



# HEALTH REPORT MANAGER

## Service Level Objectives (SLO) for HRM Contributors



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# Section 1: Summary

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## 1.1 Document Version Control

Version	Date	Description of Change
1.0	November 2013	Initial Published HRM SLA
1.1	January 2018	Updated formatting, branding and enhanced details of the HRM Service

## 1.2 Purpose

The purpose of this document is to:

- A. Outline the scope of the **Health Report Manager (HRM)** service
- B. Explain the roles and responsibilities of both OntarioMD and the HRM Contributor
- C. Describe the support services available and how to contact/initiate support when required; and
- D. Set expectations for service

This document outlines the Service Level Objectives (SLO) between organizations who send messages to HRM for delivery of electronic reports (“HRM Contributors”) and OntarioMD. It helps HRM Contributors understand how to get support for HRM whenever they need it.

It also outlines the roles and responsibilities of each party to the SLO and the agreed upon service levels to be provided.

This document is not a legally binding agreement and OntarioMD will not be held legally responsible in the event of any breach of service level.

## 1.3 Who Should Use This Document?



The intended audience of this document are **HRM Contributors**; that is, organizations who send messages to HRM for delivery of electronic reports.

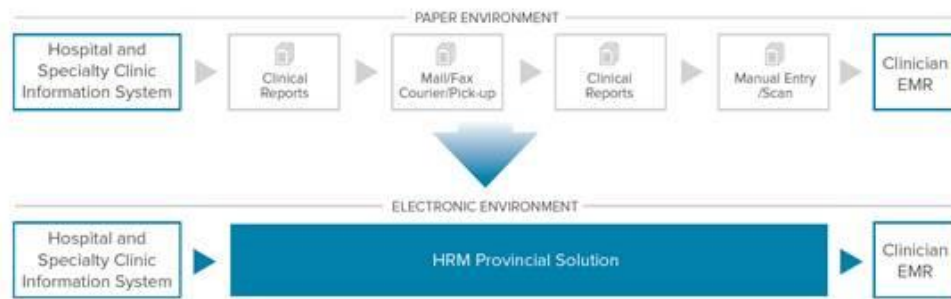
For information on levels of service and support for HRM Recipients please see the HRM Recipient Service Level Objectives located on the [OntarioMD website \(www.ontariomd.ca\)](http://www.ontariomd.ca).

## 1.4 What is HRM?

HRM is a digital health solution that enables clinicians using an OntarioMD-certified EMR (HRM Recipients) to securely receive patient reports electronically from participating hospitals and specialty clinics (HRM Contributors).

OntarioMD is designated as a Health Information Network Provider (HINP) in the context of the HRM solution and the Ontario *Personal Health Information Protection Act* (PHIPA).

Please refer to the [OntarioMD Privacy Policy](#) for further details regarding OntarioMD's Personal Information (PI) and Personal Health Information (PHI) policies.



## 1.4 Who Plays a Role in the SLO?

The primary stakeholders who play a role in the SLO are:

- A. **HRM Recipients:** Any organization or individual that receives electronic health reports through HRM
- B. **HRM Contributors:** Any organization that sends electronic health reports through HRM
- C. **HRM Service Provider:** OntarioMD
- D. **Service Desk:** OntarioMD
- E. **Infrastructure Hosting:** eHealth Ontario

## Section 2 – Role of HRM Contributors

### 2.1 Service Scope

HRM is a service that allows HRM Contributors to electronically send reports to HRM Recipients.

#### Acknowledgement

Upon receiving an HL7 message containing report content from an HRM Contributor, HRM responds to the HRM Contributor with either an **Acknowledgement (ACK)** or **Negative Acknowledgement (NAK)**. An ACK indicates that the message meets the HL7 input specification and will be delivered. A NAK is provided in cases where the message does not comply with input specifications or is otherwise malformed.

#### Translation

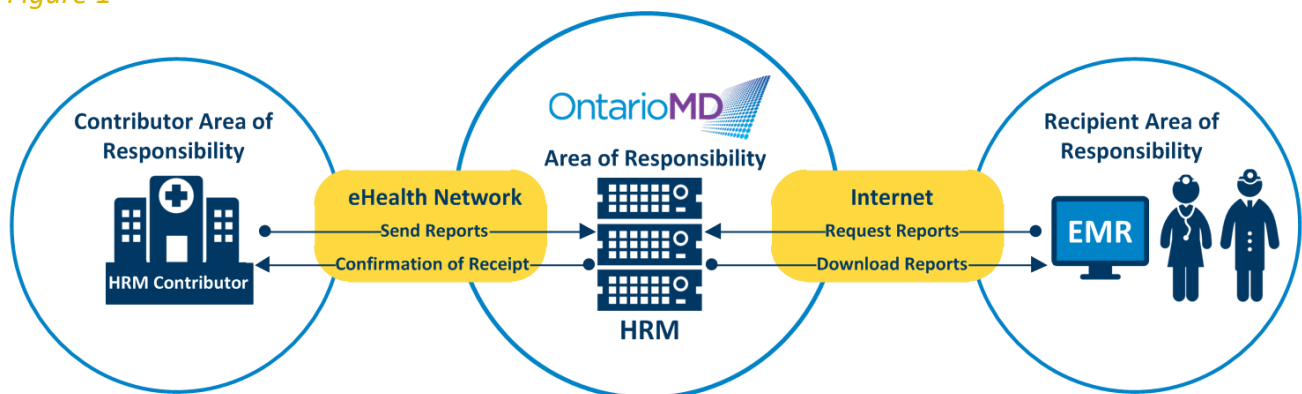
Upon successfully receiving the HL7 message and responding with an ACK, HRM translates the message into an EMR-compliant report which is then made available for download by the HRM Recipient(s) identified by the HRM Contributor. HRM Recipients are identified in the ZDR segment of each HRM message.

#### Delivery

HRM Recipients' EMR systems poll HRM regularly to download any reports available to them. HRM does not validate or modify the report content within the HL7 message and only translates the HL7 message metadata. Report content is delivered to the HRM Recipient(s) exactly as it was sent by the HRM Contributor.

Figure 1 (below) depicts the flow of information from an HRM Contributor to an HRM Recipient. Figure 1 also shows the areas of responsibility for all stakeholders. Each stakeholder is responsible for the uptime, accessibility and functionality of their respective systems and networks.

Figure 1



### 2.2 HRM Support Contact

The OntarioMD Service Desk is the primary point of contact for all HRM support. Support hours are **Monday-Friday 9am-5pm EST**, excluding statutory holidays. Please refer to sections 2.3, 2.4 and Appendix B for target response and turnaround times.

For further details regarding how and when to contact the OntarioMD Service Desk please refer to the [Health Report Manager Operations User Guide](#) located on the OntarioMD website.

**OntarioMD Service Desk Phone Number:** 1-866-339-1233

**OntarioMD Service Desk E-mail Address:** [support@ontariomd.com](mailto:support@ontariomd.com)

Please note that PHI and PI should never be sent to the OntarioMD Service Desk. PHI and PI are not required for troubleshooting of HRM issues. For further details, please refer to the [OntarioMD Privacy Policy](#) located on the OntarioMD website.

## 2.3 HRM Service Requests

Table 1 (below) is a catalogue of standard services that can be requested via the OntarioMD Service Desk and the expected turnaround time of each request. For further details about each type of request, please see the [Health Report Manager Operations User Guide](#) or contact the OntarioMD Service Desk.

*Table 1*

Service Request	Target Completion Time
Publish Report Type Addition/Modification	5 business days
Notify OntarioMD of HRM Contributor system maintenance, outage or change	3 business days (lead time)
Request to schedule testing of changes that may affect HRM integration	10 business days (lead time)
Sending System IP Address Change	15 business days
Update HRM contact information	5 business days
HRM Enhancement Request	Prioritized into a future release

Please note that target completion time only measures OntarioMD's time to complete the service request. Time spent waiting for required information or action from parties external to OntarioMD/eHealth Ontario will not count towards these service levels. Any service request that is not pre-defined in Table 1 (above) has not been assigned a target completion time and will be completed on a best effort basis.

## 2.4 HRM Incident Management

For any HRM-related issues, the OntarioMD Service Desk is the primary point of contact. Please refer to section 2.2, for further information.

Where service requests have a defined deliverable and target turnaround time, incidents follow a separate triage system and have their own set of service levels. The priority of every incident reported will be classified based on the impact and urgency of the issue as determined by OntarioMD. This classification is based on the impact and urgency of the issue as applicable to all users of the HRM service. Please refer to Appendix C for a description of each priority classification as well as the target response and resolution time for each.

In the event of unplanned high priority system outages affecting HRM, eHealth Ontario and/or OntarioMD will notify HRM Contributors of downtime via e-mail. The e-mail address on file with the HRM Contributor's Primary Help Desk and Technical Contact will be used for these communications. HRM Contributors will be notified again when the service is restored.

## 2.5 HRM Contributor Responsibilities

The following section details the requirements and responsibilities of HRM Contributors.

### 2.5.1 Operational Processes

#### **HRM HL7 Message Acknowledgement**

The HRM Contributor must resend any HL7 messages where no Acknowledgement message (ACK) was returned by the HRM system. HL7 messages that receive a Negative Acknowledgement message (NAK) back from the HRM system must be reviewed, corrected and resent electronically or by other means to the intended recipient(s). Only HL7 messages that HRM responds to with an Acknowledgement (ACK) will be considered as received and will be eligible for delivery to EMR(s).

#### **Acknowledged HL7 Message Non-Delivery**

In the event an HL7 message is acknowledged, but the resulting report is not successfully delivered, for any reason, to all intended active HRM recipients, OntarioMD will notify the HRM Contributor of the undelivered report. It is the responsibility of the HRM Contributor to take appropriate action to ensure report delivery, electronically or via other means.

#### **Data Feed Incident and Problem Management**

The HRM Contributor is responsible for resolving any incident or problem relating to the structure, content or volume of messages it sends to HRM.

OntarioMD reserves the right to temporarily disable the HRM service for a specific HRM Contributor if any data feed incident or problem poses a risk to the overall HRM service. Please refer to Appendix C for a full list of criteria that may warrant temporary disablement of the HRM service.

## **PHIPA Compliance**

The HRM Contributor is responsible for complying with applicable PHIPA legislative requirements, as well as following their internally defined PHI management policies and procedures for any privacy incidents. For additional information, please refer to the [OntarioMD Privacy Policy](#).

## **2.5.2 Change Management**

### **Technical Change Quality Assurance**

The HRM Contributor is responsible for performing sufficient testing of any change that may affect the integration with HRM prior to deploying the change to a production environment. It is recommended that all changes are coordinated with OntarioMD prior to promotion to the HRM Contributor's production environment. Ten (10) business days' lead time is required for OntarioMD to align the required resources, and schedule any required HRM testing.

All changes must adhere to the specification in place governing integration between the HRM Contributor and HRM.

In the event a change is promoted to production that causes the HRM Contributor's negative acknowledgement or delivery error rate to exceed the OntarioMD defined error threshold, OntarioMD may suspend HRM service for the HRM Contributor. See Appendix C for further details regarding HRM service suspension.

### **Report Type Notification**

When new report types are defined, or existing report types are modified in the HRM Contributor's HIS system(s), it is the HRM Contributor's responsibility to notify the OntarioMD Service Desk at the first reasonable opportunity. This process ensures HRM Recipients are informed of new report types and can configure their EMR systems accordingly.

### **HRM Recipient List Updates**

A weekly "HRM New Users List" report, distributed by OntarioMD to HRM Contributors through email, informs HRM Contributors of HRM Recipients. This report is formatted for ease of use by HRM Contributors, with one cumulative list identifying all HRM Recipients, and specific lists identifying recently activated and deactivated HRM Recipients.

The HRM Contributor is responsible for updates to their system(s) with the applicable additions and removals of HRM Recipients. Changes should be completed by the HRM Contributor within ten (10) business days of notification to ensure report delivery (electronic via HRM or otherwise) to newly active or recently deactivated HRM Recipients. Any report sent via HRM to a deactivated subscriber will not be delivered, and no notification of this non-delivery will be sent. (See section 2.5 for OntarioMD's handling of undeliverable messages.)

### **Contact List Updates**

The HRM Contributor is responsible for notifying the OntarioMD Service Desk of changes to the



HRM Contributor's Technical Contact information. (Please refer to Appendix A for the required contact information.) These contacts will be used by OntarioMD/eHealth Ontario for HRM support purposes.

### **2.5.3 Uptime and Maintenance**

#### **Unplanned System Outage Notification**

It is the HRM Contributor's responsibility to ensure uptime and monitoring of their systems and infrastructure required to send reports to HRM.

In the event of an unplanned network, application or infrastructure outage affecting the HRM Contributor's integration with HRM, the HRM Contributor must notify the OntarioMD Service Desk by opening a service ticket.

#### **Scheduled System Maintenance Notification**

It is the responsibility of the HRM Contributor to notify the OntarioMD Service Desk of any downtime or changes that may affect the integration with HRM. Please refer to "Technical Change Quality Assurance" in section 2.5.2 for best practices regarding testing of changes.

#### **HRM Contributor Idle Time**

The HRM Contributor is responsible for maintaining and monitoring its own systems and infrastructure, including the monitoring of the data feed to HRM. The HRM Contributor must notify the OntarioMD Service Desk or their network provider of any changes that may impact connectivity to HRM.

#### **Return to Service and Message Throttling**

It is recommended that HRM Contributors throttle the rate at which they send HL7 messages to HRM as well as configure their HIS systems with a five (5) minute timeout to wait for an ACK or NAK response before attempting to resend said HL7 message.

This allows the HRM system to better handle large backlogs and prevents duplicate reports from being delivered to HRM Recipients.

## **2.6 HRM Service Provider Responsibilities**

The following section details the requirements and responsibilities of OntarioMD as the HRM service provider with respect to HRM Contributors.

### **2.6.1 HRM Report Delivery**

#### **HL7 Message Acknowledgement**

HRM sends an acknowledgment (ACK) or negative acknowledgment (NAK) for each HL7 message received by HRM from an HRM Contributor. An ACK response indicates successful

receipt of the message; conversely, a NAK response indicates the message will not be processed for delivery to any HRM Recipient(s).

The HRM performance target for 95% of message acknowledgements is within 10 seconds. To account for the atypical message acknowledgements that exceed this performance target, it is recommended that HRM Contributors allow at least 5 minutes for ACK/NAK responses.

### **Message Processing and Report Availability to Subscribers**

HRM processes each message received and makes the corresponding report(s) available for download by the intended HRM Recipient(s). The performance target to process each message and make it available for download by the HRM Recipient is within 30 minutes of HL7 message receipt.

### **HRM Recipient Report Download Audit**

OntarioMD will keep an audit of metadata pertaining to messages sent by HRM Contributors. Neither report content nor any other PI/PHI is maintained as part of audit records.

## **2.6.2 Operational Processes**

### **Stale Reports**

OntarioMD will notify the HRM Contributor of any reports that are not downloaded by the HRM Recipient's EMR after 28 days. At this point, the reports are deleted from HRM and are no longer available to download by the HRM Recipient.

### **Post-Acknowledged HRM Errors**

OntarioMD is responsible for informing the HRM Contributor in the event the report corresponding to an acknowledged HL7 message could not be made available for download to all active HRM Recipients.

### **Report Type Distribution to HRM Recipients**

OntarioMD will make HRM Contributor report types and their descriptions available for HRM Recipient consumption.

A list of current report types from all HRM Contributors is available on the OntarioMD website: <https://www.ontariomd.ca/ir/liveonhrm>

### **Recipient List Distribution**

The HRM New Users List will be distributed on a weekly basis. HRM Contributors are responsible for making the appropriate updates in their system(s).

Urgent changes will be distributed on an ad-hoc basis outside of this schedule.

### 2.6.3 Uptime and Maintenance

#### **HRM System Availability**

OntarioMD is responsible for working with the HRM hosting service provider to maintain the uptime of HRM and its infrastructure to facilitate the HRM Contributor's system to send HL7 messages for electronic delivery. This is described in more detail in section 3.

#### **System Maintenance and Downtime**

OntarioMD will communicate HRM system maintenance, downtime and message processing delays as applicable.

## Section 3: Service Operation Levels

### 3.1 Service Availability

Availability for a given period is defined as the percent of actual time during which the HRM service is available for use or consumption, measured against the total agreed upon time the HRM service was to be available (the Potential Service Time) during the same period.

$$\text{Availability} = \frac{\{(\text{Potential Service Time}) - \text{Downtime}\}}{\text{Potential Service Time}}$$

The Potential Service Time is the agreed upon hours of service during the period, excluding:

- Periods of scheduled maintenance;
- Service enhancements / changes that force an outage requested and approved by the customer;
- Service disruptions due to a natural disaster and/or in the event of a major disaster declaration at the data centre;
- Service unavailability due to HRM Contributor systems or infrastructure. Service interruptions classified by OntarioMD and/or the HRM service provider as High priority (P2) or lower;
- HRM Service Suspensions as defined in Appendix D

Downtime shall only be calculated when it occurs within the Potential Service Time.

**HRM Potential Service Time:** 24 Hours/7 Days a Week/365 Days a Year

**HRM Application Target Service Availability Level:** 95%

### 3.2 Maintenance

Maintenance will be scheduled between 9pm and 6am whenever possible, with expectations as required with approval as part of OntarioMD and the HRM hosting service provider's change management processes. Notification of scheduled downtime will be communicated to stakeholders a minimum of three (3) business days in advance.

In the event emergency system maintenance is required, stakeholders will be notified with as much lead time as is reasonably possible.

## 3.3 Business Continuity

### 3.3.1 HRM Contributor Business Continuity

The entities involved are required to manage their own business continuity governance, requirements, processes and recovery procedures as applicable to their respective systems.

### 3.3.2 HRM Business Continuity

The HRM solution was designed and implemented with consideration for redundancy and fault tolerance, to maintain service availability and reduce impact of commonly possible hardware and software faults. However, in the event of a major disaster affecting an entire data centre (e.g., a flood or earthquake), the business continuity plan will be initiated to restore HRM service.

OntarioMD will work closely with the HRM hosting service provider in disaster scenarios as the hosting service provider is primarily responsible for target objective times.

#### **Service Restoration Target**

In the event of a disaster scenario affecting the entire data centre which hosts HRM services, the target timeframe to restore original service is within one (1) business day. This restoration time objective will begin following declaration of a disaster scenario and concludes when service is confirmed to be fully restored by OntarioMD staff. HRM Contributors are required to queue HL7 messages in their systems until service resumes.

#### **Undelivered Reports**

In a disaster scenario, HL7 messages may be received and acknowledged by HRM, but not delivered due to system failure. As part of HRM service restoration, OntarioMD will work with the HRM Contributors to identify time periods for messages which may need to be resent by the HRM Contributors to guarantee their delivery. It is the responsibility of the HRM Contributor to ensure delivery of any such messages identified by OntarioMD, electronically and/or through alternate means.

## Section 4: SLO Management

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### 4.1 Governance

OntarioMD is responsible for governing and managing the SLO. Accountability and responsibility of governance within OntarioMD is illustrated in Table 2 (below).

Any changes to the SLO may require changes to associated documents or any other agreements that have been, or will be, signed with the involved parties, as well as enabling technology third party vendors.

### 4.2 Review and Change Process

The SLO will be reviewed as required. If changes are required, OntarioMD will determine the disposition and determine any levels of endorsement needed to execute the amendment based on the results of the analysis, including acknowledgement by the requesting party and further review, if necessary, with other affected parties.

The SLO has no specific expiry date and only the most current version published on the OntarioMD website will be considered valid.

### 4.3 Regulatory Environment

In accordance with the *Personal Health Information Protection Act* (PHIPA), the safeguarding of an individual's privacy is critical to OntarioMD's role as a Health Information Network Provider (HINP) for the HRM service.

Authorized HRM end users who are made aware of a confirmed or suspected privacy or security breach related to HRM are instructed to follow their internal breach management policies and procedures as well as to report the suspected or confirmed breach to OntarioMD's Privacy Officer. For clarity, such users include contributing HICs such as hospitals, and consuming HICs such as clinical practices. For additional information, please refer to [OntarioMD's Privacy Policy](#).

Appropriate and authorized access to PHI by the parties is described in detail in the *HRM Service Agreement* executed between each HRM Contributor and OntarioMD.

# Appendices

## Appendix A - Terms and Definitions

Table 3

Abbreviation	Term
<b>ACK</b>	Acknowledgement
<b>CNO</b>	College of Nurses of Ontario
<b>CPSO</b>	College of Physicians and Surgeons of Ontario
<b>Data Feed</b>	The flow of HL7 messages from the HRM Data Contributor to the HRM system
<b>eHealth Ontario Network</b>	The eHealth Ontario managed private network (ONE Network)
<b>EMR</b>	Electronic Medical Record
<b>HIC</b>	Health Information Custodian
<b>HINP</b>	Health Information Network Provider
<b>HIS</b>	Hospital Information System
<b>HRM</b>	Health Report Manager
<b>HRM Contributor</b>	Any organization that sends electronic reports through HRM
<b>HRM Recipient</b>	Any organization or individual that receives electronic reports through HRM
<b>ITSM</b>	Information Technology Service Management
<b>NAK</b>	Negative acknowledgement
<b>PHI</b>	Personal Health Information
<b>PHIPA</b>	Personal Health Information Protection Act, 2004
<b>PI</b>	Personal Information
<b>Report</b>	The content or payload of an HL7 message conforming to the HRM input specification.
<b>Report Type</b>	The descriptive name or identifier associated with an electronic report emanating from the Hospital or from the Technology that allows such report to be classified, organized and sorted.
<b>SLO</b>	Service Level Objectives
<b>ZDR</b>	As per the HRM input specification, the segment of an HL7 message used to indicate the intended recipients of a report.

## Appendix B – HRM Contributor Contact Matrix

Table 4 (below) illustrates the different contact types and the scenarios when each will be used.

Table 4

Contact Type	Purpose of Contact
<b>HRM User List Distribution</b>	E-mail address for receipt of HRM New Users List.
<b>HRM End User Contact</b>	To be published to the OntarioMD website for HRM Recipient requests and inquiries.
<b>Primary Help Desk</b>	Primary technical contact used for technical support and service available notifications.
<b>HRM Technical Contact</b>	Escalation technical contact in the event the Primary Help Desk contact is unresponsive.
<b>Escalation Contact</b>	Escalation contact in the event any HRM related contact does not meet their obligations.

## Appendix C – Incident Priority Matrix

Table 5

Priority (P)	Definition	Response Time	Resolution Time	Description
<b>P1</b>	Critical	20 minutes	2 hours	A full-service outage or severe degradation affecting all users.
<b>P2</b>	High	20 minutes	4 hours	Service degradation or outage causing significant impact for a large portion of users.
<b>P3</b>	Medium	2 hours	5 business days	Service degradation affecting a small portion of service or users.
<b>P4</b>	Low	4 hours	10 business days	Non-essential functionality issues affecting a small portion of service or a single user. This does not include enhancement requests or predefined service requests.

Resolution times apply during business hours Monday-Friday, 9am-5pm EST, excluding statutory holidays. Response and resolution times apply to incidents opened via telephone contact to the Primary Help Desk only.

## Appendix D – HRM Service Suspension

OntarioMD reserves the right to suspend service, without notice, to any HRM Contributor to preserve the stability, security, and availability of the HRM application, as well as for the protection and containment of potential privacy issues. As OntarioMD considers an HRM



service suspension to be a preventive and protective measure, the standards against which a potential issue is measured reflects this precautionary principle.

As part of the HRM operational services, OntarioMD commits to inform the affected HRM Contributors whenever service is suspended, and to keep such HRM Contributors informed regarding ongoing efforts to re-establish open communications and resume the flow of HL7 messages through HRM.

### **Service Suspension Criteria**

OntarioMD's primary responsibilities regarding HRM include the maintenance of a secure, reliable, and stable environment to deliver reports to HRM Recipients in a timely manner, and to mitigate the opportunities for inappropriate disclosure of personal health information (PHI). The following list identifies specific circumstances which may reflect a risk to one of these key responsibilities, and as such, may warrant temporary suspension of service to any HRM Contributor.

#### **1. Potential privacy issue:**

OntarioMD considers any behaviour which suggests that PHI is being inappropriately exposed to / through HRM, such as the receipt of one (1) or more messages from an HRM Contributor that has not executed agreements with OntarioMD, to be a potential privacy issue. OntarioMD investigates every potential privacy issue to determine whether a privacy breach has occurred. If the investigation determines that a breach has occurred and the cause of the breach has not been remedied, OntarioMD may resort to suspending service to prevent further breaches from occurring. Additionally, if messages requiring investigation for potential privacy implications are received at such a rate that the investigation is hindered by the continuing receipt of HL7 messages, OntarioMD may suspend service until such investigation can conclude.

#### **2. Unanticipated large message volumes:**

If an HRM Contributor sends a large volume of messages to the HRM system that deviates dramatically from their usual rate, and is significant enough to pose a risk to HRM system stability, OntarioMD may suspend service as a preventive measure. In such cases, OntarioMD will engage with the HRM Contributor promptly after suspending service.

#### **3. Security incident:**

In the event an incident is identified that could compromise the security of the HRM system, OntarioMD will use its discretion to take any actions necessary to preserve the security, integrity and availability of HRM. The following are some examples of security incidents or malicious behaviour that may constitute action being taken by OntarioMD:

- Suspicious or malicious activity
- Abnormally formed HL7 messages
- Activities determined to degrade the integrity or performance of the HRM system

#### **4. Breach of Agreement or non-compliance with go-live terms:**

In the event an HRM Contributor is not performing one or more of their required responsibilities in compliance with their Agreement with OntarioMD, any agreement referenced therein, or a conditional term of go-live, OntarioMD will contact the HRM Contributor. In this scenario, OntarioMD reserves the right to suspend HRM service until the appropriate mitigations are enacted by the HRM Contributor.

At any time during which HRM service is suspended, the HRM Contributor in breach of the Agreement or the go-live terms will be notified with specific direction regarding the corrections, or mitigations required to re-enable service and resume the flow of messages through HRM.