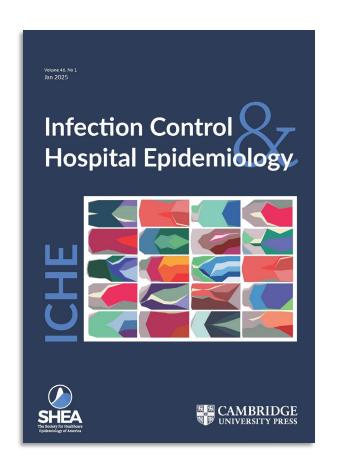


SAFE HEALTHCARE FOR ALL



ICHE Journal

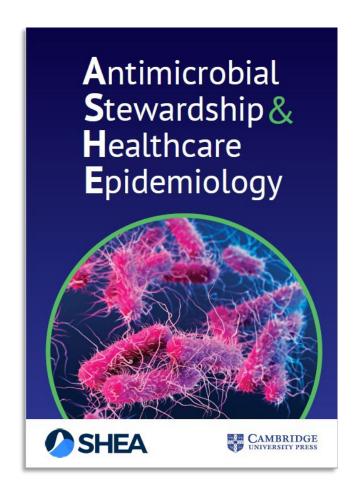


Infection Control & Hospital Epidemiology publishes scientifically authoritative, clinically applicable, peer-reviewed research on control and evaluation of the transmission of pathogens in healthcare institutions and on the use of epidemiological principles and methods to evaluate and improve the delivery of care. Major topics covered include infection control practices, surveillance, antimicrobial stewardship, cost-benefit analyses, resource use, occupational health, and regulatory issues.

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ON-DEMAND WEBINAR

Educating Medical Students on Antimicrobial Stewardship

This program prepares future medical professionals to tackle antimicrobial resistance with effective stewardship tools and strategies.

LIVE WEBINAR

Patient & Family Education

Register to attend on Feb 27 @ 12:30 - 1:30 pm ET
This program aims to educate the healthcare personnel who provide patient or staff education on principles, needs assessment, and methods for effective education.





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February Town Hall Panelists:



Dr. Marci Drees *ChristianaCare*



Dr. Trish Perl *UT Southwestern Medical Center*



Dr. Andi Shane *Emory University School of Medicine*



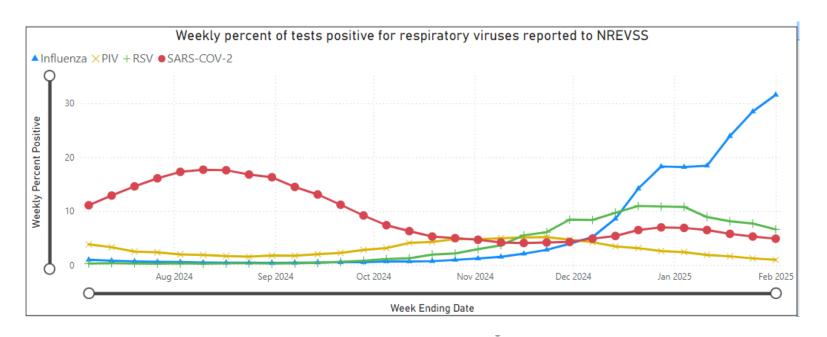
POLL: Which disease threat do you think poses the greatest challenge today?

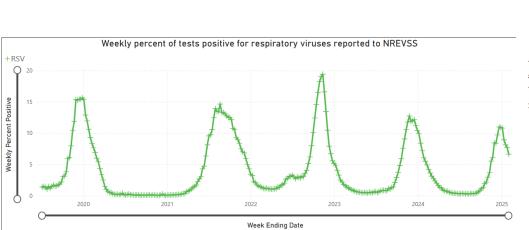
- a. Drug-resistant tuberculosis (TB)
- b. Mpox Clade 1 resurgence
- c. Marburg/Ebola outbreaks
- d. Measles outbreaks in new regions
- e. Antimicrobial resistance
- f. Other (share your thoughts in the chat!)

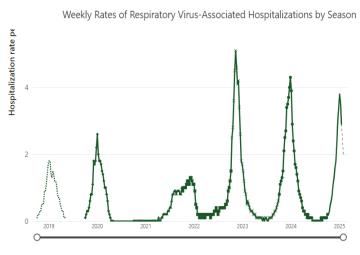
General Literature Review

- Nickel KB, et al. JAMA Network Open, Intersection of Race and Rurality With Health Care-Associated Infection and Subsequent Outcomes
- Turner NA, et al. *Clinical Infectious Diseases*, Natural History of *Clostridioides difficile*—Related Disease Progression in the 2-Step Testing Era
- Fabre V, et al. JAMA Network Open, Blood Culture Use in Medical and Surgical Intensive Care Units and Wards
- Laracy JC, et al. *Clin Infect Dis*, Improving UTI Diagnostics in Oncology: Reliability of Reflex Urine Culture in Immunosuppressed Neutropenic and Non-neutropenic Cancer Patients
- Jones N, et al. JAMA Network Open, Use of Machine Learning to Assess the Management of Uncomplicated Urinary Tract Infection
- Zulli A, et al. *Environ Sci Technol*, Utilizing Internet Search Trends and Wastewater Surveillance to Identify Infectious Disease Outbreaks in Communities.
- Wang Y, et al. Antimicrob Resist Infect Control, Global trends of ceftazidime-avibactam resistance in gramnegative bacteria: systematic review and meta-analysis.
- Bajema KL, et al., JAMA Internal Medicine. Severity and Long-Term Mortality of COVID-19, Influenza, and Respiratory Syncytial Virus.

2024-25 Viral Respiratory Season: RSV







Recent Literature:

- Walsh EE, et al. Clin Infect Dis, Efficacy, Immunogenicity, and Safety of the Bivalent RSV Prefusion F (rsvpref) Vaccine in Older Adults Over 2 RSV Seasons
 - Bajema KL, et al. Lancet Inf Dis, Respiratory syncytial virus vaccine effectiveness among US veterans, September, 2023 to March, 2024: a target trial emulation study

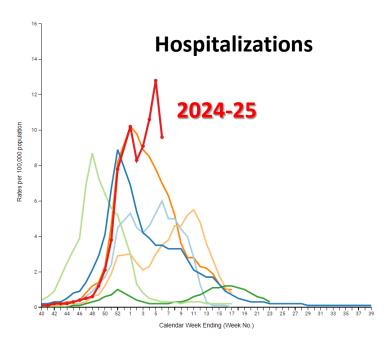
RSV-NET | RSV | CDC Interactive Dashboard | NREVSS | CDC

Surveillance Month

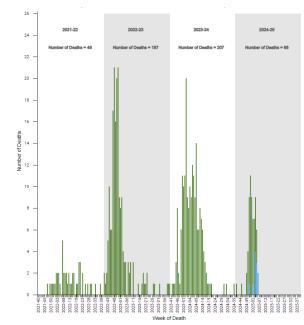
Seasonal Influenza ILI 2024-25 **Commercial labs** 50,000 Flu B 45,000 40,000 35,000 Flu A Ø 30,000 8 25,000 **#** 20,000 15,000 10,000 5,000 ILI **Public Health labs H1N1** 4,000 -**H3N2** District of Columbia 2,000 1,000 -

FluView | FluView | CDC

Shrestha NK, et al. medRxiv (preprint). Interim Effectiveness of the Influenza Vaccine for the 2024-2025 Respiratory Viral Season.



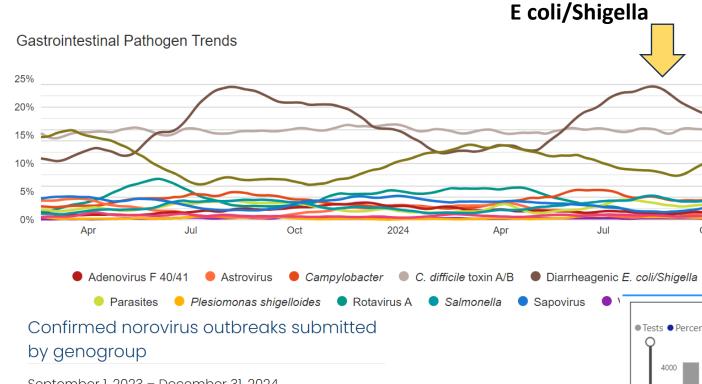
Pediatric deaths

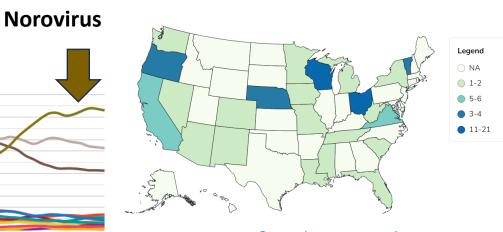


Norovirus

Confirmed norovirus outbreaks submitted by state

September 1, 2024 - December 31, 2024

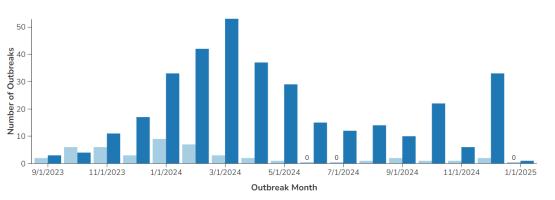


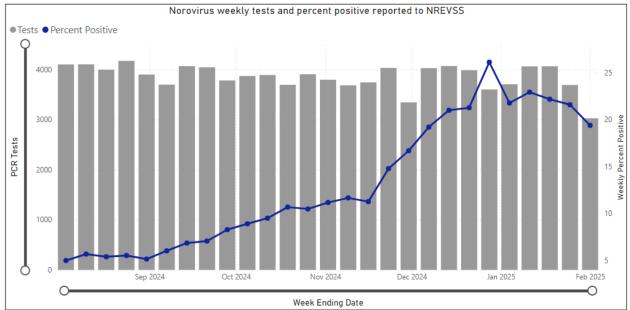


BIOFIRE® Syndromic Trends
Interactive Dashboard | NREVSS | CDC
CaliciNet Data | Norovirus | CDC

September 1, 2023 - December 31, 2024

Norovirus GI
 Norovirus GII

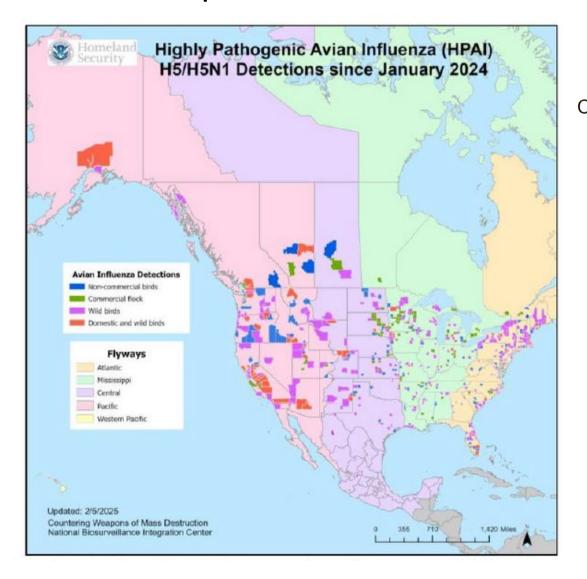




2025

Oct

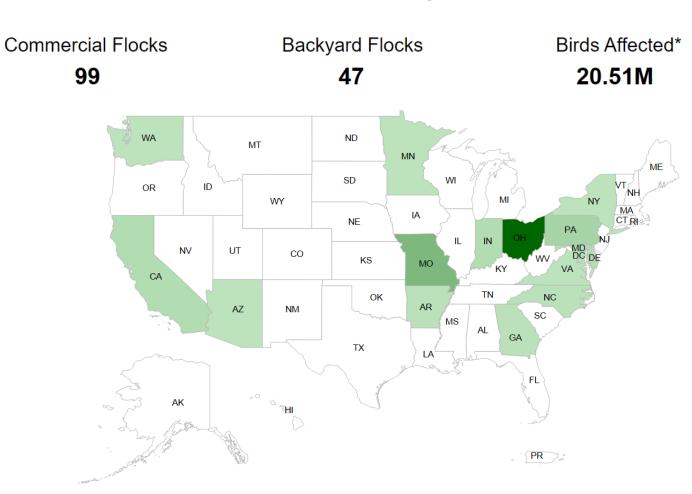
H5N1 Update



Outbreak Situation Last 30 Days

141 Confirmed Flocks

Flocks tested and confirmed having HPAI

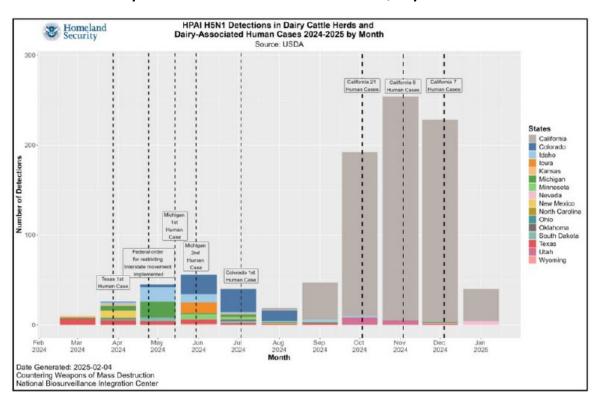


<u>Confirmations of Highly Pathogenic Avian Influenza in Commercial and Backyard Flocks |</u>
<u>Animal and Plant Health Inspection Service</u>

H5N1 – Human/Dairy Cases

- US Dairy herds: 972 cases in 17 states (only CA & NV in past 30 d)
- Current U.S. human cases: 68, with 1 death
- 1/27/25: H5N9 (reassorted strain from H5N1 & H7H9, not seen before in U.S.) found on commercial duck farm in CA
- 2/5/25: USDA announced that genotype D1.1 identified in dairy milk (NV); previous dairy-related cases all B3.13
- 2/7/25: NY Gov. Hochul announced temporary closure of live bird markets after H5N1 found in Queens, the Bronx and Brooklyn
- 2/13/25: MMWR reported 3 seropositive bovine veterinarians without symptoms & no known exposures to infected cattle (1 had contact with H5N1-infected poultry)

H5N1 Detections in Dairy Cattle Herds & Dairy-associated Human Cases, by Month

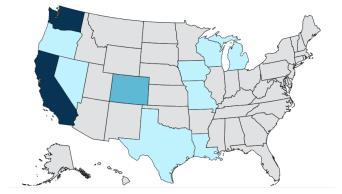


National Total Cases: 68

	Cases	Exposure Source
	41	Dairy Herds (Cattle)*
	23	Poultry Farms and Culling Operation
	1	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.

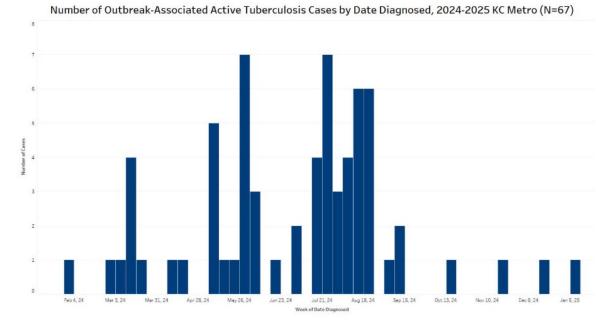
*Exposure Associated with Commercial Agriculture and Related Operations 'Exposure was related to other animals such a backyard flocks, wild birds, or other mammals 'Exposure source was not able to be identified



Other Outbreaks – U.S.

- Measles in U.S. (as of 2/6/25): 14 cases in 5 jurisdictions (AK, GA, NYC, RI, TX)
 - 2 outbreaks (3 or more cases); 64% (9/14) outbreak-related
 - 100% unvaccinated or unknown
 - GA: 1 case & 2 household contacts
 - TX (as of 2/14/25): 48 cases, 13 hospitalized; started in Gaines Co. (but now 4 affected)
 - 2/11/25: NM reported 1st case in unvaccinated teen in Lea County (borders Gaines Co) but no known travel
 - 2/14/25: NJ DOH reported 1 case in unvaccinated person following international travel
- TB: 2 counties in Kansas city metro area (as of 2/7/25):
 - 67 confirmed cases since Jan 2024
 - 79 confirmed latent TB cases





Mpox Clade 1b

- Africa: Outbreak since 2024 with 21 countries affected (total 21K cases, 70 deaths) DRC (14,530 cases), Burundi, Uganda
- Travel-associated cases reported in Sweden, Germany, Belgium, France, Ireland (13 in EU countries), also UK, Thailand, Oman, Canada, China, UAE; Pakistan & India only with travel to UAE
 - UK reported several cases among household contacts
- US cases (4) all travel-associated, no further spread identified
 - CA 11/24, GA 1/14/25, NH 2/7/25, NY 2/12/25

Recent literature:

- Ndembi N et al. NEJM. Evolving Epidemiology of Mpox in Africa in 2024
- Brosius I, et al. Lancet. Epidemiological and clinical features of mpox during the clade Ib outbreak in South Kivu, Democratic Republic of the Congo: a prospective cohort study
- Masirika LM, et al. *Nature Med*. Epidemiological and genomic evolution of the ongoing outbreak of clade Ib mpox virus in the eastern Democratic Republic of the Congo.
- Pesonel E, et al. Clin Infect Dis. Clinical Characterization and Outcomes of Human Clade IIb Mpox Virus Disease: A
 European Multicenter Mpox Observational Cohort Study (MOSAIC)
- Postal J, et al. Lancet Inf Dis. Antiviral activity of tecovirimat against monkeypox virus clades 1a, 1b, 2a, and 2b.
- Levy V et al. MMWR 2/13/25. First Clade Ib Monkeypox Virus Infection Reported in the Americas California, November 2024

Viral Hemorrhagic Fever Outbreaks

- Sudan virus disease (SVD) Uganda
 - 1/30/25: Uganda declared outbreak of SVD in Kampala (first since 2022)
 - 2/3/25: WHO announced 1st Ebola vaccination trial vs. disease caused by Sudan virus; commenced 4 days after announcement of outbreak
 - 2/4/25: NBIC changed event status to "worsening"
 - As of 2/6/25: 7 cases & 1 death confirmed; CDC HAN issued
- Marburg virus disease (MVD) Tanzania
 - 1/10/25: WHO received reports of 6 suspected MVD cases in Tanzania
 - 1/20/25: Tanzania declared MVD outbreak in Kajera region; 1 confirmed case; 25 suspected cases tested negative
 - 1/25/25: 2 confirmed & 8 probable cases, including at least 9 deaths:
 - 2/4/25: NBIC changed event status to "improving"
 - 2/14/25: WHO reported 2 confirmed, 8 probable cases, 10 deaths (100%); all 281 contacts completed 21-d follow-up

Arboviral Disease Outbreaks

- Dengue global
 - >100K cases and >10 deaths from 24 countries/territories so far in 2025
 - 2024: >14 million cases & 10,000 deaths (primarily Brazil, Argentina, Mexico, Colombia, Paraguay)
 - 2/7/25: PAHO published epi alert due to increased circulation of DENV-3 in Americas
- Chikungunya global
 - 2/14/25: La Réunion, France, reported that since Aug 2024, when 1st autochthonous case in 10 yr reported, 783 confirmed autochthonous cases
 - >5000 cases reported in Brazil (5098), Paraguay (11) & Columbia (4) so far in 2025
 - >600,000 cases reported in 2024 (>400K in Brazil, nearly 200K cases in India)
- Oropouche virus Americas
 - 2/11/25: PAHO announced 3765 confirmed autochthonous cases so far in 2025 (mostly Brazil)
 - 2024: >16K cases (including 4 deaths & 5 confirmed cases of vertical transmission) in Brazil (13K), Cuba (600), Peru (1200), US (108 imported cases)

Resources for Outbreak/Global Health Updates

- CIDRAP newsletter (<u>www.cidrap.umn.edu</u>)
- European CDC weekly communicable disease threats reports
- Your Local Epidemiologist
- State/local health depts & Health Alert Networks (HANs)
- PAHO Pan American Health Organization
- National Biosurveillance Integration Center (part of Homeland Security) – via state/local DOH
- WHO Disease Outbreak News

- Bajema KL, et al., JAMA Internal Medicine. doi:10.1001/jamainternmed.2024.7452. Published online 1/27/25.
- Bajema KL, Lancet Inf Dis, doi: 10.1016/S1473-3099(24)00796-5. Published online 1/20/25
- Brosius I, et al. Lancet. doi.org/10.1016/S0140-6736(25)00047-9. Published online 1/29/25.
- Fabre V, et al. JAMA Network Open. 2025;8(1):e2454738. doi:10.1001/jamanetworkopen.2024.54738
- Faye M, et al. Lancet Inf Dis. https://doi.org/10.1016/S1473-3099(25)00017-9. Published online 1/20/25.
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- Laracy JC, et al. *Clin Infect Dis* DOI: 10.1093/cid/ciaf018. Accepted manuscript.
- Masirika LM, et al. Nature Med. doi: 10.1038/s41591-025-03582-1. Accepted manuscript, published online 2/11/25
- Ndembi N et al. NEJM. doi: 10.1056/NEJMoa2411368. Published 1/29/25.
- Nickel KB, et al. JAMA Network Open. 2025;8(2):e2453993. doi:10.1001/jamanetworkopen.2024.53993
- Pesonel E, et al. Clin Infect Dis. doi:10.1093/cid/ciae657. Published online 1/3/25.
- Postal J, et al. Lancet Infect Dis. https://doi.org/10.1016/S14733099(25)00014-3. Published online 1/23/25.
- Turner NA, et al. Clin Infect Dis 2025. https://doi.org/10.1093/cid/ciaf020. Published online 1/20/25.
- Walsh EE, et al. Clin Infect Dis, 2025. DOI: 10.1093/cid/ciaf061. Accepted manuscript.
- Wang Y, et al. Antimicrob Resist Infect Control. 2025 Feb 11;14(1):10. doi: 10.1186/s13756-025-01518-5.
- Zulli A, et al. Environ Sci Technol 2025 Feb 11. doi: 10.1021/acs.est.4c05723. Online ahead of print.
- https://www.paho.org/sites/default/files/2025-02/2025-feb-10-epi-update-oropoucheeng-final_0.pdf
- https://www.aphis.usda.gov/sites/default/files/dairy-cattle-hpai-tech-brief.pdf
- Health Alert Network (HAN) 00521 | Ebola Outbreak Caused by Sudan virus in Uganda