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Laboratory testing during an influenza pandemic

This fact sheet provides basic information for health care workers.

In the event of an influenza pandemic, Ontario laboratories will play a significant role in the detection and surveillance of the influenza virus in the province and will provide critical information to decision-makers at the local, provincial and national levels. Laboratories will be challenged with the need to accommodate the expected surge in volume while working to maintain their testing capacity, as both available staff and resources are affected by the pandemic. The Ontario Health Plan for an Influenza Pandemic (OHPIP) outlines the approach for the most effective use of laboratory services during a pandemic.

Laboratory Service Settings

- A network of laboratories with varying capabilities currently exists within the Province of Ontario:
 - *Public health laboratories* conduct virologic and other microbiological testing for the detection of and reporting of infectious diseases
 - *Hospital laboratories* provide diagnostic testing in support of hospital-based care
 - *Community laboratories* provide routine diagnostic testing for primary care providers
- The Public Health Agency of Canada's National Microbiology Laboratory (NML) in Winnipeg houses Canada's only Biological Safety Level 4 (BSL 4) containment laboratory. The NML has an important role both in confirming the presence of the pandemic strain in Ontario and in ensuring the timely exchange of surveillance information among all levels of government.

Laboratory Testing for Influenza in Ontario

- Virologic testing, including virus isolation (cell culture) and direct antigen testing will be available through public health and hospital laboratories at the onset of the pandemic in order to identify the introduction of the pandemic strain in Ontario.
- Direct molecular detection and sub-typing will also be available (specific indications will be determined).

Collecting and Shipping Specimens for Influenza Testing

- Specimens should be collected using a **nasopharyngeal swab**. A nasopharyngeal aspirate or wash, bronchial wash, or throat swab are also acceptable. A nasal swab, is not appropriate for influenza testing.
- Specimens should be transported in appropriate **viral transport media** and **shipped immediately following collection (on ice, if possible)**. If specimens must be stored prior to shipping, they can be maintained at **4° Celsius** for up to 24 hours. Do not freeze specimens prior to transport.
- Swabs and transport media intended for bacteriologic testing are not suitable for influenza testing.

Provision of Laboratory Testing in a Pandemic

- As the influenza pandemic evolves, healthcare providers will need to begin reducing services in order to meet the demand for influenza-related care.
- Laboratories may similarly be required to curtail certain testing depending on the availability of laboratory health human resources and the demand for laboratory testing.
- Depending on the pandemic attack rate and the severity of illness laboratories may conduct a phased curtailment of testing services.
- Please refer to the OHPIP (section 6.3) for recommended guidelines on laboratory activities at each stage of a pandemic.

Possible criteria for tests that are considered less critical and that may be reduced in a pandemic include:

- Tests for which diagnosis can be made clinically and for which treatment can be decided empirically
- Non-diagnostic screening tests in low-risk populations.

- The ministry will keep healthcare providers up-to-date as to the availability of laboratory testing in the province.

Ensuring the Protection of Laboratory Workers

- Laboratories should continue their practice using standard methods and appropriate safety measures for Containment Level 2.
- Containment Level 3 facilities may be required depending on the pathogen/strain that is causing the pandemic and laboratories should not attempt to culture organisms unless they have the appropriate containment facility and safety protocols in place.

For more information

http://www.health.gov.on.ca/english/providers/program/emu/emu_mn.html

Or call toll free:

Health Care Provider's Hotline 1-866-212-2272