OntarioMD
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Health Report Manager (HRM®) Task Force

Sending Facility Standards Final Report

Prepared By: HRM Task Force

Date: September 2023

Version 3.0

Version History

Version	Date	Description of Change
1.0	April 2022	Initial draft
2.0	July 2023	First round of feedback from Task Force membership incorporated
2.1	August 2023	Second round of feedback from Task Force membership incorporated.
3.0	September 2023	Final report consolidation of current state assessment, sending facility standards and execution plan.

With gratitude to all Task Force members, contributors and supporters:

"Administrative burden has been linked to patient safety and clinician burnout.

With this in mind, I want to thank the HRM Task Force members and organizations that "showed up" and worked hard over the past year to develop these recommendations to reduce some of the administrative burden. They are listed at the end of this report.

A heartfelt thank you to the family physicians who volunteered; they are in large part the drivers for this work and the backbone of our health system. The time they spent away from their practices and patients providing invaluable input over the last year is greatly appreciated.

Special thanks to Ontario Health who will play a key leadership role in overseeing the Task Force recommendations. OMD looks forward to providing ongoing support and advice.

Let's reduce the administrative burden and get some time back for patient care and for finding that lost joy in medicine."

- *Chandi Chandrasena, MD, CCFP, FCFP*

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Executive Summary

HRM Experience Improvement Task Force

OntarioMD (OMD) established the HRM Task Force in March 2022 to address key clinician concerns related to the delivery of reports through HRM and to recommend standards for sending facilities and usability improvements for electronic medical record (EMR) vendors. The HRM Task Force was supported by a broad array of health system stakeholders, partners, vendors, and clinicians, required to fulsomely assess and develop strategies to mitigate these concerns. The Task Force had two working groups: Sending Facility (SF) Standards and EMR Usability, with governance provided by an Advisory Circle.

This report focuses on the **HRM SF Standards** workstream and its findings. The issues examined are attributed to the upstream contribution of HRM SFs, particularly those in the hospital setting. The nature of patient care in hospital settings lends itself to higher volumes of reports and increased complexity in transitions of care, compared to other HRM SFs (such as community-based diagnostic clinics).

For more information related to the EMR usability workstream, refer to the 'Health Report Manager (HRM) Task Force – EMR Usability Report'.

HRM Background

Health Report Manager (HRM®) is a provincial digital health solution facilitating the secure electronic delivery of patient reports from 600 participating hospitals and specialty clinics to more than 14,000 clinicians using OntarioMD (OMD)-certified Electronic Medical Records (EMRs). This service enhances patient care continuity and streamlines workflow for both sending facilities and clinicians. While HRM was designed to replace fax report delivery, the ease of electronic report transmission by hospitals has led to a significant increase in the volume of reports transmitted over time. This volume, coupled with related report delivery concerns (such as duplication of reports and lack of standardization) have been identified by community-based clinicians as a contributor to administrative burden and has led to the need for improvements.

Report Delivery Concerns

Primary and specialty care clinicians have raised several concerns regarding report delivery from hospitals to community-based settings:

- **High Volume of Reports**: Clinicians receive a high volume of reports, which can lead to information overload and potential risks to patient safety.
- **Duplication of Reports**: Reports are sometimes duplicated, causing additional work for clinicians and increasing the risk of missing crucial information.
- **PDF Report Limitations**: Reports sent in PDF format limit search capabilities within the EMR, affecting data quality and patient-related quality improvement efforts.

- **Categorization of Reports**: Inconsistent labeling/categorization of reports make it challenging to quickly identify relevant information.
- **Lengthy Reports**: Lengthy reports with inconsistent formatting can contribute to clinician burnout and increase the risk of missing critical patient health information.
- **Location Based Report Delivery**: Clinicians receive reports for all patients at every location, rather than reports only for patients at each specific location.

HRM SF Standards Working Group - Current State Assessment

The SF Standards Working Group (WG) focused on upstream report delivery issues related to SF (particularly hospital) contributions to HRM. In order to assess and further validate these issues, a current state assessment was conducted. The current state assessment consisted of engagements with three community-based practice settings, each affiliated with a different HIS vendor (Epic, Meditech and Cerner). Report delivery issues were identified and subsequently assessed in partnership with the affiliated hospital contributor to better understand the root causes and consequently to inform proposed solutions. A clinician user survey was also conducted to collect feedback on preferred report type transmission (i.e., necessary versus unnecessary report types) as well as overarching prioritization of key report delivery concerns from hospital to community-based settings.

Ultimately, the issues identified were found to be related to gaps in policies and standards, product and system limitations and a result of system implementation and business processes.

HRM SF Standards Working Group – Recommendations

The HRM Task Force recommends that hospitals implement the SF Service Standards to address:

- **High Volume of Reports**:
  - Reduce the transmission of unnecessary reports to EMRs by delivering only the reports identified on the Core Report List.
- **Duplicate Reports (by Fax)**:
  - Eliminate fax duplicates for reports delivered through HRM.
- **Duplicate Reports (Draft and Final)**:
  - Send only final reports through HRM to prevent the delivery of duplicate copies unless there are significant clinical changes.
- **Duplicate Reports (Multiple Diagnostic Imaging Investigations)**:
  - Ensure only a single copy of a report is transmitted through HRM when a single narrative applies to multiple investigations.
- **PDF Reports (versus Text Reports)**:
  - Send text-based reports whenever possible given their searchability in downstream EMRs.
- **Standardization and Specificity in Report Categories**:
  - Leverage LOINC (an international naming standard) to identify report types and ensure report categories are specific for enhanced downstream functionality and management.
- **Lengthy Reports**:

- Present important information such as impression and plan at the top of reports. Highlight attending clinician, ordering/referring clinician, and key results clearly in lengthy reports.

These service standards are not exhaustive and are complemented by other HRM-related documents, including the Acute and Community Clinical Data Repository (acCDR) Input Standard.

HRM SF Standards - Proposed Execution Plan

The proposed HRM SF Standards Execution Plan provides short, medium and long-term solutions to address the report delivery concerns identified by community-based clinicians. The Execution Plan recommendations have been guided through input of the HRM Task Force membership and considers impact to all stakeholders. The recommendations are aligned to guiding principles that are in line with Ministry of Health *Digital First for Health* priorities, emphasize alignment, partnership, value for money and prioritize solutions with immediate positive impact to clinicians and patients (i.e., reduce admin burden and impact to patient care).

The proposed Execution Plan has three phases:

Phase 1: Pilot implementation of the SF Standards with an early adopter hospital
Phase 2: Update and refine HRM SF Standards based on lessons learned through the pilot
Phase 3: Promote broader adoption of the SF Standards by hospitals

The SF Standards WG members assessed and endorsed the SF Standards and proposed Execution Plan.

These recommendations will be refined as learnings are obtained from the pilot implementation and as clinician needs evolve.

1. Context for Change

OntarioMD's Chief Medical Officer, Dr. Chandi Chandrasena, provides the context for Ontario's physicians and the rationale behind the HRM Task Force:

"Addressing administrative burden is not an individual physician problem or a clinic problem, it is a health system problem that requires integrated health system solutions.

The HRM Task Force, in partnership with many key stakeholders, and with the involvement of both hospitals and community-based clinicians, has highlighted the path forward with recommendations. Several surveys have identified that many family medicine clinics/practices are closing, with administrative burden being cited as one of the factors leading to their burnout. Numerous publications have linked administrative burden to issues related to patient safety and patient care.[1]

By 2025, it is projected that 1 in 5 Ontarians will not have a family doctor[2]*. This will further contribute to unattached patients and overburdened hospitals and ERs.*

We need "quick wins" if we want primary care clinicians to keep practicing and keep our health system healthy."

Chandi Chandrasena, MD, CCFP, FCFP

1.1 Administrative Burden

According to the May 2023 Ontario College of Family Physician (OCFP) survey[3], 2.2 million Ontarians are without a family physician. This situation will soon be exacerbated by family doctors aged 65 or over retiring and a decrease in medical students choosing family medicine. This will add another 1.7 million Ontarians without a family physician, creating a further health system crisis. The exodus from family medicine has been partly attributed to administrative burden.

Family doctors spend 19 hours a week[4] on administrative tasks and 94% of those surveyed[5] said they were overwhelmed by these tasks. These results are supported by various organizations and can be extrapolated to all physicians (specialists and family doctors) and nurse practitioners.

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[1] Prevalence and Sources of Duplicate Information in the Electronic Medical Record, Jackson Steinkamp, Jacob J. Kantrowitz, Subha Airan-Javia, JAMA Network Open, https://pubmed.ncbi.nlm.nih.gov/36156143

[2] Ontario College of Family Physicians, https://lifewithoutadoctor.ca

[3] A Profession in Crisis, Ontario College of Family Physicians, https://www.ontariofamilyphysicians.ca/ocfp_member_survey_report_2023_05.pdf

[4] College of Family Physicians of Canada, https://www.cfpc.ca/en/urgent-action-needed-to-address-the-family-medicine-crisis-in-canada#:~:text=Reduce%20Administrative%20Burden%3A%20Recent%20surveys,be%20necessary%20to%20support%20patients

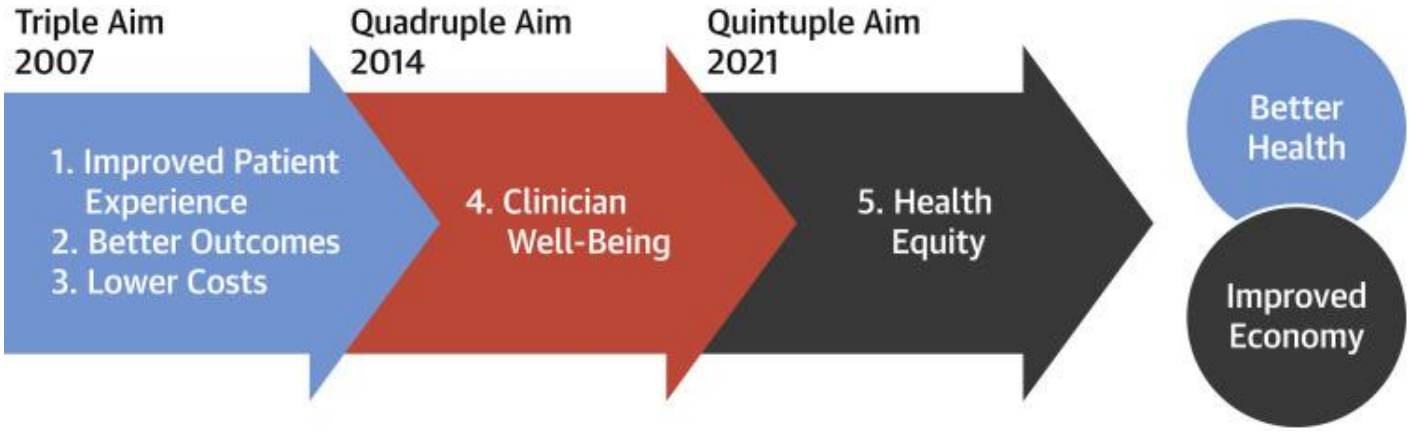
[5] Canadian Medical Association, 2021 National Physician Health Survey, p. 15, https://www.cma.ca/sites/default/files/2022-08/NPHS_final_report_EN.pdf

Administrative burden is the excess time and effort spent on clerical tasks and is linked to chronic stress resulting in physician burnout and career dissatisfaction. Burnout and administrative burden have a significant impact on physicians/clinicians, patients' safety and care and the health-care system resulting in reduced clinic hours, or practice closures.

1.2 Quintuple Aim

The Quintuple Aim is a framework used to describe health-care quality improvement across five dimensions. Decreased clinician (care-team) well-being impacts patient satisfaction and is correlated with reduced patient health outcomes and higher health system costs. According to this well-accepted framework, the focus for improvement should begin with clinician wellness.

Figure 1 – The Quintuple Aim



1.3 The History and Evolution of Health Report Manager

Health Report Manager (HRM®) was developed a decade ago by OntarioMD. At the time, it revolutionized communications from hospitals to primary care physicians by sending patient clinical reports directly, securely, and seamlessly into physician's' OMD-certified Electronic Medical Records (EMRs) in close to real time, by-passing the fax. This timely communication benefitted physicians and patients by enhancing continuity and timeliness of patient care. For physicians, it also streamlined workflows and helped reduce manual processing and associated administrative costs. As technology advanced and patient portals were launched, patients could also access these reports, stay informed, and be engaged in their care.

Despite the tremendous benefits, community-based clinicians began to identify report delivery concerns and issues associated with the use of HRM. While HRM was designed to replace fax report delivery, the ease of electronic report transmission, particularly by hospital settings, has led to a significant increase in the volume of reports transmitted over time. These increased volumes coupled with related issues (such as duplicate reports and lack of report standardization) have led to inundated inboxes.

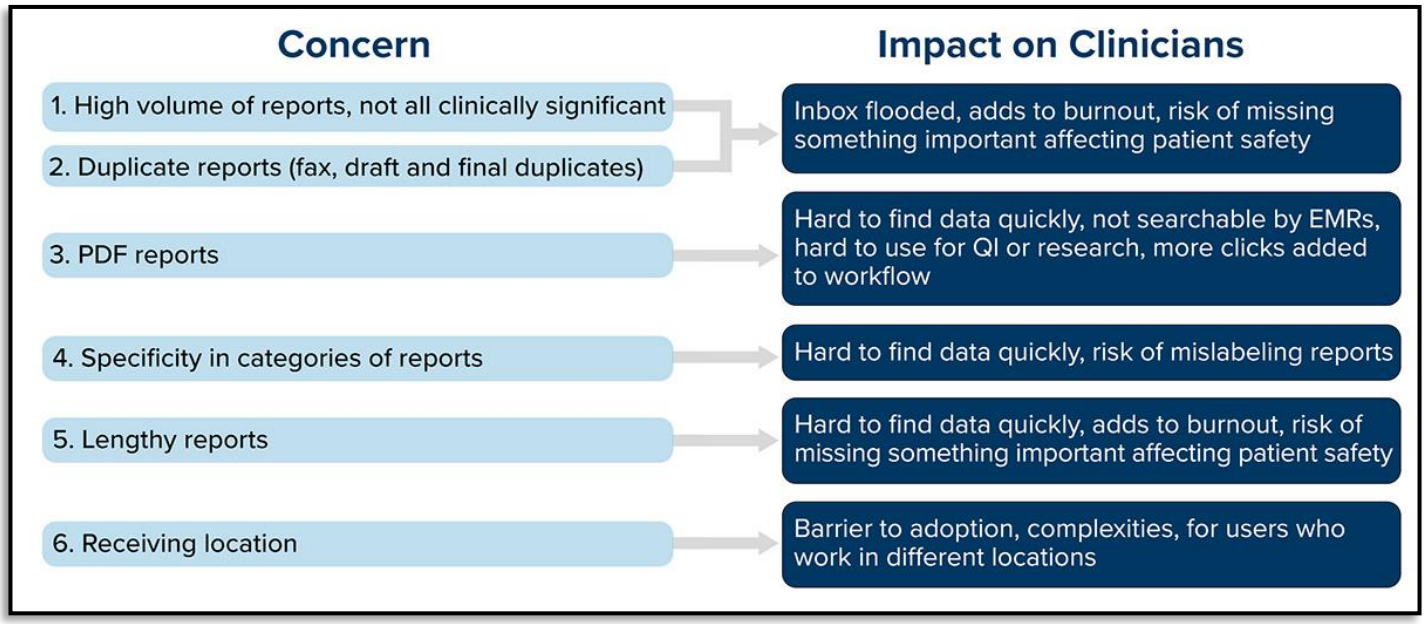
These pain points contribute to the administrative burden of already overwhelmed practices and raise concerns that clinically relevant information could be missed (buried in the high volume of reports) and searching duplicate reports can negatively impact patient safety.

For some clinicians, experiencing these issues, disabling HRM and reverting to faxes was a preferential path to reduce this administrative burden.

1.4 Key Concerns

"Although we heard about administrative burden and clinician burnout during the Task Force meetings, it ultimately boils down to patient care and patient safety. The frustrations that emerged always culminated in the sentiment that these reports were causing increased anxiety about missing critical information. It was a profound sense of responsibility that kept clinicians up at night."

Chandi Chandrasena MD, CCFP, FCFP



The following quotes and stories were shared by clinicians that summarized their experiences with these report delivery and workflow concerns that highlight the importance of addressing these issues in the short term:

"The duplication of reports poses a patient safety issue. Often, it is difficult to find the impression as it is hidden in the middle of reports, or it is in an addendum report (that looks like all the previous reports)."

"I have had a specialist call my office angry at the length of the referral that they have to triage. Sadly, this is a reflection on the reports we receive when a patient is in the hospital. This needs to stop for all our sakes."

"I love seeing patients, but since I started receiving hospitals reports via HRM, I have less time to see patients. Instead, I spend countless hours clicking and scrolling through my EMR inbox that is inundated with duplicate reports, long reports with repetitive information, and reports of tests I didn't order or know why they were ordered by a specialist. I am unable to identify the results of tests I ordered or consultant letters back to me that I requested. If there is follow up needed by me - these directions are not evident since they are usually buried deep within the several pages (usually 6+) of notes. Late into the evening and on weekends, I click and scroll, anxious that I will miss an important abnormal lab or imaging test as these are unlabeled and unflagged – just buried in 100 to 200 messages. I am unable to quickly see what I ordered vs. what is just being sent to me as an FYI. This uncontrollable, unlabeled and unflagged flow of patient data is a safety risk to patient care and a cause of burnout for our dwindling family physician workforce and doesn't align with current digital standards and is outdated."

"Due to the increased burden of added reports, I see fewer patients. I spend over 3 hours a day on charting and administration. Hospital reports via HRM contributed hugely to this as I have to read each one, categorize and also "cut and paste/annotate" as it is a PDF. I could easily see another 10 to 12 more patients in a day if these reports came in a way that was faster to use/search/integrate".

2. Background

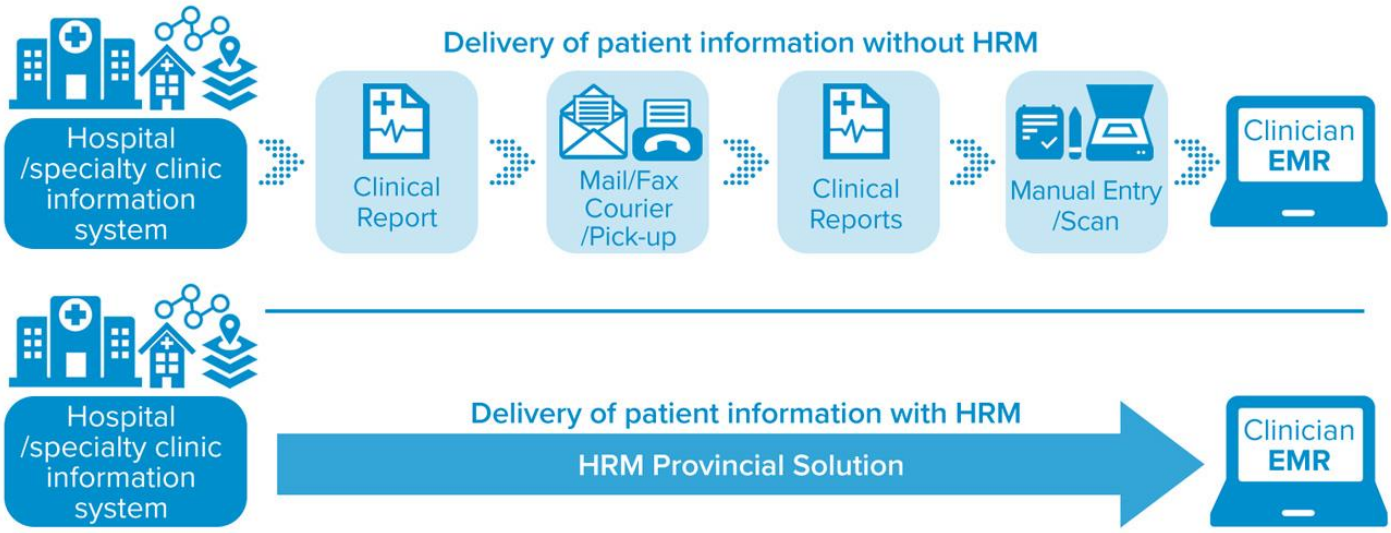
2.1 About HRM

Health Report Manager (HRM®) is a digital health solution that has enabled more than 14,000 clinicians using OMD-certified Electronic Medical Records (EMRs) to securely receive patient reports electronically from 600 participating hospitals and specialty clinics.

HRM electronically delivers Medical Record reports (e.g., Discharge Summary) and narrative Diagnostic Imaging (excluding image) reports from sending facilities directly into patients' charts, within the clinician's EMR.

Sending facilities, such as hospitals, generate reports and control what and when to send through HRM. As a receiving facility, a community-based practice relies on their EMR vendor to provide an interface enabling the EMR to receive reports via HRM.

Figure 2 – Paper vs. HRM Report Delivery



2.1.1 Clinician and Patient Benefits

- Contributes to continuity of patient care, as community-based clinicians can follow up with patients more quickly if they receive reports from sending facilities sooner. This allows for better transitions of care.
- Facilitates more informed clinical decisions[6] and expedites creation and communication of treatment plans

[6] OntarioMD HRM, Post Implementation Evaluation Report, July 2010

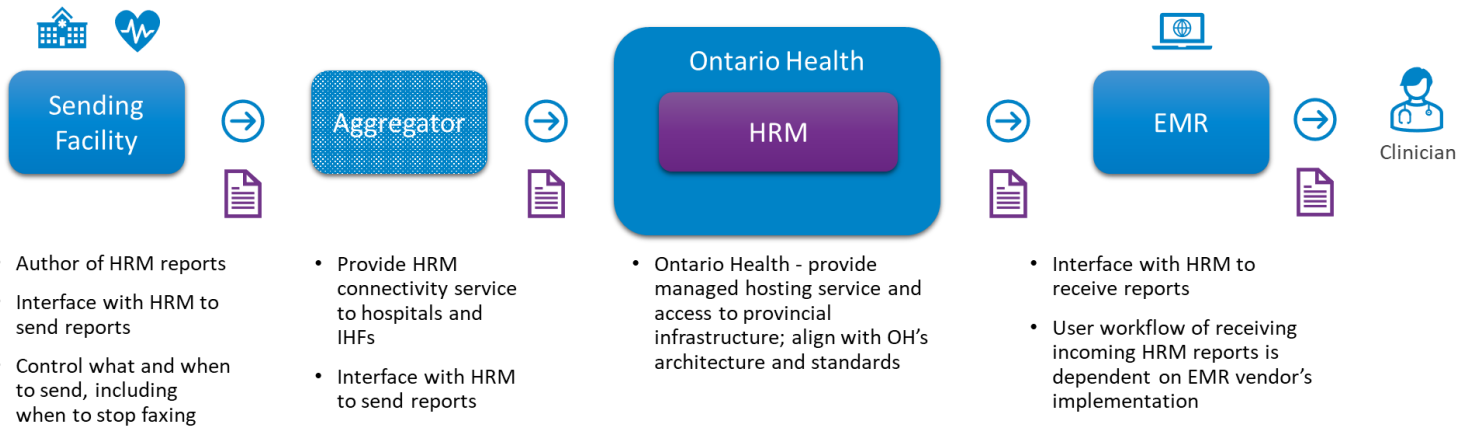
- Enables clinicians to easily search for a specific sending facility report electronically
- Delivery of electronic, text-based reports directly to the EMR makes it possible for clinicians to run queries more easily on patient population data or search for specific patient information
- Generates administrative and operational savings by streamlining workflow to avoid a significant portion of the manual processes (printing, filing, scanning) associated with paper reports, while potentially reducing filing errors by posting reports directly to the patient chart (eliminating possible posting to incorrect charts).

2.1.2 Sending Facility (SF) Benefits

- Requires a single interface to the HRM instead of multiple proprietary interfaces to clinician EMRs
- Generates administrative and operational savings by reducing manual processes associated with report distribution (e.g., printing, filing, mailing)
- Provides a secure alternative to manual report distribution
- Audit records available reflecting when reports are retrieved by the clinician's EMR
- Strengthens the privacy and security of patient information through audit trails

2.1.3 HRM Report Flow - from origin (SF) to destination (EMR)

Figure 3 – HRM Report Flow



The following steps outline how HRM works:

1. Sending facility (SF) author creates a report, the report is labelled by the SF, SF determines the appropriate report recipients (either manually or through an automated process) and transmits the report through HRM (either directly or through an aggregator).
2. HRM converts the report to an EMR standard format, encrypts and deposits the report to a secure folder for each recipient's EMR.
3. The clinician's EMR retrieves the report, decrypts, and posts the report (attached to the patient record) into the clinician's inbox for review and sign-off.

2.2 Report Delivery Concerns

While HRM brings tremendous value in the proactive and timely delivery of reports from acute care settings to community-based clinicians, users of HRM, specifically community-based clinicians, have experienced issues with reports while using HRM. Overview of the key concerns identified:

- High volume of reports
- Duplicate reports
- PDF report limitations,
- Standardization and specificity of report categories,
- Lengthy reports, and
- Absence of location-based report delivery (i.e. delivery of all reports for all patients at each location associated with an HRM-enabled practice location)

Additional downstream concerns were brought forward from an EMR Usability standpoint. There have been seven EMR vendor-agnostic HRM usability themes that have been identified that have presented challenges for clinician workflows and added to administrative burden. These concerns relate to:

- Inbox Prioritization of HRM Reports
- Inbox Searchability – Filters
- Duplication of Reports
- HRM PDF Attachment Reports – Workflow to Open Attachments
- HRM PDF Attachment Reports – Searchability of Content
- HRM Report Labelling, Autocategorization
- Inconsistency of HRM Report Service Date vs. Received Date in Inbox

Please refer to the 'Health Report Manager (HRM) Task Force – EMR Usability Report' for the fulsome descriptions and related analysis of these concerns.

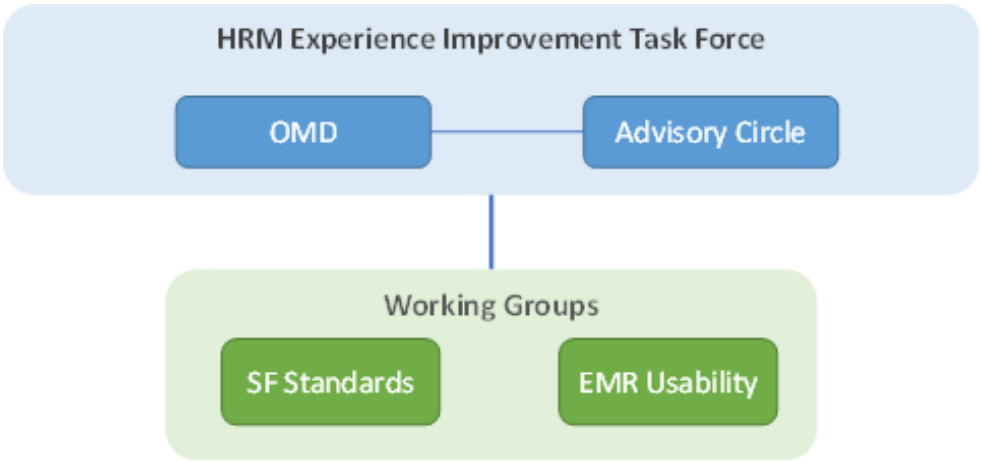
2.3 The Genesis of the HRM Experience Improvement Task Force

In March 2022, the HRM Experience Improvement Task Force was established to assess the report delivery and usability concerns associated with the transmission of reports through HRM that contribute to administrative burden. The Task Force assessed the issues and formulated recommendations in the form of Standards that would be adopted by Sending Facilities and EMR Usability Recommendations to be adopted by EMR vendors. The Task Force meetings concluded in April 2023.

The Task Force was comprised of health system stakeholders, HRM contributors and receivers and OntarioMD's partners. It included a broad cross-section of stakeholders, including primary care physicians, hospital CMIOs, EMR vendors, Ontario Health (OH), the Ontario Medical Association (OMA), the Ontario Hospital Association (OHA), and was facilitated by OntarioMD. See Appendix F, for full Task Force membership list.

The Task Force was necessary to navigate the complexities involved in addressing the key concerns raised by community-based clinicians. The Task Force relied on clinician experts for feedback and advice, both through its membership and through active consultations with community-based clinicians throughout the term. The participation of all stakeholders was crucial in assessing issues, endorsing recommendations, and for continued alignment and advocacy around their implementation.

The Task Force had 2 Working Groups: **The SF Standards Working Group** and the **EMR Usability Working Group**. Governance and oversight were conducted through an **Advisory Circle**.



2.4 HRM Task Force – Key Deliverables:

	01 Current State Assessment	02 Standards & Recommendations	03 Execution Plan	04 Final Report
Sending Facility Standards	• OMD to draft Current State Assessment • Review Current State Assessment with Working Group • Prioritize pain points • Finalize Current State Assessment and obtain approval by Advisory Circle	• OMD to draft SF Standards document • Review SF Standards document with Working Group • Finalize SF Standards document and obtain approval by Advisory Circle	• OMD to draft proposed Execution Plan to implement HRM SF standards in HRM Sending Facilities • Review Execution Plan recommendations with Working Group (e.g., seek funding) • Finalize Execution Plan recommendations and approval by Advisory Circle	Final conclusions of the Taskforce including next steps, opportunities, and any remaining challenges/barriers/gaps
EMR Usability	• OMD to draft Current State Assessment • Review Current State Assessment with Working Group • Prioritize pain points • Finalize Current State Assessment and obtain approval by Advisory Circle	• OMD to draft EMR Usability Improvement recommendations • Review EMR Usability Improvement recommendations with Working Group • Finalize EMR Usability Improvement recommendations document and obtain approval by Advisory Circle	• OMD to draft proposed Execution Plan for engaging EMR vendors on recommendations • Review Execution Plan recommendations with Working Group (e.g., seek funding) • Finalize Execution Plan recommendations and approval by Advisory Circle	

3. HRM Sending Facility Current State Assessment

3.1 Objectives & Methodology

This report focuses on assessing the **upstream** report delivery issues **related to the contribution of reports** to HRM from contributing sending facilities, particularly in hospital settings. This is given in large part to the nature of patient care in hospital settings lending itself to higher volumes of reports and increased complexity in transitions of care, compared to other HRM SFs (such as community-based diagnostic clinics).

For additional information on issues related to downstream EMR usability, please refer to the 'Health Report Manager (HRM) Task Force - EMR Usability Report' documentation.

The objective of the current state assessment for HRM SF (upstream) report delivery concerns was to validate the key concerns as identified at the outset of the HRM Task Force and to further assess the root causes of each of these concerns. By understanding the root cause of each concern, a more informed and comprehensive set of standards and execution plan could be developed, with consideration for all impacted stakeholders (i.e. impact to hospital and impact to community practice).

The methodology was to engage with three community-based clinician practices, to identify specific examples of each of the concerns, and subsequently to work with their corresponding hospital (HRM SF) to assess the root causes of the identified issues. Clinician practices were selected to ensure they were receiving reports from different Hospital Information Systems (HIS), namely Epic, Cerner and Meditech. It was deemed important to consider the association of each report delivery concern against each HIS in the root cause analysis. For instance, if a particular HIS could not suppress faxes given HIS system limitations. Clinician practices provided concrete examples along with the associated hospital report identifiers to support the investigation. The clinician practices also provided a description of the perceived impact of these issues on their practice (e.g., risk of missing something important, additional clicks, etc.). The concrete examples were shared with the corresponding hospital who performed a root cause analysis and provided details related to the root causes.

In addition to the issue assessment, the key concerns were Working by the SF Standard Working Group in ranking order to support the analysis and prioritization of the Task Force recommendations.

The Task Force also consulted many stakeholders to support a broader understanding of root causes related to the key concerns and to inform the SF Standards and execution plan, including:

- College of Physicians and Surgeons of Ontario related to physician policies and obligations for sending reports from hospital to community-based setting.
- Ontario Hospital Association related to hospital obligations for sending reports to community.
- Ontario Health Standards for alignment to provincial standards.
- Ontario Health Quality related to advancing report content/structure recommendations.
- Ontario Health Regional Digital Directors for guidance and feedback related to implementation of HRM SF based standards.

- Epic to assess perceived HIS system limitations impacting report delivery (I.e. fax suppression).
- Chief Medical Information Officer (CMIO) Collaborative for informing current state and related to the impact of the identified report delivery concerns for hospital settings.
- Ontario Medical Association
- HIS Collaboratives
- Additional hospitals and community-based practices, etc.

Disclaimer:
Note to the reader: This document reflects the varied experiences of clinicians, hospitals and health system stakeholders who contributed their feedback and perspectives through the HRM Task Force consultations. While every effort was made throughout the term of the Task Force to consider the breadth of workflows and care patterns across the province, some viewpoints were undoubtedly missed. Other clinicians who receive reports through HRM may have different priorities in terms of HRM challenges.

3.2 Key Concerns – Originating at Report Contribution

The HRM SF Working Group assessed several key concerns that originate at the sending facility and during upstream contribution of reports. These issues have significant impacts on administrative burden and may increase the risk of missing important information.

Overabundance of clinically irrelevant information was consistently ranked as the primary concern, followed by inadequate report categorization and report formatting. The following table outlines key concerns, ranked by working group members as most important (1) to least important (6).

Priority	Key Concerns	Cause	Impact
1	**Volume of reports received** High volume of reports to community clinicians through HRM	No policy/standard for hospitals on 'core data set' of reports to be sent via HRM/fax to community clinicians	• Inbox flooded, risk of missing something important • Contributes to clinician burnout
2	**Duplication of reports** • Duplication of reports – fax and HRM (2.1) • Duplication of reports - Multiple DI investigations with a single narrative report (2.2) • Duplication of reports – draft and final (2.3)	• HIS system limitations related to fax suppression of HRM reports. (e.g., Epic-based hospitals) • Draft reports not recommended however no mandatory requirement not to send	• Inbox flooded, risk of missing something important • Contributes to clinician burnout • Creates more work for clinicians
3	**Specificity in categories of reports** • Report types vary by SF • Propensity for generic report types (e.g., Consult report vs. Internal Medicine Consult) • EMR workflow considerations for generic report types	No policy/guideline for hospitals to align to for standardization of HRM report labelling	• Difficulty finding relevant information quickly

Priority	Key Concerns	Cause	Impact
			• Risk of mis-categorizing / mislabeling reports
4	**Lengthy reports** Reports that are several pages long with inconsistent formatting	• No standard for hospitals on content/format of reports • Variety of HIS implementations and associated functionality across the province	• Difficulty finding relevant information quickly • Contributes to clinician burnout • More likely to miss something important
5	**PDF reports** Hospital reports are sent in PDF format (as opposed to text) which limits the ability to search report content within the EMR.	PDF is an acceptable report type for HRM contribution, however not the preferred format from a data quality perspective	• Difficulty finding relevant information quickly • Lower data quality (EMRs cannot search/query content within PDF report) • Decreasing ability to perform QI on HRM reports • Additional EMR workflow concerns (more clicks to view reports)
6	**Receiving location** Clinicians receive the same report in all EMR instances/locations.	HRM report delivery based on clinician EMR instance, not patient location	• Barrier for adoption for clinicians who work in multiple locations • Increased workflow complexity for clinicians who work in multiple locations and who have adopted HRM

The subsequent sections will examine each of these key concerns and the root causes identified through the current state assessment.

3.2.1 Volume of Reports Received

Reports delivered through HRM appear in the clinician's inbox in their Electronic Medical Record (EMR). Clinicians receive high volumes of reports in their inboxes delivered through HRM from HRM SFs, which is one of their key concerns. Clinicians have stated that they are receiving high volumes of reports particularly from hospital settings, many of which are not critical to the community-based practice. The nature of patient care in hospital settings lends itself to higher volumes of reports being generated through in-patient stays and hospital-based consultations and diagnostic assessments. These settings also have increased complexity in transitions of care, compared to other HRM SFs (such as community-based diagnostic clinics).

Through consultations with many hospitals, by default, they defer to sending more reports rather than to limit the reports sent to community settings. Very often, this may mean that all reports generated during a hospital admission/visit are transmitted to the community practice. By transmitting these reports to community-based settings, they put an obligation on the receiving clinicians to review each report. Clinicians have indicated that the high volume of reports may result in them inadvertently missing something important that could potentially impact patient care.

This overload of reports can lead to increased cognitive burden, longer working hours, and fatigue, posing additional potential risks to patient safety. The feedback provided to the HRM Task Force also indicates that the volume of reports received can directly impact a health-care provider's ability to spend time with current patients and take on new patients.

Based on feedback provided to the HRM Task Force, in many cases, a lack of awareness of the downstream impacts of these report delivery decisions (i.e., which reports to send), coupled with the default position of sending more rather than less, is contributing to this key concern and the additional administrative burden it places on community practices. Many of the hospitals consulted indicated that streamlining which reports are sent to community inherently has been a challenge given the wide array of needs across clinician practices. There is also no policy guidance for which reports should be sent, which has limited the resolution of this issue. It has also been evident through consultations of the Task Force, that there is a notable absence in collaborative working groups with representation from both practicing primary care/community-based clinicians and hospital-based care settings, aimed at assessing and streamlining these issues and transitions of care.

Today, clinicians do not have the ability to control the types of reports they receive. Instead, the sending facility determines the types of reports to deliver, typically without a community-based clinician consultation or feedback mechanism in place to ensure that the reports are clinically relevant, clear, and delivered in manageable volumes.

Introducing a method to distinguish between information that is critical to patient care, and information that is less relevant from a clinical standpoint, could help reduce the burden of excess information without compromising patient care. However, there is limited research into what clinicians would deem clinically relevant to inform best practices and policy. Adding to this complexity is the hospitals' ability to implement the appropriate report delivery rules based on the needs of community, as the HIS requires concrete, non-subjective, repeatable and automated system rules for delivery. Enabling ad-hoc/manual transmission of reports based on the judgement of the clinician in the hospital setting preparing the report may lead to additional duplicate reports and increased report volumes to clinicians in the community.

The high volume of reports sent via HRM from hospital settings is exacerbated by a disproportionate number which are unnecessarily lengthy (addressed in section 3.2.4) and/or lacking clinical relevancy. Again, this places an undue administrative burden on community-based clinicians, including primary care practices, who must sift through large amounts of information to identify what is most relevant to patient care.

Clinical Relevancy

Through consultations, many hospitals have indicated they are unclear on which reports should be sent to community-based clinicians. As a result, they default to sending everything, overwhelming the inboxes of community-based clinicians.

Clinicians consulted by the Task Force expressed that the following report types are of low clinical relevance for their practices:

- Spiritual care assessment
- Occupational therapy
- Nursing note
- Nutrition note
- Social work notes

In one example, an Ottawa clinician received over 33 pages of these reports over the course of two days for a single patient admitted to hospital, flooding the clinician's inbox and creating a risk of missing reports containing details that were critical to that patient's care.

Guidance from the Sector

To better understand why this problem persists, the HRM Task Force consulted the Ontario Hospital Association (OHA) and the College of Clinicians and Surgeons of Ontario (CPSO) to assess if any guidance exists to determine which reports should be sent from hospital to community-based clinician practice settings.

OHA

The **OHA** response indicates that hospitals are not compelled to forward specific reports; rather, they are directed by the professional obligation of clinicians to receive a discharge summary containing specified elements (see below under CPSO's Transitions in Care Policy).

OHA's response:

"In response to the working group's question… there is no existing obligation per se for hospitals to forward specific data, but rather clinicians have professional obligations related to continuity of care under CPSO's Transitions in Care (Continuity of Care) Policy including those working in hospitals. The most responsible clinician must direct that a discharge summary be provided to the patient's primary care provider and the details required in that summary are outlined in the Policy. Hospitals would be required to ensure that any disclosure satisfy [sic] their obligations under PHIPA including implied consent as outlined in the IPC Circle of Care Guideline."

CPSO

The **CPSO** response indicates there is no requirement articulated in their policies to share all tests, nor do they provide guidance on the structure of information sent. Rather, their policies focus on the type of information shared, and the goals of sharing this information. First, the CPSO Policy on Managing Tests sets the expectation that clinicians use their professional judgment to determine whether a result be shared in the continuity of care, and to determine how quickly the result must be shared (based on significance). The CPSO Policy on Transitions in Care stipulates that hospital discharge summaries be completed (but not distributed) within 48 hours with direction to send to the provider responsible for post discharge care. It also places a requirement for consultations that the referring clinician receive the consult report (the summary rather than every test report conducted) if providing continuing care. The CPSO has indicated that their policy was developed with the awareness that inundating providers with too many reports could create an unmanageable situation, and so focused on **key transitions and professional judgment**.

The Task Force sent the following questions to CPSO:

- What are the obligations for hospital-based clinicians for sending reports to the community? Are the standards the same for hospitalists vs. community-based clinicians?
- Has the CPSO contemplated a core set of reports that are recommended to be sent from the hospital setting to community?

The CPSO has responded citing existing guidance:

"[T]here is not a blanket requirement in our policies to copy/share all tests etc. We also do not prescribe the format/structure of how any of what follows needs to be shared – rather we focus on the types of information/aim/goal of the information sharing.

Managing Tests: https://www.cpso.on.ca/Clinicians/Policies-Guidance/Policies/Managing-Tests

- This policy does not have a requirement to copy others on all tests ordered or results obtained.
- The policy does, however, set an expectation in Provision 19 that requires clinicians to use their professional judgment to determine whether a test result should be shared.
    - The aim is to support other providers in providing ongoing care.
    - There is an expectation to use one's judgment to determine how quickly this result should be shared, given the significance of the result.

Transitions in Care: https://www.cpso.on.ca/Clinicians/Policies-Guidance/Policies/Transitions-in-Care

- This policy sets out information sharing obligations in two important contexts (1) Hospital Discharges and (2) Consultations.
- Hospital Discharges:
    - Provisions 8 and 9 require that discharge summaries be completed within 48 hours (completed, not distributed) and that direction be given to send the discharge summary to the health care provider(s) responsible for post discharge care.
- Consultations:

- Provisions 20 and 21 require consultants to provide the referring clinician with a consultation report and updated reports if providing continuing care.
- This is specific to the *consultation* report and not every test/diagnostic."

Clinician-Driven Engagements to Reduce Report Volumes

The Task Force found clinician groups that had previously advocated for a reduction in report volumes to their local hospitals.

A group of physicians from the Toronto Central region

Towards developing more specific direction, a group of physicians in the Toronto Central region reviewed 267 reports sent to HRM by Michael Garron Hospital and 177 reports sent to HRM by North York General Hospital to develop a proposed list of common relevant report types. These were:

1. Admission history (including allergy assessment)
2. Procedures (including surgical procedures, deliveries, endoscopy, etc.)
3. Outpatient notes/consults (including telephone consults)
4. Diagnostic test results (includes ECG, holter, EMG, stress test)
5. Diagnostic Imaging results
6. Inpatient consult notes
7. Case conferences/interprofessional team notes
8. Discharge summary/transfer/transition notes (includes ED discharge, medication reconciliation, deprescribing)
9. Administrative forms/letters
10. Advance care planning/Goals of Care documentation

While this was a significant undertaking in the region, clinicians consulted informed the Task Force that the volumes of reports were still deemed to be high.

3.2.2 Duplication of Reports

Another key concern noted by community-based clinicians is related to duplication of reports transmitted to community settings. The Task Force assessed three forms of duplication:

1. **Delivery method duplication** – Reports sent electronically through HRM in addition to an additional copy sent via fax.
2. **Electronic duplication** – Electronic transmission of multiple copies of the same report with no material clinical change to the report narrative.
3. **Duplication stemming from multiple DI investigations with a single narrative** – The configuration of DI reports with a single narrative leading to multiple copies of the same report being transmitted through HRM for each associated unique DI investigation.

The current state assessment with one of the community practice settings led to a review of duplicates generated by the associated HRM [Epic-based hospital] SF, Scarborough Health Network (SHN). The analysis examined duplicates received and found that between October 1, 2021 and April 4, 2022, one clinician received the following:

a. SF ID 4839 (Scarborough and Rouge Hospital - General Site), of a total of 542 reports, 110 were duplicates.
b. SF ID 4837 (Scarborough and Rouge Hospital - Centenary Site (formerly Rouge Valley Health System), of a total of 653 reports, 102 were duplicates.
c. SF ID 4841 (Scarborough and Rouge Hospital – Birchmount), of a total of 264 reports, 24 were duplicates

Delivery Method Duplication

Delivery method duplication refers to the absence of fax suppression for reports delivered via HRM. This results in the community-based clinician receiving two copies of the same report, which increases administrative burden as the clinician needs to determine whether there are differences in the two reports through a line-by-line comparison. It was also noted to the Task Force that this burden very often falls to the physician/NP in the community given the risk of missing a critical change when comparing the two reports.

Primary contributing factors to delivery method duplication include:

1. Hospital is unable to suppress duplicates due to HIS system limitations (predominantly seen in Epic-based hospitals).
2. Hospital has not implemented an operational process to manage fax suppression due to the additional operational burden to maintain the process on a regular basis. Note: that fax suppression should be coordinated with the configuration/deactivations of HRM subscribers to ensure seamless transition of reports to community settings.
3. Hospital has implemented a duplication policy to mitigate risk. In some cases, hospitals require community-based clinicians to request/sign off on fax suppression. This process adds additional administrative burden on the community-based clinician particularly if they are required to make this request to many HRM SFs.

Duplication stemming from HIS Functionality

It was observed that many Epic-based hospital sites in Ontario had not enabled fax suppression for HRM subscribers due to perceived system limitations. This finding was considered significant in light of the fact that 26-30% of Ontarians have a record in Epic.

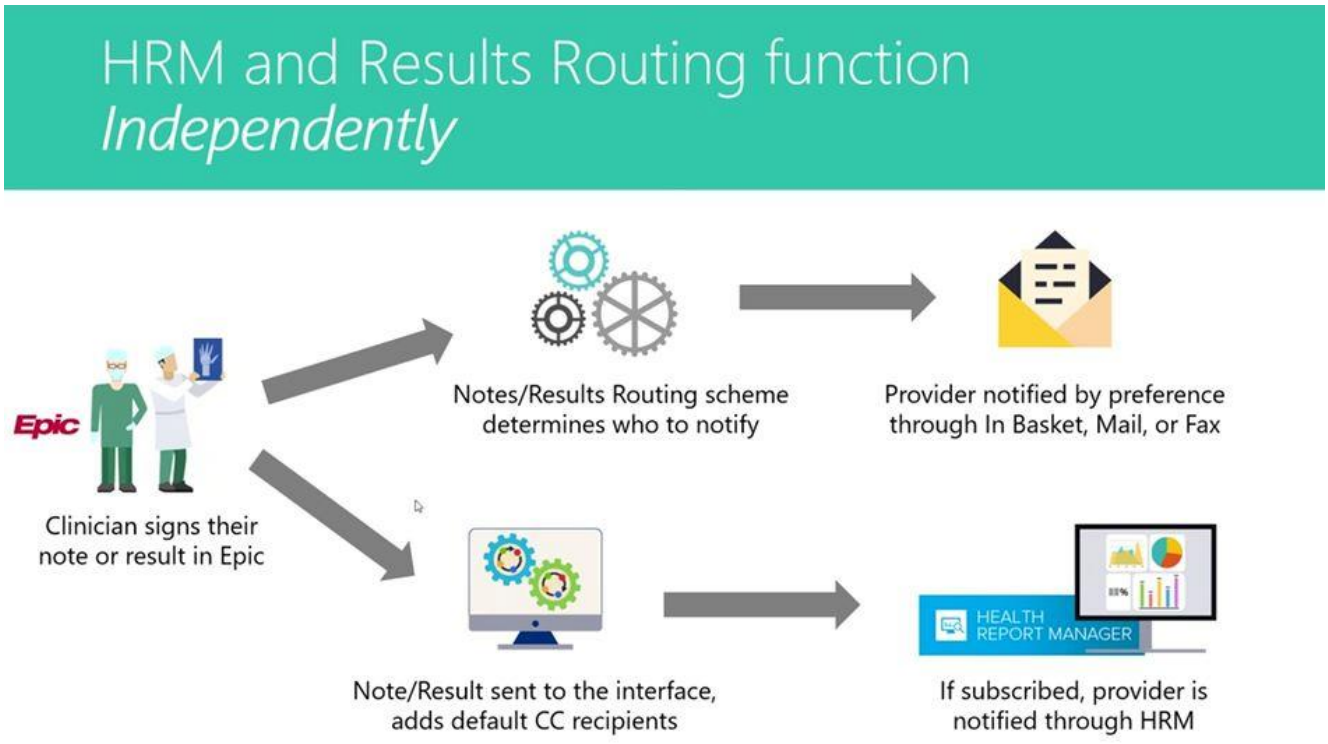
Initial consultations with Epic-based hospitals seemed to indicate this system limitation related to global fax suppression of all reports including MR (Medical Records), DI (Diagnostic Imaging), and labs. This means

that suppressing faxes would have resulted in the unwanted suppression of labs to community-based settings. (Note: HRM enables the transmission of MR and DI reports. Labs are made available by alternate means, i.e. via the Ontario Laboratories Information System and/or fax transmission).

Further investigations revealed that selective fax suppression within Epic is possible, however if leveraged, there is a lack of clinician level auditing for HRM report delivery. This means faxes could be suppressed for MR and DI reports, however the clinician who prepared the report would not be able to audit that the report was transmitted to the intended recipient. Based on Task Force consultations, some Epic hospitals assessed that this limitation would be a showstopper for fax suppression, while in other cases, hospitals implementing fax suppression recognized the audibility gap might result in additional duplicates transmitted to the community as a result of clinicians who prepare the reports triggering manual resends. While additional training could help mitigate these concerns, it would not fully prevent the duplication.

In order to address the system limitation, a development effort would be required by the HIS vendor. At the time of the current state assessment, the Task Force was advised that there was a subset of Epic hospitals contemplating advancing this development work with Epic.

Figure 4 – HRM and Results Routing



Note: As indicated in the diagram above, fax delivery rules are independent of HRM report delivery rules in Epic.

Scarborough Health Network Example

The Central East (CE) region, including the Scarborough Health Network (SHN) implemented Epic's built-in feature to enable selective fax suppression for clinicians subscribed to HRM. This initiative:

- Stops faxes for MR and DI reports (reports destined for HRM) for a specific clinician
- Allows the delivery of labs to the clinician via preferred method (fax or Epic InBasket)
    - Default setting is to fax labs to clinicians
- As of March 2022, when a clinician goes live on HRM, SHN stops faxes for the clinician shortly after a few days of receiving the weekly HRM New Users List.

Per SHN/CE region, this 'stop paper' functionality for HRM reports is available in Epic for all hospitals on the same version. No custom development was required.

Trillium Health Partners (THP) Example

THP, another Epic based hospital, also examined fax duplication, and in light of the lack of provider auditability, was not willing to enable fax suppression through this means. Consequently, THP undertook a significant project to address its fax suppression needs while ensuring fulsome auditability of the solution. THP built a custom solution that provides an interface layer on top of Epic that directs reports to the intended recipient by their preferred communication method. THP identified the benefit of their approach, having better visibility within Epic of what was sent, to whom and when. This solution provides reassurance to THP clinicians and greater audit and surveillance capabilities to THP's Health Information Management team. As previously indicated, some hospitals find the gap in out of the box auditing capability within their HIS acceptable, while others do not.

Epic Fax Suppression

Epic has indicated that their fax suppression capability is available in all versions, with the following sites leveraging this feature at the time of assessment:

- Central East region of hospitals (including SHN)
- University Health Network
- St. Joseph's Hamilton and Hamilton Health Sciences

Epic advised the HRM Task Force that information regarding their fax suppression capability has been shared with all Epic facilities.

Duplicate DI Reports – A single Narrative for Multiple Investigations

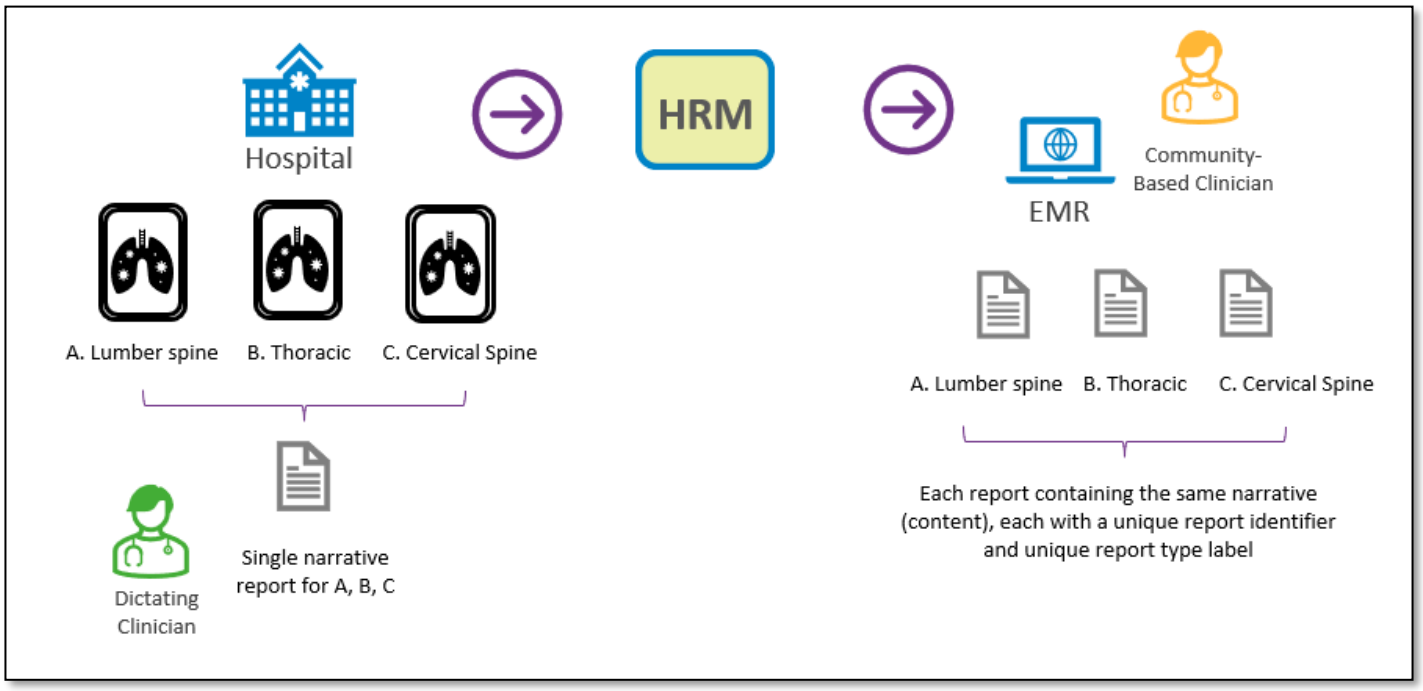
In many cases, Diagnostic Imaging (DI) reports generated through PACS (Picture Archive Communications Systems) and transmitted through HRM, result in duplicates, particularly when there is a single narrative generated for multiple investigations. For instance, a patient has three related DI investigations, (e.g., a foot, ankle and lower leg x-ray), with a single narrative dictated summarizing all investigations. The result is

that the report may be transmitted to HRM as three unique reports. Each report has a unique report identifier with all three containing the identical report narrative (i.e. content).

Halton Healthcare Example

In the hospital setting, a patient who is seen may have multiple investigations performed (e.g., X-ray lumbar, thoracic and cervical spine). The clinician preparing the report generates a single narrative report for these investigations. Consequently, the report is transmitted to HRM three separate times, each with a unique report identifier and unique report type. This translates to additional reports in the clinician inbox, adding administrative burden and resulting in additional reports cluttering the patient chart.

Figure 5 – Single Report Becomes Three Reports Delivered by HRM



Note: In the diagram above, a single report is generated by the clinician preparing the report (for reports A, B, and C), however the community-based clinician receives three separate reports, each with the same narrative content, but unique report identifiers and report types.

The PACS system generates a 'transaction' for every investigation. This is required to store images, to bill, etc. Each transaction has a unique report identifier (ID), and report type. When sent through HRM, they are received as separate documents, and not true duplicate reports. (Note: duplicates in HRM have the same report identifier and they trigger desired system-specific behaviour, i.e., report stacking, in downstream systems).

In the hospital setting, radiologists have the option to dictate once for multiple investigations to streamline their work. If they choose to do this, the PACS system will send the same narrative for every 'transaction'.

From an HRM recipient perspective, this appears like duplicates are being sent through HRM. However, since each report has a unique report ID, there is no way to easily identify these duplicate copies.

Impact/Result: The report recipient (community-based clinician) receives what appears to be duplicate report content (contributing to high report volumes and administrative burden).

Root Cause:

- PACS system requires one order per transaction
- OHIP requires separate billing codes
- Most radiologists find adding multiple orders to a single dictation, covering all orders within that dictation, to be the most efficient workflow.

The reason that there are multiple copies with the same body of text is because of the orders-based protocols leveraged by radiologists to report findings. The radiologist may choose to add multiple investigations (orders) to a single dictation, covering all investigations within the dictation, each with their own message ID, and their own segment (e.g., hand, ankle, abdomen).

The HRM Task Force has been advised that coding common combinations of investigations in PACS may address this duplication concern. Further analysis may be required to validate these findings.

Electronic Duplication due to Report Amendments, Versions (Draft, Final)

Depending on each hospital's implementation of HRM and their report delivery rules and triggers, they may inadvertently generate additional duplicates of the same report that are subsequently transmitted through HRM. For instance, a hospital may send a report when the report is initially dictated (draft) and again when the report is signed off (final), which could be weeks or months later (depending on report sign-off policies within that hospital). In addition to this, minor changes to the content of the report may also trigger a resend of the report. Additional reports transmitted through HRM to community-based clinicians create an additional burden, as they require review, sign off and add to the high volume of reports received, which could lead to missing critical patient information.

Through the Task Force investigation, it was also noted that many hospitals do not have specific policies for when reports need to be signed off. It was also notable that often these facilities were not aware of the impact of some of these upstream decisions (i.e., making minor/non-clinically relevant changes to a narrative report) to downstream recipients. In some cases, the community clinician could receive upwards of five copies of the same report. Clinicians receiving reports have indicated that reports are pushed through HRM regardless of whether there is a meaningful clinical change or not.

Several suggestions were shared to consider strategies to mitigate these electronic duplicates, e.g., report delivery delays (to limit duplicates as a result of minor amendments). It is likely that resolving these issues will require a combination of process, policy and technical changes, as well as education and training for

those working in hospital settings. These changes will be dependent on each hospital's implementation of HRM and the associated report delivery rules and policies for report transmission.

3.2.3 Specificity in Categories of Reports (Labeling)

Each report transmitted through HRM has a report type (determined by the HRM SF) that identifies the description of the report, to help the receiving clinician quickly identify the contents of the report. For instance, a Diagnostic Imaging (DI) report, labelled as a 'Chest X-Ray' or a Medical Record (MR) report labelled as an 'Internal Medicine Consultation'. Lack of specificity in report labeling creates added clinician burden and creates limitations in functionality in downstream systems (i.e., the ability to create default report labelling preferences).

Inconsistent and inappropriate categorization of reports can lead to delays in diagnosis and treatment, and important information being missed by the receiving clinician, potentially impacting patient care. Lack of specific report labels can result in the inability to quickly identify urgent results that require immediate action due to inaccurate categorization. Inefficient and inaccurate categorization of reports can also contribute to the issue of information overload and increased cognitive burden, which further jeopardizes patient safety.

Implementing a standardized and specific labeling system for reports across all HRM SFs would ensure reports are categorized more consistently and accurately. This would help clinicians to quickly and accurately identify reports that are significant to patient care, reducing administrative burden and the risk of overlooking critical patient information.

Logical Observation Identifiers Names and Codes (LOINC) and Systematized Nomenclature of Medicine - Clinical Terms (SNOMED CT) are two popular coding standards in the health information technology industry. Both are international standards, and though different, both attempt to baseline the terminology used by health-care professionals internationally to avoid errors when handling patient data.

LOINC has been widely adopted as a standard for interoperability of digital health assets in Ontario, with the Ontario Laboratories Information System (OLIS), Acute and Community Clinical Data Repository (acCDR) and ConnectingOntario ClinicalViewer, each leveraging LOINC coding standards.

Currently, only a subset of HRM SFs (particularly Independent Health Facilities and specialty clinics) that contribute reports leveraging HRM's Input Standard are required to include a valid LOINC code when submitting a report to HRM. The remainder (particularly hospitals) that contribute reports leveraging the Acute and Community Care Clinical Data Repository (acCDR) leverage 'local' codes, which lack consistency between contributing facilities. Local codes are selected by each SF and not aligned across other contributing facilities.

Expanding the requirement to include a valid and appropriately specific LOINC code at the point of contribution to all SFs would reduce the administrative burden on community-based clinicians. Reports significant to patient care would be categorized more quickly and accurately, decreasing the likelihood of critical information being overlooked and improving patient safety. In addition to ensuring the

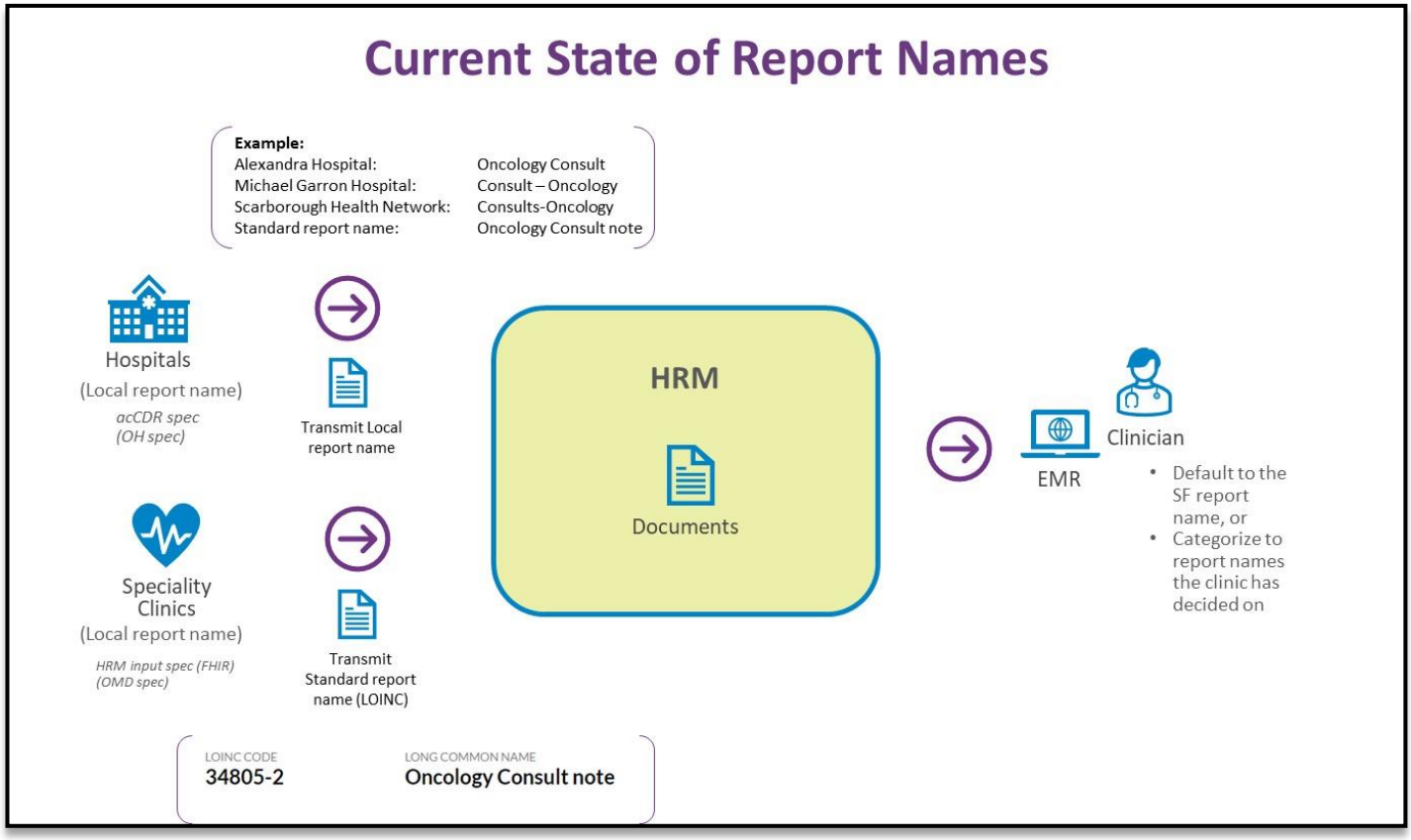
standardization of report type contribution (i.e., by leveraging LOINC codes), it is crucial that codes selected are of high specificity and valid. Currently, not all EMR vendors support the range of available LOINC codes, and clinicians must manually update the codes available within their individual EMR systems.

EMR vendors participating in the Task Force (i.e., TELUS Health Solutions, QHR Technologies, and WELL Health) have indicated that transmitting consistent and standardized report types, i.e., LOINC codes, would allow receiving EMR systems to categorize report types more consistently and may lead to further enhanced functionality, e.g., enhanced report labelling, additional automation, and automated updates to the patient chart based on receipt of these reports).

All three vendors provided letters of endorsement for the value of standardization. For more information, please refer to the 'Health Report Manager (HRM) Task Force - EMR Usability Report'.

Diagram: Representing the Current State of Report Naming/Labelling through HRM. Hospitals, transmitting local codes and specialty clinics transmitting standardized LOINC codes.

Figure 6 – Current State of Report Names



Specialty Clinic Report Labeling

Specialty Clinics connecting to HRM must build an interface following HRM's HL7-FHIR specification, this standard is maintained by OntarioMD. This specification aligns to the Fast Healthcare Interoperability Resources (FHIR) standards framework, and requires that a valid LOINC code (which should be the most specific code available related to the report content) be included in all reports submitted to HRM.

As a result, speciality clinics currently contributing to HRM include valid LOINC codes in their reports at the point of contribution.

Hospital Report Labeling

Hospitals connecting to HRM must adhere to the Acute and Community Clinical Data Repository (acCDR) Input Standard HL7 v2. This standard is maintained by Ontario Heath. Notably, this standard does not require a valid LOINC code to be included in the report. Consequently, this results in hospitals leveraging locally-determined codes for report categorization, which may not align to report categories available in the report recipient's EMR system or other digital health assets (e.g., different hospitals have different names for the same report).

Examples:

- Alexandra Hospital: Oncology Consult
- Michael Garron Hospital: Consult – Oncology
- Scarborough Health Network: Consults-Oncology
- Standard report name: Oncology Consult note

Additionally, the level of specificity between hospitals contributing reports to HRM varies between hospitals. Reports that are specific in nature (e.g. Internal Medicine Consult) are highly preferred over generic report types (e.g. Consultation), given how they are consumed by downstream EMR systems. A more specific report allows for enhanced searches, the ability to automatically categorize reports based, etc.

Generic versus Specific Report Types Example:

Generic report types from one hospital:

Report Description:
Admission
CARDIAC CATHETERIZATION
Consults
Discharge Summary
ED Summary of Care
GEM Encounter Summary
L&D Delivery Note
Op Note

More specific report types a different hospital:

Report Description
Consultation Record
Cardiac Echo/Doppler Report
Consult - Cardiology
Consult - Endocrinology
Consult - ENT
Consult - Gastroenterology
Consult - Geriatrics
Consult - Haematology/Oncology
Consult - Infectious Disease
Consult - Internal Medicine

Acute and Community Care Clinical Data (acCDR), Provincial Viewers, and HRM

The Acute and Community Care Clinical Data Repository (acCDR) is a database which aggregates and stores patient information from various hospitals and home and community care organizations across Ontario. It includes information about patients' hospital visits, emergency room reports, consultation reports and discharge summaries, as well as long-term placement details, client risks, assessments and care plans.

The ConnectingOntario (CO) ClinicalViewer and ClinicalConnect are two web-based portals that health-care providers use to access data housed within acCDR. The former is leveraged by health-care providers in the Greater Toronto Area, Northern, and Eastern regions. Meanwhile, the latter is used by health-care providers in specific regions including the South West, Waterloo-Wellington, Hamilton Niagara Haldimand Brant, and Erie St. Clair.

While the acCDR Input Standard does not require hospitals to map report names to LOINC, Ontario Health has implemented a LOINC mapping project which involves hospitals manually mapping local report codes to LOINC standards *within* the CO ClinicalViewer. This standardized mapping is important to ensure consistency in reporting when examining reports in the viewers across hospitals in Ontario. Given that reports searched in the provincial viewers are meant for transient/ad-hoc use, standardization of report names has been less of a concern for community-based clinicians. However, given the proactive nature of report delivery for those reports sent through HRM, standardization has been identified as a critical need for community clinicians.

3.2.4 Lengthy Reports

Clinicians have stated that reports transmitted through HRM can be several pages long with important information buried in different locations within the report. Excessive information in a report, or "note bloat," challenges the reader's ability to efficiently extract the information needed for decision making. This is a source of frustration for recipients and may also compromise patient safety as it can jeopardize the clinician's task in evaluating pertinent information.

This information overload stems from:

- copying and pasting into reports
- lack of consistent report structure
- including data that may not be useful for clinical care out of an overabundance of caution (on the part of the author/sender).

Copying and pasting additional information into reports can be done manually (i.e., copy and paste) or through HIS functionality that allows users to easily drag and drop or attach information from other reports. Most often, the other report has also been delivered through HRM (e.g., DI test result embedded into a Discharge Summary).

Repetition within the Report

HRM Task Force findings indicate that report authors are concerned that leaving details out of their findings may put a dictating clinician at risk.

In addition, there is concern that leaving specific details out of specific sections of the report may have similar results. In one example, a hospitalist cited uncertainty about mentioning a concerning finding (e.g., a lung cyst) is in the description of the study, but not in the impression.

These types of concerns lead to repetition in multiple sections of reports in an effort to decrease the risk of missing clinical information, which increases report length.

Templates

One suggested method of addressing report bloat due to repetition is the implementation of clear report templates. Today, with the exception of Discharge Summaries (see below for more information), there are no/few standards for report type templates, report labeling, or consistency between hospitals.

Community-based clinicians have told the Task Force that notes from hospital settings can be lengthy and/or out of order, and consequently increase the risk of missing critical patient information. Several examples were given:

- Impression and Plan buried in the middle or the end of the report
- Impression in various locations in the report
- Request for primary care follow up buried in the middle of a 7-page document.

CPSO Transitions in Care Policy

The current guidance from the CPSO regarding discharge summaries are:

Completing and Distributing Discharge Summaries (as per CPSO Transition in Care document, footnotes 8 – 13)

8. The most responsible clinician **must** complete a discharge summary for all inpatients within 48 hours of discharge.
9. The most responsible clinician **must** include in the discharge summary the information necessary for the health-care clinician(s) responsible for post-discharge care to understand the admission, the care provided, and the patient's post discharge health care needs. While clinicians **must** use their professional judgment to determine what information to include in the discharge summary, it will typically include:
    a. Relevant patient and clinician identifying information;
    b. Reason(s) for admission;
    c. Any diagnoses or differential diagnoses at discharge;
    d. A summary of how active medical problems were managed (including major investigations, treatments, or outcomes);

e. Medication information, including any changes to ongoing medication and the rationale for these changes;
f. Follow-up care needs or recommendations; and
g. Appointments that have, or need to be scheduled, any relevant and outstanding outpatient investigations, tests, or consultation reports.

10. The most responsible clinician **must** use language that is understandable to the health-care clinicians who will receive the discharge summary.
11. The most responsible clinician **must** direct that the discharge summary be distributed to the patient's primary care clinician, if there is one, and/or another health-care clinician who will be primarily responsible for post-discharge follow-up care.
12. If a delay in the completion or distribution of the discharge summary is anticipated, the most responsible clinician **must** provide a brief summary of the hospitalization directly to the health-care clinician responsible for follow-up care in a timely manner.
13. Where follow-up care is time-sensitive or the patient's condition requires close monitoring, the most responsible clinician **must** also consider whether direct communication with the health-care clinician assuming responsibility for follow-up care is warranted.

3.2.5 PDF Reports

Clinicians may have different experiences when receiving PDF vs. text-based reports within their EMRs. Text-based reports have the advantage of being searchable and having a smaller file size, but they cannot be formatted with headings, tables, or graphics. PDF reports, on the other hand, can be more customizable and provide formatting headings and page demarcation for efficient review. However, PDF reports also have a larger file size and their content is not searchable within most EMRs, unless manually opened. While text-based reports may feel like a "wall of text," they can still be structured for easier data extraction and analysis. Ultimately, the user preference between PDF and text-based reports may depend on the specific needs of the health-care provider or clinic. However, from a data quality perspective, text-reports are preferred over PDFs given their searchability.

Comparison between Text-Based and PDF Reports:

Text-based reports	PDF reports
• Smaller file size • Content is searchable in EMR • Fewer clicks to access • Better for data extraction and analysis • May feel like a "wall of text" and be more difficult for the recipient to consume due to lack of structure and demarcation	• Larger file size • Content is not searchable in EMR • Extra clicks to access • Allow for more customizations in report content, such as tables and graphics • Are preferred by some hospitals for inpatient documentation and pulling in relevant documents, and may be required for certain reports in some HIS systems

Text-based reports	PDF reports
	• Can provide formatting, headings and page demarcation, which some clinicians find more efficient to review.

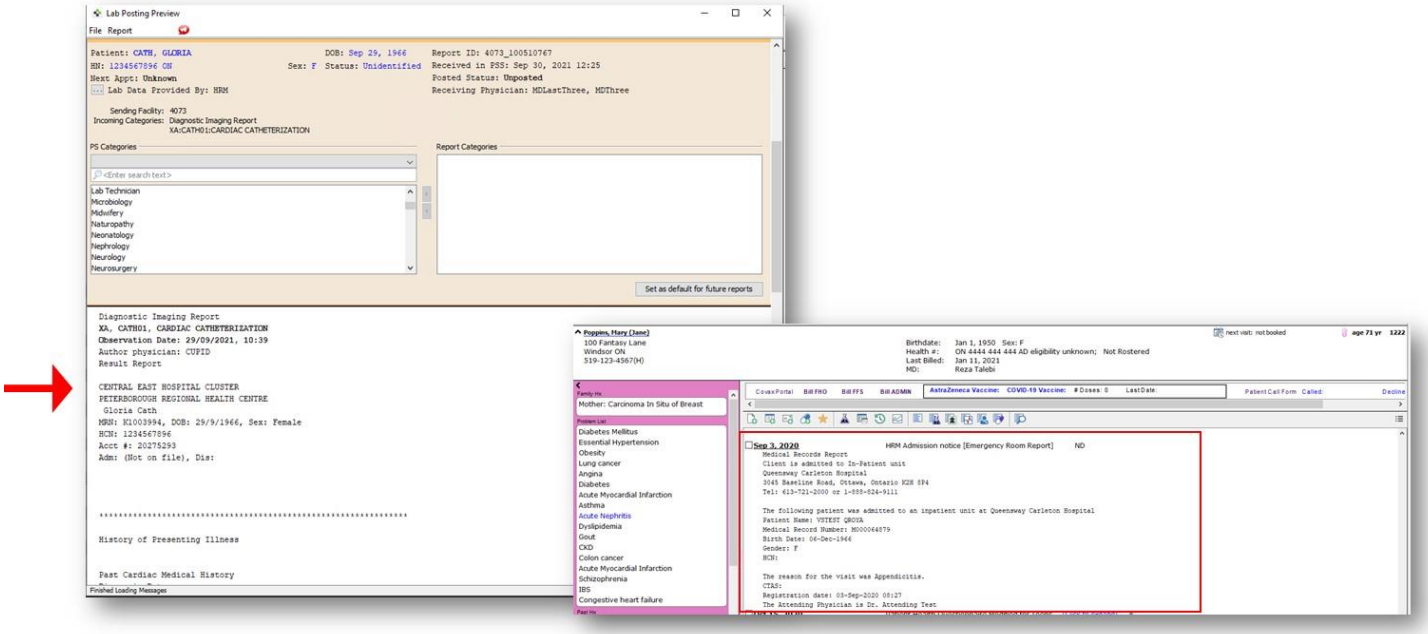
Through consultations during the current state assessment, hospitals have stated that PDF functionality provides them with greater flexibility in customizing report content, such as incorporating tables and graphics, and facilitating inpatient documentation. Moreover, it enables the integration of other relevant documents for patient management. Consequently, certain hospital information systems (HIS) require PDFs for specific reports. The selection of PDF versus text is determined through consultations with clinical advisory groups located within hospitals. The selection is based primarily on the patient management needs of those within the hospital setting.

An increasing number of hospitals, particularly those using the Epic HIS, have shifted towards sending more PDF reports. Additionally, the London Health Sciences Centre, a Cerner hospital, has indicated a transition towards increased use of PDF reports by 2024. This shift to leverage the use of PDFs lies with the enhanced functionality possible in PDF reports, whereas plain text lacks formatting features such as bolding, underlining, and italics, as well as the ability to display tables and images.

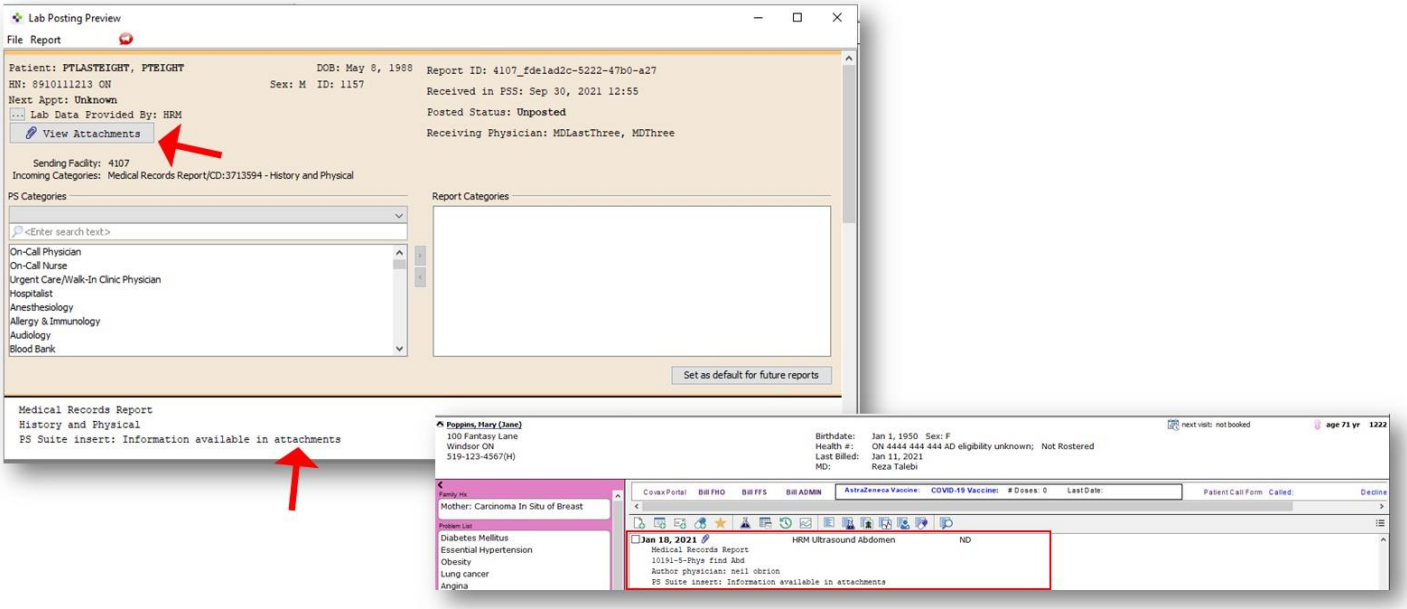
The Task Force expects more hospitals to transition to PDF usage in the coming years in the absence of policies or legislation to limit the use of PDFs. It is important to consider that the use of PDFs will limit third-party applications, including future state patient portals, from querying data contained in these important patient reports. It is clear that the increasing trend towards PDFs is a challenge that will extend far beyond HRM, as it also impacts provincial viewers and other digital health assets consuming this information.

Sample Screenshots: Text versus PDF Reports

Example – Text-based Report an EMR



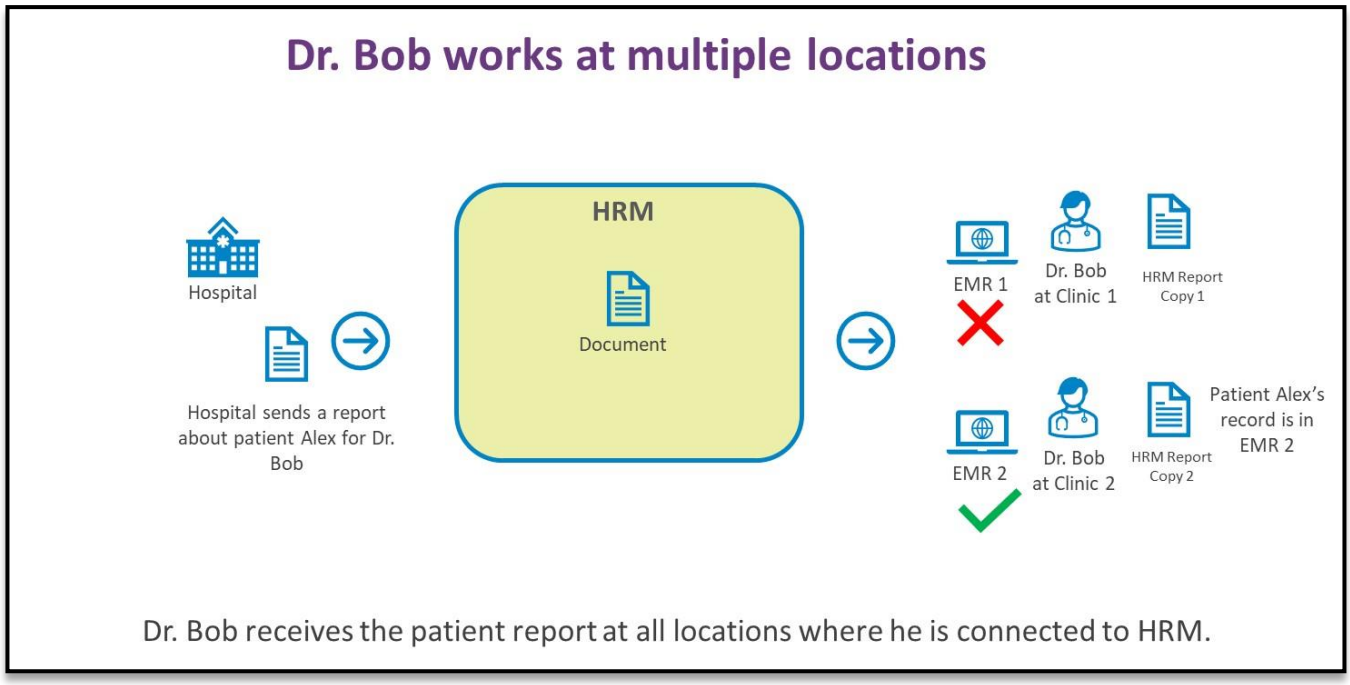
Example - PDF Report in an EMR



3.2.6 Receiving Location

Currently, HRM distributes patient reports to all EMRs with a configured HRM connection based on the license number of the named clinician recipient. Delivery of HRM reports is not based on the location of the patient record. This can pose a challenge for clinicians who work across multiple sites and EMRs. A clinician practicing at two locations may enable HRM at each site, and consequently they will receive a copy of every report in each EMR that is connected to HRM for the same patient.

Figure 7 – Reports Received at Multiple Locations



Note: In the figure above, a report for patient Alex is transmitted through HRM to every HRM-enabled EMR associated with Dr. Bob. Given that Dr. Bob practices at two practice locations which have enabled HRM, a copy of the patient report is sent to each location's EMR despite the fact that Alex is only seen at Clinic 2. For many clinicians that practice at multiple locations, they opt to only sign up for HRM at their primary practice or not at all.

The current workflow for managing reports sent to multiple clinics:

- Each EMR that receives a report via HRM will automatically attempt to match the patient identified in the report to a patient record in the receiving EMR.
- If a match is found, the report will be attached to the patient record in the EMR.
- If the EMR is unable to match the report to a patient record in the EMR at a particular clinic, the report remains unmatched (I.e., unattached to any patient record).
    - The clinician (or staff) must determine whether that report belongs to that practice location. If that report does not belong to their practice location, they must either notify the sender or fax that report to the appropriate clinic location and subsequently discard the same report from their system.

Ultimately, location management for patient records is a desired system feature that would enable clinicians who practice at multiple locations to receive reports electronically through HRM and reduce the administrative burden of manual reconciliation of these reports between locations.

It is also important to note that leveraging a patient registry was contemplated to address report delivery challenges, however several limitations were found when contemplating a registry model including:

- The nature of patient rostering being out of date as soon as it is established (e.g., a patient may change providers and the data is then out of date)
- Secondly, most registries such as Client Agency Program Enrolment (CAPE) rely on 'traditional' primary care models. This dataset is a list of patients registered with a primary care organization. It contains information on patients' association to a specific physician and primary care organization (e.g. Family Health Team). They do not contemplate other care settings such as fee for service practice settings, community health centres, and other non-traditional health-care settings. In order to develop an equitable approach to location management, other approaches would need to be contemplated.

3.3 Summary of Findings and Next Steps

The current state assessment of upstream HRM SF contribution issues found the following root causes that contributed to these issues:

- Gaps in policy (e.g., which reports need to be sent as a priority and which do not)
- Hospital information system (HIS) functionality and limitations (e.g., fax suppression capabilities)
- Hospital implementation gaps (e.g., unintended transmission of electronic duplicates through HRM as a result of report delivery rules and processes in the source system)
- Usability and workflow experiences vary and depend on the EMR vendor's implementation

Root Cause	Overview
Policy Level/System Interoperability	• High volume of reports sent through HRM, not all clinically significant (e.g., Nursing note) – **clinicians want choice (preference management)** • EMR consumption of HRM reports – PDFs and usability/workflow – **PDFs not preferred – clinicians want to be able to search for data** • Standardization of report names – **EMR vendors and clinician users want to see alignment to LOINC**
Product/Information System Limitations (product roadmap, enhancements, EMR/HIS functionality)	• HRM Receiving location – **clinicians want location management** • SFs failing to suppress duplicates through fax – **adds to clinician burnout (cannot be solved through technical changes to HRM)**

Implementation level	• Formatting of reports being sent – missing components, reports out of order, multiple reports attached as one document – **requires optimization of process/end user training, etc. at the HRM SF** • Duplicate reports sent electronically to HRM (e.g., Draft and Final)

4. HRM Sending Facility Service Standards

4.1 Purpose of the Sending Facilities Service Standards

The HRM Sending Facilities Service Standards were developed by the HRM Experience Improvement Task Force to improve the report delivery experience for community-based clinicians. The Task Force represented a cross-section of health sector stakeholders (i.e., OntarioMD, Ontario Health, Ontario Medical Association, Ontario Hospital Association, hospital Chief Medical Information Officers, Hospital Information System vendors and community-based clinicians) who collaborated to assess the key concerns for upstream report contribution, and to explore potential solutions to these concerns. The key concerns cause additional administrative burden on clinicians, contribute to increased clinician burnout, and may lead to patient safety concerns due to the risk of missing something important.

The audience for the HRM SF Service Standards is hospitals, who can improve report delivery to community-based clinicians. The SF Service Standards encompass best practices and usability recommendations for SF contribution of reports to HRM to address the following key concerns:

- High volume of reports
- Duplicate reports
- PDF reports
- Standardization and specificity of report categories
- Lengthy reports

These SF Service Standards complement the Acute and Community Clinical Data Repository (acCDR) Input Standard (i.e., HRM Standards for sending facility contribution).

4.2 Service Standards for Sending Facilities

The SF Service Standards were developed to address clinicians' key concerns with HRM reports. For some concerns such as duplicate reports, multiple standards were developed to solve the different root causes of duplication.

High Volume of Reports

1. The HRM Task Force developed a Core Report List to reduce the volume of unnecessary reports transmitted from hospital settings through HRM to EMRs. Please refer to the Core Report (Section 5.2). **Note:** For the application of this standard, hospitals are requested to send the '**recommended**' reports to community-based clinicians. Hospitals are requested to filter out '**not recommended**' reports from distribution to community-based clinicians.

Duplicate Reports (by Fax)

2. For clinicians subscribed to HRM, hospitals to eliminate fax duplicates for reports delivered through HRM.
3. Hospitals to stop transmission of duplicate reports by fax for a clinician who is subscribed to HRM within 14 days from receiving the notification of the clinician going live on HRM. **Note:** Sending facilities are notified of changes to HRM subscribers on a weekly basis through the 'HRM New Users List'.

Duplicate Reports (Draft and Final)

4. Hospitals to only send final reports through HRM. **Note:** This standard needs to be implemented to prevent unnecessary delivery of duplicate copies of the same report through HRM to community-based clinicians. When implementing this standard, hospitals can consider mechanisms that will enable the delivery of only one report, the final version, to community-based clinicians unless there are meaningful clinical changes in content. Hospitals to consider avoiding unnecessary delays in report transmission that may be caused by delays in the sign-off of reports.

Duplicate Reports (Multiple Diagnostic Imaging Investigations)

5. Hospitals to implement appropriate process changes to ensure that common combinations of related diagnostic investigations with a single narrative (e.g., trauma patient with multiple investigations and one dictation by the radiologist) are appropriately coded to reduce duplication of these reports through HRM.

   Note: The HRM Task Force has been advised that coding common combinations of investigations in PACS may address this duplication concern. Reports to combine the most common combinations of orders for a single exam (e.g., combine cervical, thoracic and lumbar spine). This is only applicable where multiple investigations

have a single narrative. For a single investigation where there is a unique narrative, this standard is not applicable.

PDF Reports (versus Text-Based Reports)

6. This standard is a recommendation/preference and is not mandatory in the absence of a short-term solution. Hospitals to send text-based reports where possible (e.g., for narrative reports without images, without tables) due to the inherent benefits of text reports such as the ability to search for data in EMRs.

Standardization and Specificity in Report Categories

7. Hospitals to use the international standard LOINC (Logical Observation Identifiers Names and Codes) to identify report types in OBR-4 (Universal Service Identifier) when contributing reports to HRM (leveraging the provincial ConnectingOntario code set, i.e., provincial subset of codes, where relevant and applicable). This standard will be used in addition to the local report names. **Note:** Contribution details are available in the acCDR Input Standard v2.6.
8. Report types to be specific such as using specialty/specialist type to provide more details (e.g., 'Internal Medicine Consult Note' is preferred over 'Consult Note').

Lengthy Reports

9. The most important information (e.g., impression and plan) to appear at the top of the report.
10. The Attending Clinician to be clearly identified in every report.
11. The Ordering and Referring Clinician to be clearly identified in every report.
12. The Discharge Summary to include a narrative summary of key results from inpatient diagnostic imaging/procedure reports.

4.3 Additional Documents

This HRM SF Service Standards do not represent all requirements for HRM Sending Facilities. Please refer to these additional documents for HRM Sending Facilities:

1. Acute and Community Clinical Data Repository (acCDR) Input Standard
2. HRM Service Agreements
3. HRM Value-Add Agreements
4. HRM Contributor – Service Level Objectives

5. HRM Core Report List

The Core Report List, version 1, was established in September 2023.

5.1 Purpose of the HRM Core Report List

The HRM Core Report List was developed by the HRM Experience Improvement Task Force to reduce the high volume of reports overburdening community-based clinicians and inundating EMR clinical inboxes. The Task Force represented a cross-section of health sector stakeholders who worked on key concerns brought forward by community-based clinicians who receive HRM reports from sending facilities. The Core Report List Sub-Committee, comprised of hospitals, primary care clinicians, Ontario Health and OntarioMD representatives, developed the Core Report List to distinguish recommended and non-recommended reports for HRM.

The following organizations were also consulted by a third-party vendor on behalf of Ontario Health to vet the final recommended Core Report List:

- College of Physicians and Surgeons of Ontario (CPSO)
- Ministry of Health (MoH)
- Ontario Health (OH)
- Ontario Hospital Association (OHA)
- Chief Medical Information Officers Collaborative (CMIO-C)

5.2 Core Report List

Key Definitions:

Recommended	Report type is deemed **recommended** by HRM Task Force members and hospitals are requested to send these report types to community-based clinicians.
Not Recommended	Report type is deemed **unnecessary** by HRM Task Force members and hospitals are requested to filter these out.
Not Applicable	The author doesn't create this report type and/or it was not contemplated in the report assessment.

		Author Physician	Author Resident	Author Allied Health Professional	Author Midwife	Author Nurse
1	Emergency Department Physician Reports	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable
2	Admission Reports	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable
3	Discharge Reports	**Recommended**	**Recommended**	Not Applicable	**Recommended**	Not Applicable
4	Patient Transfer Reports	**Not Recommended**	**Not Recommended**	Not Applicable	Not Applicable	Not Applicable
5	Outpatient Diagnostic Imaging/Procedure Reports	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable

6	Inpatient Diagnostic Imaging/Procedure Reports	**Not Recommended**	**Not Recommended**	Not Applicable	Not Applicable	Not Applicable
7	Specialist Consultation Reports	**Recommended**	**Recommended**	Not Applicable	**Recommended**	Not Applicable
8	Ambulatory Clinic Progress Notes	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable
9a	Birth/Death Notifications	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable
9b	Admission /Discharge Notifications	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable
10	Death Summaries	**Recommended**	**Recommended**	Not Applicable	**Recommended**	Not Applicable
11	Obstetrical Delivery Reports (Obstetrician and/or Midwife)	**Recommended**	**Recommended**	Not Applicable	**Recommended**	Not Applicable
12	Reports Generated by Allied Health Professionals (e.g., dietician, physiotherapist, occupational therapist,	Not Applicable	Not Applicable	**Not Recommended**	Not Applicable	Not Applicable
13	Operative Reports	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable
14	Inpatient Progress Reports	**Not Recommended**	**Not Recommended**	Not Applicable	Not Applicable	Not Applicable
15	Nursing Notes	Not Applicable	Not Applicable	Not Applicable	Not Applicable	**Not Recommended**
16	Advance Care Planning/Goals of Care Documentation	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable
17	Pathology Reports*	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable

**Note: Pathology reports were assessed as part of the HRM Task Force however are not broadly available through HRM today. Further analysis is required and ongoing to assess suitability for general availability. Today, pathology reports are available through the Ontario Laboratories Information System (OLIS).*

Disclaimer: This Core Report List is not intended to satisfy the scope and breadth of reporting needs for all clinicians in Ontario. The intent is to prioritize the report types with the most value, to reduce the volume of reports to community practices and the associated admin burden they cause in the short term. The HRM Task Force recommendation is that a preference management solution be implemented over the medium term to provide greater clinician choice for report management. Preference management would allow each individual clinician to decide for themselves what reports they want to receive. Note: The Core Report List would serve as the minimum set of reports that could not be suppressed through this preference solution.

6. Execution Plan

6.1 Summary

Community-based clinicians rely heavily on HRM to manage their day-to-day work. However, they have reported several challenges that significantly impact their productivity and incur additional administrative burden. These concerns were taken into consideration by the HRM Experience Improvement Task Force. The Task Force members analyzed the current state HRM SF report delivery concerns in order to inform proposed solutions. In fact, a comprehensive options analysis was conducted for each key concern. These options were assessed by the HRM Task Force based on their efficiency, scalability, implementation approach and impact to both senders and receivers.

The Execution Plan summarizes the outcomes of the current state assessment and the options analysis and provides recommendations (considering both short-term and long-term solutions) for each HRM concern.

6.2 Objective

The objective of the Execution Plan is to outline an implementation plan and review any dependencies and considerations related to these proposed solutions. The objective of the proposed Execution Plan is to address each of the key concerns associated with the delivery of reports through HRM and consider short-term solutions that align with long-term objectives.

The issues addressed in the Execution Plan are:

- High volume of reports
- Duplicate reports
- PDF reports
- Specificity in categories of reports
- Lengthy reports
- Receiving location of reports

6.3 Methodology

An options analysis was conducted for each key concern along with activities required for each option, implementation plan, estimated timelines, stakeholders involved, decision makers, benefits and risks. Each option was reviewed with Sending Facility Standards Working Group members and recommendations were made that aligned with the guiding principles outlined in the following section.

6.4 Guiding Principles

The Execution Plan recommendations were guided by the input of the HRM Task Force members and considered the impacts on all stakeholders. These guiding principles are in line with Ministry of Health's *Digital First for Health* priorities.

Guiding Principles for the Proposed Recommendations:

- Align to provincial strategy where possible (including standards alignment)
- Prioritize solutions with immediate positive impact to clinicians and patients (e.g., reduce burnout)
- Balance short-term benefits with long-term objectives (e.g., defining a Core Report List for immediate implementation that can then be leveraged in a longer-term preference management solution)
- Reflect the partnership among key stakeholders involved in the delivery of care in Ontario
- Value for money – prioritize solutions with minimal new investment

6.5 HRM Sending Facility Service Standards

The HRM SF Service Standards were developed by the HRM Experience Improvement Task Force to improve the report delivery experience for community-based clinicians, for reports transmitted from hospital settings. The Task Force represented a cross-section of health sector stakeholders who worked on key concerns brought forward by primary care providers who receive reports from sending facilities. These SF Service Standards are complementary to the Acute and Community CDR (acCDR) Input Standard (i.e., HRM Standards for SF contribution). The Service Standards contemplate best practices and usability recommendations for the contribution of reports to HRM. They seek to address the SF-related HRM key concerns as mentioned in the Objectives section. The SF Service Standards will be referenced throughout the Execution Plan as a mechanism for addressing many of the key concerns outlined above.

6.6 Change Management

The HRM Task Force identified a 3-step strategy to address the key concerns related to sending facilities:

- Define the change - Identify the standards and best practices that will improve the clinician experience with HRM.
- Promote the change - Foster a sense of urgency to make a change, and communicate HRM concerns and standards to stakeholders.
- Make the change - Implement the vision using teamwork and collaboration; establish ongoing support; maintain a positive change to increase HRM adoption and improve user satisfaction.

6.7 Proposed Execution Plan for HRM Key Concerns

6.7.1 Key Concern – High volume of reports

The high volume of reports transmitted from hospital to community-based practice settings is overloading clinicians' EMR inboxes, adding to burnout and increasing the risk of missing something important that could affect patient safety.

Aligning with the objective of improving the user experience, the following approach is recommended to resolve the negative impacts of receiving a high volume of reports.

Short-term approach – Establish a core set of reports to be transmitted through HRM from hospital settings.

An HRM SF subcommittee to the Task Force was established with a mandate to define a core set of reports that are deemed high value to be sent from acute care settings to community-based clinicians (all other reports to be suppressed). Alignment to the Core Report List is included as a part of the HRM SF Service Standards. The Task Force also conducted a user survey published through the OMA to seek clinicians' input on which reports they want to receive reports. A total of 311 clinicians responded to the survey, these findings were reviewed by the sub-committee to directionally inform the final recommendations and to provide additional context into varying needs of clinician practices.

- Dependencies: Alignment on Core Report List across various stakeholders and endorsement by clinical stakeholders including:
    - College of Physicians and Surgeons of Ontario (CPSO)
    - Ministry of Health (MoH)
    - Ontario Health Standards (OH-Standards)
    - Ontario Hospital Association (OHA)
    - Chief Medical Information Officer (CMIO) Collaborative
- Timeline: Less than 1 year (optimally 3 to 6 months)
- Critical decision makers[7]: Not applicable

It is important to consider that change management, training and education within the hospital setting for clinicians who prepare reports would be required to implement changes to report delivery rules and to ensure appropriate awareness of which reports are sent through HRM.

[7] Critical decision makers refers to the organization having the highest influence in enabling the solution. For example, support with prioritization may have the most substantial impact for some highly complex solutions requiring extensive technical resources. In another example, hospitals assigning resources for implementation will have the most substantial impact to enable a solution.

Note: The Task Force also conducted an environmental scan related to the exchange of reports/data from acute care to community/primary care settings in other jurisdictions outside of Ontario. No material findings were uncovered that would support the Task Force in defining a core set of reports.

Medium-term approach – Enable Preference Management solution to support provider choice.

Implement a technical solution for 'preference management' which would allow clinicians to subscribe to, or enroll in, the information that they want to receive within their EMRs. Preference management will also allow clinicians to filter out reports they do not wish to receive. Preference management is a technical project requiring extensive effort and resources. The Core Report List would serve as the minimum set of reports that would be transmitted through the solution and could not be suppressed.

- Dependencies: Standardization of report names (i.e., report types) to Logical Observation Identifiers Names and Codes (LOINC) to improve usability of a preference management tool for clinicians. It is important to note that clinicians will not be able to filter out mandatory reports.
- Timeline: 12 to 18 months (pilot)
- Critical decision makers: Ontario Health (to support with prioritization of changes to enable solution)

As the Core Report List will not address the varying needs and individual preferences of clinicians across Ontario through a one size fits all approach, consequently the Task Force recommends the Preference Management solution in the medium term.

6.7.2 Key Concern - Duplicate Reports (Fax and HRM)

A significant number of hospitals deliver the same reports through fax and electronically through HRM, which results in duplicates for HRM recipients. Fax and electronic duplicates are overloading clinicians' EMR inboxes, contributing to burnout and increasing the risk of missing something important that could affect patient safety.

Aligning with the objective of improving the user experience, the following approach is recommended to resolve the negative impacts of receiving fax duplicates of reports.

Short-term Approach- HRM SF Standard for Fax Suppression

As part of the HRM SF Service Standards, hospitals will be requested to implement fax suppression within 14 days of a clinician going live on HRM. It is expected that implementation of this standard will require an established operational process within hospital settings to monitor HRM subscriber activations and deactivations and to enable fax suppression aligned within the prescribed timeline based on the connection of an HRM subscriber. Note: HRM subscriber lists are shared with all HRM SFs on a weekly basis. They contain the list of clinicians newly configured to HRM and recently deactivated.

- Dependencies: Hospitals must ensure other reports (e.g., labs) are not impacted. It is important to consider that proper communication needs to be established with clinicians in regions where fax

suppression has not been implemented. Notably, the auditability gap within Epic hospital information systems (HIS) needs to be addressed to enable a fulsome adoption of the fax suppression standard across Epic based hospital sites.
- Timeline: Less than 6 months
- Critical decision makers: Hospitals (for implementation) and Ontario Health (to support with prioritization of changes to enable solution, including fax suppression capabilities within the HIS)

6.7.3 Key Concern - Duplicate Reports (Draft and Final Copies)

A significant number of hospitals deliver the same report in both draft (faster delivery) and final (confirmed content delivered later) form through HRM. These draft and final duplicates are overloading clinician's EMR inboxes, adding to burnout and increasing the risk of missing something important that could affect patient safety. Additional copies of the same HRM report may inadvertently be transmitted through HRM by SFs as a result of the report delivery rules implemented within their HIS. For instance, a minor change within the report (i.e., spelling correction) may trigger an additional copy to be transmitted to the community-based practice. In some cases, we have seen 5 to 7 copies of the same report being inadvertently transmitted and adding to the administrative burden of the community-based clinician.

Aligning with the objective of improving the user experience, the following approach is recommended to resolve the negative impacts of receiving multiple electronic duplicate reports through HRM.

***Short-term Approach* – HRM SF Standard for Electronic Duplicates**

As part of the HRM SF Service Standards, hospitals will be requested to only send final reports through HRM and only transmit additional reports where there has been a clinically significant change to the report. This solution may require technical and process changes for hospitals, as well as supplemental training and change management support to clinicians who prepare reports in the hospital setting.

- Dependencies: It is important to consider that communication is necessary to clinicians in regions where report delivery rules are implemented. Also, change management, training and education related to changes to report delivery policies will be required for acute care settings.
- Timeline: Less than 6 months
- Critical decision makers: Hospitals (for implementation)

6.7.4 Key Concern - Duplicate Diagnostic Reports

Duplicate diagnostic reports are overloading clinician's EMR inboxes, adding to burnout and increasing the risk of missing something important that could affect patient safety.

Aligning with the objective of improving the user experience, the following approach is recommended to resolve the negative impacts of receiving duplicate diagnostic reports.

***Short-term Approach* – HRM SF Standard for Duplicate Diagnostic Reports**

Hospitals will be requested to implement appropriate process changes to ensure that common combinations of related diagnostic investigations with a single narrative (e.g., trauma patient with multiple investigations and one dictation by the radiologist) are appropriately coded to reduce duplication of these reports through HRM. Note: The HRM Task Force has been advised that coding common combinations of investigations in PACS may address this duplication concern. Reports should combine the most common combinations of orders for a single exam (e.g., combine cervical, thoracic and lumbar spine). This is only applicable where multiple investigations have a single narrative. For a single investigation where there is a unique narrative, this standard is not applicable. These recommendations will be part of the HRM SF Service Standards.

This solution will likely require business process changes as well as change management support and training for clinicians who prepare reports, namely hospital-based radiologists.

- Dependencies: A list of the most common DI combinations needs to be established. It is important to consider that change management, training and education will be required for a radiologist to create one exam in the system, including multiple orders, and for clinicians receiving reports in the new manner downstream.
- Timeline: 6 months to 1 year
- Critical decision makers: Hospitals (for implementation)

6.7.5 Key Concern - PDF Reports

An increase in PDF reports is making it difficult for clinicians to find patient data quickly through EMRs and making it hard to use the data for quality improvement or research. They also add more clicks for the user to open in downstream systems (i.e., EMRs).

Aligning with the objective of improving the user experience, and in absence of legislation, the following approach is recommended to reduce the volume of PDF reports received by community-based clinicians and the associated limitations of this report type format.

***Short-term Approach* – HRM SF Standard for PDFs**

As part of the HRM Sending Facility Standards, hospitals are encouraged to send text-based reports where possible (e.g., for narrative reports without images or tables) due to the inherent benefits of text reports, such as searchability in EMRs. This is a recommendation and preference (not mandatory) in the absence of alternate short-term solutions.

- Dependencies: HRM SF support for text-based reports. It is important to consider the increasing trend for HIS vendors moving towards increased use of PDFs.
- Timeline: More than 6 months to 1 year
- Critical decision makers: Hospitals (for implementation)

***Long-term Approach* – Provincial Alignment**

Ontario Health and other stakeholders are looking at legislation for long-term data exchange requirements and addressing PDFs through that context.

6.7.6 Key Concern - Specificity in Categories of Reports

Lack of specificity in categories of reports is making it difficult for clinicians to find patient data quickly in EMRs and increasing the risk of mislabeling reports.

Aligning with the objective of improving the user experience, the following approach is recommended to categorize reports and send them to clinicians with standard report names.

***Short-term Approach* – HRM SF Standard for Report Categorization**

As part of the acCDR Input Standard, hospitals will be requested to use Logical Observation Identifiers Names and Codes (LOINC) in OBR-4 when contributing reports to HRM in addition to local report names, (leveraging the provincial ConnectingOntario code set, i.e., provincial subset of codes, where relevant and applicable). Collateral will be developed to provide high-level guidelines related to the desired specificity of report codes to be selected given the value in downstream systems (i.e., a report types wireframe to support report selection) This is a technical project for HRM to enable the transmission of an additional report type. It will also require business process and change management with hospitals and the receiving community-based clinicians.

As a result of the HRM Task Force findings, Ontario Health's Standard team has updated the Acute and Community Clinical Data Repository (acCDR) Input Standard, Version 2.6 to include optional contribution of LOINC codes for HRM reports.

- Dependencies: Each HRM SF must align to the new acCDR input standard v2.6 to realize these changes.
- Timeline: 6 months to 2 years
- Critical decision makers: Hospitals (for implementation)

This approach will increase the availability of standardized LOINC codes to EMR vendors that may enable additional downstream use cases (added benefit to clinician users).

Note: Further assessment will be required to assess impact to receiving clinicians and to validate any impact to EMR vendors.

6.7.7 Key Concern - Lengthy Reports

Lengthy reports are making it difficult for clinicians to find patient data quickly, adding to administrative burden and increasing the risk of missing something important that could affect patient safety.

Aligning with the objective of improving the user experience, the following approach is recommended to minimize the impact of lengthy reports and improve consistency in report formatting.

***Short-term Approach* – HRM SF Standard for Lengthy Reports**

As part of the HRM Sending Facility Standards, hospitals will be encouraged to make the following changes to the report structure and content:

- The most important information in a report to appear at the top (e.g., impression and plan).
- Attending clinician to be clearly identified in the report.
- Ordering and referring clinician(s) to be clearly identified in the report.
- Discharge Summary to include narrative summary of the key results from inpatient diagnostic imaging/procedure reports. This is not intended to be a copy and paste of the entire DI or procedure report embedded in the note.
    - Note: this recommendation is based on the complementary core report recommendation to suppress inpatient diagnostic imaging reports. Thus, the Discharge Summary serves as the mechanism to relay important information related to DI investigations.

In order to achieve this proposed solution, technical/system limitations may need to be applied in addition to education and change management for hospitals and clinicians who prepare reports.

- Dependencies: Training and change management required for hospital-based clinicians who dictate reports to align to new best practices.
- Timeline: 6 to 12 months
- Critical decision makers: Hospitals (for implementation), Ontario Health (to support with prioritization of changes to HIS systems)

***Long-term Approach* – Further Refinement of Report Format/Structure Best Practices**

The HRM Task Force recommends that clinical groups, such as OH's Quality team, with experience developing report content/format recommendations, assess the broad array of reports sent from hospital settings to the community.

- Dependencies: Group/entity willing to further assess report content/format and elicit recommendations. Subsequent implementation of recommendations may require a combination of training, change management, technical and process changes. Timeline: 1 year
- Critical decision makers: Hospitals, Ontario Health/other clinical group (to refine report structure recommendations), HIS vendors

6.7.8 Key Concern - Receiving Location

HRM delivers the full set of reports directed to a given clinician at every clinic location where that clinician receives reports through HRM. A lack of controls around targeted delivery to specific receiving locations is a

barrier to HRM adoption, and introduces complexities for clinicians who work at multiple locations to receive and review reports.

Aligning with the objective of improving the user experience, the following approach is recommended to resolve the negative impacts of receiving HRM reports at the location where the patient is not seen.

Long-term Approach – Location Management

OntarioMD will need to develop technical enhancements to HRM to deliver reports to the specific location where the patient has been seen by the receiving clinician. This will require an extensive technical project to achieve the desired outcome of location management.

- Dependencies:
    - Complexity of the technical solution and prioritization of this work aligned with provincial strategy
    - Complexity of defining the correct location where the clinician sees the patient to deliver the report
    - Dependency on EMR vendor partners for changes required
    - Assessment of legislative and regulatory implications regarding which reports are, and which reports are not, delivered to an EMR location
- Timeline: minimum 1 year (pilot)
- Critical decision makers: Ontario Health (to support with prioritization of changes to enable solution in alignment with provincial strategy)

In addition to the prioritization of this work, funding, technical complexities, dependency on partners such as EMR vendors, legislative and regulatory considerations, also need to be considered to make extensive enhancements to HRM to address location management. These considerations will also be necessary for stakeholders (e.g., hospitals or EMR vendors) who will need to do development work to support the chosen solution for location management.

Disclaimer: For all proposed solutions, the timelines, dependencies, critical decision makers (as defined) and approach were estimated based on best available knowledge at the time of assessment and based on input from several contributors. Further investigation and validation of assumptions are required to refine recommendations and contemplate broad scalability of proposed solutions.

6.8 Summary of Proposed Execution Plan Recommendations

Figure 8 – Summary of Proposed Execution Plan Recommendations

HRM SF Service Standard

Key Concern	Short-term (<1 year)	Medium-term (1-2 years)	Long-term (>2 years)
Volumes of reports received	Core Report List	Preference Management	
Fax Duplicates	Fax Suppression		
Draft and Final Duplications	Only final reports sent		
Diagnostic Imaging Duplicates	Predefine Common DI Combinations		
PDF reports	Text preferred where possible		Provincial alignment (data/report format standardization)
Specificity & standardization of report categories	Standardization to LOINC		
Lengthy reports	Impression and Plan at the top		Provincial standards for report [content] structure
Receiving location (multi-site)			Location Management

6.9 Advancements to Resolve HRM Key Concerns

Since the initiation of the HRM Task Force in March 2022, the most recent advancements to address the identified key concerns are:

Advancement	Description
HRM SF Service Standards	• The SF Standards Working Group has endorsed the SF Service Standards. • Consulted health system stakeholders have endorsed the Core Report List.
Fax Suppression	• Epic has a built-in capability for hospitals to stop faxes for HRM subscribers. Epic has confirmed that this capability is available in all versions of Epic and they were successful in implementing fax suppression for HRM subscribers in the central east (CE) region hospital. • A subset of Epic hospitals is exploring an initiative to contract Epic development to address the provider audibility gap to enable fax suppression (shared cost across multiple sites). • Trillium Health Partners implemented a fax suppression technical solution, known as their RDSP (a custom solution built to close the auditability gap). • The Ottawa Hospital (TOH) is advancing fax suppression in their region, as of Fall 2023.
LOINC Standardization	• There has been significant progress made with LOINC code standardization and incorporating it in the next version of the acCDR Input Standard. Ontario Health has now tested the possibility of including LOINC code in OBR-4 in the acCDR HL7 v2 messages and has confirmed that if the LOINC code were to be included in addition to the local code in OBR-4, it would not cause any error in the acCDR or the clinical viewers. The impact of this change to EMR vendors needs to be assessed.

Advancement	Description
LOINC Standardization (cont'd)	• In the above case, HRM will receive both the local code and the LOINC code. This will help hospitals to easily adopt LOINC international standards and send standardized reports to clinicians via HRM. • The LOINC changes have been included in acCDR Spec v2.6 (final).

6.9 Advancing Solutions to Resolve HRM Key Concerns

Initiate Pilot Projects with Select Hospitals

In this stage, OntarioMD will approach the two hospitals who participated in the Task Force to seek their participation in implementing the standards on a trial basis. OntarioMD will work with the hospital(s) to implement the standards with regard to SF development, testing, and communications, eventually followed by go-live.

A case study will be developed to show the benefits to clinicians of implementing the standards to continue enhancing the value proposition to support the wider adoption of the HRM standards. Pre-implementation and post-implementation data points will be collected through an evaluation of benefits. Some of the associated risks and barriers are lack of interest, or lower priority perception by hospitals, inability for hospitals to prioritize the development work, lack of funding or resource availability.

Develop Communications and Marketing Strategy

OntarioMD will plan an engagement strategy for engaging sites to seek their interest and move them through the implementation process. The engagement strategy will include a comprehensive communication and marketing strategy and plan developed by the OntarioMD to create awareness of the SF Service Standards and their value. Key messages and Frequently Asked Questions will be used to describe the benefits to community clinicians and to the hospitals implementing the standards.

A case study about the pilot hospital(s) is another tactic that will be developed to show the benefits to clinicians and hospitals and to continue to enhance the value proposition to support wider adoption of the HRM standards. Presentation material, website content and other handouts (e.g., brochure) are among additional tactics that will be created to showcase the benefits and provide information about what SFs need to do.

Training materials will be developed by OntarioMD and will be used to engage hospitals on adopting standards after leveraging various communication tactics and gaining a hospital's buy-in.

6.10 Conclusion

Since the establishment of HRM Task Force, the Task Force Working Group members have worked relentlessly to review the major HRM concerns and develop potential solutions to resolve them. OntarioMD sincerely thanks all Task Force members, the Sending Facility (SF) Standards Working Group members, EMR Usability Working Group members and Advisory Circle for their valuable contributions to the HRM Task Force initiative. The HRM Task Force initiative has successfully documented:

- Sending Facility Service Standards
- EMR Usability Recommendations
- Execution Plan

OntarioMD will continue to work on the recommendations provided by the HRM Task Force members to advocate, publish and promote the SF Service Standards to hospitals. It will work with one or more pilot hospitals to apply the recommendations and monitor the outcomes to eventually resolve HRM key concerns and contribute to reducing the administrative burden faced by clinicians.

Advancing the Findings and Recommendations from the HRM Task Force

Figure 9 – HRM Task Force Timeline

This work has already influenced some hospitals and resulted in a few small ‘wins’. A small number of hospitals in the Central East region of Ontario have suppressed duplicate reports by fax, but there is still much work to be done.

The issues identified in the Task Force’s report are complex and the recommendations made are multi-tiered. With support from Ontario Health, OntarioMD will embark on a pilot to understand fully what changes must be made from a hospital perspective.

Major contributors to the administrative burden highlighted by the Task Force included the lack of standardization or recommendations related to the reports sent primarily by hospitals. Regardless of the technology or platform used for delivery, many of these issues are around the reports themselves.

Appendix A: HRM Sending Facility Service Standards

Date: September 2023

Purpose of the Sending Facilities Service Standards

- The HRM Sending Facilities Service Standards were developed by the HRM Experience Improvement Task Force to improve the report delivery experience for community-based clinicians. The Task Force represented a cross-section of health sector stakeholders (i.e., OntarioMD, Ontario Health, Ontario Medical Association, Ontario Hospital Association, hospital Chief Medical Information Officers, Hospital Information System vendors and community-based clinicians) who collaborated to assess the key concerns for upstream report contribution, and to explore potential solutions to these concerns. The key concerns cause additional administrative burden on clinicians, contribute to increased clinician burnout and may lead to patient safety concerns due to the risk of missing something important.

The audience for the HRM SF Service Standards is hospitals. The purpose of the Standards is to improve report delivery to community-based clinicians. The SF Service Standards encompass best practices and usability recommendations for SF contribution of reports to HRM to address the following key concerns:

- High volume of reports
- Duplicate reports
- PDF reports
- Standardization and specificity of report categories
- Lengthy reports

These SF Service Standards complement the Acute and Community Clinical Data Repository (acCDR) Input Standard (i.e., HRM Standards for sending facility contribution).

Health Report Manager

HRM® is a digital health solution that enables clinicians using an OntarioMD (OMD)-certified EMR to securely receive patient reports electronically from participating hospitals and specialty clinics. HRM electronically delivers Medical Record reports (e.g., Discharge Summary), and transcribed Diagnostic Imaging (excluding image) reports from sending facilities directly into patients' charts, within clinicians' EMRs.

Service Standards for Sending Facilities

The SF Service Standards were developed to address clinicians’ key concerns with HRM reports. For some concerns such as duplicate reports, multiple standards were developed to solve the different root causes of duplication.

High Volume of Reports

1. (Section 5.2). **Note:** For the application of this standard, hospitals are requested to send the '**recommended**' reports to community-based clinicians. Hospitals are requested to filter out '**not recommended**' reports from distribution to community-based clinicians.

Duplicate Reports (by Fax)

2. For clinicians subscribed to HRM, hospitals to eliminate fax duplicates for reports delivered through HRM.
3. Hospitals to stop transmission of duplicate reports by fax for a clinician who is subscribed to HRM within 14 days from receiving the notification of the clinician going live on HRM. **Note:** Sending facilities are notified of changes to HRM subscribers on a weekly basis through the 'HRM New Users List'.

Duplicate Reports (Draft and Final)

4. Hospitals to only send final reports through HRM. **Note:** This standard needs to be implemented to prevent unnecessary delivery of duplicate copies of the same report through HRM to community-based clinicians. When implementing this standard, hospitals can consider mechanisms that will enable the delivery of only one report, the final version, to community-based clinicians unless there are meaningful clinical changes in content. Hospitals to consider avoiding unnecessary delays in report transmission that may be caused by delays in the sign-off of reports.

Duplicate Reports (Multiple Diagnostic Imaging Investigations)

5. Hospitals to implement appropriate process changes to ensure that common combinations of related diagnostic investigations with a single narrative (e.g., trauma patient with multiple investigations and one dictation by the radiologist) are appropriately coded to reduce duplication of these reports through HRM.

Note: The HRM Task Force has been advised that coding common combinations of investigations in PACS may address this duplication concern. Reports to combine the most common combinations of orders for a single exam (e.g., combine cervical, thoracic and lumbar spine). This is only applicable where multiple investigations have a single narrative. For a single investigation where there is a unique narrative, this standard is not applicable.

PDF Reports (versus Text Reports)

6. This standard is a recommendation/preference and is not mandatory in the absence of a short-term solution. Hospitals to send text-based reports where possible (e.g., for narrative reports without images, without tables) due to the inherent benefits of text reports such as the ability to search for data in EMRs.

Standardization and Specificity in Report Categories

7. Hospitals to use the international standard LOINC (Logical Observation Identifiers Names and Codes) to identify report types in OBR-4 (Universal Service Identifier) when contributing reports to HRM (leveraging the provincial ConnectingOntario code set, i.e., provincial subset of codes, where relevant and applicable). This standard will be used in addition to the local report names. Note: Contribution details are available in the acCDR Input Standard v2.6.
8. Report types to be specific such as using specialty/specialist type to provide more details (e.g., 'Internal Medicine Consult Note' is preferred over 'Consult Note').

Lengthy Reports

9.The most important information (e.g., impression and plan) to appear at the top of the report.
10. The Attending Clinician to be clearly identified in every report.
11. The Ordering and Referring Clinician to be clearly identified in every report.
12. The Discharge Summary to include a narrative summary of key results from inpatient diagnostic imaging/procedure reports.

Additional documents

This HRM SF Service Standards does not represent all requirements for HRM Sending Facilities. Please refer to these additional documents for HRM Sending Facilities:

1. Acute and Community Clinical Data Repository (acCDR) Input Standard
2. HRM Service Agreements
3. HRM Value-Add Agreements
4. HRM Contributor – Service Level Objectives

Appendix B: HRM Core Report List

Core Report List, version 1, established September 2023.

Health Report Manager

Health Report Manager (HRM®) is a digital health solution that enables clinicians using an EMR to securely receive patient reports electronically from participating hospitals and specialty clinics. HRM electronically delivers Medical Record reports, (e.g., Discharge Summary), and transcribed Diagnostic Imaging (excluding image) reports from sending facilities directly into patients' charts, within the clinician's EMR.

Purpose of the HRM Core Report List

The HRM Core Report List was developed by the HRM Experience Improvement Task Force to reduce the high volume of reports overburdening community-based clinicians and inundating EMR clinical inboxes. The Task Force represented a cross-section of health sector stakeholders who worked on key concerns brought forward by community-based clinicians with the use of HRM reports from sending facilities. The Core Report List Sub-Committee comprised of hospitals, primary care clinicians, Ontario Health and OntarioMD representatives developed the core report list to distinguish recommended and non-recommended reports for HRM.

The following organizations were also consulted by a third party vendor on behalf of Ontario Health, to vet the final recommended core report list, they included:

- College of Physicians and Surgeons of Ontario (CPSO)
- Ministry of Health (MoH)
- Ontario Health (OH)
- Ontario Hospital Association (OHA)
- Chief Medical Information Officers Collaborative (CMIO-C)

Core Report List

Key Definitions:

Recommended	Report type is deemed **recommended** by HRM Task Force members and hospitals are requested to send these report types to community-based clinicians.
Not Recommended	Report type is deemed **unnecessary** by HRM Task Force members and hospitals are requested to filter these out.
Not Applicable	The author doesn't create this report type and/or it was not contemplated in the report assessment.

		Author Physician	Author Resident	Author Allied Health Professional	Author Midwife	Author Nurse
1	Emergency Department Physician Reports	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable
2	Admission Reports	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable

3	Discharge Reports	**Recommended**	**Recommended**	Not Applicable	**Recommended**	Not Applicable
4	Patient Transfer Reports	**Not Recommended**	**Not Recommended**	Not Applicable	Not Applicable	Not Applicable
5	Outpatient Diagnostic Imaging/Procedure Reports	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable
6	Inpatient Diagnostic imaging/Procedure Reports	**Not Recommended**	**Not Recommended**	Not Applicable	Not Applicable	Not Applicable
7	Specialist Consultation Reports	**Recommended**	**Recommended**	Not Applicable	**Recommended**	Not Applicable
8	Ambulatory Clinic Progress Notes	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable
9a	Birth/Death Notifications	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable
9b	Admission /Discharge Notifications	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable
10	Death Summaries	**Recommended**	**Recommended**	Not Applicable	**Recommended**	Not Applicable
11	Obstetrical Delivery Reports (Obstetrician and/or Midwife)	**Recommended**	**Recommended**	Not Applicable	**Recommended**	Not Applicable
12	Reports Generated by Allied Health Professionals (e.g., dietician, physiotherapist, occupational therapist,	Not Applicable	Not Applicable	**Not Recommended**	Not Applicable	Not Applicable
13	Operative Reports	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable
14	Inpatient Progress Reports	**Not Recommended**	**Not Recommended**	Not Applicable	Not Applicable	Not Applicable
15	Nursing Notes	Not Applicable	Not Applicable	Not Applicable	Not Applicable	**Not Recommended**
16	Advance Care Planning/Goals of Care Documentation	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable
17	Pathology Reports	**Recommended**	**Recommended**	Not Applicable	Not Applicable	Not Applicable

Disclaimer: This Core Report List is not intended to satisfy the scope and breadth of reporting needs for all clinicians in Ontario. The intent is to prioritize the report types with the most value, to reduce the volume of reports to community practices, and the associated admin burden they cause in the short term. The HRM Task Force recommendation is that a preference management solution be implemented over the medium term to provide greater clinician choice for report management. Preference management would allow each individual clinician to decide for themselves what reports they want to receive. Note: the Core Report List would serve as the minimum set of reports that could not be suppressed through this preference solution.

Appendix C: Referenced Documentation

Referenced Documentation	
Implementation, spread and impact of the Patient Oriented Discharge Summary (PODS) across Ontario hospitals: a mixed methods evaluation	https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-021-06374-8
CPSO's Transitions in Care (Continuity of Care) Policy	https://www.cpso.on.ca/Clinicians/Policies-Guidance/Policies/Transitions-in-Care
Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being.	https://www.ncbi.nlm.nih.gov/books/NBK552615/
IPC Circle of Care Guideline	https://www.ipc.on.ca/resource/circle-of-care-sharing-personal-health-information-for-health-care-purposes/

Appendix D: Sample Key Concerns

Examples of clinicians' experiences receiving reports from different hospital systems

*By a clinician receiving reports from a hospital using **Epic**:*

Issue # 1 Overview: ECG report received 6 times, 3 verbal and 3 tracing
Impact: Unclear what has changed in each of the reports, chance of missing an important change, inbox flooded, risk of missing something important, contributes to clinician burnout and creates more work for clinicians

Issue # 2 Overview: Our analysis of the last 6 months of HRM reports received by the clinician shows that:
a. SF ID 4839 (Scarborough and Rouge Hospital - General Site), of a total of 542 reports, 110 were duplicates.
b. SF ID 4837 (Scarborough and Rouge Hospital - Centenary Site (formerly Rouge Valley Health System), of a total of 653 reports, 102 were duplicates.
c. SF ID 4841 (Scarborough and Rouge Hospital – Birchmount), of a total of 264 reports, 24 were duplicates
Impact: Unclear what has changed in each of the reports, chance of missing an important change, inbox flooded, risk of missing something important, contributes to clinician burnout and creates more work for clinicians

Issue #3 Overview: Fax copies of HRM reports were also sent to the clinician.
Impact: Duplicate reports, risk of missing something important, contributes to clinician burnout and creates more work for clinicians

*By a clinician receiving reports from a hospital using **Meditech:***

Issue #1 Overview: The same report is sent to the clinician 3 times – once via HRM (electronic), once via fax, and once via mail which arrives approximately 2 weeks later.
Impact: Inbox flooded, risk of missing something important, contributes to clinician burnout and creates more work for clinicians

Issue #2 Overview: Lengthy report (several pages long) containing vitals, lots of empty space and the DI X-ray embedded. X-ray is also separately sent as an HRM report in addition to being embedded in the Emerg note.
Impact: Difficulty finding relevant information quickly, contributes to clinician burnout, more likely to miss something important

Issue #3 Overview: Duplicate of the entire x-ray report is sent at least 3 times (e.g., lumber spine, cervical spine, other examples include 4 joints = 4 reports)
Impact: Unnecessary copies of the exact same report with the exact same information and content

*By a clinician receiving reports from a hospital using **Cerner**:*

Issue #1 Overview: Duplicate HRM report. No clinical changes to the report. When someone else at the hospital touches the report (e.g., views it in their hospital inbox/signs off again), it seems to send the report again, however no content has changed.
Impact: Unclear what has changed in each of the reports, chance of missing an important change, inbox flooded, risk of missing something important, contributes to clinician burnout and creates more work for clinicians

Issue #2 Overview: Report category is not specific (too generic). In this example, the report type is consultation, it would be more useful if it said '**Neurology** Consult'.
Impact: Difficulty finding relevant information quickly, risk of mis-categorizing / mislabeling reports,
Incoming report category: Medical Records Report – 1230972-Consultation

Issue #3 Overview: Report category is not specific (too generic). In this example, the report type is consultation, it would be more useful if it said '**Neurosurgery** consult'.
Impact: Difficulty finding relevant information quickly, risk of mis-categorizing / mislabeling reports
Incoming report category: Medical Records Report – 1230972-Consultation

By comparison, another hospital has solved issues #2 and #3 by providing more specific report categories (e.g. Medical Record Report/44990627 Adult Psychiatry Note)

Issue #4 Overview: Report category is not specific (too generic). In this example, the report type is 'Clinic Report,' whereas 'Surgery' would be more accurate/specific.
Impact: Difficulty finding relevant information quickly, risk of mis-categorizing / mislabeling reports,
Incoming report category: Medical Records Report – 355202-Clinic report

Issue #5 Overview: Report category is not specific (too generic). In this example, report type says ‘‘Clinic Note’, whereas it should have been ‘Rheumatology’.
Impact: Difficulty finding relevant information quickly, risk of mis-categorizing / mislabeling reports.
Incoming report category: Medical Records Report – 55020425- Clinic Note

Issue #6 Overview: Hospital’s emergency admission histories are not automatically signed off. When another hospital implemented automatic sign-offs from emergency, primary care provider (PCP) received emergency admission histories in a timely fashion and was able to follow-up with patients as needed.
Impact: Risk of missing something important and not following up in a timely manner (e.g., emergency note may say ‘check potassium levels in one week’, but PCP doesn’t receive the report for 6 months).

Issue #7 Overview: Hospital Emerg department is starting to send PDF reports.
Impact: Difficulty finding relevant information quickly, lower data quality (EMRs cannot search/query content within PDF report), decreasing ability to perform QI activities and research on HRM reports, additional EMR workflow concerns (more clicks to view reports)

Appendix E: Terminology

Term	Definition
Clinician	A health professional either creating or receiving a report via HRM. This can include a family physician or general practitioner, specialist, or nurse practitioner
CPSO	College of Physicians and Surgeons of Ontario
Dictating Clinician	The clinician in the hospital setting who documents a narrative report related to the patient encounter.
EMR	Electronic Medical Record
HIS	Hospital Information System
OHA	Ontario Hospital Association
OMA	Ontario Medical Association
Receiving Facility (RF)	Organization receiving reports via HRM
Sending Facility (SF)	Organization contributing reports to HRM

Appendix F: Task Force Membership

Sending Facility Standards Working Group

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