

MLS Laboratory Update: Influenza A-Associated Acute Necrotizing Encephalopathy (ANE) in Hospitalized Patients

FEBRUARY 24TH, 2025

Purpose of this Message:

To alert clinical partner laboratories of a national increase in reported influenza A-associated Acute Necrotizing Encephalopathy (ANE) cases during the 2024-2025 influenza season. An associated MDH Health Alert has been sent to clinicians.

Action Item:

- Submit influenza specimens to MDH-Public Health Laboratory for hospitalized patients presenting with ANE symptoms for whole genome sequencing (Sequencing results will not be reported back to submitters).
- Reminder to only submit specimens from **HOSPITALIZED** patients with confirmed influenza or influenza like illness, under Project 1492 to the MDH Public Health Laboratory that are:
 - PCR positive for influenza (either A or B), or
 - rapid antigen positive or negative, or
 - not subtyped (e.g. H1)
- Use the [Influenza Hospitalized Surveillance \(1492\) Submission Form](https://www.health.state.mn.us/diseases/idlab/mdhfluform1492.pdf) (<https://www.health.state.mn.us/diseases/idlab/mdhfluform1492.pdf>)

Background:

One case of influenza-associated ANE has been identified to date in Minnesota in a child under 2 years of age who resides in the Twin Cities Metropolitan Area. Additionally, pediatricians throughout the United States have noted an increase in reported influenza A-associated ANE cases during the 2024-25 influenza season. The cases have been associated with both (H1 and H3) seasonal influenza A subtypes. Cases have typically been previously healthy young children, and many were unimmunized for influenza. Clinical presentations have included high fever, obtundation, and most cases had seizures. ANE is rare, however, the morbidity and mortality are high. Optimal treatment is not known.

Seasonal influenza activity remains high and there is still time to promote vaccine. Rates to date of influenza vaccination for the current season in Minnesota are 24% for children and 34% for adults. Vaccine efficacy estimates are not yet available for the 2024-25 season in the northern hemisphere, but the vaccine was well matched and was moderately effective for the 2024 influenza season in the southern hemisphere. Influenza vaccine helps reduce severe illness and

remains one of the best ways to protect our most vulnerable populations. In addition, influenza antivirals are widely available and may help decrease complications from influenza (see <https://www.cdc.gov/flu/hcp/antivirals/summary-clinicians.html>).

Additional Information:

- [MDH: Influenza \(https://www.health.state.mn.us/diseases/flu/index.html\)](https://www.health.state.mn.us/diseases/flu/index.html)
- Perform subtyping ideally within 24 hours of hospital admission for hospitalized patients who test positive for influenza A, using in-house subtyping or a commercial clinical laboratory, if available. Specimens from hospitalized patients that are not able to be subtyped in-house or through a commercial clinical laboratory should be submitted to the Minnesota Department of Health Public Health Laboratory (MDH-PHL) within 24 hours of receiving results: [Specimen Collection and Testing for Seasonal Influenza \(https://www.health.state.mn.us/diseases/flu/hcp/lab.html\)](https://www.health.state.mn.us/diseases/flu/hcp/lab.html).

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