

Emerging Pathogens

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Public Health

Emerging and Re-emerging Infectious Diseases

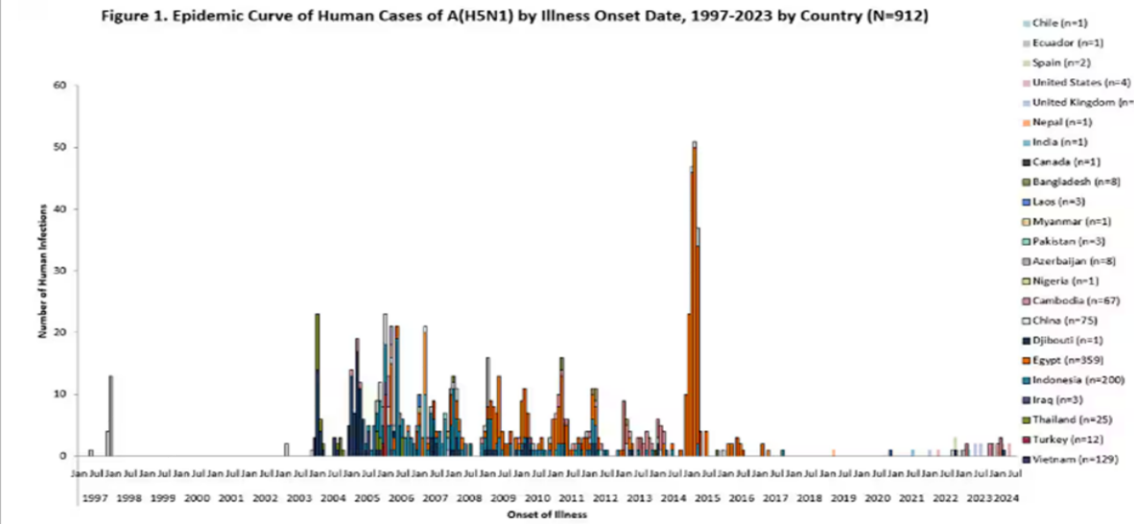
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Two Quick Topics

1. Highly Pathogenic Avian Influenza A(H5N1)
2. Mpox Clade Ib in the Congo

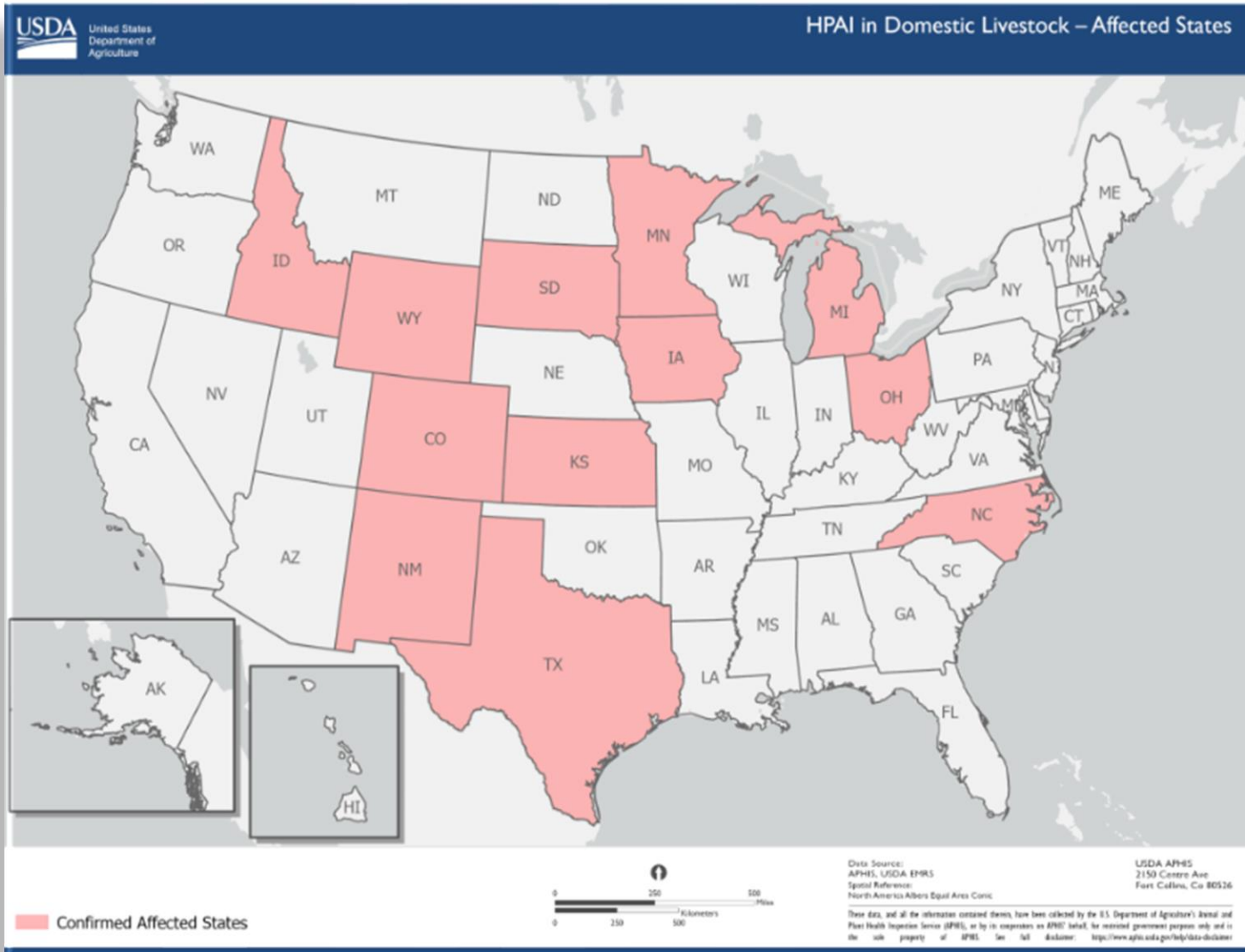
- June 9, 2024: CDC issued an updated technical report: [Technical Report: Highly Pathogenic Avian Influenza A\(H5N1\) Viruses | Avian Influenza \(Flu\) \(cdc.gov\)](#)

Figure 1. Epidemic Curve of Human Cases of A(H5N1) by Illness Onset Date, 1997-2024 by Country (N=912)



- From January 2022 - June 4, 2024, 29 sporadic human cases of A(H5N1) were reported from 9 countries.
 - 15 cases (8 children and 7 adults) of severe or critical illness
 - 6 cases of mild illness
 - 8 asymptomatic cases
 - 7 deaths (3 children and 4 adults)

Confirmed Cases of HPAI in Domestic Livestock in the U.S.



U.S. Surveillance for Human Infections with Influenza A(H5N1) Virus

- Human infection with a novel influenza A virus, including HPAI A(H5N1) virus, is a nationally notifiable condition.
- Seasonal influenza virus detection assays can also detect novel influenza A and are used in 128 public health labs in all 50 states.
- Specific diagnostic assays to detect A(H5) viruses are available at 99 public health in all 50 states.
- Currently, confirmatory testing is being done only at CDC.

CDC Emergency Use Instructions for Tamiflu treatment of HPAI (10 days)

- Highly pathogenic avian influenza A(H5N1).
- CDC recommends that clinicians consider 10-day treatment for hospitalized patients and for those with ongoing exposure to infected individuals.

2017-2024 Influenza Season Review

Ohio ODH Seasonal Influenza Activity

Influenza Season	Hospitalizations
2017-2018	17,397
2018-2019	9,865
2019-2020	11,005
2020-2021	122
2021-2022	1,921
2022-2023	9,134
2023-2024	9,961

WHO Declares Mpox Outbreaks in Africa a Global Health Emergency

- First Public Health Emergency of Internal Concern (PHEIC) for 2022 outbreak when mpox Clade II caused the global outbreak.
- Clade I can cause more severe illness and deaths as compared to clade II (up to a 10% case fatality in some outbreaks).
- Since January 2023, clade I mpox has been spreading in the Democratic Republic of the Congo (DRC) and has since spread to neighboring countries, with over 22,000 suspect case and 1,200 deaths reported.

Rapid spread of Clade Ib Mpox Strain

- Primarily affecting the Democratic Republic of Congo (DRC),
- Spread to 18 neighboring countries, with the DRC accounting for 96% of all cases and deaths.
- Nearly 70% of these cases in the DRC involve children under 15, who also represent 85% of the deaths.



Mpox JYNNEOS Vaccine

- European Commission will donate more than 215,000 doses of the MVA-BN vaccine in collaboration with the manufacturer, Bavarian Nordic.
- Emergent BioSolutions donating 50,000 doses of its ACAM2000 smallpox vaccine, which is also authorized for use against mpox virus.
- Bavarian Nordic increasing production and plans to provide 2.5 million doses by the end of this year to the U.S. and another 8 million by the end of next year.

JYNNEOS Mpox Vaccine

- The state's supply of JYNNEOS expires at the end of October and will no longer be free.
- Currently, most current JYNNEOS vaccine have been given to people traveling to the Congo.