

# Documentation of Outbreaks in PHIMS

Final

Provincial Population & Public Health SOP

Regional and Clinical Supports Communicable Disease Control; Public Health Information Systems; Epidemiology and Surveillance

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## Contents

1. Abbreviations .....	2
2. Purpose .....	2
3. Scope .....	3
4. Definitions .....	3
5. Background .....	4
6. Procedure .....	4
6.1 Documenting Exposures: PHN and other Case Investigators .....	4
6.2 Identifying an Outbreak or Cluster: PHN, CD Coordinator, Medical Officer of Health and Epidemiologist Role .....	5
6.2.1 Exposure Search Report .....	5
6.2.2 Regional Monitoring .....	5
6.2.3 National or Provincial Outbreaks: .....	6
6.3 Requesting an Outbreak or Special Investigation Code .....	7
6.3.1 Outbreak (OB) Code: .....	7
6.3.2 Special Investigation (SI) Code .....	8
6.3.3 Cluster Code: .....	9
6.3.4 Code Structure .....	9
6.3.5 PHIMS Outbreak ID: .....	9
6.4 Creating a New Outbreak in PHIMS: CD Coordinator and PHN Role .....	9
6.4.1 Public Reporting of an Outbreak: MOH and CD Coordinator Role .....	15
6.4.2 Determining and Linking Cases Associated with an Outbreak: PHN and CD Coordinator Role .....	16
6.5 Searching for a PHIMS Outbreak: PHN Role .....	17
6.6 Entering Outbreak Codes in Case Investigations: PHN Role .....	17
6.6.1 Adding a Code to Disease Summary within the Individual Case Investigation .....	18
6.7 Monitoring Active Outbreaks in PHIMS .....	18
6.7.1 Outbreak Search Report .....	18
6.7.2 Searching and updating outbreaks: CD Coordinator Role .....	19
6.7.3 Identifying and linking additional cases to an existing outbreak .....	19
6.7.4 Determining if the outbreak or cluster is no longer active: .....	20
6.8 Create and Distribute Report of Active Outbreaks: .....	21
6.9 Documenting Outbreaks for Acute Care and Long-Term Care Facilities .....	21
7.0 Validation and References .....	22
8.0 Additional Resources .....	23
9.0 Appendices .....	23
9.1 Table of Roles and Responsibilities .....	23

## 1. Abbreviations

CD Coordinators	Communicable Disease Coordinators
CNPHI	Canadian Network for Public Health Intelligence
CPL	Cadham Provincial Laboratory
E & S	Epidemiology and Surveillance
ID	Identification
IP&C	Infection Prevention and Control
MOHs	Medical Officers of Health
OICC	Outbreak Investigation Coordinating Committee
OB	Outbreak
PHAC	Public Health Agency of Canada
PHNs	Public Health Nurses
PHIMS	Public Health Information Management System
QRC	Quick Reference Cards
RO	Responsible Organization
SARI	Severe Acute Respiratory Infection
SARS-CoV-2	Severe Acute Respiratory Syndrome Coronavirus 2
SI	Special Investigation
STBBI	Sexually Transmitted Blood-borne Infections

## 2. Purpose

Reporting of diseases that are occurring in clusters or outbreaks is a requirement of health professionals as outlined in the Manitoba [Reporting of Diseases and Conditions Regulation of The Public Health Act](#). The purpose of this document is to provide practice guidance and standard operating procedures for the identification, monitoring, and documentation of outbreaks (and clusters) of communicable diseases by provincial and regional public health staff within the functions of the Public Health Information Management System (PHIMS).

### 3. Scope

For use to guide documentation in PHIMS by provincial and regional public health staff (Communicable Disease Coordinators [CD Coordinators], Public Health Nurses [PHNs], Medical Officers of Health [MOHs]), and other public health staff involved in the completion of case investigations, including provincial Epidemiologists and Surveillance Unit Clerks. Roles and activities specific to PHNs, Regional CD Coordinators, Epidemiologists, and MOHs are described and summarized in section [9.1 Table of Roles and Responsibilities](#).

The PHIMS outbreak module is a tool for documenting and tracking communicable disease outbreaks, or clusters.

The Canadian Network for Public Health Intelligence (CNPHI) is a national reporting platform that was previously used by regional public health and Infection Prevention and Control (IP&C) for reporting regional Outbreaks (OBs) to Manitoba Health. **PHIMS has replaced CNPHI as the reporting platform for reporting all regional OBs to Manitoba Health.** CNPHI continues to be used by provincial public health for national reporting by posting public health alerts. Public health alerts provide notification to other jurisdictions/provinces of events or exposures that may impact them and require follow-up (i.e., exposures to contacts from other jurisdictions) and/or as an alert to advise of a current outbreak or cluster of concern that is occurring. This reporting is generally completed by Epidemiology and Surveillance (E & S) at Manitoba Health.

This document does not address outbreak management or field responses to outbreaks and clusters, such as community partnership, communications, team building, and enhanced testing, immunization, treatment, and case and contact tracing. This document does not address the practice of Infection Prevention and Control professionals, who oversee outbreaks in health care facilities.

### 4. Definitions

Within the PHIMS Outbreak Module, the unit of investigation is referred to as a PHIMS Outbreak, although it may be classified in the “*Outbreak Classification*” as an outbreak (confirmed), cluster, or other type of investigation as outlined below.

#### **Outbreak (Confirmed)**

An outbreak refers to an increase, often sudden, in the number of cases of a communicable disease above what is normally expected in that population, and generally applies to a specific time and place. A case definition for an outbreak is usually established that includes criteria for person, place, time, and clinical features. For communicable diseases with widespread community transmission or high endemic rates, an outbreak definition may only apply to high-risk settings where containment of transmission remains a goal.

### **Cluster**

A "cluster" is an unusual aggregation, real or perceived, of health events that are grouped together in time and place. As more information is gathered and cases develop, a cluster may evolve into an outbreak once it meets the definition of an outbreak for a defined communicable disease.

### **Actively under Investigation**

Actively under investigation is a classification that can be used in the initial stages of the investigation when determining if it meets the criteria of a cluster or a confirmed outbreak.

### **Not an Outbreak**

When a public health investigation has been completed, and it does not meet the criteria of a confirmed outbreak or a cluster, the classification would be updated to "not an outbreak".

## **5. Background**

This document is a supplement to the relevant User Guides, Quick Reference Cards (QRC), and other practice guidance documents related to the detection, creation, monitoring, and closure of outbreaks and clusters in PHIMS. See section [8.0 Additional Resources](#).

## **6. Procedure**

### **6.1 Documenting Exposures: PHN and other Case Investigators**

To support the timely detection of outbreaks and clusters, exposures (transmission and acquisition events) must be documented according to the Protocol and Surveillance Forms for the specific communicable disease within each case investigation.

Exposure location names, addresses, dates, and exposure names of contacts are imperative for identifying outbreaks. This detailed information should be added to the acquisition events (exposures that occur during the case's incubation period) and to the transmission events (exposures that occur during the case's communicability period).

Refer to the following resources for further information regarding data entry into case investigations:

*Acquisition Event and Transmission Event QRC's* located under the "Exposures" section:  
<https://phimsmb.ca/support-tools/public-health/investigations/>

*User Guide for Completion of Surveillance Forms for Reportable Diseases*  
[https://www.gov.mb.ca/health/publichealth/surveillance/docs/mhsu\\_ug.pdf](https://www.gov.mb.ca/health/publichealth/surveillance/docs/mhsu_ug.pdf)

## 6.2 Identifying an Outbreak or Cluster: PHN, CD Coordinator, Medical Officer of Health and Epidemiologist Role

The regional CD Coordinator(s), provincial CD program, and MB Epidemiology and Surveillance Unit, will monitor CD investigation volumes and trends.

### 6.2.1 Exposure Search Report

This can be generated for any encounter group or communicable disease that has investigations within PHIMS. This report can be used to explore potential outbreaks or clusters associated with documented exposures (transmission and acquisition events) of communicable diseases. Refer to the [Report User Guide - MB 22001 Exposure Search](#) for further details.

- Suggested date range parameters for Exposure Search Report
  - Two incubation periods will provide comprehensive overview in outbreaks with person-to-person transmission
- Consider sorting data in the report by communicable disease (e.g., subtypes, epi markers), exposure setting, street name or city
- Use of “text search” or excel Conditional Formatting can be useful to highlight particular text in columns or use of “highlight text that contains” if exploring Location Name. See Excel Tips in section [8.0 Additional Resources](#)

The Exposure Search Report can be run with the PHIMS Outbreak ID as a report filter. However, if there are no exposures documented in linked investigations, this report will not display these investigations and cannot be used to generate a complete line list of investigations associated to the outbreak.

*Note: that there can be multiple exposures documented on an investigation, so the Exposure Search Report may have multiple lines for a single investigation.*

### 6.2.2 Regional Monitoring:

Regional public health staff use methods outside of PHIMS to identify situations that constitute an outbreak or cluster, including reports or tips from the field (e.g., PHNs, workplaces, schools, facilities), and regular communicable disease team meetings.

- If a new suspected outbreak or cluster is identified by field staff, it must be communicated to the regional CD Coordinator.

- Regional CD Coordinator will search PHIMS for an existing outbreak or cluster prior to initiating a new outbreak or cluster process. Refer to [Outbreak Search Report MB3101A](#) and/or QRC [Search Outbreaks](#)
  - If the outbreak already exists in PHIMS, refer to the Quick Start Guide workflow and supporting QRCs located in the [PHIMS Outbreaks](#) section to add to and/or update an existing outbreak.
- Regional CD Coordinator will consult with regional MOH to determine if the situation constitutes an outbreak.
- For outbreaks that are not declared by and overseen by public health (e.g., acute care and long-term care facility outbreaks managed by Infection Prevention and Control), the regional CD Coordinator will create the outbreak in PHIMS on notification of the outbreak. If cases are documented in PHIMS, they can be linked to the outbreak. If aggregate case numbers are reported, the aggregate numbers should be documented in the outbreak.

### 6.2.3 National or Provincial Outbreaks:

Outbreaks that are national or provincial in scope will be created by MB Epidemiology and Surveillance. Provincial public health staff (Medical Officer of Health, Epidemiologist, Food Safety Specialist, Provincial CD Coordinator) may receive notification of national outbreaks by the Public Health Agency of Canada (PHAC), a food inspection agency, or another provincial communicable disease unit. In this situation, an OICC code (Outbreak Investigation Coordinating Committee code) and case definition may be provided by the notifying organization.

- For some national or provincial outbreaks, this may involve the creation of a PHIMS “summary” (formerly “parent”) outbreak, which provides a way to link “operational” (formerly “child”) outbreaks that occur at the regional level. *(Note: only summary outbreaks can have other PHIMS outbreaks linked to them). Summary outbreaks will be created if a large number of cases are anticipated in more than one region. Otherwise, an operational outbreak will be created.*
  - Once the summary outbreak has been created and a summary outbreak code applied, the regional MOH and/or CD coordinator will be informed.
  - Regions can proceed with creating operational outbreaks and linking cases and/or contacts to the operational outbreak. *(Note: only operational outbreaks can have case investigations linked to them).* The regional operational outbreaks can then be linked to the associated summary outbreak. Refer to QRC [Outbreaks: Link Outbreak- Operational \(child\) to Summary \(parent\)](#).

- Additional Instructions for creating a provincial level outbreak are provided in section [6.4 Creating a New Outbreak or Cluster in PHIMS](#).

### 6.3 Requesting an Outbreak or Special Investigation Code

The nature of the outbreak will be defined by the PHIMS outbreak classification (cluster, confirmed [outbreak], not an outbreak, or actively under investigation). **Classification is considered the source of truth for the nature and status of the PHIMS outbreak, not the code.** The outbreak code is added as an “Alternate ID”, and may not reflect the classification, especially if the cluster or outbreak has evolved. Codes are *not* changed as outbreaks evolve into other classifications, except in the circumstances detailed below where public health or a setting/facility requires a new code to facilitate specimen tracking/enhanced pathogen testing. In this scenario, the new code is added to the outbreak as a second alternate ID.

**Prior to requesting a new code:** the regional outbreak team (CD Coordinator and/or MOH) must consider whether public health or the setting/facility will be involved in specimen collection and tracking. Outbreak codes and Special Investigation codes will be used by CPL to track and report on specimens (provided that the code is on the sample requisition) and inform relevant enhanced pathogen testing and report out the code with the lab result. *(Note: lab requisitions that go through Dynacare, Diagnostic Services Manitoba, or other contracted lab services may not have the code reported out with the result).*

In situations where there is an existing code in use for an active outbreak or cluster setting (outbreak code or in certain situations a special investigation code), the existing code will generally be used (in consultation with the MOH). If there is an existing code for a previous and no longer active outbreak or cluster for the setting, a new code will be requested. Refer to section [6.7.4 Determining if the outbreak or cluster is no longer active](#).

**6.3.1 Outbreak (OB) Code:** For outbreaks managed by public health, outbreak codes are typically requested by MOHs or designate (e.g., regional CD Coordinator) with MOH approval, only when they suspect that an outbreak has occurred linked to a location/time of exposure AND specimen tracking/enhanced pathogen testing is required (by either public health or the setting/facility).

- If public health anticipates requiring code tracking with samples, request an Outbreak Code (even if the unit of investigation is a cluster, or not a confirmed outbreak (e.g., actively under investigation)).
  - Infection Prevention and Control will request their own outbreak codes for facility-based outbreaks that they manage (e.g., acute care and long-term care).



- The request is sent to the Cadham Provincial Laboratory (CPL) by the MOH or designate and includes basic information on linked cases/contacts (refer to CPL [Guide to Services](#)).
- When requesting an outbreak code, CPL records the following information.
  - Type of outbreak - usually respiratory or gastrointestinal
  - Name of the MOH requesting the outbreak (CPL refers to as the Outbreak Coordinator)
  - Name and phone number of the designate that will be tracking the outbreak cases/results (CPL refers to as the “outbreak contact” – generally the regional CD Coordinator)
  - Name of the facility/setting where the outbreak is occurring
  - Location (community and RHA) where the facility is located
  - Name and phone number of a contact person at the facility
  - Number of clients that are symptomatic – and list of symptoms
  - Symptom onset date for the earliest case

CPL only requires information on cases/contacts if the outbreak code is being requested after samples have been sent/tested. In that situation, identifiers (e.g., PHINs) allow CPL staff to retroactively add the outbreak code to any samples that have already been received by CPL.

- The request is reviewed by CPL and assigned an outbreak code.
- CPL communicates the code to the requestor, and in addition sends outbreak notification emails to inform CPL staff involved in testing, and Epidemiology and Surveillance unit personnel.
  - *Note outbreak notification emails are typically sent at end of day, only on days when new outbreak codes are issued. Outbreaks codes issued over the weekend are usually reported on the next business day).*
- CPL uses outbreak codes primarily for purpose of samples. When the code is on a requisition, CPL will perform relevant enhanced pathogen testing and report out the code with the lab result (provided that the code was on the sample requisition).

**6.3.2 Special Investigation (SI) Code:** SI codes are created by CPL and requested for special investigations in which testing, and result tracking is required (e.g., occupational, or outreach events), but are not associated with an outbreak investigation. When the code is on a requisition, CPL will perform relevant pathogen testing and report the code with the lab result.

- In general, SI codes are not used specifically for outbreaks. Occasionally, an outbreak or cluster may arise in a setting that has an existing SI code in use. In this situation the regional outbreak team (MOH, CD Coordinator) may decide to use the SI code for public

health purposes within PHIMS (adding to case investigations and adding to PHIMS outbreak as “Alternate ID”).

**6.3.3 Cluster Code:** Cluster codes were in use during the first three waves of the COVID-19 pandemic but are otherwise not created or used by public health.

**6.3.4 Code Structure:** The outbreak or special investigation code will appear as: OBYX\_XXX or SIYY\_XXX respectively, with the YY being the last two digits of the year, and the XXX being the sequential number of that type of code created in the given calendar year. Only capital letters should be used. *If more than one code is being added to a case investigation, include 2 semicolons with no spaces (e.g., OBYX\_XXX;;SIYY\_XXX)*



**6.3.5 PHIMS Outbreak ID:** PHIMS will automatically generate a unique “outbreak ID” number when a PHIMS outbreak is created. This is an additional identifier for a PHIMS outbreak, and will populate on the Outbreak Search Report, and can be used in some search fields within PHIMS.

## 6.4 Creating a New Outbreak in PHIMS: CD Coordinator and PHN Role

Regional CD Coordinators have access to the Outbreak Module (tab) to create PHIMS Outbreaks, and link case investigations to PHIMS Outbreaks.

- PHIMS outbreaks should be created for all communicable disease outbreaks that public health is notified of, even if the primary oversight is by Infection Prevention and Control
- For non-reportable communicable diseases, cases cannot be linked within PHIMS if case investigations are not created. Depending on the level of public health involvement in the outbreak, investigations may be created for non-reportable diseases (see below table – predominant disease and microorganism), or aggregate counts may be documented in the PHIMS outbreak.
- Clusters or investigations that currently do not meet the criteria of an outbreak can also be created in the outbreak module if a public health investigation is being completed.

Refer to PHIMS Outbreaks Quick Start Guide and QRCs located in the Outbreak section at <https://phimsmb.ca/support-tools/public-health/outbreaks/> . There are various functions available within the PHIMS Outbreak Module that are detailed in the Quick Start Guide and QRCs. Some of the key data elements and entry standards are described below:

<b>Outbreak Identification</b>	Outbreak Name should include location name, street address and town/city, include any other relevant specific details (e.g. unit, floor, ward)
<b>Alternate ID</b>	Outbreak code is added. Can add additional alternate ID if an additional code is in use. Add one code at a time (i.e. do not add multiple codes separated by semi-colons as an Alternate ID)
<b>Encounter Group</b>	<p>Always select the encounter group in which the CD investigations are created (e.g., STBBI or Communicable Disease). <i>(Note: Use of the “Outbreak Response” encounter group is no longer recommended for COVID-19 outbreaks - instead use Communicable Disease. Use of the “Outbreak Response” encounter group limits the ability to add additional diseases or microorganisms if they have also been identified in the outbreak. However, individual lab-confirmed cases of COVID-19 will continue to be recorded in the Outbreak Response encounter group via the lab to PHIMs interface but will not be linked to the OB.)</i></p> <ul style="list-style-type: none"> <li>“Communicable Disease” should also be used if the outbreak is for a CD that is not reportable or has no investigations</li> </ul>
<b>Predominant disease and Microorganism</b>	<p>Select pathogen and microorganism</p> <ul style="list-style-type: none"> <li>For COVID-19 outbreaks choose “Severe acute respiratory infection (SARI)” under “Disease” and “Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)” under “Microorganism” <i>(note: COVID-19 is not an option when entered under the “Communicable Disease” encounter group. Ensure microorganism is selected as “SARS-CoV-2” to distinguish it from other SARS viruses)</i></li> </ul> <div data-bbox="592 1396 1372 1606"> <p>* Encounter Group: <input type="text" value="Communicable Diseases"/></p> <p>* Predominant Disease: <input type="text" value="Severe acute respiratory infection (SARI)"/></p> <p>* Classification Authority: <input type="text" value="Provincial"/></p> <p>Microorganism: <input type="text" value="Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)"/></p> </div> <ul style="list-style-type: none"> <li>For outbreaks that have identified additional microorganisms, these can be added under the “Disease Summary” within the outbreak module and the predominant microorganism can be selected if known</li> <li>“Gastrointestinal infection, unknown or other”; “Respiratory infection, unknown or other”; may be used for:</li> </ul>

	<ul style="list-style-type: none"> <li>○ non-reportable gastrointestinal or respiratory outbreaks (i.e., for norovirus use disease “Gastrointestinal infection, unknown or other” and microorganism “Small round virus”).</li> </ul> <p> <b>* Encounter Group:</b> <input type="text" value="Communicable Diseases"/> </p> <p> <b>* Predominant Disease:</b> <input type="text" value="Gastrointestinal infection, unknown or other"/> </p> <p> <b>* Classification Authority:</b> <input type="text" value="Provincial"/> </p> <p> <b>Microorganism:</b> <input type="text" value="Small round virus"/> </p> <ul style="list-style-type: none"> <li>○ gastrointestinal or respiratory outbreaks in which a disease or microorganism has not been identified or has not yet been identified. Select “unknown” for the microorganism. <ul style="list-style-type: none"> <li>▪ If a disease or microorganism is identified at a later time, it can be updated or added under “Disease Summary”. If a disease is added, the category of “gastrointestinal infection, unknown or other” or “respiratory infection, unknown or other” can be deleted if it is no longer applicable. (Note: you must update the added disease as “<i>predominant</i>” as you cannot delete a disease that is set as the predominant disease. You also must provide a reason in the drop down under “row actions” to delete a disease (e.g., “entered in error” or “other”.)</li> </ul> </li> <li>• For outbreaks that are non-reportable, and are not gastrointestinal or respiratory, “Outbreak, unknown or other” can be the disease category used and the applicable microorganism chosen. If the microorganism is not listed in the dropdown, “other” can be chosen, followed by selecting “further differentiation” as an epi marker. The microorganism can be entered in the “value” field below the epi marker “further differentiation”.</li> </ul>
<b>Responsible Organization(s)</b>	<p>(ROs) – Outbreaks may involve more than one RO, but only one RO can be added at a time. Once the outbreak is created, an additional RO can be added.</p> <ul style="list-style-type: none"> <li>• If a case is linked to an outbreak but is assigned to another region as the primary investigator, it is important to add that RO to the outbreak. Doing so does not infer spread of the outbreak but ensures that case counts on the Outbreak Summary page are accurate.</li> <li>• National enteric outbreaks or outbreaks that are provincial in scope can be created with MB Health (display name is Manitoba, Winnipeg, Manitoba) as the RO, and are generally created by MB Health.</li> </ul>

	<i>(Note: The RO will automatically default to the RO the CD Coordinator is logged in under. If logged in under MB Health, ensure the PHIMS Outbreak is not assigned to MB Health in error).</i>
<b>Outbreak Classification</b>	<p>(required): Cluster, confirmed [use for confirmed outbreaks], not an outbreak, actively under investigation. <i>(Note: Clusters are generally not identified in acute or long-term settings.)</i></p> <ul style="list-style-type: none"> <li>This required field defines the nature of the outbreak and is considered the “<b>source of truth</b>” for distinguishing outbreaks from clusters or other investigations. Refer to section <a href="#">4.0 Definitions</a> for further information. <i>(Note: Outbreak Classifications should be updated as the public health investigation evolves).</i></li> <li><b>Classification Date:</b> update each time the classification is changed.</li> </ul>
<b>Outbreak Link Role</b>	<p>“Summary” (formerly known as “parent”) or “Operational” (formerly known as “child”) – refers to the relationship between outbreaks. Regional outbreaks are set to operational (defaults to operational). <i>(Note that on view counts screens in a summary outbreak, “include children” must be selected –this refers to case counts in operational outbreaks not cases in children).</i> Case investigations can be linked to operational outbreaks.</p> <ul style="list-style-type: none"> <li>National outbreaks may be created by MB health as a “summary” outbreak. Regional associated operational outbreaks can be linked to the “summary” outbreak. <i>(Note: case investigations cannot be linked and unidentified counts cannot be added to a “summary” outbreak. However, “operational” outbreaks can be linked to “summary” outbreaks).</i></li> </ul>
<b>Outbreak Type</b>	(required): use drop down options
<b>Outbreak Onset Date</b>	(required for confirmed OB’s) Typically, earliest report date for cases that are linked, OR earliest symptom onset date.
<b>Geographic Extent</b>	(required): see dropdown options
<b>Outbreak Setting Type AND Setting</b>	(required): see dropdown options
<b>Outbreak Description</b>	Up to 2000 characters are available to describe the outbreak if additional information required. If relevant a case definition can be added to the Description field.
<b>Outbreak Groups</b>	See <a href="#">QRC Outbreak Groups- Add Outbreak Groups</a> . Consider creating outbreak groups for complex outbreaks with different groups associated to a time/location. (i.e., group name by school grade or cohort (Grade 4) – add Liaison name
<b>Reporting Source</b>	The person who identified the cluster/outbreak. Provider: CD Coordinator or Other (e.g., Infection Prevention and Control, facility, workplace, Public Health Agency of Canada).

	<ul style="list-style-type: none"> <li>The individual who creates the PHIMS outbreak will display as the Primary Investigator.</li> </ul>
<b>Declaration</b>	<p>Declared by (Provider = Medical Officer of Health)</p> <ul style="list-style-type: none"> <li><b>Date Declared: Only applies to outbreaks.</b> (<i>Note: do not add declared date for clusters or other special investigations</i>). This is the date the cases were reviewed and discussed, and the outbreak was declared by the MOH.</li> <li>For outbreaks not declared by public health select “Other” field below provider and enter declaring program (e.g., Infection Prevention and Control, Public Health Agency of Canada).</li> <li><b>Date Declared over:</b> Add the “declared over” date in this section.</li> </ul>
<b>Presets</b>	<p>The Outbreak module recognizes the presets that have been configured in the Investigations module (Signs &amp; Symptoms, Interventions and Outcomes). Some specific set-up in the Outbreak is required to add presets and/or to view the preset data on <i>all</i> the Outbreak screens and to record counts for aggregate Outbreaks (e.g., facility such as a Personal Care Home). Refer to Outbreak QRC’s in the “Counts Section”:  <a href="https://phimsmb.ca/support-tools/public-health/outbreaks/">https://phimsmb.ca/support-tools/public-health/outbreaks/</a></p>
<b>Outbreak Classification Summary</b>	<p>The <b>Outbreak Classification Summary</b> displays case counts by classification in a table format to support easy assessment of outbreak progression. The default setting displays counts for the predominant disease, but other diseases can be selected using the <b>classifying disease</b> dropdown for more precise counts. The counts in the table are based on the <b>Reporting Organization (RO)</b> assigned to the outbreak and can be filtered using the <b>RO Unit</b> dropdown.</p> <ul style="list-style-type: none"> <li>If the dropdown is left blank, the table will include all cases linked to all ROs associated with the outbreak.</li> <li>If an additional RO has not been added to the outbreak, any cases associated with that RO will be excluded from the summary, which may result in a lower-than-expected case count.</li> </ul>
<b>View counts</b>	<p>The Outbreak module displays all counts and percentages of signs and symptoms, outcomes, and interventions that are linked to the outbreak. Use “View Counts” features instead of Outbreak Summary screen if presets have not been created. This information is available in the View Counts: Signs and Symptoms and Outcomes pages, and in the Intervention Summary page. In summary outbreaks, always select “include children” on view counts pages. (<i>Note: this refers to “counts in operational outbreaks,” not cases in children</i>).</p>
<b>Interventions</b>	<p>Interventions can be created at the PHIMS Outbreak level (add if outbreak is to be publicly reported, see <a href="#">6.4.1 Public Reporting of an Outbreak</a>). In addition, the intervention summary will display the</p>



	count/percentage of interventions created in investigations linked to the outbreak.
<b>Investigations</b>	<p>When adding case investigations – Investigation IDs should be known. Refer to QRC <a href="#">Outbreaks: Search to Add Investigations</a>. <i>(Note: it is recommended to add case investigations to outbreaks rather than exposures. Linked cases can be removed if added in error).</i> Refer to <a href="#">6.4.2 Determining and Linking Cases Associated with an outbreak</a>.</p> <ul style="list-style-type: none"> <li>• <b>For OBs managed by IP&amp;C in acute and long-term care facilities:</b> <ul style="list-style-type: none"> <li>○ Linking individual cases is generally not required.</li> <li>○ If a clinical notification is reported for a case that has deceased in relation to the outbreak, the investigation should be linked to the outbreak (see section <a href="#">6.4.2 Determining and Linking Cases Associated to an Outbreak</a>) and the case updated as fatal with date of death (see QRC <a href="#">Investigation: Outcome</a> )</li> <li>○ If the clinical notification is for a deceased client with a non-reportable disease (e.g., norovirus) and no case investigation exists in PHIMS, the clinical notification can be uploaded as a context document and added directly to the outbreak in PHIMS. A note should also be authored re: the fatality and clinical notification received.</li> <li>○ Clinical Notifications re: deaths should be included in the total number of deaths reported by IP&amp;C for that outbreak and entered under the “Record Unidentified Counts” located in the sub-tab “Outcomes” (see below: Unidentified Aggregate Counts).</li> </ul> </li> </ul>
<b>Unidentified Aggregate counts</b>	<p>Aggregate case numbers can be added when there are no investigations created in PHIMS (i.e., not a reportable CD, clinical cases who have not been tested). These case numbers are entered under the “Record Unidentified Counts” located in the sub-tab “Investigations”. Other information for unidentified cases can also be added such as signs and symptoms, interventions, and outcomes (e.g., hospitalizations and deaths). The number of contacts identified for an OB can also be included under the unidentified aggregate counts. See <a href="#">QRC Record Unidentified Counts - Aggregate Counts</a>.</p> <ul style="list-style-type: none"> <li>• For example, cases (clinical and lab confirmed) in acute and long-term care facility OBs that are managed by Infection Prevention and Control (IP&amp;C) are added as unidentified counts. Total number of deaths in the OB are entered under the “Record Unidentified Counts” located in the sub-tab “Outcomes”.</li> </ul>

<b>Exposures</b>	Do not create or link Transmission Events to PHIMS outbreaks. Once linked, an exposure cannot be un-linked. In the case investigation with a linked exposure, the hyperlink for the TE will bring the user into the outbreak rather than the TE, which may lead to confusion. This also applies to creating Transmission Events from PHIMS outbreak. <i>(Note: exposures that are recorded on cases linked to the outbreak do not display here).</i>
<b>Notes</b>	<p>On creation of a PHIMS outbreak that has been declared by public health, a note should be authored in the PHIMS outbreak that briefly describes the assessment/review of cases that led to the determination that an outbreak or cluster should be created. A final summary note should also be authored upon closure of the OB.</p> <ul style="list-style-type: none"> <li>Notes related to the outbreak should be added with the outbreak in context. Do not use outbreak communications or the communication log, as it does not have the same functionality as notes.</li> <li>If the note relates to a specific client, the note should be added to the client's investigation, not the outbreak.</li> <li>OBs managed by IP&amp;C in acute and long-term care facilities, generally do not require a note. Option could be to copy and paste the OB notification email(s) received by IP&amp;C in a note.</li> </ul>
<b>Document Management</b>	<p>Context documents that are relevant to the outbreak investigation, should be added to the outbreak under "document management". These may include public health inspector reports, food or water sampling reports, epidemiologic analyses, or minutes of outbreak meetings, etc. <i>(Note: client specific context documents should be added as a context document to the case investigation).</i></p> <ul style="list-style-type: none"> <li>Once a context document has been added to the outbreak, author a note to indicate a document has been added. Enter the document title in the "subject line" of the note.</li> <li>For further information on how to upload context documents to an outbreak, refer to QRC <a href="#">Outbreak Context Documents</a>.</li> </ul>
<b>Status (closures)</b>	<p>Outbreaks must be closed when complete. Clusters must also be closed once determined inactive.</p> <ul style="list-style-type: none"> <li>See <a href="#">6.7.4 Determining if the outbreak or cluster is no longer active</a>.</li> </ul>

*Note: Some of the PHIMS Outbreak Left-hand navigation features are not yet deployed for use in the field including Outbreak Team and Exposures.*

#### 6.4.1 Public Reporting of an Outbreak: MOH and CD Coordinator Role

Public reporting of an outbreak is at the discretion of the MOH in the health region or jurisdiction of the outbreak setting or location. If the outbreak is to be publicly reported, the regional CD Coordinator will create an "Intervention":



- See QRC [Public Notification - Intervention](#)

Consider additional notifications required, which may include Communications, Epidemiology and Surveillance Unit, Central MOH Team, health care providers, setting specific contacts, and CNPHI public health alert.

The Outbreak Search Report will identify which outbreaks have a Public Reporting intervention, along with the status and declared dates (declared, and declared over).

#### **6.4.2 Determining and Linking Cases Associated with an Outbreak: PHN and CD Coordinator Role**

Both regional CD Coordinators and PHNs have a key role in determining if new cases have an epidemiological link to an active outbreak.

- CD Coordinators can link investigations to the PHIMS outbreak. To support this, PHNs and/or CD Coordinators can identify epidemiologically linked investigations and add the code to investigations (See [6.6 Entering Outbreak Codes in Case Investigations: PHN role](#))
- Once the codes are added to the case investigation, the case can then be linked to the outbreak by searching for them by the outbreak code. Cases can also be added individually in the outbreak module by searching with the investigation ID. Refer to QRC [Search to Add Investigations](#) (*Note: it is important to add the code to the case investigation so that they will be included in outbreak search reports*). Secondary cases (those that are epidemiologically linked by person/place/time but not directly associated with the outbreak setting as the primary acquisition exposure) may be included at the discretion of the outbreak team (CD Coordinator, MOH, Epidemiologist).
- Similarly, contacts are generally not linked to PHIMS outbreaks but may be at the discretion of the outbreak team or may be specifically recommended for some outbreaks (e.g., emerging diseases or non-human sources of infection). If the code is added to the case investigation *before* the contacts are added, the code will carry over to the contact investigation.
- For OBs managed by IP&C in acute and long-term care facilities, linking individual cases is generally not required. Aggregate counts should be added to the OB (see section [6.9 Documenting Outbreaks for Acute Care and Long-Term Care Facilities](#))

Outbreak groups can be created to further assist with outbreak management. Examples of groups include individual classes or grades in a school; different site locations; secondary cases; etc. Investigations can be associated to the group, and the counts are displayed by the group as well as the total.

## 6.5 Searching for a PHIMS Outbreak: PHN Role

PHNs do **not** have access to the Outbreak Module or see the Outbreak Tab in their menu but can generate the Outbreak Search Report.

PHNs should be aware of all active communicable disease outbreaks relevant to the communicable disease investigations they manage. Generate the [Outbreak Search Report \(MB3101A\)](#) when undertaking case and contact investigations to view active outbreaks relevant to the region(s) of practice. This enables new cases with the most likely acquisition in the setting of the outbreak to be identified.

- Suggested parameters for Outbreak Search Report: “Reported From” (can go back several months), “Reported To” (today’s date), select status “open” to view only active PHIMS outbreaks.

*Note: If a PHN is the Primary Investigator on an investigation that has been linked to a PHIMS outbreak, a hyperlink to the PHIMS outbreak will appear on the client Subject Summary. As PHNs currently do not have access to the OB module, access to the outbreak via the hyperlink is not available. Disregard the hyperlink as it results in an error.*

## 6.6 Entering Outbreak Codes in Case Investigations: PHN Role

When an outbreak or special investigation code is added to an investigation, it assists the CD Coordinator to search and locate the investigation and link it to a PHIMS Outbreak.

Outbreak codes added to the CPL test requisition will generally be reported out with the result and populated into the “Disease Summary” event history.

- In the process of a CD Investigation, a PHN may discover an investigation likely to be associated with an active outbreak that does not already have the outbreak code in the Disease Summary event history.
- PHN may review the case with the CD Coordinator to help determine if the case is associated with the outbreak prior to adding the code.

Refer to [6.4.2 Determining and Linking Cases Associated with an Outbreak](#)

It is possible that two codes may be associated with a particular PHIMS outbreak. In this case, confirm with the CD Coordinator which code should be used (usually the most recent code).

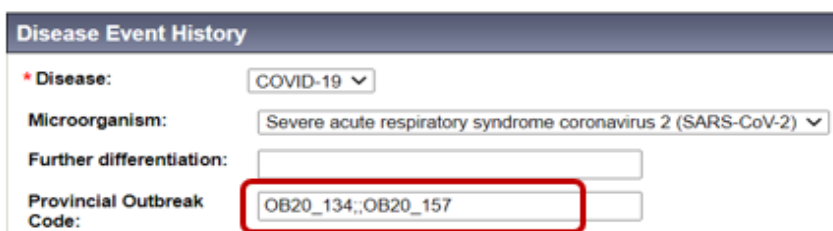
An outbreak or special investigation code may be visible in the Lab Test section if it has been provided on a lab requisition. The MHSU team or rapid processing automation bot will enter this when they receive the positive lab result.

Lab Tests <span>Hide Lab Tests</span>									
Lab <span>Hide Lab</span> <span>Lab Summary</span>									
	Specimen Collection Date	Specimen Type / Description	Result Name	Interpreted Result; Result	Flag	Accession No.	Etiologic Agent	Epi Markers	Result Status
	2021 Oct 26	Nasopharynx / Diagnostic	COVID-19 Virus (NAAT)	Detected;	Abnormal	205326985	Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)	Provincial Outbreak Code : OB20_134	Final

If the outbreak code is reported out with the lab result and is populated in the Lab Test section, the code will NOT need to be added by the PHN to Disease Summary. If the code needs to be added, use the following steps.

### 6.6.1 Adding a Code to Disease Summary within the Individual Case Investigation

The outbreak or special investigation code is entered into the Provincial Outbreak Code field found in the Disease Event History section under Disease Summary for cases. (*Note: you will have to click on the “add” button to access the Disease Event History section*).

The outbreak or special investigation code will appear as: OBYX\_XXX;; SIYY\_XXX;; (including semicolons **with no spaces** if more than one code is being entered), respectively with the YY being the last two digits of the year and the XXX being the sequential number of that type of code created in the given calendar year. Refer to page 5 of the QRC [Investigations: Disease Summary- Add Outbreak Code to Disease Summary](#)

## 6.7 Monitoring Active Outbreaks in PHIMS

### 6.7.1 Outbreak Search Report

The regional CD Coordinator responsible for outbreak oversight will search active outbreaks weekly or as needed to determine or update classification or status (e.g., close the outbreak). The [Outbreak Search Report MB3101A](#), will generate a list of PHIMS outbreaks, but not cases linked to outbreaks. The [Exposure Search Report MB22001](#) may also be generated by filtering for a particular PHIMS outbreak ID, to view the acquisition exposures associated, and view investigations currently linked to the PHIMS outbreak.

The [Investigation Search Report MB2701C](#) can be used by CD Coordinators, PHNs and CD Technicians as a tool to filter by Outbreak ID to assist in generating a line list of all cases linked to a specific outbreak. Note that this is only possible for PHIMS outbreaks that are created as “operational” (link role is operational) outbreaks. Summary outbreaks (PHIMS outbreaks created with “summary” link role) cannot have cases linked directly to them, but “operational” outbreaks may be linked to summary outbreaks.

### 6.7.2 Searching and updating outbreaks: CD Coordinator Role

See QRCs for searching, viewing, and updating PHIMS outbreaks. <https://phimsmb.ca/support-tools/public-health/outbreaks/>

QRC Search Outbreak(s)

Outbreak Summary

QRC Classification Summary- Subject Summary

QRC Disease Summary - Update

QRC Immunization Summary (for outbreaks with relevant immunizing agents)

Investigations

QRC Search to Add Investigations

QRC Outbreaks Groups

QRC Public Notification – Intervention

QRC Outbreaks Context Documents- for adding in relevant documents (i.e.,: Public Health Inspection reports)

Counts

QRC Intervention Counts

QRC Signs and Symptoms Counts

QRC Outcomes Counts

Unidentified Counts

QRC Record Unidentified Counts (used in outbreaks where individual investigations are not recorded in PHIMS. e.g. Personal Care Home gastrointestinal outbreaks)

### 6.7.3 Identifying and linking additional cases to an existing outbreak

#### Searching for new cases

- In the Investigation tab, “Search Investigations” function, case investigations can be searched by Provincial Outbreak Code. Various reports (Investigation Search Report, Exposures Search Report) will also indicate investigations with codes added.
- The [Exposure Search Report MB22001](#) will also help determine new cases with exposures in settings of active outbreaks that may not have outbreak codes added.

- As outbreak codes may be added to investigations in error, the CD Coordinator provides an extra level of oversight by determining which cases should be linked to the PHIMS outbreak, and removing the code from investigations that are not associated to the outbreak.
- To link new cases to a PHIMS outbreak, see [6.4.2 Determining and Linking Cases Associated with an Outbreak or Cluster](#)

#### **6.7.4 Determining if the outbreak or cluster is no longer active:**

In general, an outbreak with person-to-person transmission can be declared over if there have been 2 incubation cycles without a new case associated. Once it has been determined the outbreak is declared over, with the outbreak set in context, in the left-hand navigation, click on “Declaration”, and within here you can add the declared over date.

For IP&C managed OBs in acute care and long-term care facilities, the OB declared over date is reported to public health by IP&C. Refer to section [6.9 Documenting Outbreaks in Acute Care and Long-Term Care Facilities](#).

Outbreaks that are linked to other source exposures (e.g., national enteric investigations – food sources, invasive meningococcal disease) may be defined based on subtyping or genetic analysis of laboratory results (e.g., whole genome sequencing) over longer periods of time. If the source is unknown, declaring these outbreaks over may take a variety of factors into account.

For outbreaks that have become inactive, regional CD Coordinator to confirm with the MOH prior to adding the “Declaration Over” date in PHIMS. Add a note in the PHIMS Outbreak to indicate conversation with MOH. The outbreak can then be closed once all relevant documentation has been completed.

If the outbreak had been publicly reported, the MOH should communicate as appropriate (e.g. public communication/website/site/setting) to notify that the outbreak is declared over.

CD Coordinator adds the “declared over” date but keep PHIMS outbreak status as “open” for 1-2 additional incubations periods so that the PHIMS outbreak will continue to populate on the OB search report of active outbreaks. Close the PHIMS outbreak (update status to “closed”) if no further activity. If activity resumes:

- If new cases related to the outbreak occur within an additional 1-2 incubation periods after being declared over, and in consultation with the MOH is considered still active, CD Coordinator will remove/clear the “declared over” date and continue use of the PHIMS outbreak using the same outbreak code.

- If activity is suspected to be related to a new pathogen introduced in this time frame, or a new outbreak, request a new code and create a new PHIMS outbreak.
- If the outbreak is closed, but additional cases subsequently occur and are assessed to be linked to the outbreak, the outbreak can be reopened to add additional cases, documentation etc.
- Provincial or National outbreaks that are declared over should be documented and closed by the provincial epidemiologist.

Clusters that become inactive and have not evolved into an outbreak should be closed. Entry for declaration dates is not required for clusters.

### 6.8 Create and Distribute Report of Active Outbreaks:

Regions are encouraged to establish a process to monitor active outbreaks to ensure documentation is kept up to date.

### 6.9 Documenting Outbreaks for Acute Care and Long-Term Care Facilities

Current and ongoing outbreaks (since January 1st, 2022) in acute care and long-term care facilities (personal care homes (PCH's)), will be documented in the PHIMS Outbreak module by regional CD Coordinators. This will include outbreaks declared for reportable and non-reportable diseases. PHIMS is used as the source of data for provincial outbreak reporting. Refer to section [6.4 Creating a New Outbreak in PHIMS: CD Coordinator and PHN role.](#)

Regional Infection Prevention and Control (IP&C) are required to report all acute care and long-term care outbreaks to regional public health including outbreaks managed completely by IP&C and outbreaks that may require Public Health support. Information regarding the outbreak(s) will be reported to the regional communicable disease coordinator(s) and/or MOH at the onset of an outbreak and when the outbreak has been declared over. Regions to establish processes regarding frequency of OB reporting/updates and additional notification requirements.

The minimum data elements in the IP&C reports and the PHIMS OB must include the following:

<b>Date OB declared</b>	Date IP&C (and/or MOH) declared the OB
<b>Outbreak Location</b>	Include the following information: <ul style="list-style-type: none"> <li>• Name of Facility</li> <li>• Street Address and City/Town</li> <li>• Other relevant specific details (e.g. unit, floor, ward)</li> </ul>
<b>Outbreak code</b>	Cadham Provincial Lab (CPL) OB code
<b>OB Onset Date</b>	Earliest report date, OR earliest symptom onset date
<b>Type of Outbreak</b>	<ul style="list-style-type: none"> <li>• Respiratory</li> </ul>

	<ul style="list-style-type: none"> <li>Gastrointestinal</li> <li>Other (e.g., Legionellosis)</li> <li>Unknown (no micro-organism/etiologic agent identified)</li> </ul>
<b>Outbreak Classification</b>	Lab confirmed: Y or N
<b>Microorganism(s) identified</b>	Indicate the micro-organism/etiologic agent identified <ul style="list-style-type: none"> <li>provide updates if other lab-confirmed organisms are identified during the outbreak (e.g. Influenza and COVID-19)</li> </ul>
<b>Total # of Cases</b>	Include: total # of lab-confirmed cases AND total # of clinical cases.
<b>Fatal Outcomes</b>	Provide # of deaths that are attributed to the OB*
<b>Date OB Declared over</b>	Date that IP&C (or MOH) declared that an OB has ended

\* Health care providers are expected to report all deaths due to reportable diseases in laboratory-confirmed cases that occur OUTSIDE of hospitals, such as in community or long-term care facilities, by completing a "[Clinical Notification of Reportable Diseases and Conditions](#)" report form and faxing to the MHSU who will document the death in PHIMS. If regional public health is notified of a death (e.g. through the medical examiner) the death should be documented directly within PHIMS.

Additional details such as vaccination status of staff and clients, chemoprophylaxis (e.g., Tamiflu), and interventions is optional and dependent on regional public health involvement in the management of the outbreak.

Outbreaks or clusters in other settings do not require documentation in the PHIMS Outbreak Module unless the public health program is involved and assisting in the outbreak management (e.g., congregate living settings such as shelters, group homes, or assisted living).

## 7.0 Validation and References

PHIMS Outbreaks QRCs and Outbreaks Quick Start Guide

<https://phimsmb.ca/support-tools/public-health/outbreaks/>

PHIMS Report User Guides

<https://phimsmb.ca/support-tools/public-health/reports/>

- [Outbreak Search Report](#)
- [Exposures Search Report](#)
- [Investigation Search Report](#)

Cadham Provincial Laboratory Guide to Services

<https://sharedhealthmb.ca/wp-content/uploads/guide-to-services.pdf>



## 8.0 Additional Resources

PHIMS Resources for Users, Communications and Memos

<https://phimsmb.ca/resources/communications/>

Excel Tips: See courses available in Learning Management System

<https://sharedhealthmb.ca/health-providers/digital-health/lms/>

Working with data: <https://edu.gcglobal.org/en/excel/>

- Basic tips, freezing panes and view options, sorting data, filtering data, formatting.

## 9.0 Appendices

### 9.1 Table of Roles and Responsibilities

Responsibilities	PHN	Regional CD Coordinator	Regional MOH	MB E&S	CPL
Generate Outbreak Search Report (PHIMS)	✓	✓	✓	✓	
Adding OB Code to a Case Investigation	✓ Disease Summary			✓ Lab test section (OB code only)	
Requesting an Outbreak or Special Investigation Code		✓ with MOH approval	✓	✓ with provincial MOH approval for provincial OBs only	
Create Outbreak Code or Special Investigation Code					✓
Create PHIMS Outbreak		✓ Regional Outbreaks or Clusters	✓	✓ National or province-wide outbreaks	
Determine if an OB will be publicly reported			✓		
Link/Add Investigations to an Outbreak or Cluster		✓			
Update existing OB and Clusters		✓	✓		
Determine if an OB or cluster is no longer active		✓	✓	✓ provincial OBs only	
Create and distribute report of active outbreaks: Region		✓			
Generate and distribute report of active outbreaks: Province				✓	
Closing OB and Clusters – update status/declaration		✓ CD Coord confirm status for closure	✓ MOH confirm OB over	✓ Review and closure of provincial OBs in consultation with provincial MOH	

Note: OBs in acute care and long-term care facilities are generally managed by IP&C and reported to regional public health. CD Coordinators are responsible for completing the documentation in PHIMS.