

MLS 2023-24 Viral Respiratory Season Laboratory Update

October 3, 2023

Please forward this message to all appropriate personnel within your institution.

Surveillance for influenza, respiratory syncytial virus (RSV), and COVID-19 in Minnesota includes year-round reporting of hospitalized cases to the Minnesota Department of Health (MDH). In addition, clinical specimens for hospitalized patients with Influenza-Like Illness (ILI)* or suspicion of influenza should be submitted to MDH Public Health Laboratory (MDH-PHL) for influenza PCR testing.

We are sending this notification as a reminder that the start to the 2023-24 respiratory season (set by CDC) is Oct. 1: Historically, we expect viral respiratory activity to begin increasing around this date. If you are not currently doing so, please begin utilizing the procedures below now.

Purpose of this message

This message serves to inform the healthcare care community about MDH surveillance and laboratory testing strategies for the 2023-24 viral respiratory season. Included in this update:

- Influenza specimen submission to MDH-PHL
- RSV and COVID-19 specimen submission
- What to report
- How to report
- Weekly viral respiratory activity webpage
- Who to contact with questions

Influenza specimen submission to MDH-PHL

The MDH-PHL is functioning primarily in a surveillance (not diagnostic) role for influenza testing, with the goal of establishing the strain types circulating in the community, and to determine important characteristics about circulating strains (i.e., subtype, antiviral resistance, virulence, etc.). If diagnostic testing is desired on non-hospitalized patients, please submit specimens to your regular reference laboratory. Specimens submitted to MDH-PHL for influenza surveillance will be tested for both influenza and SARS-CoV-2.

MDH-PHL is ONLY performing influenza testing in the following circumstances:

- **Hospitalized surveillance** – Specimens submitted from persons who are hospitalized with ILI* or clinical suspicion of influenza OR deceased following ILI* or clinical suspicion of influenza, regardless of influenza testing (positive, negative, or not done).
 - Please contact Scott Cunningham at 651-201-5032 or Scott.Cunningham@state.mn.us if you have questions or concerns regarding these specimen submission guidelines.
 - If your laboratory is performing onsite influenza testing by PCR:
 - Submit positive influenza A specimens that are un-subtyped, subtyped as “seasonal H1,” or “indeterminate subtype” to MDH-PHL for further characterization as they may be variant influenza strains.
 - Submit ALL positive influenza B specimens to MDH-PHL for further characterization.
 - Do not routinely submit positive influenza A specimens that are subtyped as H1N1pdm09 or H3 to MDH-PHL.
 - Do not submit specimens that are negative by PCR for influenza A and B to MDH-PHL.

- If your laboratory only performs rapid antigen testing, please submit specimens for all patients to MDH-PHL (both positive and negative results). Please see specimen guidelines below.
- **Influenza death surveillance** - Specimens submitted from persons who are deceased following ILI* or clinical suspicion of influenza, regardless of influenza testing (positive, negative, or not done).
- **Cluster investigation or other unusual circumstance** for which MDH Epidemiology has requested a specimen(s) be sent to MDH-PHL.
- **Sentinel surveillance (IISP, ILINet)** – These facilities are pre-determined. Specimen submission guidelines for these programs have not changed. If you have any questions regarding specimen submission guidelines for your program, please check with your MDH contact.
- **Laboratory surveillance** - Until this season's influenza strains are well-characterized, laboratories performing rapid testing methods (EIA, IFA, DFA, rapid molecular, etc.) should submit up to ten patient specimens that are positive for influenza (either A or B) each week for surveillance purposes.

Appropriate specimen types

For patients admitted with ILI* or clinical suspicion of influenza without evidence of pneumonia or other lower respiratory disease – submit one upper respiratory specimen per patient.

- Specimens may be submitted in a viral transport media (VTM), universal transport media (UTM), EMEM, DMEM, sterile saline, sterile phosphate buffered saline, or liquid Amies.
 - Subtyping results will only be reported back on samples received in VTM or UTM.
- Nasopharyngeal swab is the preferred specimen.
- **Other acceptable specimens:** nasal swab, nasal wash/aspirate, throat swab, combined nasal swab with an oropharyngeal swab, and viral culture isolates.
- Please do not submit residual specimen from rapid antigen testing. Submit only the original specimen in appropriate transport media.
- Specimens must be received by MDH within 3 days of collection if shipped at refrigeration temperature or stored and shipped frozen.

*ILI is defined as fever (measured or subjective) and cough, shortness of breath, or difficulty breathing in the absence of a known disease other than influenza.

For patients admitted with ILI* or clinical suspicion of influenza who also have evidence of **pneumonia** or **other lower respiratory disease**, submit one upper respiratory specimen AND one lower respiratory specimen per patient. DO NOT perform a procedure such as bronchoscopy solely for the purpose of collecting a specimen for testing by MDH-PHL.

Submit an **upper respiratory specimen** in addition to one or more of the following:

- Bronchial alveolar lavage (BAL)
- Tracheal aspirate (if intubated)
- Bronchial wash

Specimen transport

Place swab in appropriate transport medium (VTM; UTM, liquid Amies, sterile saline or sterile PBS) for transport to MDH-PHL. Please ship specimen(s) at refrigerator (2-8°C) temperature, to ensure delivery at MDH within 3 days of collection. If delivery will be delayed, please store and ship frozen. Please indicate on the submission form if specimens have been stored frozen. For additional information, please visit [Specimen Collection and Testing for Seasonal Influenza \(www.health.state.mn.us/diseases/flu/hcp/lab.html\)](http://www.health.state.mn.us/diseases/flu/hcp/lab.html).

Influenza testing performed at MDH–PHL

The MDH-PHL has established an algorithm for influenza testing that serves to provide important surveillance data in a timely manner as well as conserve valuable testing resources. MDH-PHL is performing real-time PCR for type A and B influenza on all specimens that meet the testing criteria (see *Specimen Submission to MDH-PHL*, above). Specimens that are positive for type A are typed for seasonal hemagglutinin types H1 and H3, H1N1pdm09, and swine-variants H3N2 and H1N2. Specimens that are positive for type B are typed for Victoria and Yamagata lineages. Testing may include PCR or whole genome sequencing (WGS). Select specimens may be tested for antiviral resistance and may be further characterized for the presence of potential virulence factors. Specimens from defined surveillance programs or that test positive by real-time PCR may also be further tested to identify other respiratory viruses. In addition, influenza culture isolates sent from virology laboratories are subtyped for influenza A or influenza B. Selected specimens and/or isolates are forwarded to the CDC for additional characterization.

Results reporting

MDH-PHL will only be reporting out patient-level influenza subtyping results on specimens submitted in VTM or UTM during the 2023-2024 influenza surveillance season. Aggregate results will be made available to submitters monthly. All specimens submitted for influenza surveillance testing will also be tested for SARS-CoV-2.

Forms required for influenza specimen submission

All specimens submitted to MDH-PHL for influenza surveillance require a submission form.

Influenza Hospitalized Surveillance (1492) Submission Form

- Use this form for specimens submitted from persons hospitalized with ILI or clinical suspicion of influenza based on criteria outlined in *Influenza Specimen Submission to MDH-PHL*, above (Hospitalized Surveillance). To allow for prompt testing of submitted specimens, it is imperative that the form is filled out completely, especially information regarding hospitalization (hospital of admission, date of admission, in-house influenza test results, and influenza test type) found in the lower right-hand corner of the form.
- [Minnesota Department of Health Infectious Disease Laboratory Influenza COVID-19 Submission Form 1492 \(www.health.state.mn.us/diseases/idlab/mdhfluform1492.pdf\)](http://www.health.state.mn.us/diseases/idlab/mdhfluform1492.pdf).
 - Complete electronically, then print.

Influenza Non-Hospitalized Surveillance (493) Submission Form

- This project should only be used if specimens are specifically requested by MDH staff.
- Please use this form for submitting specimens from non-hospitalized patients and all other circumstances outlined in Influenza Specimen Submission to MDH-PHL, above. This would include submissions by clinical laboratories for positive influenza specimens that are being sent to MDH-PHL for further characterization or for any specimen **specifically requested by MDH staff** related to a cluster investigation or other unusual circumstance. Please include any influenza testing results, methods used (DFA, rapid EIA, PCR, etc.) and name of test kit(s) in the comment section at the bottom of the form.
- [Minnesota Department of Health Infectious Disease Laboratory Influenza COVID-19 Submission Form 493 \(www.health.state.mn.us/diseases/idlab/mdhfluform493.pdf\)](http://www.health.state.mn.us/diseases/idlab/mdhfluform493.pdf)
 - Complete electronically, then print.

If your facility has an outpatient department enrolled with the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), please follow current established guidelines for the laboratory submission form and use the project number that is specific to that project.

RSV and COVID-19 specimen submission

MDH-PHL conducts whole genome sequencing (WGS) on RSV and SARS-CoV-2 specimens for genomic variant surveillance. Laboratories performing RSV and COVID-19 rapid testing methods (rapid antigen or molecular assays) should submit up to 40 residual patient samples per week. RSV sequencing will begin at MDH-PHL on 10/16/2023. The methods for selection and submission for RSV and SARS-CoV-2 submission are different than influenza and have been provided in other communications. If you have questions about RSV or SARS-CoV-2 specimen submission to the public health laboratory please contact Erica Bye, Paige D'Heilly, or Erica Mumm.

What to report

MDH requires hospitals to report:

- **Any Minnesota resident hospitalized with laboratory-confirmed influenza, RSV, and/or COVID-19** (via DFA, IFA, viral culture, EIA, rapid test, paired serological tests, or RT-PCR) if the first positive influenza test specimen collection date is 14 days or less prior to hospital admission date through patient discharge.
- **Any influenza, RSV, or COVID-19-associated death** (hospitalized or non-hospitalized) or **critical illness**, defined as admission to the intensive care unit (ICU).
- **Unusual case incidence of influenza** (clusters and suspect novel strains). This includes recognized swine influenza strains H3N2v and H1N2v.
- Influenza, RSV and COVID-19 -associated hospitalizations are reportable year-round to MDH under Communicable Disease Reporting Rules Chapters 4605.7040 for influenza, 4605.7046 for RSV, and 4605.7080 for COVID-19.
 - **Influenza Reporting Rule:** [Minnesota Administrative Rules \(https://www.revisor.mn.gov/rules/4605.7040/\)](https://www.revisor.mn.gov/rules/4605.7040/)
 - **RSV Reporting Rule:** [Minnesota Administrative Rules \(https://www.revisor.mn.gov/rules/4605.7046/\)](https://www.revisor.mn.gov/rules/4605.7046/)
 - **COVID-19 Reporting Rule:** [Minnesota Administrative Rules \(https://www.revisor.mn.gov/rules/4605.7080/\)](https://www.revisor.mn.gov/rules/4605.7080/)

Information that must be included in the report:

- Patient first and last name
- Patient sex
- Patient date of birth
- Patient address
- Patient race and ethnicity
- Patient medical record number
- Admission date
- Discharge date and disposition (if applicable)
- Test type and result
- Specimen collection date
- Death date (if applicable)

How to report

Timely reporting is essential to determine viral respiratory activity in near real time.

- Report cases as outlined above within one business day, OR
- Send patient information using a line lists at least weekly. Line lists of cases may include all three pathogens or influenza and RSV only if the facility has a currently established method for reporting COVID-19 hospitalizations.

Disease specific information on reporting cases:

Influenza:

- **Hospitalized influenza cases and influenza-related deaths** can be reported by laboratory/epidemiology line list (electronic or paper), MIIC, or [Disease Report Card](https://www.health.state.mn.us/diseases/reportable/forms/reptcard.pdf) (<https://www.health.state.mn.us/diseases/reportable/forms/reptcard.pdf>) to MDH. Please send via secure e-mail or fax.
- **Report unusual case incidence (clusters and/or suspected new novel strains)** by contacting MDH Epidemiology immediately at 651-201-5414.
- Reports should be sent to:
 - Email: melissa.mcmahon@state.mn.us
 - Phone: 651-201-5414
 - Fax: 1-800-295-9769

Respiratory Syncytial Virus (RSV):

- Hospitalized RSV cases and RSV-associated deaths can be reported by laboratory/epidemiology line list (electronic or paper) or [Disease Report Card](#) (<https://www.health.state.mn.us/diseases/reportable/forms/reptcard.pdf>) to MDH. Please send via secure e-mail or fax.
- Reports should be sent to:
 - Email: erica.mumm@state.mn.us
 - Phone: 651-201-5414
 - Fax: 1-800-233-1817

COVID-19 hospitalizations

- **Hospitalized** COVID-19 cases can be reported via [COVID-19 Patient Reporting Form](#) (<https://redcap-c19.web.health.state.mn.us/redcap/surveys/?s=9XMX7WKRTM>) (*preferred*) to MDH. Other options include secure e-mail or fax. If you are interested in adding COVID-19 hospitalization reporting to weekly line lists, please contact MDH at 651-201-5414.
- Please continue to report laboratory confirmed COVID-19 positive test results to MDH. Reporting aggregate data through tele-tracking or other similar platforms does not satisfy communicable disease reporting requirements.
- Reports should be sent to:
 - COVID-19 Patient Reporting Portal: [COVID-19 Patient Reporting Form](#) (<https://redcap-c19.web.health.state.mn.us/redcap/surveys/?s=9XMX7WKRTM>)
 - Email: <mailto:health.COVID.Hospitalizations@state.mn.us>
 - Phone: 651-201-5414

Weekly viral respiratory activity webpage

Results of the data gathered from various MDH viral respiratory surveillance programs can be found on the MDH website at <https://www.health.state.mn.us/>. Influenza statistics can be found in our [Weekly Influenza & Respiratory Activity: Statistics](#) (<https://www.health.state.mn.us/diseases/flu/stats/index.html>).

Who to contact with questions

- **Case reporting:** MDH Epidemiology at 651-201-5414.
- **Influenza:** Melissa McMahon at melissa.mcmahon@state.mn.us.
- **RSV:** Erica Mumm at erica.mumm@health.state.mn.us.
- **COVID-19:** Erica Bye at erica.bye@state.mn.us or Paige D’Heilly at paige.dheilly@state.mn.us.
- **Specimen submission and laboratory testing:** Scott Cunningham, Virology Laboratory Supervisor, at 651-201-5032 or scott.cunningham@state.mn.us.

2023-24 VIRAL RESPIRATORY SEASON

Thank you for your partnership and continued support of viral respiratory surveillance efforts in Minnesota!

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To obtain this information in a different format, call: 651-201-5921.