MLS Influenza Laboratory Update: 2021-2022 Influenza Season
October 5, 2021

Purpose of this Message: This message serves to inform the healthcare community about MDH surveillance and laboratory testing strategies for the 2021-2022 influenza season. Our epidemiology partners have also shared this information with clinicians. A second attachment provides a single page document of the specimen handling and shipping information that could be posted in your laboratory.

Action Items:

- Sign up to contribute to the Weekly Influenza and Respiratory Activity webpage by providing weekly influenza, RSV, and other respiratory virus testing data from your laboratory. Click this link to provide your contact information: 2021-2022 Weekly Influenza and Respiratory Activity Participation Sign Up
    - This voluntary weekly data survey is for **submitters located in Minnesota**.
    - Facilities currently contributing data to the "Summer Season" surveillance do not need to sign up again.

- Review the updated guidance for specimen submission to MDH-PHL for the 2021-2022 influenza surveillance season.
    - This messaging is intended for **submitters located in Minnesota**.

- Please forward this information to all appropriate personnel within your institution and Health System

Influenza surveillance in Minnesota includes year-round reporting of hospitalized influenza cases and submission of specimens from hospitalized patients with Influenza-Like Illness (ILI)* or suspicion of influenza to the Minnesota Department of Health - Public Health Laboratory (MDH-PHL) for influenza PCR testing. Although surveillance has been ongoing, we are sending this notification as a reminder that the start to the 2021-2022 influenza season (set by CDC) is October 1, 2021. If you are not currently doing so, please begin utilizing the procedures below upon receipt of this notification.

Included in this Update:
1. Specimen Submission to MDH–PHL
2. Testing Performed at MDH–PHL
3. Forms Required for Specimen Submission
4. Rapid Influenza Test Information
5. Influenza Reporting Requirements (Hospitalized Cases, Deaths, Critical Illness, Other)
6. How to Report Cases of Influenza
7. Weekly Influenza Activity Webpage
8. Contact Information

1. Specimen Submission to MDH-PHL

The MDH-PHL continues to function primarily in a surveillance role (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 normal reference laboratory. Specimens submitted for influenza surveillance will be tested for 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).
    - **If your laboratory is performing onsite influenza testing by PCR:**
        - Submit positive influenza A specimens that are unsubtyped, subtyped as "seasonal H1," or "indeterminate" to MDH-PHL for further characterization as they could be variant influenza strains.
        - Submit 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.
    - Please contact Anna Strain at 651-201-5035 or anna.strain@state.mn.us if you have questions or concerns regarding these specimen submission guidelines.

- **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). MDH is requesting specimens on all suspect influenza-associated deaths.

- **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 two 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 viral transport media, universal transport media, saline or liquid Amies.**
- Nasopharyngeal swab is the preferred specimen.
- **Other acceptable specimens include:** 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 submitted within 3 days of collection 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:

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

Specimen Transport

- Place swab in appropriate transport medium (VTM; e.g. M4, M5, Hanks, universal transport medium, saline, or liquid Amies) for transport to MDH-PHL.
- Specimens should be received at MDH-PHL within 3 days of collection at refrigeration temperature (on cold packs). If transport will delayed, store and ship samples frozen. Please indicate on the submission form if specimen has been frozen.
- For additional information please refer to the link below:
  Specimen Collection and Testing for Seasonal Influenza,
  http://www.health.state.mn.us/divs/idepc/diseases/flu/hcp/lab.html

2. 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 section #1, Specimen Submission to MDH-PHL, above). Specimens that are positive for influenza 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. 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 cultured to either perform influenza serotyping or to identify other respiratory viruses. In addition, influenza 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 not be reporting out patient-level subtyping results for influenza surveillance during the 2021-2022 influenza surveillance season. Aggregate results will be made available to submitters on a monthly basis. All specimens submitted for influenza surveillance testing will also be tested for SARS-CoV-2.

3. Forms Required for Specimen Submission

All specimens submitted based on criteria outlined in section #1, Specimen Submission to MDH-PHL require submission with a form.

- **Hospitalized Patients Only -** 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 section #1, Specimen Submission to MDH-PHL, above (Hospitalized Surveillance)**.** In order 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. The submission form ***Influenza/COVID-19 Hospitalized Submission and Test Request Form*** can be found at:

- https://www.health.state.mn.us/diseases/idlab/mdhfluform1492.pdf (Complete electronically, then print).

- **Non-Hospitalized Patients- Influenza Non-Hospitalized Surveilllance (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 section #1, 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. The ***Influenza/COVID-19 Non-Hospitalized Submission and Test Request Form*** can be found at: https://www.health.state.mn.us/diseases/idlab/mdhfluform493.pdf. (Complete electronically, then print).

- **Note:** 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 project number that is specific to that project.

4. Rapid Influenza Test Information

As in past years, guidance for the use of rapid influenza testing is to interpret results with caution. For decisions on treatment, providers are encouraged to use clinical judgment and to avoid basing decisions solely on rapid test results. Also, commercially available Rapid Influenza Diagnostic Tests (RIDTs) may not detect swine-origin H3N2v and H1N2v virus in respiratory specimens. In general, RIDTs are not reliable during times of low influenza prevalence and are not recommended until influenza prevalence increases. More detailed information regarding the use and interpretation of Rapid Influenza Diagnostic Testing can be found at: https://www.health.state.mn.us/diseases/flu/hcp/rapid.html

5. Influenza Reporting Requirements

MDH is requesting report of:

- **Any Minnesota resident hospitalized with laboratory-confirmed influenza** (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.
- **Any influenza-related death** (hospitalized or non-hospitalized) or **critical illness** (critical illness is defined as admission to the intensive care unit [ICU]).
- **Unusual case incidence** (clusters and suspect novel strains). This includes recently recognized swine influenza strains H3N2v and H1N2v.

Please remember that timely reporting of laboratory-confirmed influenza is essential. For additional information regarding reporting requirements, please refer to Reporting Influenza: https://www.health.state.mn.us/diseases/flu/hcp/report.html.

6. How to Report Cases of Influenza

Hospitalized influenza cases and **influenza-related deaths** can be reported by Disease Report Card, laboratory/epidemiology line list (electronic or paper), or MIIC, to MDH. Please send via **mail, Fax, or secure e-mail.**

Reports should be sent to:

Email: melissa.mcmahon@state.mn.us
Phone: 651-201-5414
Fax: 651-201-4820
Mail: Attn: Melissa McMahon
Minnesota Department of Health, Vaccine-Preventable Disease Surveillance
625 Robert St. N., PO Box 64975
St. Paul, MN 55164-0975

Report influenza-related deaths and unusual case incidence (clusters and/or suspected new novel strains) by contacting MDH Epidemiology immediately at 651-201-5414.

7. Weekly Influenza Activity Webpage

Results of the data gathered from various MDH influenza surveillance programs can be found on the MDH Weekly Influenza Activity webpage: http://www.health.state.mn.us/divs/idepc/diseases/flu/stats/index.html.
Data from these programs are collected and displayed weekly from October – May.

8. Contact Information

Specimen Submission and Laboratory Testing:
Anna Strain, Virology Laboratory Supervisor at 651-201-5035 or anna.strain@state.mn.us
Influenza Case Reporting: MDH Epidemiology at 651-201-5414.

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

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This is an update from the Minnesota Department of Health – Public Health Laboratory (MDH-PHL) and the Minnesota Laboratory System (MLS). This message is being sent to MLS laboratory contacts serving Minnesota residents. You are not required to reply to this message.

****Please forward this to all appropriate personnel within your institution and Health System****

The content of this message is intended for public health and health care personnel and response partners who have a need to know the information to perform their duties. It is for official use only. Do not distribute beyond the intended recipient groups as described in this message.