CHU de Québec

IMPLEMENTING ELECTRONIC PERSONAL HEALTH RECORDS IN CANADA

ONTARIO POLICY DIALOGUE: SUMMARY OF THE DISCUSSIONS

February 10, 2015

McMaster University

Université Laval

University of Toronto

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KEY MESSAGES

PROPOSED STRATEGIES

1) Integrate ePHR platforms across priority health systems functions.
2) Leverage ePHRs in current connecting projects across the continuum of care.
3) Strengthen the value proposition for patients, professionals and organizations to implement ePHRs.
4) Build on existing models of governance and standards.

MAIN DISCUSSIONS

Context

Timely access to health-related information is important, but there is a notable lack of accessibility in Ontario. Electronic personal health records (ePHRs) could be a solution to this issue. However, the current policies, rules, standards and incentives are all imbedded in paper realities of the past. Moreover, most of the current literature on the subject is built on conjectures. Nonetheless, ePHRs have begun to gain a presence in Ontario and it is now important to be proactive and mitigate the risks and barriers related to their implementation.

Health-related information

It is not possible to discuss ePHRs without discussing health-related information. There are many barriers to consider. Clinicians are currently the only persons who make decisions on what information is relevant to be placed in medical records and they may be concerned about what information is to be in ePHRs if this is to be integrated with electronic medical record (EMRs). The role of data ownership needs to be clarified and there are issues with current legislations regarding ePHRs and privacy of information since they are difficult and potentially costly to administer in their current form.

Possible formats of ePHRs

To implement ePHRs system-wide, a person-centered approach should be adopted that can encourage patients to self-manage their health and influence their behaviours through access to their health-related information. To be effective, such a system should act as an interactive and dynamically connected set of tools. It should be targeted mainly at primary care and be incorporated into patient workflows and daily routines. In addition, a team approach involving patients, their care supports such as family, and their primary healthcare providers should be built on a foundation of person-provided information in ePHRs and clinical data entered by primary care providers in EMR patient records. To avoid building additional "silos" of information, an integrated approach should be used to build on existing systems that would have interesting and useful features for both patients and professionals.

Infrastructures related to ePHRs

There are two main overarching elements to consider: data and organizational standards. Both are important to ensure ePHR implementation and sustainability. Small scale and global scale approaches should be considered. Human resources are needed to support ePHR implementations and relevant revisions to certain legal aspects are also needed (such as privacy, safety, legal standards and practices). Payment arrangements were discussed, but there was no clear value proposition for health providers.

There is also unclear guidance on the subject of payment models since most participants were not aware of legal issues concerning such payments.

Incentives for users

There are issues with future progress in the active use of ePHRs because of a lack of education about what they can do, along with a lack of awareness and potential resistance from healthcare providers. Additionally, we need to identify the target audiences (patients, providers, and policy makers) and we need to identify the different tactics needed to motivate them. Possible incentives for patients are the active support and encouragement from providers and communities of interest. For providers, open sharing of positive experiences, active support, team approaches and availability of additional resources were proposed by the conferees.

SUMMARY

INTRODUCTION

This document is a summary of the discussions that took place during a policy dialogue on the implementation of electronic personal health records (ePHRs) in Ontario. This dialogue took place at the University of Toronto on February 10, 2015.

The goal of the dialogue was to allow research evidence gathered on ePHRs (presented in the form of an evidence brief that was sent to every participant) to be considered together with the views and experiences of those who would be involved in or affected by decisions about policies on ePHR implementation. The dialogue did not aim for consensus among the participants.

While this document summarizes the discussions of the day, it does not follow the actual format of the day. Instead, for clarity, this summary is divided into the overarching themes that were discussed during the dialogue: context, health-related information, ePHR format, infrastructures related to ePHRs, incentives for users, and proposed strategies. Any attribution related to comments included in this document that might be linked to a person or an organization is purely unintentional.

CONTEXT

Having **timely access** to health-related information is important, particularly for chronic diseases. Many patients assume that all their information is accessible already by their care providers or themselves, but this is not yet a reality in Ontario. This is mostly due to a lack of digital records in some cases and to a lack of integration or interoperability among the digital systems that are in currently in place. This can also be seen as a shift from system-focused data to client-focused data.

While electronic medical records (EMRs) are now more present and available to clinicians in the healthcare system, it is often not possible for the patient to access the information contained in these types of records. Only a few patient portals allow the patient to see that information and few ePHRs are linked to EMRs. This situation is not only aggravating for patients, but also for the whole healthcare system. While professionals do have access to EMRs, they have limited access to all the information that is available from other sources, including hospital electronic health records (EHRs), laboratory data, etc. There are many vendors for EMRs which do not share information because of a lack of interoperability, and EHRs in institutions are only slowly allowing remote clinician access to their data. Additionally, **the current policies, rules, standards and incentives are all imbedded in face-to-face, paper realities**. This situation is slowing the widespread implementation of electronic records in Ontario.

In the early 2000s, the Ontario Ministry of Health and Long-Term Care had the desire to change the healthcare system by putting the **person at the centre of the care process** and facilitating patient access to health information. Some of the consequences of these changes could have been the implementation of a patient-owned record for every patient right at birth, or in other words, a **lifelong personal health record**. Unfortunately, the related discussions and plans failed to result in a real system that would support patient access to their health records. We are now left in the position of figuring out how to retrofit ePHRs in an existing digital system even as it continues to evolve into a fully digital environment.

Just as the other types of electronic records, the current Ontario policies, regulations and standards are not well adapted to ePHR realities, but at least there have been some successful experiences with ePHRs to learn from. Despite these successes, the scientific evidence of ePHR is limited as most of the current ePHR **literature is built on conjecture**.. There is very little evidence on the actual rather than perceived benefits of ePHRs to Canadians. The context of ePHR adoption and usage in the United States is different, so evidence from the US may not always apply. We must ask ourselves if our healthcare system should be prepared to invest substantial amounts to make ePHRs generally available with minimal proof of need.

In light of the limited evidence and the slow start, participants believed that ePHR adoption **will continue to gain presence in Ontario** regardless. They also believed that no perfect and generally acceptable **solution** exists and that we need to accept this situation. To smooth the road towards eventual ePHR adoption, we need to be proactive and mitigate the risks and barriers related to their implementation. Two important questions were asked:

1) How can we facilitate ePHR implementation and use?
2) What policy directions should be adopted towards expectations concerning the adoption and use of ePHRs and related technologies?

The following sections do not give clear answers to these questions, but rather avenues for further reflection.

HEALTH-RELATED INFORMATION

It is not possible to discuss ePHRs without discussing health-related information. As explained earlier, accessibility to the information that might be made available in patient records is of great importance for both patients and professionals, and ePHRs could be a solution to accessibility issues. However, current healthcare system infrastructures do not support this accessibility. There are also other barriers to consider.

Firstly, **clinicians are the gatekeepers of what information is included and maintained in a patient record**. The patient has a limited influence in these decisions. Moreover, patients may sometimes withhold essential information that may be vital in supporting a clinician's medical decision. ePHRs may allow for more comprehensive records by allowing patient input and reflection.

Secondly, workshop participants believed that clinicians might be worried by **the content in ePHRs** if they are integrated in some way with EMRs. Clinicians may also be defensive in fear of being evaluated by patients who have full access to their clinical as well as personal information. Additionally, participants feared that patients might get anxious if they have access to medical records such as lab results without explanation. However, the results of several studies on patient access to their clinical information did not result in any harm, but was actually helpful to them.

Thirdly, the role of the **proprietor of data** is an important issue that participants felt needed to be discussed in detail with stakeholders. PHIPA, the Personal Health Information Protection Act (2004) governs healthcare data access and ownership in Ontario. Under this Act, with limited exceptions, health information custodians (primary care physicians, hospitals, other healthcare institutions, etc.) are required to provide individuals with a right to access and request correction of their own personal health

information. This may involve informal requests from individuals or, if necessary, written requests for access.

Lastly, participants commented on **legislation and privacy of information**. Currently, organizations and providers probably breach certain parts of existing privacy legislation. On the other hand, current legislation may be too difficult and potentially costly to administer. Faced with this situation, participants asked what could be done at the policy level to allow healthcare organizations and professionals to make progress on privacy-related issues. The question of information privacy is problematic as it is often a major concern of potential ePHR patient users, and stakeholders fear the related legal aspects. However, privacy is not currently a major problem. For example, there have actually been very few legal complaints related to telehealth applications which are currently beginning to flourish across Canada. Privacy is a major concern when information is accessed by corporations and is used to generate revenues – as seen in the United States. In the health sector, information should not be seen as a source of potential profits to vendors supporting ePHR systems.

POSSIBLE FORMS FOR ePHRs

The definition of ePHRs is another important topic that arose during the discussions. ePHRs are not easily defined, which results in different interpretations of what an ePHR is and what form it should take. While participants had their own perceptions of ePHRs, there were common grounds that can be found among the generally accepted definitions of ePHRs, as follows:

There are three main ePHR models: 1) *Standalone* (the ePHR is maintained as a record that is not linked directly to any clinical records of the patient); 2) *Tethered* (the ePHR is in a separate database that is linked to the patient's clinical records maintained on an EMR by the patient's healthcare provider – generally a family physician); and 3) *Portal* (the patient is given access through a common interface to the patient's online clinical records maintained by providers, hospitals, labs, etc. The patient may or may not be able to enter and maintain his/her own data – equivalent to an ePHR - on this type of system). There are many other possible hybrid forms of these models, but only models 2 and 3 were considered in this discussion.

TERM

Participants believed that the **lack of clarity of what defines an ePHR** causes serious problems for the government, for professionals, and for patients. There is also a lack of public awareness on the concept of ePHRs. Some participants had problems with the terms used in "electronic personal health record". First, they had issues with the word "record" since they believed that it is more than a record: it can also be perceived as a platform. Second, the word "personal" was another issue underlined. Personal seems to suggest only one person, while ePHRs could integrate details on behalf of a relative, caregiver, or guardian (e.g. persons caring for minors or for aging patients). While defining what ePHRs are, it is also important to define ePHR end-users. Parents who want to record children's vaccinations and patients who want to record and monitor progress with chronic diseases were two examples given.

FORMAT

GOAL

An ePHR should be of assistance in **changing and influencing behaviours**, including lifestyles that would help improve health and well-being. More precisely, it should be a platform that promotes patient-professional relationships through increased communication and sharing of information – all of which will ultimately help change behaviours. ePHRs need to engage individuals through prevention and promotion. Patients should not be blamed for not succeeding to make behaviour changes to improve their health, but ePHRs can help support patients in reducing the impacts of negative behaviours (smoking, obesity, etc.).

Above all, participants believed that ePHRs should give **patients access to their own health-related information**. This access implies a minimum requirement that EMRs should be able to exchange information with ePHRs. However, participants clarified that ePHRs are not just patient portals. Contrary to ePHRs, portals often do not monitor, but are 'read-only', patients do not own the data contained in the system, and are often unable to enter their own data in portal systems. While electronic access for patients to existing clinical information generated by their provider is critical, it is also important to combine that information with patient capture of their health indicators in order to build a powerful tool for managing their health. However, some participants feared that if the inclusion of patient-generated information is a requisite to ePHR adoption, there might be delays caused by some providers who are reticent in trusting the information entered by patients in their records.

ePHRs should act as an **interactive and dynamic connected set of tools** housed in a platform that could provide patients with a more comprehensive and integrative view of their health. For example, an ePHR could include disease specific add-ons for entering and tracking monitored health status data, and general features such as pharmacy prescriptions, e-mail, texting, and appointment services. It should also have the ability to prospectively integrate and be accessed through other devices such as portable devices and apps and other emergent technologies.

POPULATION

Participants saw much value in ePHR use for **primary care**. However, we should not ignore the episodic parts of the healthcare system that affect virtually every patient: hospitals and specialists. More importantly, participants saw the value of ePHRs to support transitions between episodes as this can enable the healthcare system to provide timely and better-informed care to support patients through these transitions.

ePHRs need to be **incorporated into the workflows and the daily routines** of their two major users: patients and clinicians. For clinicians, access to data must have a minimum impact on workflows. This may be achieved by understanding and building on existing processes that have supported EMR use. On the patient side, ePHRs need to have the ability to tailor and push information to patients based on their needs in a timely manner. They also need to help **keep patients engaged** (even when they do not require care) to sustain ePHR use and maximize its benefits.

Since the information found in ePHRs can sometimes be overwhelming for patients, strategies to facilitate patient use of these systems are important. **A team approach**, with a coach, navigator or volunteer, may

be helpful in such situations. This could help support and train the patient through a first use of an ePHR in order to avoid possible literacy issues and help them to learn how to keep their information up-to-date.

FEATURES

Participants proposed two strategies for a more efficient implementation of ePHRs. First, they suggested **leveraging existing systems and efforts;** however, they acknowledged that this might interfere with potential innovations. Secondly, they also advocated that any add-ons to the ePHR should be made **open-source** so that they could be useable by other organizations.

Participants also discussed possible features for integrated ePHRs. **Secure messaging** was one of the possible applications of ePHRs that was discussed thoroughly. Currently, 40% of telephone conversations are never documented. Through ePHRs, secure messaging via e-mail or texting immediately becomes part of the chart, as it is instantly documented. It also leaves a trace in case it becomes an aspect of a fee-for-service model. ePHRs should also facilitate patient **monitoring** (through messaging or condition monitoring apps), which is particularly pertinent for patients with chronic conditions.

There were also thoughts about **data security** in ePHRs. Health information data contained in databases may be harder to mine if an ePHR project has data security in mind from its inception. Also, participants discussed the question of **small data versus big data**. Data gathered by ePHRs could be very useful for government policy development or for research purposes. While big data may be an interesting proposition and potentially useful for public health applications in the long run, a provincial client registry of any sort would require a major financial investment from the government. Such projects have been a failure in the past, and the potential damage from hacking increases with database size.

APPROACH

Participants believed that a **person-centered approach** should be utilized when developing ePHRs. However, a person-centered approach may cause anxiety within the current, primarily clinician-centered, healthcare system. Putting the person first is an interesting idea, but it is hard to achieve in the current healthcare provider controlled environment. Revising the current process may be too complex to undertake in the short run, but it may be possible to begin moving toward a person-centric approach by minimizing potential disruptions to the existing way of delivering care. Participants suggested that person-centered processes should be developed and implemented as early on as possible (e.g., patient access and data entry processes be available at the start of the project). Participants indicated that both bottom-up and top-down approaches are essential in supporting person-centered developments and we need to put the person at the center of the development and provide policy infrastructure to support changes.

INFRASTRUCTURES RELATED TO ePHRs

Participants discussed several structural issues. They suggested building on existing models of governance and standards. According to them, there are two main elements to consider for this strategy:

1. Data
2. Organizational standards

Some clarifications were brought forth on the subject of data (point 1). We should not confuse data governance, data standards and data management. There are three levels to be considered. Firstly, **data governance** needs to be principle based and needs to apply to the whole province to work. Secondly, **data standards** need to be identified. There may be many certifications to satisfy and many gaps to fill. Thirdly, **data management** has to accommodate local flavours in the design and support of ePHRs. Even so, it is important to not forget that this is about the person; that is why it is a PERSONAL health record.

There were several other considerations related to **data**. ePHRs are about data (sharing and communicating). In order to gain leverage, an ePHR initiative should focus on data standards and have the **data capability** to do so. The focus should be around the flow and use of data as technologies and applications may evolve over time. Any technology used needs to relate to all the data, both past and present. So we need a model that supports policies related to data.

If we want an ePHR that is provincial and portable from place to place within the province, we should look at **core standard infrastructure** so that ePHRs can be functional everywhere the patient is. Participants noted that when projects are **centralized across the healthcare continuum**, this makes it easier to implement initiatives such as ePHRs.

There are many (often non-overlapping) infrastructures available across Ontario and we should try to build on existing successes, starting with **small-scale** prototypes and leveraging components that are already in place (e.g. building on a bottom-up adaptation of some of the components of the cancelled provincial diabetes registry, but using local related education and other resources). Starting small with "low-hanging fruit" gives the opportunity to demonstrate success and evaluate a localized prototype more easily. On the other hand, it is important to not set the bar too low if we eventually want to create an ePHR that is accessible and usable across the entire province. Realistic expectations should be established at each step keeping both **global and community** perspectives in mind. The current problem is that everyone is working on the vision and in the meantime, little is happening in the field. Participants wanted something that is achievable within the current system in the next year or so, and not in a decade.

Participants agreed on the importance of preserving the **flexibility** (adaptation to various contexts) of local initiatives within the goal of implementing a provincial ePHR. This underscores the need for local initiatives to adhere to a general standard to allow for an eventual integration into a provincial system. **Human resources** will be needed to support the sustainability of population health management projects such as these.

To support effective ePHR engagement with the end-users, the **legal aspects** (privacy, safety, legal standards and practices) of ePHR use should be proactive and not easily challenged. Canada Health Infoway standards were suggested for the federal level (recipes of standards). At the provincial level, it may be possible to work with professional associations and existing EMR and ePHR providers to put in place future integration of projects through early standards adoption. Lessons can be learned from provincial networks such as the Ontario Telemedicine Network (OTN) and their approach to this matter. In the United States, there are standards for meaningful use of EHRs and related healthcare networks. Meaningful use standards may make their way into Ontario eventually, with an obvious impact on province-wide adoption of ePHRs.

VARIOUS PROJECTS THAT COULD BE MODELS FOR ePHRs

The Ontario Telemedicine Network (OTN) has a governance model for virtual tools for care providers in practice and its standards may be of interest for these reasons: it appears to balance between centralized governance (common rules) and end-user adaptation, which is critical for privacy, network standards and scheduling. OTN participating organizations are included not by their financial capacities, but through standardized rules. OTN is well integrated in Ontario distance healthcare and has standards that work across the province. It may be useful to emulate OTN's strategy in scaling up existing ePHR projects in order to avoid reinventing the wheel. Although OTN is becoming active in projects for training patients in health self-management there are many issues regarding the potential inclusion of ePHRs in OTN, which does not appear to be favourable towards leveraging their network to integrate ePHRs. OTN presents a useful model for data governance, but not for organizational governance.

At the present time, eHealth Ontario and Ontario's hospitals and Community Care Access Centres are developing approaches to interoperability that will integrate legacy information infrastructures into three regional networks (Connecting GTA, Connecting Southwest Ontario, and Connecting Northern and Eastern Ontario). For example **Connecting Southwest Ontario** (cSWO) supports healthcare for about 30% of Ontario's population. It will soon be either integrated or able to provide links to the information systems of 68 hospitals, 4 community care access centres, 18 public health units, 2,900 primary care providers (physician offices, community health centres, family health teams, etc.), and 530 community health providers (mental health and addictions, long-term care homes, community support services, etc.) Such a foundation might be able to support ePHRs in this region. Participants suggested building on these successes since they are now reaching a critical integrated system. However, we need to keep in mind the risks of building on legacy infrastructures that, although they inter-communicate, do not adhere to common standards.

It may also be possible to consider ePHR support through **Cancer Care Ontario** (CCO). Coordination among the providers is a possibility with CCO (infrastructure). CCO appears to be well integrated and it might provide a basis for a first integration effort. However, there would be some problems with its data infrastructure capability. **BORN Ontario** and **Prostate Cancer Canada** were also other suggestions briefly mentioned during the discussion. Among these possibilities and many of the others that follow is that they mostly tend to be highly specialized to a disease or to a class of patient or to particular healthcare services. Hence, they may be suitable models but their infrastructure would mostly not support ePHRs, which must be designed to deliver their service in a way that supports the needs of everyone in Ontario.

Participants also suggested **Health Links**, a new provincial initiative for people with complex needs, particularly seniors. But this initiative is still developing its own processes for coordinated care. It is probable that ePHRs represent too long a reach for this initiative, although it may be able to take advantage of ePHRs when they become more generally available.

Health Quality Ontario is trying to move from measuring patient satisfaction to measuring patient experience. Patient evaluation of quality of the health system may be a potential backdoor to implement ePHRs. Evaluation is needed when implementing an initiative and patient engagement is essential to achieving ePHR success. The potential of ePHR platforms to provide more comprehensive population data could certainly be used to encourage engagement and measure experience.

TAPESTRY (a project supported by Health Canada) was also suggested. TAPESTRY is multi-disciplinary, open source, uses volunteers, involves e-health integration (it is currently integrated to McMaster), and is present in certain broader communities (Montreal, Saskatchewan, Vancouver, Toronto). This initiative assesses outcomes and reaches out to populations that are usually difficult to reach.

MyChart is an example of a hospital-based ePHR that is person-driven. It is available to patients through Sunnybrook Hospital in Toronto. The initiative was driven by patient demand for an ePHR and has led to provider adoption of the platform. The platform allows patients to create their own networks of care which include the integration of various information types (hospital information, primary care information, personal trainer information). The integration of MyChart won over even reluctant clinicians because patients took the information with them and put it in the system themselves. By seeing their patients' investment in MyChart and demonstrating the results, clinicians (particularly primary care physicians) became interested in utilizing MyChart themselves.

Canada Health Infoway Portal Projects were also mentioned. Such projects involve partnerships between Canada Health Infoway and one or more provinces to get them designed, tested and implemented. Components of e-visits, prescription refills and information viewing are integrated in these projects. There are replication and spread strategies, evaluation aspects and certification criteria to follow in such programs. It is important to note that any provincial proposals, such as a broadly based ePHR initiative that may arise out of the policy initiative being discussed at this workshop, typically involve a partnership between the province and Canada Health Infoway to support an initial undertaking.

The **Provincial Client Registry** (PCR) was one connecting project discussed. This process pushes patient demographics to a provincial database (it initially involved a project to migrate data between hospitals). There is currently a repository and a number attached to it (provincial ID number). It might be possible to allow patient access to a similar registry and to convert it into a patient portal later.

Community Care Access Centres (CCACs) have a network web-based support system called Client Health and Related Information System (CHRIS). CCACs coordinate homecare nursing and other healthcare services in each of the 14 provincial LHINS. This system is more for administrative purposes than clinical, but CCACs are reportedly starting to include client-entered information in CHRIS.

PAYMENT ARRANGEMENTS

Participants also discussed different **payment arrangements** in healthcare and their effects on ePHRs. In the **fee-for-service** model, ePHRs might save patient time and receptionist time (for appointments) and there is a value in the reduction of operational costs. The **capitation model** could save physician time by allowing physicians to use online communications with the patient (versus 15 minute visits), and allow the physician to gather up-to-date information from the patient. Both of these models have their flaws. Incentives for physician use (e.g. remuneration for services provided) are required, but the externalities of the financial levers need to be better understood.

Additionally, participants discussed **insured and uninsured services**. On one hand, persons believe that the government should pay for any healthcare service provided. Indeed, according from past experiences in Ontario, patients will generally only value the ePHR when active care is required – jeopardizing the continuity of information in the ePHR if it has to be paid for. Given this situation, it is suggested that the cost of the ePHR be paid by the provincial health system where its use can help bend the curve down for

health system utilization costs. Some participants also expressed concern about ePHR payment models and the inequity that may be created, as some populations may not be able to afford such services. This latter population tends to be those that are more likely to suffer from illness.

On the other hand, patients may understand that ePHRs may not be supported by the government so they may need to pay a small fee per service (e.g. micro transactions) or a monthly fee for the ePHR service. Patient surveys have found that, on average, patients interested in ePHRs are willing to pay from $2 to $5 per month to be able to access ePHRs and the services that could provide for health self-management. However, there may be legal issues regarding fees. While there are anecdotal accounts of practices applying fees to ePHRs, it may be illegal to charge for such services. This brings the issues of having unclear guidance on the subject since most participants were not aware of legal issues concerning such payments.

INCENTIVES FOR USERS

Incentives for patients and professionals to promote and support the adoption and use of ePHRs were another major theme in the dialogue. Many interesting solutions were brought to the table, along with other important elements to consider about user interest, education and awareness.

INTEREST, EDUCATION AND AWARENESS

It is important to understand patient interest, education and awareness related to ePHRs to know what and how to provide incentives to encourage use. As explained earlier, the current use of ePHRs is not widespread. This may be the result of **a lack of awareness and education** about ePHRs. Patients may not know ePHRs exist and providers may not be aware of the ePHR and health self-management agenda outside their own specific area. It is essential to understand and consider the **market demand** of the different areas where there are no readily accessible suppliers or no ePHRs available.

Additionally, **motivation to adopt ePHR** may be an issue for a large segment of the population (i.e., healthy individuals) as they may feel that value proposition of using an ePHR may not apply to them. Motivation to use ePHR may also fluctuate over time and the needs of the individual.. We need to identify the target audience and we need to identify different tactics to motivate them successfully.

Each group or individual can have **different interests** in ePHRs. For **patients**, intermittent needs for access to personal health information may result in a loss of interest in ePHRs. According to workshop participants, patients with a chronic condition see immediate value in ePHRs for monitoring purposes (such as patients that want to monitor blood sugar, diet, and weight to help manage their diabetes) and would be most likely to quickly adopt and use ePHRs. As well, participants also mentioned that patients **will not adopt ePHRs on their own**. Patients learn about their illness only when faced with it, and they learn from their primary care physicians and potentially other providers. Therefore, this is an opportune time for primary care physicians to introduce patients to the value and support ePHRs can provide. Patients may not even realize that their personal health information is readily available for sharing if they are not informed about it.

For **clinicians**, they might help to simplify practice. A survey that covered Canada and the USA found that professionals do not want ePHRs for their patients because they believe they will create more work for the clinicians (this is likely to be the case, if their introduction and use by patients is not managed well).

Participants also pointed out potential interests for the **government** to implement ePHRs. Flu vaccination was an example that was discussed. There are incentives for clinicians to vaccinate patients and through their ePHRs, patients could be informed about the availability of flu vaccines. However, participants believed that there should be incentives for clinicians based on good practice and preventive care rather than on ePHRs (incentives on the practice rather than the medium used). ePHRs could be suggested as a potential medium though. Other potential ePHR benefits to the healthcare system were identified in the following areas: public health, surveillance, awareness, service delivery and resource management.

INCENTIVES

Participants proposed possible solutions to gain interest, education and awareness among professionals and patients. First, they believed that the **support of providers, communities of interest and champions** is required to help with implementation and uptake among **patients**. As explained earlier, provider support is important in order to educate patients about these systems because patients won't learn how to use them if they do not know that they exist or if they do not believe they need ePHRs. Patient incentives should aim to create a **demand for ePHR use**. Ease of use and perceived value of ePHRs will drive the demand. ePHR demand will make a difference to the professional, the organization and the government, and increased use of ePHRs should result in better health outcomes for patients.

For instance, a survey mentioned at the workshop found that patients wanted **rewards** for using ePHRs. A participant mentioned that the Walgreens website in the United States (including prescription renewals as well as access to ePHRs) operated in such a way. Patients can accumulate points to get rewards up to $10 per month by using the website. The use of the website went up when they implemented that functionality.

Second, **healthcare professional incentives** could take the form of **sharing experiences, support, team approach and availability of resources**. Participants noted that providers are more likely to listen to other providers and this may be a way to facilitate their education. Support for clinicians is also needed and this support needs to continue even after implementation. Participants also proposed to humanize the experience by letting practitioners try ePHRs as patients so they can see the benefits of using them. Additionally, there is some compensation for practitioner use of technologies in Ontario, but it is limited (e.g. only e-mail messaging between providers is compensated). Additional monetary incentives for messaging and consultation through distance messaging outside the office may then be a possible incentive.

Participants felt that **medical students and residents** needed to be informed more about what technologies are available to them (including ePHRs) as a required part of their education. A proposal was to include eHealth education in the medical curriculum and/or as post-graduate education (e.g. Canada Health Infoway with nursing and pharmacy students).

Awareness is an important factor since change can only start with awareness and the development of a common understanding. Some of that education can be done through **sharing evidence** on ePHRs. Participants believed that we need more evidence in order to help convince stakeholders (e.g. that the

benefits outweigh the costs). Many emerging developments will change the healthcare system, but do the decision makers have the right information to make appropriate decisions? Are ePHRs a good platform for these new developments? These are important questions to ask.

PROPOSED STRATEGIES

At the end of the day, four strategies were proposed by the participants to facilitate the implementation and use of ePHRs in Ontario.

1) Integrate ePHR platforms across priority health systems functions.
2) Leverage ePHRs in current projects that connect across the continuum of care.
3) Strengthen the value proposition for patients, professionals and organizations to implement ePHRs.
4) Build on existing models of governance and standards.

The first three strategies are reformulated from the "options" proposed in the evidence brief created by the research team prior to the dialogue and presented to all the participants. Their reformulations here better represent what was proposed during the discussions of the day. Strategy #4 was added to the list of options as it was a theme that emerged from the discussion about strategy #2.

CONCLUSION

This document aimed to summarize the discussions of a policy dialogue and to propose recommendations on the implementation of ePHRs in Ontario. The lack of access to health-related information is an important concern and ePHRs may be a potential solution to this problem. However, there are still many issues to consider for the implementation of such records in the province.

Participants believed that even with these current issues, ePHRs will take their place in the Ontarian landscape and it is the role of stakeholders to facilitate their implementation and use. Participants suggested possible forms ePHRs could take, infrastructures that could support them, and potential incentives to users. Finally, strategies for the implementation of ePHRs in the province were proposed. The original strategies presented in the research team's evidence brief were reformulated by the participants and one new strategy, built on the second strategy, was proposed.

We hope that this document will help stakeholders to have a better picture of the situation of ePHRs in Ontario and to make more informed decisions related to the implementation of these technologies in the province.