The Primary Care Medical Record System: Recommendations for Success from Family Physician Leaders

Draft for Discussion

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Introduction

Ontario's investment in an integrated Primary Care Medical Record (PCMR) system has been long awaited. Once operational, the PCMR system will enable increased access to more complete medical records for both physicians and patients, reducing decades of siloed and inaccessible health information. For physicians, an integrated patient record can provide them with a single, trusted source of patient information with fewer clicks, supporting faster, high-quality clinical decisions, and more time with patients. Access to data can also help support quality improvement for physicians in their practices. Patients can experience more coordinated and seamless care, reducing the need to undergo unnecessary tests and repeat their health history. At the system level, this initiative can improve data integration and interoperability, reduce costly duplication and delays, and increase the efficient use of resources.

While there is a general sense of excitement from family physicians about this initiative, there is also currently a lack of information about what the PCMR system will entail. To mitigate against the risk of this optimism quickly turning into skepticism, family physician leadership is critical to foster trust and buy-in to the initiative. Given their unique role as prime contributors and users of electronic medical record (EMR) data, family physicians have an essential expertise to guide the development of the PCMR system throughout the full lifecycle of the initiative from conceptualization and procurement to design and implementation. Family physicians are also trusted custodians of patient information, and this unique relationship is essential for the safe and effective delivery of primary care. Building an integrated PCMR system will also require the extraction and sharing of data from family physician EMRs, which raises important considerations on how to encourage family physician willingness and readiness to adopt the PCMR system. This initiative requires the participation of the majority of family physicians to succeed; without this, the ultimate goal of creating interoperable and comprehensive patient medical records in the system will not be achieved.

As the government begins to contemplate developing the PCMR system, the Ontario Medical Association (OMA), Section on General and Family Practice (SGFP), and Ontario College of Family Physicians (OCFP) put forward six practical, physician-informed recommendations on what is needed now to ensure family physician participation and successfully achieve our shared goals of this provincial initiative.

1. **Partner with family physicians in co-design**
2. **Maintain patient trust and support digital health literacy**
3. **Support family physicians with clear communications and change management resources**
4. **Align with clinical workflow**
5. **Apply a principled data governance framework**
6. **Recognize the value of EMR data**

While this paper presents its recommendations from the perspective of family physicians, it must be acknowledged that the PCMR system will impact all physicians including specialists

practicing in community and hospital settings. These specialists will have access to the primary care data, and it can be contemplated that data from community-based specialist EMRs may also be contributed to the integrated patient record via a similar system in the future. As such, as the PCMR system is designed, it will be important to engage all physicians.

1. Partner with Family Physicians in Co-Design

Given their unique role as prime contributors, users, and trusted health information custodians (HICs) of EMR data, family physicians understand the limitations and risks of sharing clinical data. Their clinical expertise and practical experience are essential to ensure that the most appropriate and high-quality EMR data is shared through the PCMR system, and that patient trust in the physician-patient relationship is maintained. Otherwise, EMR data that is shared through the PCMR system without appropriate clinical context may be misinterpreted when shared at the system level, which ultimately could have unintended consequences on the delivery of patient care.

This makes family physicians an important partner in the co-design of the PCMR system. It is vital to engage and collaborate with a wide range of frontline family physicians to increase willingness of the profession to participate in and successfully adopt this initiative. While there is a general sense of excitement from family physicians about this initiative, there is also currently a lack of information about what the PCMR system will entail. To mitigate against the risk of this optimism quickly turning into skepticism, co-design with a diverse group of family physicians can foster trust and buy-in to the initiative. This involves collaborating with family physicians of different technical skills, organizational/clinic size and resources, and geographic locations across the province to ensure the PCMR system reflects the practice realities of various family physicians. The OMA, SGFP and OCFP are best positioned to help identify and facilitate engagement with these diverse family physicians.

Recommendations:

1.1 Partner with the OMA, SGFP and OCFP to engage a wide variety of frontline family physicians with varying technical, organizational/clinic, and geographic needs to inform the development of the PCMR system.

2. Maintain Patient Trust and Support Digital Health Literacy

Trust between family physicians and patients is vital for delivering safe and effective primary care. When personal health information (PHI) is shared through the PCMR system, patients may have concerns about how their data is being used. If patients do not understand how their information is used or fear it will be widely disclosed, they may hesitate to share important details with their family physician, potentially undermining this trusted bond. Such hesitation can result in less effective care decisions, delayed diagnoses, medication errors, suboptimal treatment plans, and complications during emergency room visits and hospitalizations, all of which can negatively affect patient safety and outcomes. Additionally, privacy worries might

cause some patients to avoid seeking medical care altogether or compromise the quality of data in the PCMR system. Patient trust in sharing information is an essential component of ensuring the most accurate, high-quality, and clinically relevant data is inputted into the PCMR system; in the absence of this, the benefits of the integrated system will not be achieved. Transparency to patients in how their PHI is being used is critical.

In addition, as patients gain digital access to their health records, it is essential they understand both the information and how to use the tools available to them. Supporting digital health literacy should not be solely the physicians' responsibility, as this increases their administrative workload and reduces time for patient care.

Further, there are unique risks and considerations regarding enabling patient access to health information online that may not exist with providing access to paper records. This includes determining what type of data should be made available to patients from physician EMRs (i.e. protecting physician private administrative or whiteboarding spaces within their EMRs); what information should be made available in real-time or with a time delay considering the type and sensitivity of the information, the risk of patient harm and/or misinterpretation, and the burden on physicians to review information; and what information from physician EMRs should be released prospectively versus retroactively.

Recommendations:

2.1 Co-design the PCMR system with a diverse group of family physicians to ensure it maintains patient trust in digital health and the physician-patient relationship.

2.2 Develop province-wide, plain-language explanations on how patient data is used in the PCMR system.

2.3 Develop education and resources on digital health literacy for patients when they gain access to their online health records, such as 24/7 provincial online/phone supports for patients. Physicians must not bear the burden of navigating digital health literacy supports for patients.

2.4 Co-develop a policy framework with the OMA and SGFP on enabling digital access for patients to their health information (in alignment with the principled data governance framework outlined in section 4 of this paper).

3. Support Family Physicians with Clear Communications and Change Management Resources

Currently, there is a general sense of excitement from family physicians about the PCMR system initiative and its potential. However, with the lack of detail released to date on the initiative, there is a risk that this optimism may quickly turn into skepticism which would ultimately hinder physician uptake. To mitigate concerns and increase buy-in, family physicians need to receive clear and consistent communication from the government and provincial partners as the initiative progresses.

Further, for family physicians to meaningfully adopt the PCMR system, they must be supported with practical tools and knowledge at the clinic level to manage privacy, maintain secure systems, and participate in the data exchange. Support needs vary widely among family physicians due to differences in technical expertise, organizational/clinic size and resources, and geographic location. Family physicians in small clinics especially need help, as they often lack dedicated privacy officers, IT support, or strong cybersecurity measures essential for securing data and preventing breaches.

Adopting the requisite knowledge and tools to participate in the PCMR system also requires significant and ongoing cost and time investment by family physicians. There may be initial costs for those family physicians who choose to migrate to the PCMR system and are required to transition to a new EMR. This may include downtime costs where physicians are unable to use their EMRs during the migration period that could result in lost clinical revenue and operational risk. In addition, there will be ongoing costs to participate in the initiative, including increasing costs to maintain and update EMRs and cybersecurity infrastructure. Family physicians need to be aware of all these costs upfront, and as this requires additional work outside of providing direct patient care, there needs to be appropriate recognition and support to encourage participation.

In addition, family physicians must be able to trust that the PCMR system initiative is compliant with the law, without needing to individually evaluate compliance. These assurances need to be readily available and clear in contractual terms and provincial communications. This should include clear contractual rights for physicians to end their participation in the PCMR system and transition to another EMR if it does not operate as agreed, without fear that they will lose all their data. Otherwise, due to the fear of risk and liability, family physicians may be less willing to participate in the PCMR system initiative which would hamper its success.

Recommendations:

3.1 Deliver early, clear and consistent communication to family physicians about the PCMR system as the initiative progresses from conception to implementation, with ample notice periods provided. The OMA and SGFP can advise on language that will resonate with physicians and disseminate communications through existing channels to increase awareness.

3.2 Appropriately fund for the time and costs associated with migration to the PCMR system, adoption of knowledge and tools, deployment of technical and cybersecurity infrastructure, and ongoing participation in the initiative for family physicians. The time and costs involved with participating in this initiative should be clearly and accurately articulated to family physicians upfront.

3.3 Provide family physicians with effective change management resources to support their adoption of the PCMR system, including privacy training, technical adoption assistance, clinical workflow and integration assistance, and digital health literacy supports. These resources should be delivered via a coordinated approach across provincial partners and

tailored to the varying needs and diversity of family physicians based on technical sophistication, organizational/clinic size and resources, and geographic location, as well as early, mid and late adopters of the PCMR system.

3.4 Equip family physicians with the technical support and cybersecurity infrastructure required for secure creation and bi-directional exchange of data from their EMRs to the PCMR system, including access to IT support to troubleshoot issues.

3.5 Make clear to family physicians that they are not taking on risk for transitioning to the PCMR system, including by writing contractual terms in clear and accessible language, to boost their participation.

4. Align with Clinical Workflow

Historically, family physicians have used their EMRs for the primary purpose of providing the best care for their patients. EMRs are the electronic version of paper charts and family physicians have used them in a similar manner to write notes. Due to this focus and system limitations on data sharing and interoperability, family physicians have not created EMR data with the objective of it being used for other purposes such as sharing that information with other providers or patients. As such, participation in the PCMR system may require the need to clean EMR data and ensure ongoing data accuracy and quality. This burden should not be borne by family physicians. With family physicians dealing with increasing administrative burden, this will further take time away from them to focus on providing patient care.

Technology and administrative burden are also common and oft-cited contributors to physician burnout. To mitigate the risk, the PCMR system should be designed to seamlessly integrate with and streamline physician workflow. All physicians should be able to access information contributed from the PCMR system from a single starting point (i.e. the patient chart), and not have to navigate additional portals, logins, or parallel systems. The PCMR system should be interoperable with existing systems across care settings, including primary care, specialists, hospitals, pharmacies, public health units, and home care. A key factor for participation by family physicians in the PCMR system is to gain access to health information for a more complete patient record. Family physicians should be able to pull the right data into their EMRs, including specialist notes, real-time lab and diagnostic imaging results, ER visits and hospitalizations, and allergy and medication lists including pharmacy dispensing and vaccination administration data. Automated background syncs – potentially generated by AI - should enable data to flow without the need for additional manual steps by the physician.

In addition, while the PCMR system can offer physicians more comprehensive data with less effort, unnecessary information can disrupt workflows. Physicians do not need every single data point pushed into their EMRs, and reviewing too much information can be time-consuming rather than efficient. Less relevant patient data can increase the risk that an important data point is overlooked, which can pose patient safety risks, especially during initial system implementation if technical errors occur. To reduce risk, it is crucial to start with low-risk data

like medication and allergy lists before expanding to sharing more and higher risk data elements.

Further, to assess the impact on workflow, pilot testing should be undertaken across diverse family physician clinic and geographic settings with frequent evaluations before broad deployment of the PCMR system. Trusted physician champions can be identified through pilot testing to help spread and scale the initiative across the province.

Recommendations:

4.1 Co-design the PCMR system with a diverse group of family physicians to ensure alignment with clinical workflows and mitigate administrative, technical, and financial burdens. Data extraction and sharing should not come at an additional cost to family physicians.

4.2 Invest in secure, interoperable digital health infrastructure to seamlessly integrate the PCMR system into existing clinical workflows with minimal manual steps and enable interoperability with existing systems across care settings including primary care, specialists, hospitals, and pharmacies.

4.3 Avoid information overload; physicians should receive access to the right data, not all available data, and are best positioned to advise on what is needed for the intended use.

4.4 Undertake a staged approach for rollout of the PCMR system with frequent evaluations, starting with pilot testing in diverse family physician clinic settings across the province and sharing the lowest risk data.

5 Apply a Principled Data Governance Framework

In the context of this paper, data governance refers to how data from physician EMRs is managed across the health care system by defining who can do what with the EMR data, for what purposes, under what rules, and with what oversight to ensure the data is secure, legally compliant, and used appropriately in the best interests of patients and the profession.

Ontario's legislative framework - anchored in the *Personal Health Information Protection Act, 2004* (PHIPA) - establishes clear obligations for the protection and appropriate use of personal health information (PHI). Amendments to PHIPA in recent years have further enabled the sharing of PHI to the provincial electronic health record (EHR) to foster integration of patient data at the system level. However, legislation alone is insufficient to ensure that data governance aligns with clinical realities and patient trust.

Without robust data governance for the PCMR system, family physician EMR data may be accessed or repurposed without clear authorization or consistent standards, increasing the likelihood of misinterpretation of clinical information, inappropriate secondary use, and potential privacy breaches. Over time, this can undermine data quality, clinical integrity, and family physician willingness to adopt or contribute to the PCMR system, ultimately limiting our collective ability to successfully advance this essential and innovative initiative.

Realizing the benefits of the PCMR system will require a principled approach to governing how family physician EMR data is used in the PCMR system. As family physicians are the primary creators, users, and HICs of this data, their leadership is essential to designing a data governance framework that is clinically appropriate, legally compliant, and trusted by both physicians and patients.

Recommendations:

5.1 Apply a principled data governance framework grounded in physician partnership in data governance structures, clear roles and accountability, explicit purpose limitations and transparency for data use, and continuous evaluation of governance policies over time. See Appendix A – A Principled Data Governance Framework for the PCMR system – which outlines a draft framework for more details.

6. Recognize the Value of EMR Data

In their unique role as HICs of primary care data, family physicians spend considerable time, money and effort in collating and maintaining their EMRs to produce clinically rich, longitudinal patient information. When shared through the PCMR system, this information can yield benefits for patients, physicians and the health care system, as previously described. Family physician EMR data is therefore a critical asset to the success of the PCMR system initiative.

For the PCMR system to be successful, family physicians need to be willing to take part in its adoption. This requires additional time and effort outside of providing direct patient care. As such, to encourage participation, there needs to be appropriate recognition for the work required.

Recommendations:

6.1 Provide appropriate recognition to family physicians for the time, cost and effort required to participate in the PCMR system, as well as the value of their EMR data, which may include financial compensation, subsidies, or provision of tools and supports.

Conclusion

The province's investment in the PCMR system is an important opportunity to improve care coordination, reduce duplication, and give physicians and patients timely access to the health information they need. Realizing these benefits, however, depends on meaningful family physician participation and a design approach that reflects how primary care is delivered in diverse practice settings. These recommendations - partnering with family physicians in co-design, providing clear communications and practical change management supports, aligning the PCMR system with clinical workflow, applying a principled data governance framework,

maintaining patient trust through transparency and digital health literacy supports, and recognizing the value of EMR data - offer pragmatic steps the Ministry of Health and Ontario Health can take now to enable safe and effective development of the PCMR system in collaboration with the OMA, SGFP, and OCFP.

Appendix A: A Principled Data Governance Framework for the PCMR System (Draft)

Introduction

Ontario's planned Primary Care Medical Record (PCMR) system presents a significant opportunity to improve care coordination, reduce duplication, support quality improvement, and give physicians and patients access to more complete and connected health information. Realizing these benefits, however, will require a principled approach to governing how family physician electronic medical record (EMR) data is used in the PCMR system. As family physicians are the primary creators, users, and health information custodians (HICs) of this data, their leadership is essential to designing a data governance model that is clinically appropriate, legally compliant, and trusted by both physicians and patients.

In the context of this paper, data governance refers to how data from physician EMRs is managed across the health care system by defining who can do what with the EMR data, for what purposes, under what rules, and with what oversight to ensure the data is secure, legally compliant, and used appropriately in the best interests of the profession and patients.

Ontario's legislative framework - anchored in the *Personal Health Information Protection Act, 2004* (PHIPA) - establishes clear obligations for the protection and appropriate use of personal health information (PHI). Amendments to PHIPA in recent years have further enabled the sharing of PHI to the provincial electronic health record (EHR) to foster integration of patient data at the system level. However, legislation alone is insufficient to ensure that data governance aligns with clinical realities and patient trust.

Without robust data governance for the PCMR system, family physician EMR data may be accessed or repurposed without clear authorization, consistent standards, or physician and patient trust, increasing the likelihood of misinterpretation of clinical information, inappropriate secondary use, and potential privacy breaches. Over time, this can undermine data quality, clinical integrity, and family physician willingness to adopt or contribute to the PCMR system, ultimately limiting our collective ability to successfully advance this essential and innovative initiative.

This paper sets out a principled data governance framework for the PCMR system. It calls for physicians to be formal partners in data governance structures; clear roles, responsibilities, and accountability for all parties; explicit purpose limitations and transparency for data use; and continuous evaluation of governance policies over time. Together, these data governance principles will ensure that the PCMR system advances in a way that supports patient care, strengthens physician participation, and delivers value for Ontario's health system.

1. Partnering with Family Physicians in Data Governance Structures

Given their unique role as contributors, users, and HICs of personal health information (PHI), family physicians understand the limitations, nuances, and risks of misinterpreting clinical data. Their expertise and practical experience are essential, as without appropriate clinical context, EMR-derived data shared through the PCMR system may be misinterpreted when aggregated or repurposed at the system level. This is especially as the quality of the data may vary due to a lack of standardization in EMR data input. This makes family physicians an important partner in the co-design of EMR data governance for the PCMR system as they can ensure that the data use remains consistent with PHIPA, professional obligations, and patient expectations while achieving the ultimate system goal.

It is vital to engage and partner with a wide range of family physicians to ensure that data governance policies reflect the practice realities of various family physicians.
This involves collaborating with family physicians of different technical skills, organizational/clinic size and resources, and geographic locations across the province. The OMA and Section on General and Family Practice (SGFP) are best positioned to help identify and facilitate engagement with these diverse physicians.

Recommendations:

- Partner with a diverse group of family physicians with varying technical, organizational/clinic, and geographic needs on data governance structures for the PCMR system.
- Reflect the role of family physicians as HICs and align with their legal and professional obligations in governance structures and policies for the PCMR system.
- Recognize the participation of family physicians in data governance structures for the PCMR system as a professional responsibility with protected time or compensation.

2. Clarifying Roles in PCMR System Data Governance

Clarifying roles and responsibilities is essential for effective PCMR system data governance, particularly as the initiative expands the disclosure, access, and secondary use of data beyond the originating clinical setting. As HICs, physicians have statutory responsibilities to protect PHI, limit its collection, use and disclosure to authorized purposes, and ensure data accuracy. While physicians remain the HIC for the records they create, they do not always have the authority to control the downstream uses of data. This is of particular concern when developing the PCMR system which can introduce multiple custodians, agents, and third parties - including physicians, organizations, Ontario Health, and EMR vendors - who may influence how data is accessed, used, and safeguarded.

Further, the federal Bill S-5 - the proposed *Connected Care for Canadians Act* - also signals growing expectations around interoperability and data portability, which underscores the need

to ensure EMR vendors' roles and obligations are clearly defined within provincial data governance frameworks.

Recommendations:

- Clarify the roles and responsibilities of HICs and agents, including physicians, organizations, and Ontario Health, as well as EMR vendors in data governance policies for the PCMR system.
- Ensure accountability of data in governance policies for the PCMR system aligns with authority, particularly where physicians retain custodianship but do not control downstream uses. Avoid shifting liability to physicians without corresponding authority.

3. Defining Purpose Limitations for PCMR System Data Use

The permitted uses of PHI are outlined in legislation and regulation. PHIPA permits much data to flow across the system for patient care as well as for other purposes such as health system planning, research, and quality improvement subject to strict purpose limitation, minimization, and accountability requirements. These uses must serve the public interest, and not for commercial exploitation or unrestricted data reuse (e.g. AI model training).

Personal health information may only be collected, used, and disclosed for the specific purpose authorized by PHIPA, and no more than is reasonably necessary to serve that purpose may be collected, used, or disclosed. Identifiable data should only be used when aggregated or de-identified data will not suffice in addressing the issue. As HICs, physicians are responsible for having administrative, technical and physical safeguards and practices in place for PHI, and remain responsible even when PHI is disclosed to third parties.

The responsible use of EMR data requires not only clear legal and regulatory frameworks, but also explicit, transparent, and participatory governance processes. To ensure trust and accountability, it is essential that family physicians, who are deeply familiar with the clinical context of data, are meaningfully involved in determining and overseeing the intended purposes of EMR data use in the PCMR system.

Recommendations:

- Design data governance policies for the PCMR system to collect, use, and disclose PHI consistent with PHIPA's purpose limitations, safeguards, and accountability mechanisms. Secondary uses beyond providing direct care (e.g. health system planning, quality improvement, population health, and research) should demonstrate clear public benefit and alignment with system goals, as well as enable physicians to support quality improvement in their practices.
- Make the intended purpose of the data use explicit, limited, and transparent to physicians and patients. Data should not be used for additional purposes beyond those clearly stated and approved through appropriate governance.

- Lead with the expertise of family physicians, through their roles on data governance structures, in determining parameters for each intended use and providing input on whether proposed uses are clinically appropriate and proportionate.
- Differentiate data access controls and safeguards based on the sensitivity and intended use of data.

4. Evaluating and Iterating PCMR System Data Governance

Data governance policies and standards cannot remain static. Continuous evaluation is needed to ensure whether they are effective, achieving the goal of the intended use, and aligned with legal and professional obligations. This is especially important in light of evolving technologies and increased digital health initiatives designed to use EMR data for secondary purposes. Without ongoing evaluation and iteration, governance policies and standards risk becoming outdated, ineffective, or misaligned with public trust and health system goals.

Recommendations:

- Establish clear evaluation frameworks and metrics for the PCMR system data governance policies and standards, including criteria aligned with governance objectives such as data quality, privacy, security, interoperability, alignment with legal and professional obligations, as well as impact on physician workflow, patient care, and other metrics as defined by the governance structure.
- Conduct frequent evaluation of data governance policies and standards for the PCMR system utilizing the evaluation framework and metrics, and iterate as needed.
- Lead with the expertise of family physicians - given their essential roles as HICs - in the evaluation process for the PCMR system data governance policies and standards. Physician feedback should directly inform refinement of the data governance policies and standards.

Conclusion

Ontario can safely and effectively advance its investment in the PCMR system by applying a principled governance framework grounded in physician partnership in data governance structures, clear roles and accountability, explicit purpose limitations and transparency for data use, continuous evaluation of governance policies over time, and advancing the PCMR system's broader objectives.