Friday, April 29, 2022, 8:00 PM ET

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Recommendations for Clinicians

Clinicians should consider the possibility of HPAI A(H5N1) virus infection in persons showing signs or symptoms of respiratory illness who have relevant exposure history. This includes persons who have had contact with potentially infected birds (e.g., handling, slaughtering, defeathering, butchering, culling, preparation for consumption); direct contact with water or surfaces contaminated with feces or parts (carcasses, internal organs, etc.) of potentially infected birds; and persons who have had prolonged exposure to potentially infected birds in a confined space. Clinicians should contact the state public health department to arrange testing for influenza A(H5N1) virus, collect respiratory specimens using personal protective equipment (PPE), consider starting empiric antiviral treatment (see below), and encourage the patient to isolate at home away from their household members and not go to work or school until it is determined they do not have avian influenza A virus infection.

[Testing for other potential causes of acute respiratory illness](#) should also be considered depending upon the local epidemiology of circulating respiratory viruses, including SARS-CoV-2.

<https://emergency.cdc.gov/han/2022/han00464.asp>



Influenza (Flu)

Human Infection with Avian Influenza A Virus: Information for Health Professionals and Laboratorians

- Obtain an exposure history
- Airborne and contact precautions including:
 - Airborne isolation
 - Gown
 - Gloves
 - Eye protection (goggles or face shield)
 - Fit-tested N95 or higher level respiratory protection
- Testing by PCR is recommended at state public health laboratories for any person with suspected novel influenza A virus infection (with confirmatory testing performed at CDC)

Summary

- H5N1 avian influenza is causing widespread infections in wild birds and poultry with transmission to a variety of mammals
- Rare human infections have occurred but there has been no evidence of human-to-human transmission
- Risk to humans is “low”, but expansion of the virus into mammals with adaptive mutations warrants close monitoring
- Candidate vaccine viruses have been/are being developed and updated
- Public health will continue to monitor any person exposed
- Healthcare providers should be prepared to identify people at risk, isolate with appropriate use of PPE, and contact public health laboratories for variant/H5 influenza PCR testing

Q&A