

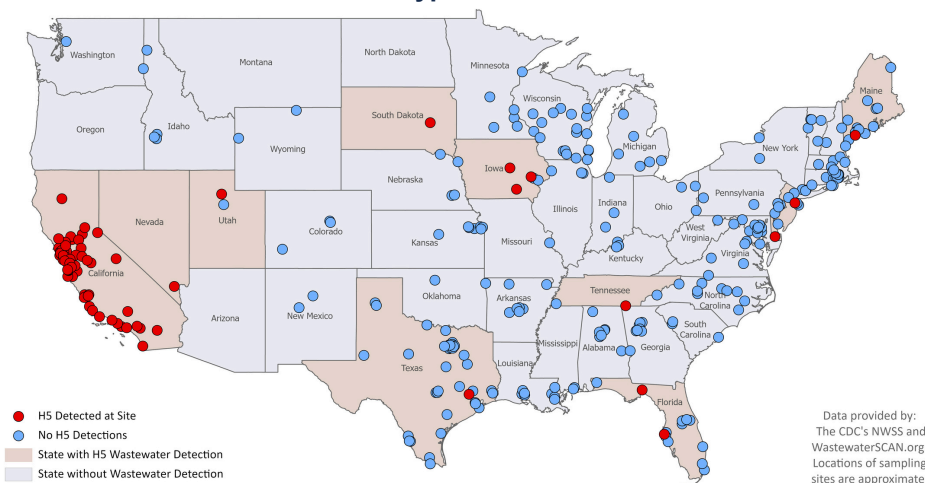
December 13, 2024

Key Takeaways

- Arizona reports the state's first human cases of HPAI A(H5N1). Nevada reports the state's first cases in dairy cattle.
- The CDC confirms a pediatric case of HPAI A(H5N1) detected in November. Viral samples show similarity to the virus affecting cattle.
- USDA to begin nationwide testing of milk due to HPAI A(H5N1).
- Respiratory disease activity in Virginia is moderate and growing.
- Artificial Intelligence (AI) has made it easier to create disinformation that adversely affects emergency response efforts. It has also improved forecasting and alert systems.
- Los Angeles reports three cases of a novel XDR Shigella.

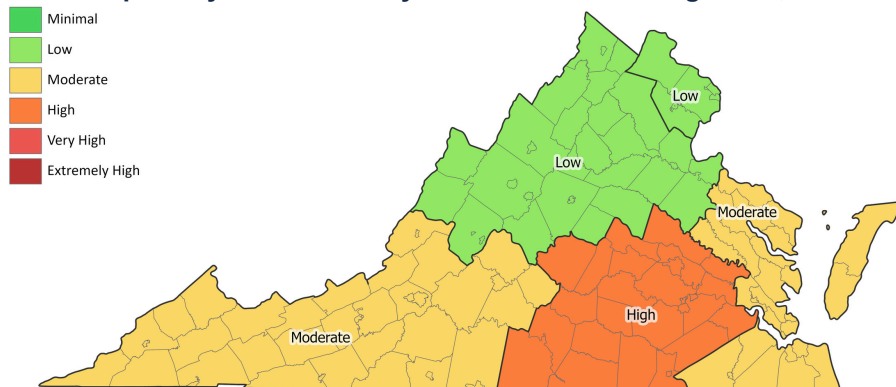
Key Figures

Wastewater Detections of H5-Type Viruses between Nov 10 and Dec 6



Wastewater detections of H5 are concentrated in California, but 10 other states report sporadic detections. Every site in California has reported at least one positive result since Nov 10. Data source: [CDC](#).

Respiratory Illness Activity Levels – Week ending Dec 7, 2024



The Central health planning region is now reporting 'High' respiratory illness activity, while the Southwest and Eastern regions report 'Moderate' activity. Statewide activity is also 'Moderate'. Source: [VDH](#).

Mpox

11

The number of clade I mpox cases reported outside of Africa as of Dec 13, 2024.

Seasonal Illness

1

Number of Virginia's five regions at 'High' or higher respiratory illness activity levels for the week ending Dec 7.

99% / >99%

The likelihood that COVID-19 / flu activity is growing in Virginia, according to CDC models as of Dec 10, 2024.

HPAI A(H5N1)

60

Human HPAI A(H5N1) cases in the United States as of Dec 12.

843

HPAI A(H5N1) detections in dairy cattle herds in the United States as of Dec 13.

Spotlight:
AI and
Preparedness

Ongoing Monitored Situations

Avian Influenza A(H5N1)

- **Arizona identifies two human cases of avian flu.** The cases were the first detected in the state, which becomes the eighth state to report human infections. Both patients worked at a commercial poultry facility, reported mild symptoms and have since recovered.
- **Pediatric H5N1 case confirmed to be B3.13.** In November, California detected the nation's first pediatric case of HPAI A(H5N1). CDC analyses suggest that the virus isolated from the pediatric patient is most similar to those isolated from dairy cattle and poultry in the state.
- **CDC rules out HPAI A(H5N1) in potential second pediatric flu.** Last week, officials in Marin County California investigated a child who fell ill after drinking raw milk. Though the child tested positive for influenza A, H5N1 was later ruled out.
- **Virus detected in cattle in Nevada.** Officials in Nye County detected HPAI A(H5N1) in a herd of dairy cattle. This is the first detection in the state. No other states besides California have reported new cattle cases in the last month. California continues to deal with an outbreak among dairy cattle, with 339 new detections in the last 30 days.
- **USDA orders national testing of milk suppliers.** The order, which allows regulators to take samples from farms or dairy processing facilities, will initially focus on California and five other states with prior outbreaks among cattle.

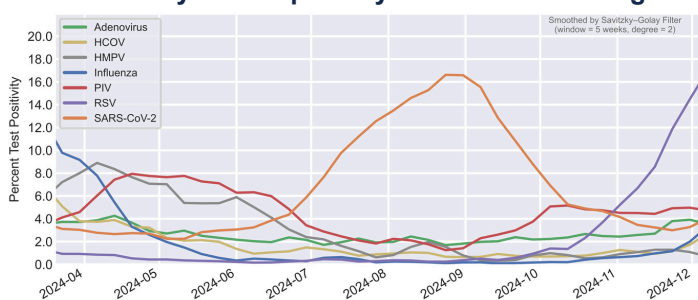
Mpox

- **Outbreak in Congo Basin continues.** Despite sporadic international cases of clade Ib mpox, the outbreak remains largely restricted to DR Congo, Burundi, and Uganda. DR Congo is also dealing with an outbreak of clade Ia mpox. The nation reported over 53,000 combined clade Ia/b cases this year. Burundi and Uganda report 2,334 and 785 cases respectively, all clade Ib. Kenya has also reported a small number of clade Ib cases.
- **DR Congo to receive pediatric vaccines.** The first shipment of a promised three million doses of the LC16 vaccine donated by Japan should arrive next week. Unlike the JYNNEOS vaccine, LC16 can be given to children ages 2 to 12.

Seasonal Illness

- **Respiratory illness activity in Virginia is now moderate and growing.** Three of the five regions of the Commonwealth are now at 'moderate' or higher levels, with the central region reporting 'high' activity. COVID-19, flu, and RSV account for roughly the same percentages of emergency department (ED) diagnoses, but flu activity is trending upward. RSV activity is surging among children aged 0-4 years old. CDC test positivity data show a similar surge in overall RSV activity which has doubled in the last two weeks.

Test Positivity for Respiratory Viruses in HHS Region 3



Overall RSV activity has grown significantly in the region since late October. Data source: CDC.

- **Enterovirus D68 activity now below detection.** After weeks of decline, wastewater concentrations of EVD68 in HHS Region 3 have fallen below detection thresholds. The last confirmed detection in the region was on Dec 2 in Pennsylvania.
- **Study examines efficacy of 2023-24 COVID-19 vaccine in children.** The study, published in JAMA, focused on children aged 5-17, and found that last year's vaccine was 68% effective against hospitalization, and 63% effective against urgent care or emergency department visitation.
- **Nirsevimab protects against pediatric RSV.** Published in JAMA Pediatrics, the study found the monoclonal antibody treatment was 93% effective against hospitalization in children under five.

Measles

- **Measles exposure at LAX.** Health authorities in Los Angeles confirmed a case of measles in a non-resident traveler passing through the Los Angeles International Airport in late November, potentially affecting Thanksgiving travelers.

Spotlight



This AI-generated image spread on social media during tropical storm Helene. Experts suggest emergency management officials stay in front of misinformation on social media and offer a number of strategies. AI-based tools can also help identify deepfakes and authenticate information. Image source: FEMA.

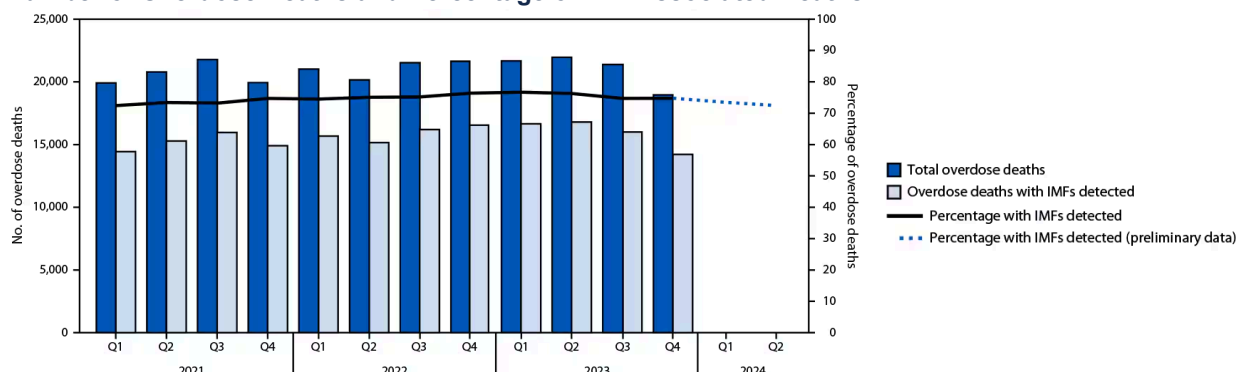
AI and Preparedness

- **Artificial Intelligence (AI)** is making it easier to create misinformation and disinformation during disasters. In addition to sowing distrust, AI-enhanced phishing scams can include hacked information to generate tailored messaging and target individuals affected by disasters.
- **Maui** has adopted AI-based evacuation alert and traffic systems in response to the Lahaina wildfires. The system develops evacuation plans based on real-time data, allows evacuation in stages, and directs evacuees to specific routes.
- **AI** is improving weather forecasts, including forecasts of hurricane tracks, severe weather, and extreme heat. Current AI models match or slightly outperform traditional models, but the technology is advancing quickly.

Other News

- A church in Campbell County is in danger of collapse after crews responded to an explosion and basement fire in the church on Monday night. The church was unoccupied when the explosion occurred and no injuries have been reported, but an investigation into the incident is ongoing.
- A cluster of cases associated with a novel strain of extensively drug-resistant (XDR) Shigella sonnei was identified among three Los Angeles men in 2023. All cases were among men who have sex with men or who reported a history of high-risk sexual behavior. Outbreaks of XDR Shigella have been on the rise in recent years.
- A wildfire in the George Washington and Jefferson National Forests has spread over almost 2,000 acres across Augusta County. As of Tuesday morning, the fire is 12% contained, but several roads and trails in the area remain closed.
- Malaria was identified in the majority of samples from patients suffering from an unidentified disease in the DR Congo, however, officials suspect that more than one disease may be causing illness. The illness has affected over 400 individuals and has a case-fatality rate of 7.6%, with over 50% of deaths occurring among children under the age of five.

Number of Overdose Deaths and Percentage of IMF-Associated Deaths



The number of overdose deaths with illegally manufactured fentanyl (IMF) detected decreased in all regions of the US in 2023, except in the West where deaths increased 60% between 2021 and 2023. Carfentanil-associated deaths remain rare but increased from 29 in the first six months of 2023 to 238 in the first six months of 2024. Image Source: CDC