

**Date: March 4, 2025**

**From: Kansas Department of Health and Environment – Division of Public Health**

**To: Healthcare Providers and Local Health Departments**

**RE: Call for Cases – Neurologic Complications of Influenza Infection**

## Summary

In response to national reports of influenza-associated encephalopathy and encephalitis (IAE), the Kansas Department of Health and Environment (KDHE) is requesting providers submit suspected cases of IAE, including acute necrotizing encephalopathy (ANE). There have been increased reports of pediatric cases of IAE this respiratory virus season, with recent suspicion of an increase in adult cases as well. There is currently no national surveillance for IAE or ANE, and it is not known whether reported cases are within or above expected ranges.

Please report suspect cases to the KDHE Epidemiology Hotline at 877-427-7317 (option 5), fax to 877-427-7318 or send via a secure, HIPAA-compliant email to [kdhe.epihotline@ks.gov](mailto:kdhe.epihotline@ks.gov).

## Background

As [influenza activity has increased](#) over the winter months, there have been national reports of a possible increase in cases of children with influenza with neurologic complications compared to prior seasons. Additionally, neurologic complications among adults have been identified as state health departments began investigating the increased case reports. There is currently no national surveillance for IAE or ANE, and it is unknown whether reported cases are within or above expected ranges.

Influenza in children typically presents with abrupt onset of fever, nonproductive cough, malaise and myalgia. Other common symptoms include sore throat, nausea, and nasal congestion. Although influenza is usually an acute, self-limited, and uncomplicated illness in healthy children, it can be associated with serious complications in some children, including nervous system complications. There are many types of neurologic complications associated with influenza in the pediatric population. The most common neurologic complication is seizure, followed by encephalopathy or encephalitis. Less common complications include acute necrotizing encephalopathy (ANE), meningitis, myelitis and secondary bacterial meningitis or brain abscess. Studies have suggested that children with pre-existing neurological disorders and children who are unvaccinated against flu have a higher risk of neurologic complications of influenza and have longer hospital stays and higher rates of ICU admissions and deaths.<sup>1,2,3</sup> However, many children with neurologic complications of influenza do not have chronic conditions. Surviving children with the severest forms of neurologic complications may have substantial persistent health impacts.

At this time, it is not clear why increased cases of neurological complications associated with influenza are being observed this season. One possible explanation is that we are experiencing the highest volume of influenza cases since 2017-2018, naturally yielding a higher than typical number of cases with complications. Other possible reasons include that the type of circulating influenza might be causing more severe complications or that the affected population is at higher risk. In response to concern about influenza with neurologic involvement in children and adults, KDHE is making several recommendations and investigating suspected cases of IAE and ANE.

## Recommendations for Clinicians Evaluating Patients

1. Remember that influenza is one of several viral and bacterial infections that can cause neurological signs and symptoms, especially in children.
2. Include influenza infection in the differential diagnosis of a patient presenting with influenza-like illness followed by acute, new onset neurologic symptoms not explained by an existing neurological condition. Include testing for influenza in the medical evaluation of these patients.
  - a. Clinical presentations may be consistent with encephalopathy, encephalitis, cerebral edema and meningitis.
  - b. Symptoms can include new onset seizures, mental status changes, new onset ataxia, catatonia, mutism and severe lethargy.
3. Consider urgent neurology and infectious disease consultation and neurologic imaging for patients presenting with new neurologic symptoms and recent influenza-like illness and/or positive influenza testing.
4. If patient is hospitalized and has an influenza A positive test result during the visit, a specimen should be subtyped per guidance published in the [HAN advisory](#) titled “Accelerated Subtyping of Influenza A in Hospitalized Patients”.
5. Promptly report patients with new onset neurological symptoms and positive influenza testing within 14 days of symptom onset to the KDHE. KDHE epidemiologists will collect information about each patient including pre-existing health conditions, illness onset date and symptoms, laboratory results and the results of any imaging studies. Report both current cases and all prior cases occurring since October 1, 2024. Also, submit influenza specimens from these patients to the Kansas Health and Environmental Laboratories.

## Recommendations for Local Health Departments

Local health departments are advised to take the following actions in response to this advisory. Your proactive response and collaboration are vital to protecting public health in Kansas.

- Share this alert with hospitals and healthcare providers in your county to ensure they are informed and prepared.
- Please report suspect cases to the KDHE Epidemiology Hotline at 877-427-7317 (option 5), fax to 877-427-7318 or send via a secure, HIPAA-compliant email to [kdhe.epihotline@ks.gov](mailto:kdhe.epihotline@ks.gov). Encourage clinicians and laboratories to do the same.

- The KDHE Infectious Disease Epidemiology and Response Team will lead the public health investigations. Relevant case details will be shared with your health department through the EpiTrax system to support coordination.
- For any questions or further clarification, please reach out to the [KDHE Epidemiology Hotline](#) or your regional epidemiologist.

## For More Information

[Disease Reporting for Health Professionals | KDHE](#)

[Influenza Surveillance | KDHE](#)

[FluView | CDC](#)

## References

1. Donnelley E, Teutsch S, Zurynski Y, Nunez C, Khandaker G, Lester-Smith D, Festa M, Booy R, Elliott EJ, Britton PN. Contributors to the Australian Paediatric Surveillance Unit, Severe Influenza-Associated Neurological Disease in Australian Children: Seasonal Population-Based Surveillance 2008-2018. *J Pediatric Infect Dis Soc.* 2022;11(12):533.
2. Frankl S, Coffin SE, Harrison JB, Swami SK, McGuire JL. Influenza-Associated Neurologic Complications in Hospitalized Children. *J Pediatr.* 2021;239:24.
3. Antoon JW, Hall M, Herndon A, Johnson DP, Brown CM, Browning WL, Florin TA, Howard LM, Grijalva CG, Williams DJ. Prevalence, Risk Factors, and Outcomes of Influenza-Associated Neurologic Complications in Children. *J Pediatr.* 2021;239:32