

**ALBERTA HEALTH SERVICES
OUTGOING REFERRALS REVIEW**

MAY 2025

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ALBERTA HEALTH SERVICES OUTGOING REFERRALS REVIEW

Background

In summer 2024, Alberta Health Services (AHS) identified a large number of outgoing referrals from AHS providers to non-AHS community-based specialists and allied health professionals may have been improperly processed. The referrals were sent using the clinical information system (CIS) Connect Care.

After a preliminary review of all AHS sites, approximately 14,000 outgoing referrals¹ were thought to have been misprocessed, delayed, or never sent. In October 2024, the Minister of Health asked the Health Quality Council of Alberta (HQCA) to conduct a Quality Assurance Review (QAR) under Section 9 of the *Alberta Evidence Act*.

In 2024, more than 1.4 million referrals were managed within Connect Care, or nearly 120,000 referrals per month. Most of this referral activity involved internal workflows called work queues 1 to 4 (WQ1 to WQ4), which are referrals from one Connect Care user to another. The remaining activity in 2024 involved 126,491 referrals entered in Connect Care using a workflow called work queue 5 (WQ5), which manages referrals from Connect Care users to non-Connect Care users. These are commonly referred to as outgoing referrals.

Purpose and scope

The purpose was to:

1. Review the current process for outgoing referrals from AHS to non-AHS community specialists and allied health professionals.
2. Make recommendations on improvements to training, quality assurance mechanisms, staffing models, and information technology (IT) to avoid delays in processing outgoing referrals from AHS to community specialists and allied health professionals. The recommendations should focus on improving the patient experience.

This review examined systemic factors affecting outgoing referral processes rather than individual patient cases. It assessed policies, training, governance, technology, and people's experiences to understand why delays occurred and how to mitigate future risk.

¹ A point-in-time report identified approximately 14,000 referrals on the 'active list,' some of which had been sent, and some of which had been sent but were awaiting more information.

Project governance

HQCA Quality Assurance Committee

Responsibility for this review lies with the Health Quality Council of Alberta's (HQCA) Quality Assurance Committee (QAC) who oversees all HQCA Quality Assurance Reviews (QAR):

- Emmanuel Gye, MD, CCFP, DipABLM, PgDip, C.Dir
- Clifford A. LeMoal, MA, EMT-P
- Mollie Cole, RN, MN, CHE, GNC (C), Executive Director, Health System Improvement and Review Lead
- Markus Lahtinen, PhD, CHE, CRP, Executive Director, Health System Analytics, and Adjunct Professor, School of Public Health, University of Alberta

HQCA QAC Subcommittee

The review activities were completed by a subcommittee appointed by the QAC:

- Allyson Goyette, RN, HQCA Patient and Family Advisory Committee
- Dara Townsend, MPH, Lead, Education, Health System Improvement
- James Stroud, RN, MHS, Lead, Health System Improvement
- Jennifer Badock, Administrative Assistant, Health System Improvement
- Jessica Gish, PhD, Lead, Health System Improvement
- Jonas Shultz, MSc, EDAC, CRP, Human Factors Specialist, and Adjunct Assistant Professor, Department of Anesthesiology, Perioperative and Pain Management, University of Calgary (Interview Lead)
- Kristina Watkins, BA, Senior Advisor, Engagement
- Lisa Brake, SCMP, CHE, Executive Director, Communications and Engagement
- Markus Lahtinen, PhD, CHE, CRP, Executive Director, Health System Analytics, and Adjunct Professor, School of Public Health, University of Alberta
- Matthew Fox, BJ, Communications and Engagement Consultant
- Melissa Rolfe, MA, APR, Lead, Communications
- Mollie Cole, RN, MN, CHE, GNC (C), Executive Director, Health System Improvement (Review Lead)
- Roland Simon, MA, Lead, Health System Analytics
- Todd Hillier, PCP, HQCA Patient and Family Advisory Committee

METHODS

A structured approach guided by the HQCA's **Systematic Systems Analysis** methodology involved gathering qualitative and quantitative data to understand the factors contributing to outgoing referral delays and identify opportunities for improvement.ⁱ Data collection and analysis included:

- 87 semi-structured interviews with key individuals involved in the outgoing referral process.
- Review of policies, procedures, training materials, and reports of known referral issues.
- Analysis of 2024 referral data.
- Jurisdictional review and virtual interviews with subject matter experts to identify promising practices and models in other provinces and internationally.
- 12 interviews with patients, including one support person.
- Survey of 381 patients who self-identified they received a referral where the sending provider was not a primary care provide.

HISTORY AND CONTEXT OF CONNECT CARE

The necessity of an effective referrals process for continuity of care is widely acknowledged in Alberta. Various initiatives have been undertaken across the health system to address known weaknesses in the referrals process and improve patient care, including the introduction of Connect Care. AHS, Alberta Health, the College of Physicians and Surgeons of Alberta (CPSA), the HQCA, and others have informed the development of referral processes within Connect Care.ⁱⁱ

Key initiatives have included:

- The December 2012 Alberta Health draft policy 'Alberta Wait Time Measurement and Wait List Management Policy for Scheduled Services'.
- The December 2013 *Continuity of Patient Care Study* from the HQCA.
- A 2017 revision to the CPSA's Standards of Practice for Referral Consultation.
- The creation of the AHS 'Path to Care' program, and the AHS 2013 'Wait Time Measurement, Management, and Reporting of Scheduled Health Services Policy'.

Together, these seminal documents directed the design of Connect Care referral work queues to follow a closed-loop referral management standard (CLRM), which tracks the various steps of a referral to completion.

The decision to implement Connect Care was made in 2016, with the healthcare software company Epic hired to create the information technology (IT) infrastructure. The goal was to replace nearly 1,300 CISs across AHS with a unified resource.ⁱⁱⁱ

Among the many workflows it enables, Connect Care is used to send, receive, and manage referrals for AHS as well as several program/partner areas who use Connect Care.² Phased implementation of Connect Care began in November 2019.^{iv} With the final launch completed in November 2024, Connect Care was in place across all AHS and program/partner areas. Today, more than 125,000 staff, physicians, and other healthcare providers use Connect Care in more than 1,000 sites and programs across all five AHS zones plus program/partner areas.^v

Other systems are in use. Alberta Netcare,³ Alberta's electronic health record (EHR) system, has an 'eReferral' module operated by AHS. Netcare's eReferral was launched in October 2014^{vi} allowing physicians and clinic support staff to create, submit, track, and manage referrals through Netcare.^{vii} Primary care physicians are the main users of the eReferral system, using it to send and manage referrals to a variety of specialty services.

In fall 2022, as part of the Alberta Strategic Initiative (ASI), a new central access and intake system for managing non-urgent referrals was launched in the AHS Calgary Zone for urology and orthopedics/spine referrals.^{viii} Called the Alberta Facilitated Access to Specialized Treatment

² These also include Covenant Health, Recovery Alberta, Cancer Care, Carewest, CapitalCare, and the Lamont Health Care Centre.

³ The Netcare platform is provided by Orion, which has recently been purchased by Healwell. <https://orionhealth.com/ca/media-releases/healwell-completes-acquisition-of-orion-health/>

(FAST),⁴ the program now accepts surgical referrals for a wider range of specialties. When a FAST referral is submitted, it is typically entered into eReferral and then assigned to an appropriate surgeon for triage.^{ix} In some areas, FAST uses Connect Care to enter and track a referral.

Alberta Health developed a plan several years ago for interoperability among the various IT systems. Aligned with the ASI, the Electronic Referral Solution^x is to be the standardized provincial solution for all specialist referrals. Rather than a single application system, the Electronic Referral Solution envisions a coordinated set of application functionality and data exchanges that support the target state for an electronic referral process.

Phase 1 of the Electronic Referral Solution implementation, now completed, included moving FAST services onto Netcare's eReferral system, and as well as making system upgrades.

Phase 2, currently underway, focuses on sending referral requests electronically from individual community electronic medical records (EMRs) and Connect Care to eReferral and developing requirements for specialists around CLRM. Target implementation dates are June 2025 for Connect Care integration and August 2025 for community EMR integration. The final part of Phase 2 involves status updates from eReferral to Connect Care; planning commenced in January 2025.^{xi}

Overview of Connect Care outgoing referrals

Connect Care has two main types of referral classes: internal and outgoing.

- Internal referrals are orders placed by providers using Connect Care to a provider or department also active on Connect Care. These referrals are processed via work queues 1 to 4 (WQ1 to WQ4).
- Outgoing referrals are those placed by providers using Connect Care to a provider or service not active on Connect Care. These referrals are processed and managed via work queue 5 (WQ5).

The process steps within Connect Care for these two types of referrals are built around the concepts of closed-loop referral management (CLRM). The outgoing referral process was the focus of this review.

Outgoing referrals (WQ5)

Outgoing referrals are made when only the sending provider uses Connect Care as the record of care, and the receiving provider relies on a different system (electronic, or paper-based). Outgoing referrals can be initiated from both ambulatory and inpatient areas that use Connect Care. The provider enters a referral, and it is sent to WQ5 for further management by clerical staff. WQ5 relies heavily on manual processes. Unlike internal referrals, where the referral letter is sent automatically after the sending provider completes the order, outgoing referrals flow to WQ5 where clerical staff are required to complete additional tasks before the referral letter is sent.

⁴ FAST stands for Facilitated Access to Specialized Treatment. It's a centralized referral program designed to streamline the process of referring patients to specialized surgical care

While internal referrals are managed and updated by the receiving provider and clerical staff via a direct Connect Care to Connect Care interface, outgoing referrals must be manually tracked and managed to completion in Connect Care by the sending provider's clerical staff. Because the receiving provider does not use Connect Care, updates are communicated back to the sending provider or to the patient via phone, fax, or other means. In an inpatient setting, responsibility for managing an outgoing referral to completion rests on the unit or area where the provider initially entered the referral order, and this responsibility is not transferred if the patient moves to a different inpatient area. The clerical staff supporting both providers who send and providers who receive referrals have various employment relationships to the providers: Some are hired by the Connect Care organization (e.g., AHS or Covenant Health) and some are privately hired by the provider.

The receiver of the referral will typically use an electronic medical record to manage referrals in their clinical area, while some practices still use paper-based processes.

Flags in WQ5 that sending clerks monitor for CLRM

Within WQ5, at least three actions are needed to meet the expectations of CLRM: acknowledging receipt of a referral letter, entering the referral appointment, and uploading the referral report. Connect Care uses standardized flags and messages to monitor these three key actions of CLRM:

- "Action required on outstanding letter review message(s)."
- "External appointment date has not yet been entered."
- "Consultation report received flag has not been set."

Referrals to regulated health professionals authorized under the *Health Professions Act*, require CLRM as guided by the newly developed 'Who needs closed-loop referral management' process, in addressing the three error messages noted above. The CPSA SOP provides guidance and expected times for each CLRM communication.

Other referrals to community organizations, such as the Alzheimer Society or Meals on Wheels, do not require CLRM and can be removed from WQ5 by the sending clerk using a 'non-clinical', or 'non-regulated healthcare provider' flag.

Some referrals to regulated healthcare professionals, such as physiotherapists, can also be removed from WQ5 without addressing the three error messages; in these cases, patients can self-refer, and a consultation report is rarely generated.

Early identification of problems with outgoing referrals

Beginning with Connect Care Launch 1, in November of 2019, an 'executive launch dashboard' was made available to help managers and directors monitor their areas' work queues. Monitoring was optional, but the dashboard flagged, with a symbol, referral work queues that had not been opened in seven days.

Although difficult to pinpoint exact numbers from early launches, there are more than 8,700 work queues needing to be monitored. Work queues were meant to be audited semi-annually by one or two project coordinators but instead were audited as time allowed. The audits were primarily focused on WQ5.

Early audits began to identify an accumulation of referrals sitting in WQ5. After continued monitoring, 'virtual office hours' sessions were offered in September 2020 for unit clerks and emergency department/urgent care clerks. Topics included understanding referral workflows, finding referral work queues, managing referrals, sending notifications, entering external appointment dates, and tracking referrals.

A larger problem discovered

In mid August 2024, while helping a rural department with work unrelated to referrals, the AHS Central Zone Clinical Informatics team noticed a high number of referrals sitting in WQ5 may have been improperly processed. Leadership was notified and a further audit was completed that suggested the issue was widespread across all programs of the Central Zone. An audit for the entire province found the problem was present in all AHS zones.

In late September 2024, AHS informed Alberta Health approximately 14,000 referrals in WQ5 may have been delayed or misprocessed. These referrals were to various providers, such as oncology, cardiology, and allied health professionals (physiotherapy, dieticians, etc.).

A provincial AHS Connect Care Referrals Task Force was established, involving representatives of the various AHS zones and of program/partner areas such as Covenant Health, Recovery Alberta, and Cancer Care. Zone and program/partner area task forces were also formed.

These groups collaborated to further clarify the number of patients who could have been affected, to assess the referrals for clinical impact, to prioritize high-risk situations and plan disclosure, to create and distribute training material, and to implement other early strategies to prevent further instances.

FINDINGS: ISSUES, CONTRIBUTING FACTORS AND RECOMMENDATIONS

This review identified nine issues that contributed to referral delays. Contributing factors provide additional context. The issues have been categorized into five themes:

- Design of WQ5
- Implementation of Connect Care, specifically WQ5
- Quality assurance monitoring
- Patient experience
- Governance and oversight of referrals in Alberta

Issues, contributing factors, and recommendations are shown in Table 1. Recommendations are directed to the entities that exist in Alberta’s healthcare system in spring 2025 and hold accountability for Connect Care (e.g., AHS).

As health system restructuring evolves, actions should be undertaken by the relevant newly formed provincial health agencies (e.g., Acute Care Alberta, Assisted Living Alberta), the various health corporations that provide healthcare services (e.g., AHS, Covenant Health), and the entity that will be responsible for Connect Care IT services.

Recommendations are numbered sequentially. However, some recommendations are intended to address multiple contributing factors and are therefore duplicated in the table below. In these instances, the recommendations and enabling actions are noted as being a ***duplicate*** and are numbered according to the first time the recommendation is made.

Table 1: Issues, contributing factors, and recommendations categorized by theme

ISSUE	CONTRIBUTING FACTORS	RECOMMENDATIONS
DESIGN OF WQ5		
WQ5 design does not accommodate the needs of all healthcare partners.	Healthcare partners were not adequately engaged in the design process for WQ5.	1. AHS should establish a structured collaborative approach (co-design framework) with representation from clinical operations that use WQ5, non-AHS healthcare partners, patients, family members, and support network members for future decision-making regarding system enhancements and workflow optimizations to WQ5. Enabling action: These groups should collaboratively refine WQ5 workflows to ensure alignment with clinical needs, enhance usability, improve interoperability across care settings, and ensure alignment with patient and family priorities.
	Aspects of WQ5 that are not user-friendly contributed to WQ5 processing delays.	2. AHS should promote the reporting of issues related to WQ5, including situations when outgoing referrals are not entered in WQ5. The AHS provincial Connect Care team should work with Epic (a Connect Care software vendor) to address known usability issues noted in this report and in past AHS Human Factors evaluations. Enabling actions: - Simplify the wording and change the order of error messages and system prompts to improve clarity and actionability. - Use hyperlinks to embed relevant tip sheets directly into applicable WQ5 fields. Ensure tip sheets are contextually linked and accessible with one click from within the workflow. - Create automated system flags and dashboards to support monitoring. Push real-time indicators to sending clerks and managers showing a referral's pending action (e.g., open, missing information, or awaiting letter.) 3. The AHS provincial Connect Care team should include Human Factors usability testing as part of Connect Care optimization for WQ5. This should include iterative usability testing and WQ5 enhancements until predetermined performance benchmarks are achieved (for example, a predetermined percentage of sending clerks able to identify a referral letter has been sent).

ISSUE	CONTRIBUTING FACTORS	RECOMMENDATIONS
DESIGN OF WQ5		
Multiple processes and software applications perform similar functions.	Management of the various provider registries is fragmented.	4. Create a single provincial provider registry with a process to maintain accuracy and completeness. Alberta Health should assign this responsibility to a designated department (e.g., AHS Health Information Management) to be completed independently from other referral initiatives. Enabling actions: ▪ Alberta Health should establish a working group with representation from all healthcare partners who use or contribute to the provider registry to develop the registry. ▪ Establish master data management for the single provider registry. ▪ Build search functionality that mirrors user expectations (e.g., filters that allow searching by location, availability, etc.). ▪ Embed links within the registry for users to easily notify managers of the registry when updated information is needed. ▪ Automate provider updates through the College of Physicians and Surgeons and AHS Medical Staff Office renewal cycles. ▪ Integrate the single provider registry into referral workflows so it is used (not merely referenced) when selecting a receiving provider or service for a referral. Information from the consolidate registry should auto-populate into the referral letter.
	Referrals are managed in two separate provincial EHR systems, leading to duplication of effort and incomplete documentation of CLRM.	5. Alberta Health should expedite the implementation of the Electronic Referral Solution to enhance interoperability of IT systems. 6. Pending implementation of the Electronic Referral Solution, AHS should review and expand permissions as needed so sending clerks can access Netcare and locate final consult reports or other data required for WQ5.
	CLRM is broadly distributed, resulting in duplicated efforts and hindering standardization.	7. AHS should consider reassigning the monitoring of closed-loop referral management steps to a central intake department.

ISSUE	CONTRIBUTING FACTORS	RECOMMENDATIONS
DESIGN OF WQ5		
	The use of two provincially managed patient portals confuses patients and creates an administrative burden for providers.	8. Netcare/Connect Care patient portal teams should collaborate to ensure patients have a single, seamless portal where they can access all relevant health information, regardless of where care was received. Enabling actions: - Make it easier for patients to access their current and future patient portals. - Provide instructions/training on accessing and navigating current and future patient portals. - Analyze anonymized user logs from patient portals for data on how patients use the portals and what content they access; conduct simulations so providers can see the patients' perspective in various applications (website versus mobile device app). - Engage patients/family/support network members for input on the kind of information they would like to have on the patient portal. - Conduct Human Factors usability testing of current and future patient portals. Use evaluations of current portals for improvement and to inform design requirements for the future portal.
IMPLEMENTATION OF CONNECT CARE, SPECIFICALLY WQ5		
Not all referral workflows in WQ5 are well defined or consistently applied.	Mechanisms to share and spread local workflow optimizations for WQ5 are lacking.	9. The AHS provincial Connect Care team should: (1) establish a mechanism for clinical departments to share their WQ5 workflow enhancements, (2) assess effectiveness of these enhancements, and (3) implement enhanced workflows more broadly as applicable.
	Workflows for referrals, clinical recommendations, and clinical communication in WQ5 are unclear.	10. AHS should establish a working group of individuals who send and receive referrals, recommendations, clinical communications through Connect Care as well as patients and families/support network members to establish: - clear guidelines on the use of each workflow (referrals, recommendations, or clinical communication) - routing rules (automation) and processes to manage each type of workflow - resolution expectations regarding closed-loop referral management so it's clear which referrals, recommendations, or clinical communications require acknowledgement only, or full closed-loop referral management.

ISSUE	CONTRIBUTING FACTORS	RECOMMENDATIONS
IMPLEMENTATION OF CONNECT CARE, SPECIFICALLY WQ5		
Not all referral workflows in WQ5 are well defined or consistently applied.	Some clerks do not monitor CLRM steps out of a fear of breaching privacy on Netcare or Connect Care	8. (<i>Duplicate</i>⁵) AHS should consider reassigning the monitoring of closed-loop referral management steps to a central intake department. 12. Pending a centralized intake department, AHS should embed expectations to monitor patient records in Netcare and Connect Care for closed-loop referral management within sending clerks' roles and responsibilities.
	Responsibility for communication with patients and families about the referral process is unclear.	13. Alberta Health should establish a working group of individuals who send and receive referrals as well as patients and families/support network members to clarify responsibility for communicating with patients throughout the referral process, as well as what should be communicated and when and how this communication should occur. Enabling actions: - Engage patients and families to help determine communication requirements. - Use digital communication channels (patient portal) to supplement (not replace) other communication channels. - Consider offering multiple forms of communication to meet individual patient circumstances. - Detail communication requirements in policies, procedures, resources, and training.
Some AHS departments do not employ CLRM using WQ5.	Some sending clerks and managers did not receive WQ5 training, and were therefore not informed CLRM was being implemented in their department's Connect Care launch.	14. AHS provincial Connect Care team should develop a standardized release package for future Connect Care changes highlighting the impact at each staff level. Enabling actions: - Consider releasing updates following a fixed and planned schedule that sets expectations on when changes will be coming. - Allow staff to filter by role or department to find changes that impact their work. - Identify individuals (e.g., Connect Care super users) who would be responsible for communicating changes or updates to their teams, improving awareness of changes that impact their role and new workflow requirements.

⁵ Recommendations and enabling actions noted as *duplicates* appear elsewhere in the report because they address multiple contributing factors.

ISSUE	CONTRIBUTING FACTORS	RECOMMENDATIONS
IMPLEMENTATION OF CONNECT CARE, SPECIFICALLY WQ5		
Some AHS departments do not employ CLRM using WQ5.	Some sending clerks and managers thought the training was not applicable or couldn't recall the training content.	15. Chief Medical Information Officer and Connect Care Clinical Operations portfolios of AHS should require increased hands-on experiences with clinically relevant workflows during WQ5 training. 16. Chief Medical Information Officer and Connect Care Clinical Operations portfolios of AHS should include outgoing referral tasks as part of the Simulated End User Proficiency Assessment for sending clerks and sending providers.
	Some sending providers and clerks did not use WQ5 to send outgoing referrals, which undermined CLRM.	2. <i>(Duplicate)</i> AHS should promote ServiceNow and the AHS Reporting and Learning System as a means of reporting issues, including situations when outgoing referrals are not entered in WQ5. Data from these systems should be monitored for themes, changes implemented to address the issues, and feedback provided indicating their report was received and addressed. 17. AHS should clarify the responsible provider to address referral issues when the sending provider is not available.
Quality assurance processes failed to ensure referrals were carried out and completed in an appropriate time frame.	Auditing and monitoring of WQ5 was insufficient.	18. AHS should assign and broadly communicate responsibility for WQ5 monitoring both locally and provincially. Enabling actions: - Metrics used to monitor WQ5 should include all steps required for closed-loop referral management. - The frequency of WQ5 monitoring should be specified. - Clerks, managers, and area leaders should continue to monitor the WQ5 for their area. In addition, analysts should be assigned a reasonable, defined number of departments to monitor using the parameters for frequency and metrics defined above. Consider using automation to support monitoring by analysts.

ISSUE	CONTRIBUTING FACTORS	RECOMMENDATIONS
IMPLEMENTATION OF CONNECT CARE, SPECIFICALLY WQ5		
Quality assurance processes failed to ensure referrals were carried out and completed in an appropriate time frame.	Communications from the AHS provincial Connect Care team to local managers regarding outgoing referrals were not consistently actioned.	19. AHS provincial Connect Care team should establish communication channels (involving senior leaders) when WQ5 issues with requested actions are being communicated to clinical managers to improve uptake of requested actions. 18. <i>(Duplicate)</i> AHS should assign and broadly communicate responsibility for WQ5 monitoring both locally and provincially. Enabling actions: - Metrics used to monitor WQ5 should include all steps required for CLRM. - Specify the frequency at which WQ5 should be monitored. - Clerks, managers, and area leaders should continue to monitor WQ5 for their area. In addition, analysts should be assigned a reasonable, defined number of departments to monitor using the parameters for frequency and metrics defined above. Consider using automation to support monitoring by analysts.
	Clinical Informatics is not embedded in all zones.	20. AHS should ensure there is a strong link between clinical operations and IT/Clinical Informatics. Consider embedding Clinical Informatics within each zone to support clinical operations.
	Patients do not know where to lodge their concerns about referral management.	21. Alberta Health should establish a group to co-design a mechanism for addressing referral-specific patient concerns that includes a balanced representation of providers who send and receive referrals from WQ5 and eReferral, patient concerns officers/staff, representation from the Office of the Albert Health Advocate, complaints management staff from the College of Physicians and Surgeons of Alberta and other regulatory colleges involved in referrals, and patients and support network members. 22. Alberta Health should assign responsibility for promoting these established concerns resolution processes about referrals, including through tools patients currently access, such as the after-visit summary and referral section of the patient portal. 23. Alberta Health should establish a mechanism to regularly review referral inquiries and concerns for recommendations to improve patient care (e.g., delayed or missing referrals) and monitor for trends and issues to improve the referrals management processes and patient and family experience.

ISSUE	CONTRIBUTING FACTORS	RECOMMENDATIONS
PATIENT EXPERIENCE		
Patient experience with outgoing referrals is not actively assessed.	Current patient, family, and support network engagement activities and resources related to referrals offer insights that are inconsistent and fragmented for learnings at provincial and local levels.	24. Alberta Health and AHS should prioritize seeking feedback from patients, family, and support network members about their referral experiences, ensuring the aspects of the referral experience listed below are explored, to identify and prioritize activities that can improve patient experience. ▪ Safety (physical, psychological, cultural). ▪ Ease of navigation and availability of supports. ▪ Ease and helpfulness of communication and information during the referral journey.
	Current feedback processes to address questions, and hear concerns and suggestions, are acceptable only to those who have time, feel comfortable and safe enough, and are able to speak up.	25. Alberta Health should identify opportunities to recommend or require sector-specific provincial and local patient experience engagement and monitoring activities (e.g., surveys, focus groups, etc.) to include referrals and assessing the aspects of the referral experience listed above. 26. At the time patients register for MyAHS Connect and MyHealthRecords, Alberta Health should obtain consent to use patients' email addresses as a means to seek feedback on their healthcare experiences.

ISSUE	CONTRIBUTING FACTORS	RECOMMENDATIONS
GOVERNANCE AND OVERSIGHT OF REFERRALS IN ALBERTA		
Expectations for closed-loop referral management are inconsistent across providers and organizations that send and receive referrals.	Provincial expectations for CLRM are lacking.	27. The Minister of Health should set an expectation for closed-loop referral management for all healthcare professionals who send and receive referrals. 28. Alberta Health should establish mechanisms for monitoring closed-loop referral management compliance across the healthcare system.
	Some regulated members of CPSA do not comply with CPSA's Standards of Practice regarding CLRM.	28. <i>(Duplicate)</i> Alberta Health should establish mechanisms for monitoring closed-loop referral management compliance across the healthcare system. 6. <i>(Duplicate)</i> Alberta Health should expedite the implementation of the Electronic Referral Solution to enhance interoperability of IT systems. 29. AHS provincial Connect Care team should establish processes to ensure sending provider contact information is included on all referral letters sent.
Interoperability for WQ5 is nonexistent between organizations that use Connect Care and organizations that do not.	Alberta does not mandate interoperability between health information systems as a standard for processing referrals.	30. The Minister of Health should mandate health data interoperability between health information systems. Alberta Health should continue efforts to align interoperability standards with the Pan-Canadian Health Data Charter. 31. Alberta Health should engage with Indigenous leaders, health leaders, and people with data expertise within Alberta, so they are actively involved in discussions and decisions related to policy and legislative action related interoperability, given the potential impact to their rights and data sovereignty.
	Non-AHS organizations (including mixed-context providers) cannot use Connect Care.	6. <i>(Duplicate)</i> Alberta Health should expedite the implementation of the Electronic Referral Solution to enhance interoperability of IT systems. 32. Alberta Health should enable Connect Care access to interested mixed-context providers. 33. AHS provincial Connect Care team should expedite the Connect Care Provider Portal pilot to enable portal access to interested providers. 34. Alberta Health and AHS should engage Indigenous health leadership, providers, and staff delivering care at Indigenous-led care sites, and health data expertise within Alberta to ensure they are included, and their needs and concerns are understood, as the Electronic Referral Solution and Connect Care Provider Portal improvements are prioritized and expanded.

ISSUE	CONTRIBUTING FACTORS	RECOMMENDATIONS
GOVERNANCE AND OVERSIGHT OF REFERRALS IN ALBERTA		
Interoperability for WQ5 is nonexistent between organizations that use Connect Care and organizations that do not.	The Electronic Referral Solution implementation is slow.	6. <i>(Duplicate)</i> Alberta Health should expedite the implementation of the Electronic Referral Solution to enhance interoperability of IT systems.
There is no governance and accountability structure responsible for overseeing referral processes in Alberta.	N/A	35. Alberta Health should introduce a governance and accountability structure that would be responsible for all aspects of a referral. Enabling action: Allocate authority for decision-making and implementation to the responsible body.

GLOSSARY

After-visit summary (AVS): A printed or digital summary given to a patient after a medical visit. It usually includes the reason for the visit, test results, medications, follow-up instructions, and upcoming appointments.

Clerk: Unregulated clerical staff who manages the workflow of outgoing referrals in Connect Care.

Clinical information system (CIS): A digital system used by healthcare teams to record, store, and manage patient information such as medical history, test results, and treatment plans.

Closed-loop referral management: A process that makes sure every referral is tracked from start to finish, starting with the referral being sent, then accepted, an appointment made, care provided, and finally, a report sent back to the referring provider to close the loop.

Co-design framework: A co-design framework is a collaborative approach to problem-solving and innovation that involves various interested parties in the design and development process.

College of Physicians and Surgeons of Alberta (CPSA): The regulatory body responsible for licensing physicians, ensuring high standards of medical practice, and protecting the public by overseeing the professional conduct of physicians in Alberta. CPSA maintains the Medical Directory and ensures that physicians meet the required standards for practice.

Connect Care Provider Portal: Provides healthcare providers with access to information about their patients who receive care from AHS and affiliates. This portal is a web-based application designed to bridge the gap between healthcare providers who use the Connect Care system and those who do not.

Connect Care: AHS' clinical information system, built on Epic's electronic health record (EHR) platform, integrates patient information across the province.

Data sovereignty: The concept that data is subject to the laws and governance structures of the country or region where it is collected and stored. This means that data generated within a specific nation must comply with that nation's legal and regulatory frameworks, including privacy, security, and data protection laws. This term has distinct meanings and applications within Indigenous contexts related to the right to ownership and governance of information at both individual and collective levels.

Delayed referral: A referral that was not properly processed through Connect Care from AHS to a community health provider. This includes referral letters not sent to the receiving provider, sent to the wrong provider, or not being updated with required information within appropriate time frames.

Electronic health record (EHR): A digital record shared with other healthcare providers at different sites who all use the same system.

Electronic medical record (EMR): A digital version of a patient's paper chart within a single healthcare practice, containing medical history, diagnoses, medications, and treatment plans.

Electronic Referral Solution: The standardized provincial plan for all specialist referrals involving a collective set of IT systems and services that support the target state for an electronic referral process.

Enabling actions: Specific steps, tasks or measures that support the implementation of recommendations.

Epic: Epic Systems Corporation is a healthcare software company that develops, manufactures, licenses, supports, and sells a proprietary electronic medical record software application. Epic is one part of AHS Connect Care Clinical Information System providing core database, integration user interface functions. Epic is a widely used electronic health record system that stores and manages patient data, facilitating information sharing among healthcare providers within Connect Care.

eReferral: A specific electronic referral management system that allows physicians and clinic support staff to create, submit, track, and manage referrals online.

End User Proficiency Assessment (EUPA): A multiple-choice Connect Care assessment of end users' knowledge taken in MyLearningLink (MLL) after training. This assessment is used to assess system knowledge prior to granting access to the Connect Care system.

Family: A relative, friend, caregiver, guardian, agent, or legal representative chosen by the patient, who is providing support to a patient in a healthcare program or service.

Health information system: A broad term for any computer system that helps healthcare providers collect, manage, and use patient information.

Interoperability: The ability of different health information systems and software applications to communicate, exchange data, and use the information that has been exchanged effectively. For example, when a healthcare provider sends an eReferral, the data can seamlessly flow from their EMR system to the receiving provider's EMR system without the need for manual data entry.

Master data: The core data that is essential to operations in a specific business or business unit, typically including information about customers, products, employees, and suppliers.

Mixed-context providers: Refers to providers who work for AHS but also at a private clinic in primary care or as a community specialist.

MyAHS Connect: A secure online tool provided by AHS that allows patients aged 14 and over to access their Connect Care health information. Through MyAHS Connect, patients can view test results, manage appointments, securely communicate with their healthcare team, and contribute to their health records. Access requires an Alberta.ca account.

MyLearningLink: The web-based portal AHS has created for a wide variety of learning opportunities for both employees and medical staff. In addition to instructor led courses, there are self-directed online courses which are available to take at any time.

Netcare: Alberta's electronic health record system that lets authorized healthcare providers view important patient information like lab results, medications, and imaging reports across the province.

Outgoing referral: A referral placed by providers using Connect Care to a provider or service not active on Connect Care. For example, a physician referring a patient to a specialist at a facility that does not use AHS' Connect Care. All outgoing referrals are processed and managed via work queue 5.

Patient: A patient, resident, or client who is receiving services from a healthcare provider.

Patient portal: A secure online site where patients can view their health records, message their care team, check test results, and manage appointments. AHS and Alberta Health hosts two patient portals, MyAHS Connect and MyHealthRecords.

Provincial Provider Registry (PPR): The registry in Alberta that includes information about regulated health service providers in Alberta. It collects data such as name, date of birth, gender, licence or registration number, credentials, practice status, and specializations. This information supports health workforce planning and service delivery.

Receiving provider: A healthcare provider who receives a referral to see a patient from a sending provider.

Record of care: A detailed log in the health system that shows what care a patient received during a visit, including assessments, treatments, and provider notes.

Referral: A request from a healthcare provider for a patient to be seen by a specialist for further diagnosis, treatment, or expert advice.

Referral order: A formal request made by a healthcare provider asking another provider or service to take over part of a patient's care, usually for specialty or follow-up treatment.

Referral report: A document or message sent back to the referring provider with updates or results from the referred service, helping close the communication loop.

Reporting and Learning System for Patient Safety: A single, province-wide system for patient safety reporting. It includes reporting and learning as key elements of quality care; e.g., reporting of hazards, close calls, and adverse events is encouraged for learning about and improving patient safety throughout the healthcare system.

Routing rules: Routing rules determine how tasks are sequenced and managed within a workflow, ensuring that work progresses smoothly from one task to the next until the process is complete.

Sending clerk: The clerk sending a referral from Connect Care to a receiving provider.

Sending provider: The healthcare provider who makes a referral to a receiving provider on a patient's behalf.

ServiceNow: A comprehensive service management platform that helps AHS manage incidents, service requests, changes, and other IT services efficiently.

Simulated End User Proficiency Assessment (SEUPA): A Connect Care in-system assessment of the end users' knowledge of using the Epic platform following their Connect Care training. This assessment is used to assess system knowledge prior to granting access to the production environment of the Connect Care (Epic) system.

Support network: Includes all those who may assist a patient receiving and navigating a referral, outside of those within healthcare accountable for referral management (e.g., sending or receiving provider, clerical staff). This may include friends and family, Elders, social or community service groups, translators, employers (e.g., benefits plan administrators, human resource professionals) or other healthcare providers, staff, and volunteers (e.g., coordinators and liaisons, peer support, pharmacists, etc.).

Unsent referral: A referral that was created in the system but never fully completed or sent to the receiving provider, often due to missing steps or user error.

Work queue 5 (WQ5): In AHS' Connect Care system, work queue 5 is a specific task list used to manage and track outgoing referral requests to providers not on the Connect Care CIS, ensuring timely processing and follow-up.

APPENDIX A: JURISDICTIONAL REVIEW

JURISDICTIONAL REVIEW OF OUTGOING ELECTRONIC REFERRAL MANAGEMENT SYSTEMS AND PROCESSES IN DIGITAL HEALTH ENVIRONMENTS

Purpose/Introduction

This report summarizes the findings of a national and international jurisdictional review in support of the Alberta Health Services Outgoing Referrals Review using the Connect Care clinical information system (CIS). The review was conducted by the HQCA's Quality Assurance Committee (QAC) at the request of Alberta's Minister of Health.

The jurisdictional review team identified, and secured interviews with subject matter experts in managing outgoing referrals in CIS/electronic health record (EHR) systems used by health systems and care delivery organizations. Interviewees were asked for insights into how the outgoing referral process works within their respective system or organization, how rigorously closed-loop referral management (CLRM) is pursued and documented, how delayed referrals are avoided or mitigated, and what practices or elements of system design contribute to those successes or challenges.

Several other interviews were conducted with representatives from organizations that have produced solutions that support the electronic referral journey, such as provider directories and Referral Management Systems (RMS) that bridge referring provider and specialist provider electronic medical records (EMRs).

Methodology

Seeded with an introductory literature review conducted by another QAC sub-committee member, the jurisdictional review began with internet searches for active eReferral programs across Canada and internationally, including the U.K., the Netherlands, Denmark, Australia and New Zealand. Variations on such search terms as "eReferral service," "eReferral solution," and "electronic referral platform," in conjunction with jurisdictional place names (e.g. individual Canadian provinces, countries, etc.), were employed. Additional searches for eReferral initiatives within provincial ministries of health, and for hospital systems and other care provider networks that employ Epic as part of their CIS, were also conducted. Given the pace of change in the digital health landscape, particularly during and since the COVID pandemic, search results prior to 2020 were generally dismissed.

Once organizations were identified as being of interest to the jurisdictional review, a member of each organization's senior leadership team visible on their corporate website was sent an email request from a QAC sub-committee member, inviting them or appropriate delegates to participate in a jurisdictional interview. Recipients of email requests early in this process, before an informal network was developed through word-of-mouth and interview content, included chief information officers, chief medical information officers, or those in public affairs functions.

The activities led to 22 virtual interviews with 20 organizations (see Table A following the reference list for the full list of organizations), and attendance by two QAC sub-committee members at one virtual webinar. Among the 20 organizations were nine hospital systems that employ Epic as part of their CIS. Other RMSs investigated as part of this jurisdictional review include OceanMD’s eReferral solution (active in nine Canadian provinces and explored here in interviews with multiple care provider networks or hospital systems in the three provinces where it is most prominent: Ontario, Nova Scotia, and B.C.), the NHS England e-Referral Service (e-RS), and a pilot eReferral project developed by the Pathways not-for-profit society in B.C.

Preparation for each interview included additional grey literature research and the development of an interview guide. With the participants’ permission, Zoom-generated text transcripts for 21 of the 22 interviews were used to assist with note-taking.

Each transcript was later analyzed and the reviewer, using an inductive approach and identifying general concepts, processes, enablers, and elements of system design within referral processes, undertook a thematic content analysis of the interview outputs to identify attributes of various CISs, EHRs or RMSs and their resulting workflows that impacted the effectiveness of outgoing referral processes within health systems or healthcare organizations. Grouping content from each interview under various themes that emerged in these discussions on eReferral initiatives and the digital health landscape, the final set of themes is presented in the Findings and Analysis section and supported by content from the interviews and literature review.

Table A: Organizations interviewed for the jurisdictional review

The following organizations helped facilitate or attended jurisdictional interviews informing this summary:

- Australian Dept. of Health, Canberra, Australia
- Canada Health Infoway, Toronto, Ontario
- Central East Ontario Health Team, Scarborough, Ontario
- Children’s Hospital of Eastern Ontario (CHEO), Ottawa, Ontario
- eHealth Centre of Excellence, Kitchener, Ontario
- Hamilton Health Sciences, Hamilton, Ontario
- Mackenzie Health, Richmond Hill, Ontario
- NHS England Transformation Directorate, Leeds, United Kingdom
- Nova Scotia Health, Halifax, Nova Scotia
- OceanMD, Toronto, Ontario
- Oregon Health & Science University, Portland, Oregon
- Ottawa West Four Rivers, Ottawa, Ontario
- Oxford University Hospitals NHS Foundation Trust, Oxford, United Kingdom

- Pathways, Burnaby, B.C.
- Provincial Health Services Authority, Vancouver, B.C.
- Region H, Copenhagen, Denmark
- The Hospital for Sick Children (SickKids), Toronto, Ontario
- UC Health/University of Colorado School of Medicine, Aurora, Colorado
- University of Texas Health Science Center, Houston, Texas
- Vanderbilt University Medical Center, Nashville, Tennessee

Findings

When the referral mechanism breaks down in our healthcare system, there are myriad detrimental impacts on patients and their families (physical and emotional harms, declining trust in providers and the system, etc.), on providers and other clinical staff (duplication of tasks, burnout, declining mental health), and the healthcare system as a whole (longer wait times, poorer population health outcomes, higher costs to treat worsening patient conditions). Referral processes and the systems in which they operate are complex; the issues facing users and patients are nuanced, all the more so by the sophistication of working in large organizations and with ever-changing digital tools. Layering the requirement for CLRM into a digital healthcare landscape that does not yet mandate or provide standards for interoperability is also not setting up providers, patients, or organizations for success.

While this review uncovered many challenges in other jurisdictions surrounding eReferrals and the sharing of patient information between EHRs that were similar to those experienced in Alberta in 2024, it also found encouraging evidence from interviews and a starter literature review that prompted the review team to make a number of observations that if adopted appropriately to the local context could bring us closer to an ideal future state for eReferrals in Alberta.

Described in greater detail in the preceding sections and supported by interview and supplementary content, the thematic statements are presented here in the same order in which they appeared previously:

- Outgoing referral workflows vary greatly; some are governed by standards or organizational policies, others have developed organically; either way, they can vary from one clinical setting to another within an organization, even in supposedly standardized environments. Ultimately, most workflows involve a clerk, medical office assistant (MOA) or other delegate, whether required by a standard or not. The review did not discover a workflow that claimed to achieve a higher closed-loop completion rate than others, though some demonstrate efficiencies such as reducing appointment wait times, shorter time to acknowledgement, or workflow time savings.
- There are no infallible examples of fully documented closed-loop referral management in the originating CIS/EHR system for outgoing referrals, when a provider using one CIS/EHR (such as Epic) refers a patient to a specialist or community provider that uses another EMR.

- Bi-directional messaging capabilities between the referring and specialist providers within the RMS allow for a more timely and efficient exchange of information, increase the appropriateness of referrals, potentially decrease wait times, and lessen administrative burden on providers and clinical staff.
- Service directories augmented with provider details such as wait times, specialties and limitations, languages spoken, geographic proximity to the patient, site accessibility, etc. can improve the referral process, spread the case load across providers in the same medical specialty, lead to more appropriate patient-provider matches, and better meet patient needs.
- Service directories that are collaboratively maintained – allowing for providers to update their own listing content and requiring administrators to regularly confirm content with providers – have a higher probability for accuracy and uptake than those that rely on only one information source or verification method.
- Provider organizations that build, actively monitor, and respond to issues flagged by referral dashboards and other performance measures in the EHR or RMS are in a stronger position to improve referral workflows, increase referral appropriateness, increase patient safety, and reduce provider burnout.
- Staff roles (whether in centralized referral intake models or at individual provider sites) with clear responsibilities and structured approaches are critical to monitoring failed, rejected, delayed or otherwise incomplete referrals.
- Enabling patient access to information about their referral is a critical step in delivering people-centred care, empowering patients with insights into their referral progress, providing a sense of autonomy over their own care, and leading to higher rates of patient satisfaction.
- Supported by organizational leadership, robust EHR onboarding and workflow training should include a variety of approaches, media and tactics; be role-specific; and ensure that the trainers have a thorough understanding of the workflow objectives (marrying technology with workflows).
- Health systems and organizations that employ informatics roles or teams, proactively hold workflow optimization exercises, and facilitate knowledge-sharing across teams will lead to system improvements, more efficient processes, increased patient safety and lower provider and administrator burnout.
- The Physician Builder program is a critical tool for system optimization and creates an ecosystem within host organizations, supporting Epic subject matter experts who build optimizations, are champions of change management, and are Epic ambassadors within their clinical areas.
- Having a robust governance structure to assess, test and implement EHR/RMS optimizations is critical to improving (referral) workflows, achieving system efficiencies and ensuring quality in healthcare systems or provider organizations.

- National interoperability standards, informed by principles in the existing Pan-Canadian Health Data Charter, are critical to enabling health systems and provider organizations make informed system design, vendor and business model decisions, and to ensuring the myriad EHRs, health information exchanges and APIs can mitigate patient harms and communicate patient information and order requests efficiently, predictably, and cohesively.

REFERENCES

- ⁱ HQCA Patient Safety Review Guidebook: Systematic Systems Analysis: A Practical Approach to Patient Safety Reviews (2022). Webpage: [HQCA-2022-SSA-Patient-Review-F2-web.pdf](#)
- ⁱⁱ AHS Connect Care. Connect Care Patient Access – Outgoing Referral Guidelines.
- ⁱⁱⁱ AHS Connect Care. Information for Patients & Families. Webpage: <https://www.albertahealthservices.ca/cis/cis.aspx>
- ^{iv} Connect Care: Implementation Timeline. Webpage: <https://www.albertahealthservices.ca/assets/info/cis/if-cis-cc-infographic-site-implementation-timeline.pdf>
- ^v Canadian Healthcare Technology (Nov 6, 2024). Alberta expands Epic HER across the province. Webpage: <https://www.canhealth.com/2024/11/06/alberta-expands-epic-ehr-across-the-province/>
- ^{vi} Canadian Healthcare Technology (Oct 8, 2014). Alberta Launches eReferrals for several conditions. Webpage: [Alberta launches eReferrals for several conditions | Canadian Healthcare Technology](#)
- ^{vii} Alberta Government. Alberta Netcare Learning Centre. eReferral. [Connect Care Provider Portal Summary](#). Webpage: <https://www.albertanetcare.ca/learningcentre/eReferral.htm>
- ^{viii} Alberta Surgical Initiative. Calgary Zone: Centralized Referrals for Urology & Orthopaedics/Spine. Webpage: <https://www.specialistlink.ca/assets/ahs-aop-asi-fast-launch-caz-primary-care-providers.pdf>
- ^{ix} Alberta Government. Alberta Netcare Learning Centre. eReferral. Webpage: <https://www.albertanetcare.ca/learningcentre/eReferral.htm>
- ^x Alberta Surgical Initiative (2021-07-20). ERS Target State Requirements.
- ^{xi} Alberta Health, AHS, AMA (Dec 17, 2024). Electronic Referral Solution (ERS) Coordinating Committee. Phase 2b Referral Submission Project Status Update. PowerPoint presentation.



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