First death from H5N1 "bird flu" in the US occurs amid surge in multiple infectious diseases

Bill Shaw 6 January 2025

The United States has recorded its first ever fatality from infection with the H5N1 "bird flu" virus. The virus has been circulating in bird and mammalian populations throughout the nation and the world, especially among commercial poultry flocks and cattle herds in the US. This is the first fatality in a total of 66 confirmed human cases in the US to date.

The Louisiana Department of Health announced the death from H5N1 on Monday. The patient, who was over the age of 65, was also the first recorded case in the state of Louisiana as well as the first "severe" case of H5N1 in the United States. The patient was exposed to both an infected backyard flock of poultry as well as infected wild birds. The patient was reported to have had multiple conditions prior to their infection that could have made them more vulnerable to adverse outcomes from the infection.

The genetic sequence of the virus isolated from the patient is more similar to that of the severe case of H5N1 in British Columbia than the virus widely circulating in cattle and poultry. This fact is significant because of the severity of the illness and the finding that this strain of H5N1 has adaptations that enable it to infect the respiratory system of humans. Such an adaptation is viewed as necessary for the virus to undergo sustained human-to-human transmission, although no evidence exists for that yet.

The death comes as H5N1 continues to spread among birds and mammals, and as multiple infectious diseases are surging throughout the human population in the US, including the 10th wave of the COVID-19 pandemic and major spikes in seasonal influenza, norovirus, respiratory syncytial virus (RSV) and whooping cough.

Continued spread of H5N1 "bird flu" among animals

The H5N1 virus continues to spread throughout multiple animal populations. Per USDA data, the number of commercial dairy cattle herds impacted in California surpassed 700 this week. In all, 917 herds spanning 16 states are known to have been impacted, and 40 confirmed human cases are associated with exposure to infected cattle.

Per USDA data, over 130 million birds have been infected in all 50 states in over 1,300 separate outbreaks, and 23 confirmed human cases were associated with exposure to infected poultry. This does not include the fatality in Louisiana, which is listed as "other exposure" since the flock was not commercial in nature.

The USDA also reported new infections in a number of mammals, including native and non-native feline species, house cats, and foxes in California, Washington, Oregon and Idaho among other states. Notably California, Colorado, Washington and Oregon have been heavily

impacted by H5N1.

Wastewater surveillance data continues to show that all major California cities have H5N1 virus in wastewater.

Seasonal influenza wreaking havoc nationwide

Meanwhile, seasonal influenza is at high or very high levels in 42 states and moderate levels in 6 states. Test positivity is at 18.6 percent, indicating that the virus is spreading beyond the ability and willingness of the healthcare and public health systems to conduct testing. As of December 28, the most recent data available, over 26,000 people were newly hospitalized with influenza per week.

In a stark reminder of the pandemic potential of influenza viruses, the two primary strains circulating are influenza A(H1N1)pdm09 (40.7 percent of cases) and influenza A(H3N2) (59.3 percent of cases). The former strain is the "swine flu" strain that caused the 2009 influenza pandemic.

The overwhelming danger is that humans acquire simultaneous infection with H5N1 and one of the seasonal influenza strains, and that the coinfection produces a novel virus through genetic reassortment. This could lead to a new virus to which the population has no immunity and that is capable of person-to-person spread, which could spark an entirely new and more deadly pandemic.

10th COVID wave spreads across the US

Per the COVID-19 model of the Pandemic Mitigation Collaborative (PMC), the 10th wave of the COVID-19 pandemic began in early December. Per the latest PMC report, the United States is now seeing close to 1 million daily new infections, which is a low estimate because two states did not report data in the past week.

The PMC model predicts that this wave will peak at 1.4 million daily infections, which would make it the 5th highest out of the 10 pandemic waves thus far. This puts the lie to various claims that "the pandemic is over" or that "the pandemic is progressively diminishing."

The SARS-CoV-2 virus that causes COVID-19 continues to evolve to escape humanity's immune defenses. The latest variant data from the Centers for Disease Control and Prevention (CDC), current only to December 21, shows that the XEC variant makes up 45 percent of

COVID-19 cases. A recent study in *Lancet Infectious Diseases* confirms that individuals with immunity to KP3.1.1 have significantly less immunity to XEC.

Previously, the KP3.1.1 variant was predominant, making up 52 percent of cases as recently as October. That proportion has declined to only 24 percent of cases as of December 21.

In addition, a new variant of concern has burst onto the scene, LP.8.1. Although it was detected in small amounts as early as September, data on LP.8.1 cases were not sufficiently reliable until late November, when it made up 2 percent of cases. That number has increased to 8 percent just one month later, and LP.8.1 is now already the third most common variant after XEC and KP3.1.1. The PMC notes that if LP.8.1 takes off, the peak number of daily infections could go as high as 2 million.

The successive emergence of new variants, each one escaping both the vaccine and infection-based immunity of previous variants, illustrates the absurd folly of "herd immunity" strategies. Notably, the "herd immunity" strategy was put forth by the Great Barrington Declaration, one of whose chief architects, Dr. Jay Bhattacharya, is now Trump's nominee to lead the National Institutes of Health (NIH).

Norovirus surging to record highs

Also surging in late 2024 is the number and size of outbreaks of norovirus. Norovirus causes a gastrointestinal illness whose main symptoms are vomiting and diarrhea. Also known as "winter vomiting disease," it is a perennial scourge of the cruise ship industry with which it is most associated.

However, this winter norovirus is surging on land with a record 91 distinct outbreaks across the country in the first week of December. The virus is highly contagious, requiring as few as 10 virus particles—also known as virions—to establish an infection.

Norovirus is also the most common foodborne illness in the United States, comprising approximately 58 percent of all foodborne illness on an annual basis. Although typically a self-limited illness lasting one to three days, the virus is not harmless.

There are an estimated 19 to 21 million illnesses due to norovirus each year resulting in an average of 900 deaths and 109,000 hospitalizations. These events mostly occur in adults aged 65 and older. Norovirus also leads to 465,000 emergency room visits per year, most of which involve younger children.

Whooping cough at highest levels in over a decade

Cases of whooping cough in 2024 soared nearly fivefold to 32,000 individuals infected, compared to just 6,500 infected in the equivalent time period in 2023. This is the highest number of cases in the United States in over 10 years. Pre-pandemic levels were approximately 10,000 cases per year.

Whooping cough is caused by the bacterium *Bordetella pertussis*. It is a prolonged illness, often lasting weeks to months, resulting in its nickname "100 day cough." It causes violent coughing that often is accompanied by a "whooping" sound when patients gasp for air between coughs. The coughing can be violent enough to cause rib fractures.

Children under 1 year of age are the most vulnerable to severe disability and death due to the illness.

Vaccination against B. pertussis is part of the standard, routine

vaccination schedule of infants and children. It is typically administered in a combination vaccine that also immunizes against diphtheria and tetanus. The childhood schedule includes five shots that are supposed to completed by age 6. It provides protection to 98 percent of children within a year of the final shot, a number that drops to 71 percent of children by age 11.

The three US states with the highest case counts are New York, Pennsylvania, and Wisconsin. Wisconsin—with 2,365 cases in 2024 vs. 51 cases in 2023—is illustrative of the explosion in the disease. The fall in vaccination rates in the state was a key enabling factor for the pathogen's spread. In 2013, over 88 percent of children had the required vaccination series. By 2023, that number had fallen to 82 percent. To prevent the disease from spreading, public health authorities target a rate of 95 percent. One factor driving reduced vaccination rates in the state was an increase in exemptions granted to over 8 percent of kindergarteners.

Respiratory syncytial virus (RSV)

Respiratory syncytial virus (RSV) is also surging in much of the US, with over 12 percent testing positivity rate. RSV causes a respiratory illness that kills 118,000 children under the age of 5 worldwide per year, making it the second most common cause of death in this age group behind only malaria. It also causes more childhood hospitalizations per year than any other factor.

After decades of development and trials of potential vaccines, the Food and Drug Administration (FDA) approved nirsevimab for the prevention of RSV. Nirsevimab is a long-acting monoclonal antibody, which was found to reduce hospitalizations for RSV by 80 percent in the UK and Denmark, which approved it before the US.

The massive spikes in numerous infectious diseases across the US this winter are only a harbinger of what is to come as Trump takes office. It is highly likely that the anti-vaccine peddler of conspiracy theories, Robert F. Kennedy Jr., will be approved as Trump's head of the Department of Health and Human Services (HHS), where he will preside over an escalating assault on public health.

Among plausible scenarios include the passage of vaccine bans, recalls, or the removal of routine vaccine mandates which have protected children and the population as a whole for decades. Should any of these come to pass, all of the above infectious diseases and more will be given free rein to spread unchecked, sickening and killing thousands more each year. The criminal response of the Biden administration to the growing danger of a bird flu pandemic will only be deepened.

It is vital that the American working class take up the fight for public health and socialized medicine, both to prevent the spread of all infectious diseases and to properly treat all those who fall ill.



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