

Public Health Information Management System

Immunization: Downtime and Recovery Procedures

Project Short Name: PHIMS (Previously Panorama)

Modified: 20-August 2018

Manitoba eHealth

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| Document Version: | 1.1 (Refer to page 2 Document Version Control Table) |
| Document Status: | Final for distribution |
| Document Author: | PHIMS Support Manitoba eHealth |

Document Version Control

| Document Creation Date: 08/29/2013 | | | |
|------------------------------------|---------------------|---------|---|
| Date | Author | Version | Change Description |
| 2013-08-29 | Alexandra Henteleff | 0.1 | Document created |
| 2015-02-10 | Alexandra Henteleff | 0.2 | Edited |
| 2015-02-18 | Alexandra Henteleff | 0.4 | Edited |
| 2015-09-21 | Lori Holuk Siddall | 0.5 | Edited |
| 2015-10-22 | Lori Holuk Siddall | 1.0 | Final changes |
| 2018-07-24 | J Sarna | 1.1 | Updated for new name (PHIMS); updated to reflect current state of PHIMS in Manitoba |

Intended Audience

| Document Audience |
|-----------------------------|
| Public Health Organizations |
| PHIMS Operations Group |
| PHIMS User Group |

Document Reviewers

| Name & Title | Role | Review Date | Version | Comments |
|---------------|--------------------------------|-------------|-------------|---|
| Helena Wall | Project Coordinator - WRHA | | 0.4 | |
| Julie Hesketh | Project Coordinator - Rural | | 0.4 and 0.5 | |
| Martin Bajt | Business Analysis Team Manager | 2015-10-08 | 0.5 | Inserted comments and some suggested edits. |

Approver & Signoff

| Name & Title | Role | Approval Date | Version |
|-------------------|-----------------|-----------------|---------|
| Val Wiebe | Project Manager | October 8, 2015 | |
| Signature: | | | |

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1. Introduction

1.1. Purpose

The purpose of this guide is to document the procedures that will be used by all PHIMS users in the event that there is an interruption in the availability of PHIMS. There may be a number of situations that disrupt the availability of PHIMS including:

- System maintenance / upgrades.
- Power failures.
- Computer / network failures.

The procedures documented in this guide take into account variations in how the procedures are carried out based on whether the interruption to the system is scheduled or unscheduled.

PHIMS Stakeholders must ensure that:

- All PHIMS users and Manitoba eHealth staff are aware of the procedures to be used during an outage
- All PHIMS users and Manitoba eHealth staff are aware of the communication plan for downtime and outages

1.2. Background

PHIMS is an integrated, electronic public health record developed to improve and support management of communicable disease cases, outbreaks, immunizations, and inventory. The system also provides work management and notifications to support these key functions.

Authorized health-care professionals and administrative staff use PHIMS to collect, share and analyze a wide range of health information critical for managing communicable diseases, outbreaks, and immunizations. Authorized users access the application securely via the Internet.

The PHIMS project (formerly known as Panorama) was a partnership between Manitoba Health Healthy Living and Seniors (MHLS), Assembly of Manitoba Chiefs, First Nations and Inuit Health Branch/Health Canada, regional health authorities, and Manitoba eHealth. PHIMS has been implemented into regional health authority and First Nation public health locations as well some select non-public health locations as identified by the partners

Public Health practitioners must be able to continue delivery of immunization services in the event of a system interruption by using alternate means to compensate for the impacts of a system outage.

1.3. Scope

The scope of the procedures documented in this guide reflects the needs of public health practitioners working in Regional Health Authorities, First Nations Communities (FNIHB / FN Transferred Communities) and at MHLS in the event that there is a PHIMS system outage.

1.4. Definitions

Downtime Procedure

A downtime procedure supports a business process in lieu of the availability of automated functions normally provided by PHIMS. The downtime procedure is typically a series of additional manual steps, but may include the use of alternate support systems, assuming they are not impacted by the same system outage.

Recovery Procedure

A recovery procedure is used after PHIMS becomes available in order to make the information in the system consistent with the current state of a process that had been supported by a corresponding downtime procedure during an outage by updating the system with information documented or queued during the outage.

Scheduled Downtime

A planned system outage that occurs during a pre-defined period of time to allow for system maintenance, upgrades and other related operational support activities that impact the availability of PHIMS. Scheduled downtime includes coordinated communication so that impacted users can prepare in advance to invoke downtime procedures.

Unscheduled Downtime

A system outage that occurs without prior warning. Impacted users must invoke downtime procedures without advanced preparation.

Downstream Systems

A common term used to describe systems that receive information from PHIMS typically via interface messages (eChart).

2. PHIMS Outage Impacts

2.1. PHIMS Outage - Manitoba Network is still available.

| Process | Impact | Downtime Requirement | Recovery Requirement |
|--|--|--|---|
| Individual Immunization: Direct Entry | <ul style="list-style-type: none"> ➤ Won't have access to client immunization record including forecaster ➤ Won't have access to electronic consent directive ➤ Client may potentially receive extra immunization or miss an immunization that is due ➤ Some PHNs will not immunize without access to the immunization record. The appointment may need to be rescheduled. | <ul style="list-style-type: none"> ➤ Revert to paper process ➤ Use clinical judgment ➤ Use eChart or other clinical information system for assessing immunization history ➤ Paper process to track immunizations documented in clinic charts | <ul style="list-style-type: none"> ➤ Delayed entry as per regional procedures using paper records as the information source |
| Mass Immunization: Non Cohort Direct Entry | <ul style="list-style-type: none"> ➤ The mass imms event functionality will not be available for direct entry ➤ Increased work time to document on paper first and then electronically | <ul style="list-style-type: none"> ➤ Revert to paper process ➤ Use clinical judgment ➤ Use eChart or other clinical information system for assessing immunization history ➤ Paper consent forms need to be assembled and prepped for delayed entry | <ul style="list-style-type: none"> ➤ Find or create the mass imms event in PHIMS ➤ Delayed Entry as per regional procedures using paper records as the information source |
| Mass Imms: Non Cohort Delayed Entry | <ul style="list-style-type: none"> ➤ No impact | <ul style="list-style-type: none"> ➤ NA | <ul style="list-style-type: none"> ➤ NA |
| Mass Imms: Known Cohort (School Clinic) – Direct Entry | <ul style="list-style-type: none"> ➤ The mass imms event functionality will not be available for direct entry. This may occur at the beginning of the event or at any time during the event. Any immunizations entered and saved at the time of the outage will be saved in PHIMS ➤ Depending on timing, may be a delay in creating mass imms worksheet and running the forecaster ➤ Children may receive extra immunizations or miss an immunization that is due | <ul style="list-style-type: none"> ➤ Revert to paper process including paper consent forms ➤ Use clinical judgment ➤ Use eChart or other clinical information system for assessing immunization history | <ul style="list-style-type: none"> ➤ Find the mass imms event in PHIMS ➤ Delayed Entry as per regional procedures from paper records once system is functional again |
| Reports – Regional Public Health | | | |
| AEFI Reporting | <ul style="list-style-type: none"> ➤ Delay in identifying AEFIs which contribute trend analysis across province and nationally | <ul style="list-style-type: none"> ➤ Revert to paper process ➤ Communicate urgent cases by phone or fax | <ul style="list-style-type: none"> ➤ Delayed entry from paper records once system is functional again |
| Client Immunization Record | <ul style="list-style-type: none"> ➤ Delay in generating the record | <ul style="list-style-type: none"> ➤ Option to access eChart to print client immunization record if | <ul style="list-style-type: none"> ➤ Print pending Client Immunization Record and distribute to client |

| Process | Impact | Downtime Requirement | Recovery Requirement |
|--|---|---|-------------------------------------|
| | | client cannot wait until system is back up ➤ Keep a record of the clients who require their Client Immunization Record to be printed | |
| Reports – MHLS | | | |
| Immunization Reminder Recall and Reminder Letter | ➤ Delay in accessing relevant client data ➤ In the event of outbreak we might have to access eChart one client at a time | ➤ Do nothing. Wait until Panorama is available again. | ➤ Re-schedule remind recall process |

2.2. PHIMS outage due to a Manitoba Network outage, internet outage, electrical outage or any other technical issue causing an outage.

All of the impacts, downtime requirements and recovery requirements are the same as with the PHIMS only outage except:

- eChart or any other Manitoba eHealth managed information system (does not include Electronic Medical Records at Independent Primary Care offices) would not be available for assessing immunization history.
- The health provider would need to determine if they were going to move forward with providing the immunization without access to the client's immunization record.

3. Notification of Outage – Use of Downtime Procedures

Impacted users and regional Information Services departments must be notified of scheduled or unscheduled downtime so that downtime procedures can be invoked as necessary.

| Action | When | Responsibility |
|---|--|------------------|
| Notification of Scheduled Downtime | | |
| Communication of scheduled downtime to PHIMS Production Notification Group (includes users and regional IT support) via email notification. The communication should include the scheduled date and time, as well as an expected duration (if known). | Up to four (4) days in advance, or as soon as possible depending on the urgency of scheduling an outage. | Manitoba eHealth |
| Notification of Extension to Downtime | | |
| Communication of extension of downtime to PHIMS Production Notification Group (includes users and regional IT support) via email notification. The communication should include the scheduled date and time, as well as an expected duration (if known). | Upon knowledge of the requirement for extension of the downtime. | Manitoba eHealth |
| Notification of Unscheduled Downtime | | |
| Communication of unscheduled downtime to PHIMS Production Notification Group (includes users and regional IT support). The communication should include an expected duration (if known). | Upon detection of outage. | Manitoba eHealth |

4. Preparing for Downtime

Prior to the start of a scheduled outage, or in preparation for an unscheduled outage:

| Type of Immunization Event | Action | When | Responsibility |
|---|--|--|-----------------|
| For all immunization scenarios | Print and have paper copies available: <ol style="list-style-type: none"> 1) Immunization Consent Forms as per regional process. Manitoba provincial Informed Consent Forms located at: http://www.gov.mb.ca/health/publichealth/cdc/div/manual/index.html 2) PHIMS Immunization Inputting Form for Health Care Providers(see attached PDF document) 3) AEFI forms located at: http://www.gov.mb.ca/health/publichealth/cdc/div/aeft.html 4) Request for Client Immunization Record form (Appendix A) 5) Organization specific blank paper progress notes / client record | Have available at all times. | PH Clerk or PHN |
| Mass Immunization Clinics - Known Cohort | Print the Mass Imms Event Worksheet with the known cohort If school cohort, bring completed paper consent forms | Just prior to every mass immunization clinic with a known cohort | PH Clerk or PHN |
| Single Immunization - scheduled downtime | Print Client Immunization Record and place in client file | Just prior to start of scheduled downtime | PH Clerk or PHN |

5. Downtime Procedures (scheduled or unscheduled)

| Type of Immunization Event | Action | When | Responsibility |
|---|---|-------------------------------|-----------------|
| Single Immunization | <p>Refer to printed Client Immunization Record for immunization assessment (if scheduled downtime)</p> <p>Refer to eChart or other clinical information system, if available, for immunization assessment (if unscheduled downtime)</p> <p>Document immunization on Consent Form or client record.</p> <p>Record immunization on PHIMS Immunization Input Form for Facilities and Clinics.</p> <p>Use the Consent Form or client record to document any AEFI, warnings, special considerations, notes, etc.</p> | At time of Immunization | PHN |
| Mass immunization clinic known cohort | <p>Refer to completed paper consent form.</p> <p>Document immunization on the Consent Form.</p> | At time of Immunization | PHN |
| Mass immunization clinic unknown cohort | <p>Refer to eChart or other clinical information system, if available, for immunization assessment</p> <p>Document immunization on Consent Form</p> | At time of Immunization | PHN |
| Client Immunization Record | Record requests for printing of Client Immunization Record | At time of request for record | PHN or PH Clerk |

6. Notification of Recovery

Impacted users must be notified at end of outage so that recovery procedures can be invoked as necessary. Recovery should not be started until formal communication of outage end from Manitoba eHealth.

| Action | When | Responsibility |
|--|---------------------|------------------|
| Notification of Downtime End | | |
| Communication via email of end of scheduled /unscheduled downtime to PHIMS Production Notification Group (includes users and regional IT support). | Upon end of outage. | Manitoba eHealth |

7. Recovery Procedures

Ensure that inventory has been updated. See the Inventory Downtime and Recovery Procedures document.

All immunization recorded on paper during downtime must be entered into PHIMS as soon as possible and within one week at the latest.

NOTE: It is important that users enter immunization information to reflect the date the immunization occurred not the current date.

| Entry of Immunization Data post DT | Action | When | Responsibility |
|--|--|--|--|
| Single Immunization | Using PHIMS Immunization Input Form for Facilities and Clinics, the Consent form and client record as the information source, record the immunization in PHIMS including any required AEFI, warnings, special considerations, and notes. | Upon end of outage | PHN / PH Clerk (depends on regional practices) |
| Mass Immunization (Known and Unknown Cohort) | Using the mass imms event worksheet within PHIMS document immunization per regional practice based on information from the Immunization Consent form **For the unknown cohort, add clients to the event | Upon end of outage | PH Clerk or PHN |
| Reports – Regional Public Health | | | |
| AEFI Reporting | Generate AEFI reports and submit as per regional protocols | After all AEFI information has been entered into PHIMS | PHN or PH Clerk |
| Client Immunization Record | Using the Request for Client Immunization Record form as reference, print the pending Client Immunization Records recorded on the form and distribute as per usual process. | Upon end of outage | PH Clerk or PHN |
| Reports – MHLS | | | |
| Immunization Reminder Recall and Reminder Letter | Print the pending Reminder Recall List and the Reminder Letter reports and distribute as per usual process | Upon end of outage | MHLS responsible staff |

8. Appendices

8.1. Appendix A - Request for Client Immunization Record form

| | | | |
|------------------------|--|--|--|
| Date Requested | | | |
| Requested by | | | |
| Last Name | | | |
| First Name | | | |
| PHIN | | | |
| Number of Copies | | | |
| Consent Provided (Y/N) | | | |
| Date Printed and Sent | | | |