

5A. Surveillance Tools

Both Ontario and the Public Health Agency of Canada have developed a number of tools and resources to assist with influenza surveillance (see Chapter 4: Resources).

Contents

1. Pandemic Data Collection Forms for Institutions*: Preliminary
2. Pandemic Data Collection Forms for Institutions*: Final Report forms
3. Surveillance Activities by Level and by Pandemic Period and Phase

*The forms are for use by hospitals operating under the *Public Hospitals Act*, private hospitals, long-term care homes, and retirement homes with more than 10 beds, children's residences and all facilities operating under the *Developmental Service Act*

Pandemic Data Collection Form for Institutions: Preliminary and Weekly Report

Public health units: please FAX preliminary and updated reports to the Ministry of Health and Long-Term Care at [to be determined] within 24 hours of receiving notification of an outbreak. If new information is added, checkmark update box and write update number, e.g. Update #1 and indicate reporting period

<input type="checkbox"/> Initial Notification <input type="checkbox"/> Update #				For MOHLTC use only				
Health Unit Information				Institution Information				
For updates, reporting time period covered: (yyyy/mm/dd) to (yyyy/mm/dd):				Institution Master #:				
Outbreak #:				Institution Name:				
Health Unit Name:				Institution Address:				
Investigator Name:				City/Town of Institution:				
Contact Phone #:				Postal Code of Institution:				
Date Outbreak Reported to Health Unit (yyyy/mm/dd):				Date of onset of illness in first case (yyyy/mm/dd):				
Institution Type								
<input type="checkbox"/> Long-Term Care Home				Hospital operates under Public Hospitals Act?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<input type="checkbox"/> Retirement Home (with more than 10 residents)				Type:	<input type="checkbox"/> Acute	<input type="checkbox"/> Chronic	<input type="checkbox"/> Psych	<input type="checkbox"/> Rehab
<input type="checkbox"/> Children's Residence				<input type="checkbox"/> Other (please specify) _____				
<input type="checkbox"/> Facilities operating under the Developmental Services Act								
Outbreak Description				Symptoms observed related to outbreak				
		Residents/Patients		Staff *		Please specify by check boxes OR free text below:		
	New Cases ▲	Cumulative Number §	New Cases ▲	Cumulative Number §	<input type="checkbox"/> Abnormal Temp. ($\geq 37.5^{\circ}\text{C}$ or $\leq 35.5^{\circ}\text{C}$ or temp. known to be abnormal for that person)			
Total # cases					<input type="checkbox"/> Cough			
# Cases admitted to hospital attributed to O/B					<input type="checkbox"/> Nasal Congestion/Sneezing			
# Cases with clinically or XR confirmed pneumonia					<input type="checkbox"/> Runny nose (coryza)			
# Deaths among cases attributed to outbreak					<input type="checkbox"/> Sore throat/Hoarseness/Difficulty swallowing			
Total # in institution	Residents/Patients		Staff *		<input type="checkbox"/> Tiredness (malaise)			
					<input type="checkbox"/> Muscle aches (myalgia)			
					<input type="checkbox"/> Loss of appetite			
					<input type="checkbox"/> Headache			
					<input type="checkbox"/> Chills			
					<input type="checkbox"/> Swollen/Tender glands in neck (cervical lymphadenopathy)			
					<input type="checkbox"/> Other Symptoms (specify):			
Laboratory Data								
Lab Confirmation:		<input type="checkbox"/> Yes (check causative organism(s))		<input type="checkbox"/> Pending		<input type="checkbox"/> Specimens NOT submitted		
<input type="checkbox"/> Influenza A		<input type="checkbox"/> Influenza B		<input type="checkbox"/> RSV				
<input type="checkbox"/> Rhinovirus		<input type="checkbox"/> Parainfluenza		<input type="checkbox"/> Adenovirus				
<input type="checkbox"/> Enterovirus		<input type="checkbox"/> Other (specify)						

* **Staff:** All persons who carry on activities in the facility including employees, nurses, students, medical house staff, physicians, contract workers and volunteers.

▲ **Initial Report:** indicate the total number of cases

▲ **Update:** indicate the number of new cases since last update

§ **Update/s:** indicate the cumulative number of cases.

§ For initial reports enter as N/A

Pandemic Data Collection Form for Institutions: Final Report

Please FAX final report to the Ministry of Health and Long-Term Care at: [to be determined]		For MOHLTC use only _____	
Health Unit Information		Institution Information	
Outbreak #:		Institution Master #:	
Health Unit Name:		Institution Name:	
Investigator Name:		Institution Address:	
Contact Phone #:		City/Town of Institution:	
Date Outbreak Reported to Health Unit (yyyy/mm/dd):		Postal Code of Institution:	
Date Outbreak Declared Over (yyyy/mm/dd):		Date of onset of illness in first case (yyyy/mm/dd):	
Date form submitted (yyyy/mm/dd):			
Institution Type			
<input type="checkbox"/> Long-term Care Home	Hospital operates under Public Hospitals Act?		<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Retirement Home (with more than 10 residents)	Type:	<input type="checkbox"/> Acute <input type="checkbox"/> Chronic <input type="checkbox"/> Psych <input type="checkbox"/> Rehab	
<input type="checkbox"/> Children's Residence	<input type="checkbox"/> Other (specify):		
<input type="checkbox"/> Facilities operating under the Developmental Services Act			
Outbreak Description		Symptoms observed related to outbreak	
	Residents or Patients	Staff*	Please specify by check boxes OR free text below:
Total # in institution			<input type="checkbox"/> Abnormal Temp. ($\geq 37.5^{\circ}\text{C}$ or $\leq 35.5^{\circ}\text{C}$ or temp. known to be abnormal for that person)
Total # cases			<input type="checkbox"/> Cough
# cases in facility admitted to hospital attributed to outbreak			<input type="checkbox"/> Nasal Congestion/Sneezing
# cases in facility with clinically or X-Ray confirmed pneumonia			<input type="checkbox"/> Runny nose (coryza)
# deaths among cases attributed to outbreak			<input type="checkbox"/> Sore throat/Hoarseness/Difficulty swallowing
			<input type="checkbox"/> Tiredness (malaise)
			<input type="checkbox"/> Muscle aches (myalgia)
			<input type="checkbox"/> Loss of appetite
			<input type="checkbox"/> Headache
			<input type="checkbox"/> Chills
			<input type="checkbox"/> Swollen/Tender glands in neck (cervical lymphadenopathy)
			Other Symptoms (specify):
Laboratory Data			
Lab Confirmation:	<input type="checkbox"/> Yes (check causative organism/s)	<input type="checkbox"/> No (no organism/s identified)	<input type="checkbox"/> Specimens NOT submitted
<input type="checkbox"/> Influenza A	<input type="checkbox"/> Influenza B	<input type="checkbox"/> RSV	
<input type="checkbox"/> Rhinovirus	<input type="checkbox"/> Parainfluenza	<input type="checkbox"/> Adenovirus	
<input type="checkbox"/> Enterovirus	<input type="checkbox"/> Other (specify):		

*Staff: All persons who carry on activities in the facility including employees, nurses, students, medical house staff, physicians, contract workers and volunteers.

Antiviral Use

If an antiviral medication was prescribed during the outbreak, please complete the chart below:

	Residents/Patients		Staff	
	Oseltamivir	Other (Please specify):	Oseltamivir	Other (Please specify):
1. How many individuals received a prophylactic dose of antiviral?				
2. Range of length of prophylaxis (in days)				
3. How many individuals received a treatment dose of antiviral?				
4. How many individuals contracted ILI while on prophylactic antiviral medication for more than 72 hours?				
5. Among those who contracted ILI (question #4), how many had lab-confirmed influenza?				
6. How many individuals developed side effects to antiviral medication?				

Please describe any severe side effects to the antiviral that led to its discontinuation.

Surveillance Activities by Level by Pandemic Period and Phase

WHO Pandemic/ Phase	Federal Level	Provincial Level	Local Level
<p>Interpandemic Period: Phase 1</p> <p>No new influenza virus subtypes have been detected in humans</p>	<p>Review and confirm that all interpandemic surveillance activities (via FluWatch) are operational</p> <p>Continue to develop laboratory tests and techniques to support surveillance</p> <p>Work with P/Ts to develop communication strategy for epidemiological data</p>	<p>Confirm that:</p> <ul style="list-style-type: none"> all interpandemic surveillance activities (sentinel) physician ILI reports; laboratory surveillance; influenza activity reporting; reports of sporadic influenza cases; respiratory infection outbreaks in institutions are operational public health laboratories have the capacity to isolate and subtype influenza viruses <p>Ensure surveillance data is being collected and forwarded to appropriate authorities</p> <p>Work with PHAC to develop communication strategy for epidemiological data</p> <p>Maintain vigilance in FRI screening</p>	<p>Maintain all interpandemic surveillance activities</p> <p>Maintain vigilance in FRI screening</p> <p>Liaise with hospitals and long-term care homes on FRI surveillance</p> <p>Use iPHIS for electronic transmission of sporadic and outbreak reports</p>
<p>Interpandemic Period: Phase 2</p> <p>A circulating animal influenza virus subtype poses a substantial risk of human disease</p>	<p>Continue with all Phase 1 activities</p> <p>Alert those currently involved in influenza surveillance (e.g., PIC, CCMOH, CPHLN, FluWatch, local HUs) and advise them to remain on alert for further updates</p>	<p>Continue with all Phase 1 activities</p> <p>Disseminate alerts</p>	<p>Continue with all Phase 1 activities</p> <p>Disseminate alerts</p>
<p>Pandemic Alert Period: Phase 3</p> <p>Human infection(s) with a new subtype, but no human-to-human spread or spread to a close contact only</p>	<p>Continue with all Phase 2 activities</p> <p>Disseminate regular updates via e-mail, fax, teleconferencing and web postings as necessary</p> <p>Share surveillance information in a timely manner with provincial and local health authorities and the general public</p> <p>Confirm that surveillance tools and protocols required for later phases (e.g., investigating clusters, detecting entry of the pandemic strain) are available and up-to-date</p> <p>Reinforce standards and protocols for collecting, storing and transporting specimens</p> <p>Develop and disseminate protocols for special studies</p>	<p>Continue with all Phase 2 activities</p> <p>Disseminate PHAC information, adding provincial information. Share surveillance information</p> <p>Ensure routine provincial surveillance activities are operating effectively</p> <p>Confirm that surveillance tools and protocols required for later phases (e.g., investigating clusters, detecting entry of the pandemic strain) are available and up-to-date</p> <p>Comply with standards and protocols for collecting, storing and transporting specimens</p> <p>Develop and disseminate protocols for special studies</p>	<p>Continue with all Phase 2 activities</p> <p>Share surveillance information with stakeholders</p> <p>Ensure surveillance data is being collected and forwarded to MOHLTC</p> <p>Maintain vigilance in FRI screening</p> <p>Confirm that surveillance tools and protocols required for later phases (e.g., investigating clusters, detecting entry of the pandemic strain) are available and up-to-date</p> <p>Comply with standards and protocols for collecting, storing and transporting specimens</p>
<p>Pandemic Alert Period: Phase 4</p> <p>Small cluster(s) with limited human-to-human</p>	<p>Continue with all Phase 3 activities</p> <p>Monitor evolving situation, identify needs for enhanced or streamlined surveillance/information should pandemic progress to next phase</p>	<p>Continue with all Phase 3 activities</p> <p>Identify surveillance/information needs should pandemic progress to next phase</p> <p>Disseminate alerts about the progress of the pandemic to</p>	<p>Continue with all Phase 3 activities</p> <p>Identify surveillance/information needs should pandemic progress to next phase</p> <p>Disseminate alerts about the progress of the pandemic to</p>

WHO Pandemic/ Phase	Federal Level	Provincial Level	Local Level
transmission but spread is highly localized, suggesting that the virus is not well adapted to humans	<p>Provide alerts about the progress of the pandemic to increase awareness and inform public health and clinical decision making</p> <p>Acquire (when available) and disseminate any laboratory testing materials (i.e., reagents)</p> <p>Distribute investigation protocol for clusters (i.e. geographic/school or other settings)</p>	<p>increase awareness and inform public health and clinical decision making</p> <p>Acquire (when available) and disseminate any laboratory testing materials (i.e., reagents)</p> <p>Confirm protocols/guidelines to set priorities for laboratory services during times of high service demand and staff and supply shortages are in place</p>	<p>increase awareness and inform public health and clinical decision making</p>
Phase 5 Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible	<p>Continue with all Phase 4 activities</p> <p>Increase current surveillance activities</p> <p>Review/update case definitions</p> <p>Review/revise information required for surveillance purposes for a potential progression to Phase 6 (pandemic)</p> <p>Implement border-based surveillance (depending on origin of cases), including notifications to ill and well travelers</p> <p>Confirm the information to be collected on cases and screening measures and how this will be done (e.g., data collection forms, database issues, data flow)</p> <p>Identify special study needs</p>	<p>Continue with all Phase 4 activities</p> <p>Increase current surveillance activities</p> <p>Implement:</p> <ul style="list-style-type: none"> any new /updated case definitions any new /updated FRI surveillance tools (especially for areas known to receive a lot of travelers from affected areas) <p>Review/revise information required for surveillance purposes for a potential progression to Phase 6 (pandemic)</p> <p>Identify special study needs</p>	<p>Continue with all Phase 4 activities</p> <p>Increase current surveillance activities</p> <p>Implement any new/updated FRI/SRI surveillance tools (especially for areas known to receive a lot of travelers from affected areas)</p> <p>Review/revise information required for surveillance purposes for a potential progression to Phase 6 (pandemic)</p> <p>Identify special study needs</p>
Pandemic Period: Phase 6 Increased and sustained transmission in general population	<p>Continue with all Phase 5 activities</p> <p>Distribute active surveillance protocols to detect entry of cases of pandemic strain in Canada</p> <p>Evaluate current epidemiology of pandemic to direct priorities to high risk groups</p> <p>Define clinical spectrum of disease (based on feedback from local level experts), and revise case definitions as necessary</p> <p>Monitor surveillance activities; compile and report outcomes</p> <p>Distribute pandemic data collection forms and protocols for electronic transmission of data</p> <p>Review protocols for special studies and establish dedicated teams to activate the studies in collaboration with other public health authorities</p> <p>Implement laboratory testing protocol</p> <p>Continue with heightened surveillance until no longer sustainable/needed to collect information on affected populations/priority groups</p>	<p>Continue with all Phase 5 activities</p> <p>Distribute active surveillance protocols to detect entry of cases of pandemic strain in Canada</p> <p>Evaluate current epidemiology of pandemic to direct priorities to high risk groups</p> <p>Implement investigation protocol for clusters (i.e. geographic/school or other settings)</p> <p>Adopt and implement revised case definitions as necessary</p> <p>Monitor surveillance activities and compile and report outcomes</p> <p>Distribute pandemic data collection forms and protocols for electronic transmission of data (i.e., via iPHIS)</p> <p>Implement protocols/guidelines for prioritization of laboratory services during times of high service demand and staff and supply shortages</p> <p>Implement laboratory testing protocol</p> <p>Review protocols for special studies and establish dedicated</p>	<p>Continue with all Phase 5 activities</p> <p>Implement investigation protocol for clusters (i.e. geographic/school or other settings)</p> <p>Utilize active surveillance protocols to detect entry of cases of pandemic strain in Canada</p> <p>Evaluate current epidemiology of pandemic to direct priorities to high risk groups</p> <p>Adopt and implement revised case definitions as necessary</p> <p>Provide timely data, and report to province</p> <p>Participate in special studies and establish dedicated teams to activate the studies in collaboration with other public health authorities</p> <p>Implement laboratory testing protocol</p> <p>Distribute pandemic data collection forms * to appropriate pandemic stakeholders (e.g. hospitals, long-term care homes) and protocols for electronic transmission of data</p> <p>Continue with heightened</p>

WHO Pandemic/ Phase	Federal Level	Provincial Level	Local Level
	Identify information required for enhanced surveillance	teams to activate the studies in collaboration with other public health authorities Continue with heightened surveillance until no longer sustainable/needed to collect information on affected populations/priority groups Identify information required for enhanced surveillance Disseminate pandemic alerts	surveillance until no longer sustainable/needed to collect information on affected populations/priority groups Disseminate pandemic alerts
Pandemic Period: Phase 6 cont. Regional and multi-regional epidemics	Distribute pandemic reporting tools (e.g. crude measures of mortality, morbidity and ILI activity in community) Continually review/revise surveillance case definitions as necessary Provide epidemiological summaries to characterize outbreaks and impacts Monitor surveillance activities; compile and report outcomes Monitor and report on progress of special studies Continually monitor data collection, transmission procedures in an attempt to streamline procedures to optimize efficiency and timeliness of data reporting Maintain ongoing surveillance to detect second or later waves early Monitor vaccine efficacy, adverse reactions and coverage, once vaccine available	Distribute and utilize pandemic reporting tools (e.g. crude measures of mortality, morbidity and ILI activity in community) Adopt surveillance case definitions as necessary Disseminate epidemiological summaries to characterize outbreaks and impacts Monitor surveillance activities; compile and report outcomes Monitor and modify (if necessary) data collection/transmission processes/protocols Monitor and report on progress of special studies Maintain ongoing surveillance to detect second or later waves early Monitor vaccine efficacy, adverse reactions and coverage, once vaccine available	Distribute and utilize pandemic reporting tools (e.g. crude measures of mortality, morbidity and ILI activity in community) Modify definitions, activities, processes and tools as required based on direction from the province Disseminate epidemiological summaries to characterize outbreaks and impacts Continue to provide timely data and analysis Maintain ongoing surveillance to detect second or later waves early Monitor vaccine efficacy, adverse reactions and coverage, once vaccine available
Pandemic Period: Phase 6 cont. Pandemic Subsiding	Estimate burden of disease during outbreak period (e.g., through special studies), provide epidemiological summaries to characterize the impact of the first wave in Canada Review/modify case definition, evaluate the current epidemiology and decreasing levels of activity in Canada Determine ongoing surveillance required to document the end of the first wave and detect any new cases/outbreaks Scale down enhanced surveillance as appropriate and resume inter-pandemic response via FluWatch Continue to implement laboratory testing protocol	Work with local planning groups to estimate burden of disease in the province during pandemic period and develop epidemiological summaries to describe the impact of pandemic waves in Ontario Review/adopt case definition; evaluate the current epidemiology and decreasing levels of activity in Ontario. Determine ongoing surveillance needs for both documentation of end of first wave and detection of any new cases/outbreaks Scale down enhanced surveillance as appropriate and resume inter-pandemic response Develop projections for future laboratory requirements (i.e., human and physical resources, including test kits etc.) Continue to implement laboratory testing protocol Estimate provincial burden of	Work with MOHLTC to estimate burden of disease during outbreak period and develop epidemiological summaries to describe the impact of pandemic waves in Ontario Scale down enhanced surveillance as appropriate and resume inter-pandemic response Review/adopt case definition, evaluate the current epidemiology and decreasing levels of activity in local jurisdiction Continue to implement laboratory testing protocol Scale down enhanced surveillance as appropriate and resume inter-pandemic response

WHO Pandemic/ Phase	Federal Level	Provincial Level	Local Level
	disease during outbreak periods		
Postpandemic Period Return to Phase 1	Collect information required to evaluate surveillance activities Evaluate pandemic surveillance system performance and plan improvements as required Resume routine ongoing (i.e., interpandemic) laboratory and disease surveillance	Collect information required to evaluate surveillance activities Evaluate pandemic surveillance system performance and plan improvements as required Resume routine ongoing (i.e., interpandemic) laboratory and disease surveillance	Collect information required to evaluate surveillance activities Evaluate pandemic surveillance system performance and plan improvements as required Resume routine ongoing (i.e., interpandemic) laboratory and disease surveillance