



BRINGING HOME CARE INTO ONTARIO'S TECHNOLOGY STRATEGY

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EXECUTIVE SUMMARY

Home care has evolved over the past few years to become the cornerstone of the health care system in Ontario. As a result, service expectations of the sector have increased significantly. With increased reliance on home care and the planned Local Health Integration Network (LHIN) Renewal, enabled through the Patients First Act that will result in LHINs assuming the role and function of the Community Care Access Centre (CCAC), it is a critical time to examine the future expansion and development of Ontario's existing home care technology assets.

CLARIFYING ROLES IN HOME CARE

The CCACS currently serve as the patient's only point of access for publicly-funded home care in the community. The CCAC case manager currently acts as both the administrator and patient navigator. Front line Home Care Providers are the clinical managers in the home responsible for safe and appropriate care. The terms, CCAC and frontline Home Care Provider, cannot be used interchangeably and it is erroneous to assume one speaks for the other.

A coherent, consistent and comprehensive provincial strategy to effectively deploy technology solutions at the front line of home care does not currently exist. Front line staff (nurses, therapists and PSWs) cannot readily access electronic information needed to make consistent patient care decisions in real time in the home environment. As a result, the patient and family continue to be the primary source of health care information between providers, despite significant technology investments by individual front line Home Care Providers to enable connectivity to existing provincial data systems.

This paper, commissioned by Home Care Ontario, examines the current state of technology in the publicly funded home care system from the view of the patient's home as experienced by front line Home Care Providers, and captures the important perspectives of health system partners. It is a critical examination of the need to greatly improve connectivity across and between sectors and settings. Implementation of local quality improvement efforts, including the expansion of Health Links, now envisioned by the creation of sub-LHINs will depend on provincial resources and support for technology to enable real-time connectivity and continuity of care at the front line. Access to critical home care data and analytics must be significantly improved in order to underpin the large scale change efforts now expected in the broader Ontario health care system. Overview



Overview

Ontarians want health care at home and expect responsive service and innovation in the delivery of that care. Many health care partners, including hospitals, physicians and community health centres, are not satisfied with the current fragmented implementation of information and the inability to link directly to home care clinicians through provincial portals. The inability to communicate directly with front line Home Care Providers makes the system more complex, expensive, and compromises quality of care due to delayed decision-making. There is an overwhelming need to clearly enable access to the right information by all providers including those responsible for the provision of front line care.

The current system limitations are, in part, structural as front line home care staff must work through varied and limited technology solutions established independently across the province. There has been a lack of attention to an overall provincial strategic investment in technology within the broader home care sector.

The Recommendations In This Report Call For

1. Establishing two-way communication within the electronic health record to enable front line Home Care Providers with timely access to relevant patient information across the continuum of care.
2. Providing targeted financial incentives for innovation and investment in digital health systems that support home care delivery and information exchange.
3. Connecting CHRIS (Client Health & Related Information System) through established provincial portals in order to streamline and integrate patient information, making it equally available to all system partners, but most importantly, available and visible to front line clinicians in the home.
4. Establishing a new organization that will advocate and provide education and oversight to ensure health care data that is exchanged is consistent and relevant as determined by clinicians, administration and policymakers.
5. Developing consistent data standards and definitions and applying analytics across the health care system so that appropriate benchmarking can be achieved and meaningful insights can be gained through the use of analytics.
6. Bringing front line Home Care Provider representation to provincial and regional eHealth planning tables in order to establish consistent and standardized implementation.
7. Protecting, improving and standardizing business processes and the supporting electronic referral and patient information system, CHRIS.

TECHNICAL REPORT

Introduction

The goal of front line Home Care Providers is to maximize patient wellbeing and support them to remain as independent as possible in the community. Technology is a key enabler of this effort. To be effective, robust mobile technology needs to be leveraged and *made accessible to home care staff even in the most remote locations across the province.*

With innovation in all other aspects of their lives, patients and their families expect home care to be supported by technology. Front line Home Care Providers have invested in administrative and clinical documentation systems, however integration and bi-directional electronic exchange of information across the health care system is virtually non-existent.

New innovations in patient monitoring and care delivery have been proven to support continuity of care, improve productivity, reduce readmissions, reduce emergency room visits and improve the overall patient experience. These innovations must be expanded and fully implemented within the publicly-funded home care system.

The timing for innovation that modernizes the delivery of care in the home care is right. The province has instituted several initiatives to accelerate technology in health care. *Front line Home Care Providers must be full partners in these initiatives and have the opportunity to share their expertise gleaned from decades of service delivery in the homes of Ontarians.*

LEVERAGING PROVINCIAL DIRECTION TO IMPROVE TECHNOLOGY DEPLOYMENT IN HOME CARE

With the increasing reliance on home care and the planned creation of a provincial Shared Services Organization to support the LHINs to absorb the functions of the Ontario Association of Community Care Access Centres (OACCAC) and CCACs, it is timely to consider the future development of home care technology assets.

In order to clearly reflect the experience at the front line of care delivery, Home Care Ontario conducted 15 structured interviews with member front line Home Care Providers and stakeholder partners, including OntarioMD, the Ontario Hospital Association and the Association of Ontario Health Centres. Informal meetings with eHealth Ontario and a review of provincial eHealth documentation were also conducted. Interviewees were provided with a list of questions in advance and were encouraged to seek the participation of representatives from the operational, technical and clinical departments within their respective organizations.

Integration and bi-directional electronic exchange between front line Home Care Providers and the rest of the health care system is virtually non-existent

RECOMMENDATIONS

The four pillars that underpin the government of Ontario's Patients First Strategy have guided the development of recommendations for this Home Care Technology Policy Paper to ensure consistency with overall system goals:

- **Access** – Ensuring that patients can get care when and where they want it – including through email, in home and community settings, and in northern, rural and remote regions of Ontario.
- **Connect** – Enabling innovative integrated care that supports better outcomes and improves patient experience across the care continuum.
- **Inform** - Putting the right information in the hands of patients, providers, and public health experts to keep Ontarians healthier, longer.
- **Protect** - Ensuring a fiscally sustainable public health system with more efficient ways to deliver care.

The recommendations provided by Home Care Ontario are designed to ensure that Ontarians receive full benefit from a health system that is enabled by effective electronic processes and communication.

The Association's underlying premise is

- that all health system *partners must have equal access to information and make every effort to ensure that care is seamless,*
- *that people are well informed and confident that the front line home care delivery system, as a part of the broader health care system, is available and effective.*



The recommendations are to:

Access

1. *Establish greater bi-directional and integrated exchange of electronic information between front line Home Care Providers and other health system providers (including CCACs/LHINs) through current portals and repositories in order to enhance access to timely patient information.*

Front line Home Care Providers must have the ability to input and access patient information in the patient record so there is no delay in receiving vital and accurate patient information, thus improving continuity of care and better health outcomes for patients.

2. *Promote, encourage and support technology innovation by and in partnership with front line Home Care Providers in order to ensure maximum value across the health system.*

Home care can no longer be left to manage with outdated technology and a paper-based system. It is essential to remove barriers to system wide innovation and find solutions that address the needs of patients across their care experience.

Connect

3. *Establish direct access to CHRIS through the 'Connecting Ontario' portals that connect the broader health care system, particularly primary care, labs and hospitals.*

The goal is to streamline portals containing clinical information so access is improved. As a key part of the circle of care, front line Home Care Providers should have access to Connecting Ontario portals and should be able to access CHRIS through this channel.

The front line Home Care Provider administrative data currently accessed from CHRIS through the Health Partner Gateway (HPG) should instead be widely and fully integrated with their scheduling systems, as is the case in several CCACs, negating the need for a separate portal to supply this information.

Therefore, other information provided through Health Partner Gateway (HPG), such as Clinical Assessments and other notes should instead be made available through Connecting Ontario portals to all providers to support the continuum of care and to eliminate redundant information.

4. *Establish a 'new organization' with centralized responsibility to encourage the adoption of new home care technologies, facilitate the exchange of information, support timely analysis of data and trends and participate in data governance.*

This "new organization" would focus on home care and be a resource and advocate for funding, implementation support and standardization in home care and a resource for front line Home Care Providers. As a provincial resource, the organization would monitor, educate and consult regarding the data that is exchanged in order to maintain consistency and relevancy as determined by clinicians, administration and policymakers. The resource would also represent the front line Home Care Provider's perspective at provincial tables and be responsible to ensure that plans reflect the provider capacity and ability.

Inform

5. *Develop data standards and definitions that are applied consistently across the health care system to enable measurability and ensure public accountability.*

A core team must be created and given leadership authority to work with health system stakeholders to establish data standards within home care and across all health care sectors so that analytics can be used to measure and assess the outcomes of care; and so that information that is shared at the local, regional, provincial and national levels is meaningful and instructive to improving care and the health system.

6. *Establish front line Home Care Provider representation at all levels of eHealth technology planning, implementation and evaluation.*

Front line Home Care Provider representation from the service delivery level is vital to ensure effective deployment of technology in the context of the processes and resources in the community. Existing eHealth committees and groups that currently have CCAC representation must be expanded to include at least three front line Home Care Providers who can address the perspectives from the Southwestern Ontario, the GTA, and Northern/Eastern Ontario.

Protect

7. *Protect and modernize the Client Health and Related Information System (CHRIS).*

CHRIS is a mission critical tool for front line Home Care Providers and should be retained by the future provincial Shared Services Organization. Province wide standard business processes need to be implemented and supported through the CHRIS application which must be systematically and consistently applied across the province. Front line Home Care Providers have already invested heavily in software modifications, people and processes and must be part of the overall planning, deployment and evaluation process.

ABOUT HOME CARE IN ONTARIO

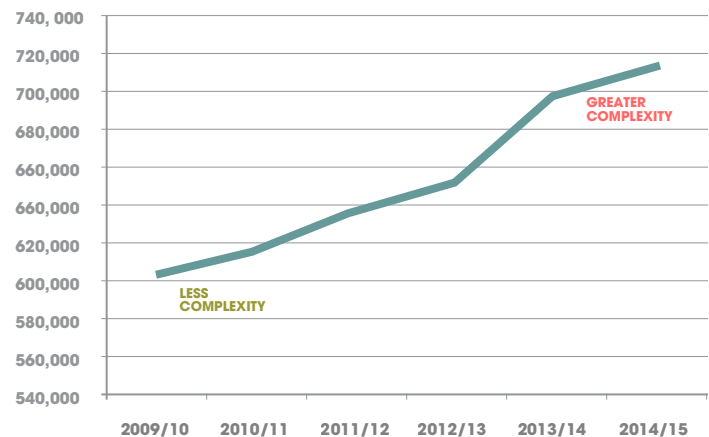
Home care is defined as an “array of services, provided in the home and community setting, that encompass health promotion and teaching, curative intervention, end-of-life care, rehabilitation, support and maintenance, social adaptation and integration and support for the family caregiver”.

Services within home care include nursing, personal support/homemaker, therapy (including physiotherapy, occupational therapy, speech language pathology, social work, nutrition/dietetics), medical supplies and equipment in the home. Home care services are intensely personal and provided at a time when individuals are most vulnerable.

Home care programs work with community support services such as day programs, respite care facilities, volunteer services, meals and transportation services. Clients' needs are met in a comprehensive way when a close linkage exists between the delivery system, which provides both physical and social support.

Home care is delivered by front line Home Care Providers that meet high standards of excellence, many of which are reported publicly by Health Quality Ontario (HQO)⁸.

INDIVIDUALS SERVED



Home is where Ontarians want to remain, for as long as possible. This is achieved primarily by the care and support provided by family and friends. The Ontario government's home care program funds services to supplement that care. Investments by government have helped to increase the number of Ontarians able to remain at home. In 2014/15, over 713,500 individuals received home care services. Over the past decade (between 2005/06 and 2014/15), CCAC funding (which includes funding for home care and other CCAC services, such as long-term-care home placement) has increased by 73% from \$1.4 billion to \$2.5 billion.

Capacity of home care has increased and so has complexity of care. The needs of individuals receiving government funded home care have increased dramatically with 94 per cent more patients having higher needs than in 2008/2009. Since 2008/2009, the number of patient referrals from hospital has increased 13 per cent.

ACCESS: TECHNOLOGY AN ENABLER FOR EFFECTIVE HOME CARE

Recommendations

1. *Establish greater bi-directional and integrated exchange of electronic information between front line Home Care Providers and other health system providers (including CCACs/LHINs) through current portals and repositories in order to enhance access to timely patient information.*

Front line Home Care Providers must have the ability to input and access patient information in the patient record so there is no delay in receiving vital and accurate patient information, thus improving continuity of care and better health outcomes.

2. *Promote, encourage and support technology innovation by, and in partnership with front line Home Care Providers in order to ensure maximum value across the health system.*

Home care can no longer be left to manage with outdated technology and a paper-based system. It is essential to remove barriers to system wide innovation and find solutions that address the needs of patients across their care experience.

Home care operates in a 'distributed environment' which creates challenges that can be effectively offset through technology. These include faster access for patients to care; sharing of information by staff from distant locations; improved staff and client safety; and, better engagement of the care team.

Other factors converge to make the case for improved technology in home care. The demographic shift will impact the supply of home care staff making virtual visits through remote monitoring an effective complement to in-person visits.

Consumers of home care services have high expectations for accurate and timely access to their health information for themselves and the members of their care team. Innovative technology is an enabler to improving the vital linkages with primary care and community based organizations.

Provision of more complex care at home drives the need for access to the latest clinical information and drives the need for good data about best home care practice.

Finally, effective technology can minimize administrative inefficiencies, duplication at all levels of the health care system and unnecessary costs that arise as a result.

FRONT LINE HOME CARE PROVIDER INVESTMENT

Front line Home Care Providers have made significant investments in administrative and clinical technology solutions as a commitment to the sector, the demand for improved efficiency and most importantly to better serve clients. Investments include:

- **Administrative software** that streamlines staff coordination, billing and payroll. The systems have been regularly enhanced to enable automated referral acceptance from CCACs and to the extent possible, upload of data. As CHRIS applications are tested and initiated, front line Home Care Providers fund the requirements (such as providing staff to monitor communication, uploading of key data elements, and re-inputting of information that is only accessible in PDF format) to support connectivity and information exchange.
- **Clinical documentation software** to support automated provider reporting (APR) and automated supplies ordering (ASO) which is reported to have required several staff on a full time basis to manage the various implementation standards and processes across the province.



CONNECT: TECHNOLOGY AS A COMMUNICATION TOOL TO ACHIEVE SEAMLESS COORDINATED CARE

Recommendations

3. *Establish direct access to CHRIS through the 'Connecting Ontario' portals that connect the broader health care system, particularly primary care, labs and hospitals.*

The goal is to streamline portals containing clinical information so access is improved. As a key part of the circle of care, front line Home Care Providers should have access to Connecting Ontario portals and should be able to access CHRIS through this channel.

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Therefore, other information provided through HPG, such as Clinical Assessments and other notes should instead be made available through Connecting Ontario portals to all providers to support the continuum of care and to eliminate redundant information.

4. *Establish a 'new organization' with centralized responsibility to encourage the adoption of new home care technologies, facilitate the exchange of information, support timely analysis of data and trends and participate in data governance.*

- **Telephony** in order to improve accuracy of time spent in the home; streamline the billing and payroll process; and, enhance staff safety and provide better continuity of care through real time information regarding staff location in the community.
- **Electronic point of care documentation** of assessments, care plans, and care delivery enabled by an array of mobile devices. This documentation is independent of the CCAC and not linked electronically in most cases meaning that staff must find a secure internet connection in order to complete the documentation and information upload – a time consuming and costly work process with associated client safety risks.
- Active and passive **remote monitoring systems** that allow for collection of clinical data without the need to deploy staff; and the ability to visualize into the home in order to provide timely access to experts by home care staff and/or patients themselves.

This “new organization” would focus on home care and be a resource and advocate for funding, implementation support and standardization in home care and a resource for front line Home Care Providers. As a provincial resource, the organization would monitor, educate and consult regarding the data that is exchanged in order to maintain consistency and relevancy as determined by clinicians, administration and policymakers. The resource would also represent the front line Home Care Provider’s perspective at provincial tables and be responsible to ensure that plans reflect the provider capacity and ability.

A seamlessly integrated health care system depends on the ability of all service providers to securely share and access consistent and accurate information electronically. The current systems that support patient documentation and ultimately communication across the health care team are diverse and largely not connected.

PROVIDER SYSTEMS

- **Primary care** providers store information through an Electronic Medical Record (EMR) of which there are eleven approved systems for the province. These systems can access patient emergency reports, discharge summaries and specialty reports through the direct integration enabled by OntarioMD’s Hospital Report Manager (HRM). EMRs are not widely used to send information to other health care providers.
- **Hospitals** store patient information within their respective information systems. These systems do not interoperate, however certain documents such as discharge summaries, lab information and diagnostic images are shared with the provincial data repositories, such as the Clinical Data Repository (CDR), Ontario Lab Information System (OLIS), and Diagnostic Imaging (DI).

Front line Home Care Providers have a wealth of untapped knowledge about the delivery of home care and should be contributors to the public discourse.

- **CCACs** use the Client Health and Related Information System (CHRIS), a web-based patient management system, from which their staff access patient information and care plan details. The system has a number of supporting applications that are unevenly deployed across the province according to individual CCAC preference and priority. The Health Partner Gateway (HPG) allows the CCACs to exchange patient information with partners. CCACs also receive reports from Hospital Report Manager including eNotifications to alert case workers that a client is in a hospital Emergency Room.
- **Long Term Care Providers** use their own systems to manage and store the care and documentation of their patients. In 2016, funding was announced to allow these systems to access patient information from provincial repositories.
- **Front line Home Care Providers** gather and store clinical data and information in their own electronic administrative and documentation systems. As such, these organizations have a wealth of untapped knowledge about the delivery of home care by patient populations and should therefore, be included as contributors to the provincial discourse about electronic system development.
- **Community Care Providers** use their own systems to track and monitor clients. There are

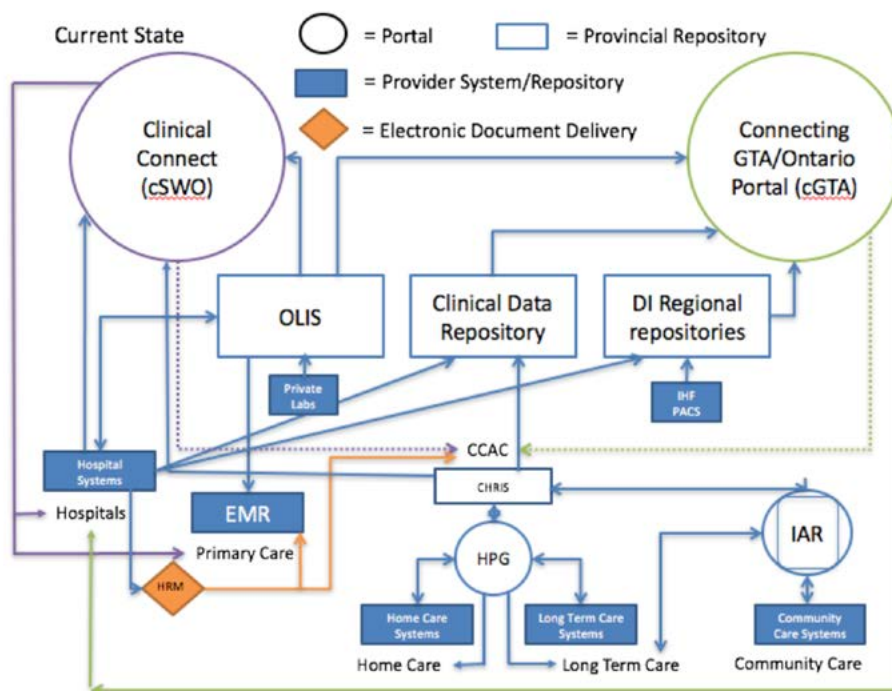
- **Clinical Data Repository (CDR)** is a repository serving the Greater Toronto Area Hospitals with information such as discharge summaries and clinical notes. It also includes some information from CHRIS. This eHealth Ontario project will soon expand to the rest of the province as part of a provincial “Connecting Ontario” project.
- **Clinical Portals:** eHealth Ontario has invested in two major clinical portals that provide over 84,000 clinicians with access to lab results (OLIS), clinical data and document (CDR), diagnostic imaging reports (DI-R), some CHRIS data and other information. The portals are “Clinical Connect” in Southwest Ontario, also known as cSWO and the “cGTA Portal” in the GTA. The cGTA Portal will expand to Northern and Eastern Ontario as part of the Connecting Ontario project.
- **Integrated Assessment Record (IAR)** is a database (repository) and clinical viewer (portal) that allows authorized users to view a consenting client’s RAI assessment information to effectively plan and deliver services to that client. The IAR was intended to integrate community support services, however it has not been adopted by CCACs.
- **Drug Profile Viewer (DPV)** provides emergency clinicians with information from the Ontario Drug Benefit claims database. The DPV contains the publicly funded and dispensed drug history information of all seniors, social assistance recipients and Trillium Drug Plan members which represents a significant portion of all prescriptions.

Access to current and accurate information is key to providing good care at home. Provincial repositories and portals provide access to some information for some members of the health care team but not for front line Home Care Providers and/or patients. Front line Home Care Providers have the most direct contact in the home with patients and yet operate with the least amount of health care information with which to support patients and their families.

- **Ontario Lab Information System (OLIS)** is a provincial repository managed by eHealth Ontario, storing lab data from community laboratories and hospitals.
- **Diagnostic Imaging (DI)** repositories, of which there are four regionally based, contain diagnostic digital images and reports. Every hospital in Ontario is connected to their local regional repository enabling the sharing of images and reports within the region. Digitally enabled Independent Health Facilities (IHF) have been, and are continuing to be, connected to these repositories through an initiative funded by eHealth Ontario. The goal is for images and DI reports to be exchanged across regions and also become available to clinicians through a DI-“Common Service”.



FIGURE 1: A HIGH LEVEL OVERVIEW OF INFORMATION FLOW THAT ISOLATES THE FRONT LINE HOME CARE PROVIDER



The value of portals is maximized when all health care professionals across the continuum of care make full use of the stored information. *All providers must be able to contribute to and retrieve patient data that is displayed through the portal.* The importance of this contribution is particularly evident when considering the need for seamless operation of 'hospital to home' programs. Front line Home Care Providers are applying for access to provincial portals as a result. However, the ability to enable data exchange must be established so that effective two-way communication can be achieved.

When providers, including front line Home Care Providers, contribute and receive information that is accurate, complete, relevant and standardized, health care becomes better coordinated, and maximized value to the patient can be achieved.

INFORM: USING TECHNOLOGY EFFECTIVELY

Recommendations

5. ***Develop data standards and definitions that are applied consistently across the health care system to enable measurability and ensure public accountability.***

A core team must be created and given leadership authority to work with health system stakeholders to establish data standards within home care and across all health care sectors so that analytics can be used to measure and assess the outcomes of care; and so that information that is shared at the local, regional, provincial and national levels is meaningful and instructive to improving care and the health system.

6. ***Establish front line Home Care Provider representation at all levels of eHealth technology planning, implementation and evaluation.***

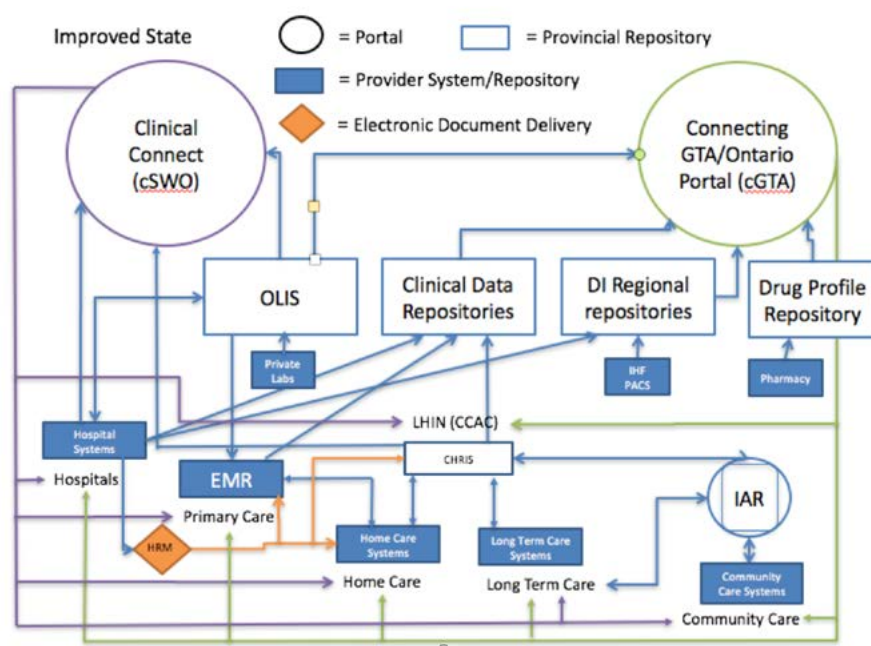
Front line Home Care Provider representation from the service delivery level is vital to ensure effective deployment of technology in the context of the processes and resources in the community. Existing eHealth committees and groups that currently have CCAC representation must be expanded to include at least three front line Home Care Providers who can address the perspectives from the Southwestern Ontario, the GTA, and Northern/Eastern Ontario.

WITH WHOM SHOULD FRONT LINE HOME CARE PROVIDERS COMMUNICATE?

Communication failures due to lack of effective teamwork and information exchange are a leading cause of patient safety incidents in healthcare. It is therefore vital to address the need to increase access to information by all members of the health care team.

Patients expect that front line Home Care Providers, and indeed the entire health team, has access to the same information and understands the plan of care. The need to repeat information is a longstanding frustration and concern. While patients perceive their front line Home Care Provider to be an essential part of the 'circle of care', access to patient information continues to be limited and often delayed because of a lengthy 'supply chain' of decision-making (steps to get the service to the customer) and an absence of direct and bi-directional connectivity to the rest of the health care system. Of particular importance is the need for electronic access to primary care (individual physicians, family health teams, community health centres) through asynchronous messaging. Primary care and home care are foundational to the health care system as it is in communities across the province where Ontarians receive the majority of their health care.

FIGURE 2: AN IMPROVED STATE THAT PROPERLY INCLUDES FRONT LINE HOME CARE PROVIDERS



A strong community-based system that appropriately utilizes and integrates all members of the team is essential to support good health outcomes. This team must have the tools and technology that allow them to access information in a timely way and seamlessly connect their clients to the system resources they require. The inconsistency in access to information, such as the IAR which can only be accessed by community support agencies, must be addressed as to do otherwise is to short change patients.

Mrs. J is discharged home from hospital late Friday afternoon and is referred for home care service. Later that night, the visiting nurse has questions about the orders and needs to know if insulin had been intentionally discontinued on discharge from acute care. Per protocol, a call to the CCAC is placed and the after-hours CCAC coordinator tries to contact the discharging acute care physician for clarification. As the discharging physician has left for the day, a Resident is found who issues a verbal order to the CCAC coordinator to resume insulin. The order is then conveyed to the visiting nurse. This process is repeated hundreds of times in the current home care system and places the staff, organizations and most importantly the patient, at risk of error.

PATIENT CARE IS IMPROVED WHEN COMMUNICATION BARRIERS ARE REMOVED

Within home care, communication is hierarchical with the CCAC historically determining the nature and exchange of patient information. This hierarchical approach leads to an unfortunate situation whereby the members of the front line team do not have the full picture of care and therefore remain focused on independent tasks. The complexity and nature of home care and the people served require a more interdisciplinary, integrated patient and family focussed approach to communication and subsequent care decision-making.

Many, but not all, providers have direct access to HPG which provides read only access to information, much of which is in PDF format. Front line Home Care Providers have no visibility to the:

- Integrated Assessment Record (IAR) used by community support agency providers;
- Care Coordination Tool (CCT) used by Health Links teams across the province treating those with most complex health issues;
- Portals which would provide access to OLIS, hospital and specialist reports, and primary care records.

In order to deliver best care, front line Home Care Providers must, at a minimum, be able to access

- the most recent medication profile,
- risk factors such as those pertaining to client and/or staff safety, and discharge summaries.

To be responsive and sensitive to patients and families and to reduce waste in the system, front line Home Care Providers must have the most recent assessments and care goals that have been developed.

e-Notifications, a near real-time message sent to notify primary care when their patients are discharged, would be a significant asset to front line Home Care Providers who currently have no such direct connection. e-Notifications has been approved by the Ministry of Health and Long-Term Care (MOHLTC) for expansion through the OACCAC.

Issues of client and staff safety related to the physical environment of the home or the social circumstances within the family unit cannot be left to chance. Front line Home Care Providers are on their own and visit 24x7 as the need requires. Effective communication and the ability to plan prepares staff and contributes to successful client care at home.

Front line Home Care Providers have expressed concerns that the lack of timely and relevant information impedes their ability to provide optimal care to their patients and conversely health system partners are concerned by the limited direct access to the front line care team in the home. Emergency departments and primary care practices state that they would be better equipped to deliver best care when they can access the front line Home Care Provider's most recent documentation in real-time.

Front line Home Care Providers have developed workarounds and generally try to gather relevant patient care information directly from the patient and family. This process is time consuming and frustrating because of the duplication of time and effort. This concern will become even more apparent as more patients with complex and chronic care needs continue to be managed at home.

Increased and improved access to team members and information is important to comprehensive quality care. As best practice suggests, a culture of effective teamwork is essential to achieving effective communication.

EFFECTIVELY COMMUNICATING – ESTABLISHING A MINIMUM DATA SET

Patient information is currently contained in islands of data that reside mostly within the walls of each health care provider. Historical decisions pertaining to investments in information technology and the general unease around the safety and privacy of personal health information has created an untenable situation where only some patient information is accessible to some providers, and systems between providers do not interoperate. Ironically, this has resulted in an increase in the time-consuming creation of paper trails in the home care system. Some front line Home Care Providers estimate a 10-15% increase in paperwork in the past five years.

The systemic and patient risk is high for failure to share pertinent information. A truly integrated system will reduce reporting, paperwork, duplication and errors, but will only be sustainable when the information that is documented is standardized and easily extracted. Standard terminology and agreement on data parameters specific to patient demographics, diagnoses, indicators and outcomes must be developed and supported by reporting tools that extract the information in user-friendly formats. Provincial services are needed to educate, consult and audit understanding and adherence to the minimum data set.



STANDARDIZATION IS ESSENTIAL TO CONSISTENT PATIENT CARE

Without exception, respondents described the need for standardization - in business processes, data definitions and collection, application of software and technology systems. The lack of standardization has significant impact on costs, administrative processes and system modifications that must be accommodated. Furthermore, it compromises the ability of health care providers to communicate efficiently; benchmark and develop best practice.

Standardization must apply to:

- Software technical specifications with the priority being to align the Client Health and Related Information System (CHRIS) across all providers in the province.
- Business processes to support use of e-documentation, such as the 'automated provider record' (APR) where respondents indicated significant costs to accommodate implementation of this tool primarily because of each CCAC business rule configuration.
- Standardization of business rules would reduce time, effort and cost and improve client experience and data exchange.
- Processes related to the expectations of front line Home Care Provider management of information related to services and disciplines.



COMMON ASSESSMENT TOOLS CURRENTLY USED IN HOME CARE

Resident Assessment Instrument (RAI Assessments)

RAI assessments provided by the CCAC through the CHRIS document exchange function do not integrate with other operating systems and are sent in entirety each time an update is made. This creates a laborious, and costly, process for front line Home Care Providers of comparing lengthy (30 pages on average) documents in order to identify the change.

Front line Home Care Providers reported that, in most cases, the RAI information from the CCAC is out of date by the time it is made available. While the RAI assessment can provide valuable systemic and patient information, the file from the CCAC is long and often incomplete and inaccurate. Almost every front line Home Care Provider, out of necessity, conducts a new assessment, and confirms basic demographic information, using separate tools. A true exchange of information is essential to best quality patient care.

Health Outcomes for Better Information and Care

The Canadian Health Outcomes for Better Information and Care (C-HOBIC) is a collection of standardized patient outcomes data related to clinical care in electronic health records (EHRs) in Canada. Components of the interRAI instruments are utilized to collect information about functional status, continence, symptoms (fatigue, nausea, dyspnea), falls and pressure ulcers and therapeutic self-care to name a few. C-HOBIC introduces a systematic, structured language to admission and discharge assessments of patients receiving acute care, complex continuing care, long term care or home care. This language can be abstracted into provincial databases or EHRs. Some front line Home Care Providers use HOBIC, which uses components of the interRAI instruments, as their assessment tool.

Care Coordination Tool

The Care Coordination Tool (CCT) is an assessment tool for use by Health Links in order to develop a ‘coordinated care plan’. The MOHLTC has engaged a selection of Health Links in a Proof of Concept project to explore the electronic Care Coordination Tool (eCCT), a platform designed “to create, share and view coordinated care plans and exchange secure messages within the circle of care for Health Link clients”.

An evaluation of the eCCT is currently underway, as is a comparative evaluation of “other major care coordination solutions that have been implemented in different parts of the province in the last one to two years. Front line Home Care Provider involvement in this work is essential in order to streamline assessments.

There is an urgent need for succinct assessment information that supports care in the community where primary care and home and community care are primarily responsible.

Medication Profile

The MOHLTC has made available a Drug Profile Viewer to enable Emergency Departments, pharmacies, and clinics to access secure real time history or drug products. This is being expanded to other programs and portals across the province. eHealth Ontario is also moving forward with an initiative to create a Comprehensive Drug Profile Repository that aims to collect the dispensing data of all Ontarians. eHealth Ontario is working with the MOHLTC to explore ways to effectively bring prescription drug information to health care providers throughout the health care sector; using point of care solutions such as regional or hospital portals, and electronic medical records (EMRs).

Medication management is a significant safety issue and while all providers must conduct a review of the medications at each visit, those who administer and/or assist patients with medications would be able to provide safer care if they understood a patient’s medication profile through these assets. Equally essential is the need for emergency and primary care staff to know the medications patients are taking.

PROTECT: HOME CARE TECHNOLOGY ASSETS

Recommendations

7. Protect and modernize the Client Health and Related Information System (CHRIS)

CHRIS is a mission critical tool for front line Home Care Providers and should be retained by the future provincial Shared Services Organization. Province-wide standard business processes need to be implemented and supported through the CHRIS application which must be systematically and consistently applied across the province. Front line Home Care Providers have already invested heavily in software modifications, people and processes and must be part of the overall planning, deployment and evaluation process.

CLIENT HEALTH RELATED INFORMATION SYSTEM (CHRIS)

The OACCAC currently hosts and maintains CHRIS and its associated Health Partner Gateway (HPG) on behalf of the CCACs and the people of Ontario. Front line Home Care Providers view CHRIS as a mission critical tool to operations. They have invested significant time and money to accommodate current specifications and integrate with the CHRIS application. While the current system is far from perfect, the home care system is dependent on CHRIS as the tool for electronic information exchange for patient information, care plan details, referral and updates.

The OACCAC currently hosts multiple versions of CHRIS as each CCAC has individually deployed a different combination of features and modules and each has their own technical specifications. Features such as Automated Provider Reporting (APR), supply ordering, medication reconciliation and clinical documentation have not been implemented in any systematic manner. Where two or more CCAC's have deployed the same modules, they are often used differently. For example, there are differing business rules between as to how fields should be completed, even across the various services. To date, front line Home Care Providers have implemented a number of costly workarounds and administrative tasks (such as a person assigned to watch for incoming referral notifications, or re-entering of data) in order to transfer the CCAC's data to their operating system.

Improvements necessary to the improved functionality, deployment and user interface of CHRIS would include (but are not limited to):

- Establishment of single entry standards and standardization of business processes so that all modules of CHRIS, and fields within those modules, are deployed and implemented consistently across the province through harmonized business processes. An oversight body consisting of and representing home and community care stakeholders should be assigned responsibility for developing a plan, implementation and evaluation of the deployment and use of CHRIS across the province.
- Recognition for the considerable provider investment in the system to date will need to be made and efforts for minimizing the additional costs addressed as a priority. For example, Automated Provider Reporting (APR), supply ordering, billing uploads, assessments and documentation models can be implemented consistently across the province.
- The adoption of consistent business processes across the province is the single biggest improvement that must be made so that a coordinated province wide implementation strategy of enabling technology could be launched. The intent is to minimize the experimentation and related front line Home Care Provider cost to support the various processes.
- Making it the priority of the new Shared Services Organization to establish bi-directional electronic integration with legacy front line Home Care Provider systems for scheduling, charting, clinical documentation and clinical care. This will require standardized data definitions and consistent application of data fields across the province. The intent is to eliminate the transfer of large PDF files and current requirement for repetitive data entry. It is also to democratize the sharing of information across the team.
- Enabling front line Home Care Providers to upload client status information directly into CHRIS, ultimately eliminating the need for faxing, thereby ensuring that accurate information can be more readily accessed by team members within the circle of care.
- Completing provider-recommended functionality fixes that would make the handling of information less cumbersome and tedious, and would reduce the amount of manual processing by providers.

HPG

Health Partner Gateway (HPG) is the mechanism / portal for front line Home Care Providers to receive orders for new and existing clients, access patient information and through which they upload billing files. Not all providers use the HPG and its sustainability is limited by the inability of front line clinicians, patients and families to access the portal. Front line Home Care Providers retained by clients privately have no access to the HPG or CCAC information.

With the trend toward greater patient engagement and direct involvement in their care, and the need for providers across the health system to have better connectivity, the home care sector should be transitioned to the Connecting Ontario portals: CGTA and Clinical Connect.

The service agreement for the provision of home care services needs to be modified so that front line Home Care Provider organizations are recognized as Health Information Custodians, (HICs) and processed for access to relevant information that will support care delivery and reduce the duplication and risk of error inherent in the current model where the CCAC serves as the conduit for any patient information.

INTEGRATED ASSESSMENT RECORD (IAR)

IAR allows RAI assessment information to move with a client from one health service provider (HSP) to another. HSPs can use the IAR to collaborate with other care providers and to view assessment information electronically, securely and accurately.

Front line Home Care Providers must be connected to the IAR as equal partners in order to view the clinical assessment information across the health care system. Currently contracted front line Home Care Providers have no visibility to the IAR and must obtain information from the CCACs, or the community support services agencies. Home Care Providers retained by clients privately have no access to the IAR or CCAC information but as Health Care Custodians are entitled to accessing information through the provincial portals.

Ultimately the IAR should be part of the Connecting Ontario portals.

THEHEALTHLINE.CA

thehealthline.ca is a not-for-profit corporation specializing in meeting the information needs of the health care sector through data management, content development and online services. thehealthline.ca manages a provincial system created by the OACCAC and 14 CCACs. It consists of 14 regional sites, a provincial database of over 40,000 health and community services records and a provincial portal.

This important resource should be retained and leveraged to be the health care directory for the province.

FRONT LINE HOME CARE PROVIDER SYSTEMS

As stated, front line Home Care Providers have administrative, documentation and monitoring systems that allow them to deliver care efficiently and to gather data and information to support best practice. Information about average number of visits for a specific patient population, mix of services and time of services provided is the type of intelligence that can be gleaned from the systems. On an individual basis, near real-time information about the patient's clinical presentation is gathered and would be available to the broader circle of care if it could be accessed through provincial portals or repositories.

The opportunity for better patient care by permitting exchange of patient information across the circle of care is significant and potentially life altering for providers and patients.

PATIENTS FIRST: POSITIONING HOME CARE TECHNOLOGY WITHIN THE BROADER PROVINCIAL STRATEGY

Access, Connect, Inform, Protect

Over the years, the province has invested in provincial assets to centrally store patient information. Yet with all of these assets, the patient in Ontario does not yet have a single comprehensive and integrated electronic health record summarizing their medical history.

Digital Health Strategy

It is timely to refresh the eHealth strategy, testing assumptions, revisiting concepts and ideas for best system integration.

The Minister created an 'eHealth Investment and Sustainability Review Board' chaired by the Deputy Minister in 2015 to

- provide advice and recommendations to the Minister on how eHealth can best enable health system transformation;
- sponsor the development of the renewed Digital Health Strategy; and, provide advice on how the ministry should fund/ spend finite resources on eHealth.

Once the renewed Digital Health Strategy is approved by Cabinet, the Board will monitor implementation and address any roadblocks. The Board has a cross-sector committee structure which includes community care. However, the representation is limited to one CCAC CEO, as an advisory member, who could not be expected to have the experience and perspective of service delivery in the patient's home.

The limited home and community representation at provincial policy and planning tables has arguably contributed to a CCAC technology strategy which is distinct from provincial plans. It is crucial that front line Home Care Providers be fully integrated into discussions related to the provincial Digital Health Strategy as authentic participants in the design, planning, implementation, and evaluation of technology solutions. This will help to address the concerns regarding the lack of standardization, integration and connectivity across the province.

New Organization

The "new organization" would focus on home care and be a resource and advocate for funding, implementation support and standardization in home care and a resource for front line Home Care Providers. The new organization would monitor, educate and consult regarding the data that is exchanged in order to maintain consistency and relevancy as determined by clinicians, administration and policymakers. The similarity to the physician model applies as front line Home Care Providers have a system for administration and documentation that is linked to clinicians practicing remotely. There are a handful of technology providers that could be organized to meet provincial technical requirements and approved standards for documentation of information. This would help to enable standardization of information sharing across the province.

The Association's established clinical councils – the OHCA/OCSA Nursing Practice Council and the Therapy & Rehabilitation Practice Council, will serve as strong linkages to clinical care issues within the home. This will strengthen the ability of the “New Organization” to effectively represent the front line Home Care Provider's perspective at provincial tables and be responsible to ensure that plans reflect the provider capacity and ability. It would also serve as a champion for digital innovation in home care.

The New Organization would also have a strong role in education and monitoring of the home care sector regarding data standards; approved indicators and outcome measures and innovative new technologies.

Data Standards

Data standards and definitions must be consistent across the health care system so that outcomes of care can be reliably assessed; and, that information shared at the local, regional, provincial and national levels is meaningful and instructive to improving the health system of care.

A data governance mechanism needs to be created to establish data standards not only across all health care sectors but also within the home care sector. Consistent data will allow comparisons across front line Home Care Providers and would enable new funding models to be created by the Local Health Integration Network and the MOHLTC.

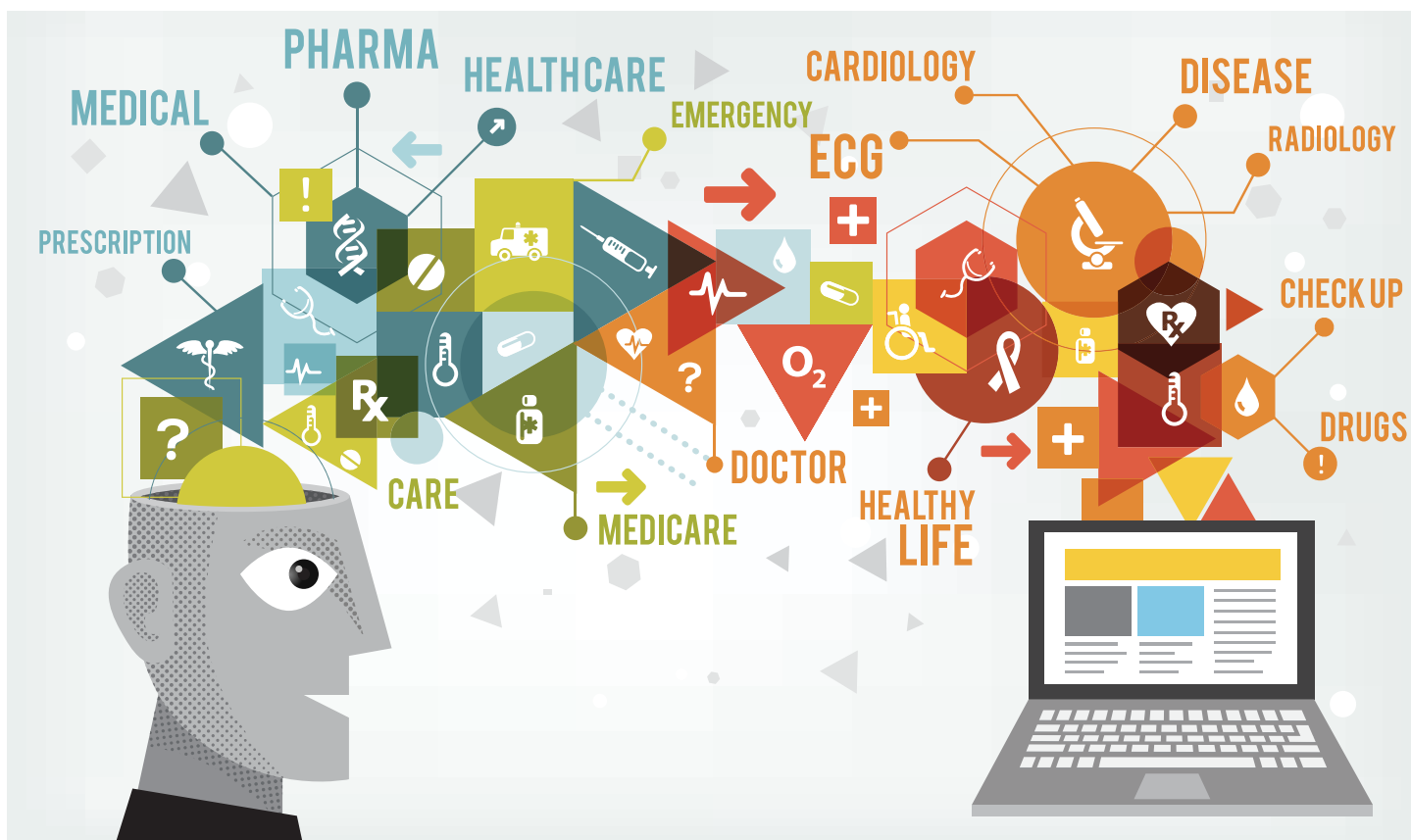
It would also enable data to be shared with provincial and federal bodies such as Health Quality Ontario (HQP), the Institute for Clinical Evaluative Sciences (ICES) and the Canadian Institute for Health Information (CIHI).

While eHealth Ontario has already created the Ontario EHR Architecture and Standards Business and Technical Committee to develop standards, it is not clear if it has the authority to enforce them. They may also be EHR centric, and may not deal with matters that affect the clinical and operational needs of home care.

The Data Standards mechanism would have to address the following:

- Meaningful involvement of front line Home Care Providers.
- Consistent data collection and definitions of data across all CCAC/LHINs.
- The information contained within RAI Assessments, which are considered too cumbersome for home care.
- Standardized data sets that should be exchanged between home care sector and the primary and acute care sectors.
- Standardized rules and application of the rule for role based access in home care through express patient consent for access to records.

Consistent data will allow comparisons across all home care providers and would enable new funding models to be created by the Local Health Integration Network (LHIN) and the MOHLTC and provide the necessary information for interprovincial dialogue regarding national standards.



One Patient, An Integrated Electronic Health Record

Ontario's success and challenge has been in the willingness to accommodate multiple electronic systems. It is therefore vital that repositories and portals be robust and designed for access by all providers who come into contact with the patient. Consideration needs to be made to expanding access, with patient consent, to ancillary and complementary providers.

Information sharing is vital to good safe health care and with the patient centred policies and efforts to strengthen patient engagement, consideration must be given to patient access to their medical information through Ontario's portals.

Promoting Technology Innovation in Home Care

New innovations in remote patient monitoring, virtual wards, remote care delivery, patient reported data and self-management provide great opportunities for the province to achieve higher quality care, improve productivity, reduce readmissions, avoid Emergency Room visits and improve the patient experience.

There are innovations in medical devices that allow front line Home Care Providers to perform more diagnostic and procedural activities in the home setting. Examples include wound care, laboratory work, pulse oximeters, remote EKGs and even chest x-rays. Coupled with the superior patient assessment skills of front line home care staff, these innovations can enable the timely relay of information so that changes in care plans can be made quickly to avoid hospitalization.

Front line Home Care Providers have either spearheaded or indicated interest in leading new technology projects. There are opportunities for them to educate patients, provide technical support and most importantly, to integrate it into their care delivery model to enhance care outcomes.

The timing for innovation in home care is right. The province recently created the position of the Chief Health Innovation Strategist (CHIS) to serve as a catalyst to help accelerate health technology commercialization efforts and fund health technologies. The Ontario Telemedicine Network (OTN) is “moving more towards a role as a catalyst and integrator for virtual health care” and will be enabling the development and testing of new innovative telemedicine technologies including in the home. And, eHealth Ontario is creating an innovation lab that allows digital technology innovators to test their connectivity with their assets.

Front line Home Care Providers must be full partners in these initiatives and have the opportunity to share their expertise from decades of service in the homes of Ontarians. Vendors and technology innovators need a mechanism to engage with the wider home care community to inform how technology is evolving and should be deployed.

Front line Home Care Providers can and are eager to drive new innovations that will improve patient care. Government funded innovation funds and initiatives should require front line Home Care Provider participation in order to be funded and targeted investment in home care technology should be made.

PATIENTS FIRST: RECOMMENDATIONS & CONCLUSION

The overarching goal of health care providers is to maximize patient wellbeing and support them to remain as independent as possible outside of institutional care. Technology is a key enabler of this effort. To be effective, technology needs to be leveraged and *made accessible in the patient's home and even in the most remote locations in the province.*

The recommendations provided by Home Care Ontario are designed to ensure that Ontarians receive full benefit from a health system that is enabled by effective electronic processes and communication. They are to:

Access

1. *Establish greater bi-directional and integrated exchange of electronic information between front line Home Care Providers and other health system providers (including CCACs/LHINs) through current portals and repositories in order to enhance access to timely patient information.*

Front line Home Care Providers must have the ability to input and access patient information in the patient record so there is no delay in receiving vital and accurate patient information, thus improving continuity of care and better health outcomes

2. *Promote, encourage and support technology innovation by and in partnership with front line Home Care Providers in order to ensure maximum value across the health system.*

Home care can no longer be left to manage with outdated technology and a paper-based system. It is essential to remove barriers to system wide innovation and find solutions that address the needs of patients across their care experience.

Connect

3. *Establish direct access to CHRIS through the 'Connecting Ontario' portals that connect the broader health care system, particularly primary care, labs and hospitals.*

The goal is to streamline portals containing clinical information so access is improved. As a key part of the circle of care, front line Home Care Providers should have access to Connecting Ontario portals and should be able to access CHRIS through this channel.

The front line Home Care Provider administrative data currently accessed from CHRIS through the Health Partner Gateway (HPG) should instead be widely and fully integrated with their scheduling systems, as is the case in several CCACs, negating the need for a separate portal to supply this information.

Therefore, other information provided through Health Partner Gateway (HPG), such as Clinical Assessments and other notes should instead be made available through Connecting Ontario portals to all providers to support the continuum of care and to eliminate redundant information.

4. *Establish a 'new organization' with centralized responsibility to encourage the adoption of new home care technologies, facilitate the exchange of information, support timely analysis of data and trends and participate in data governance.*

This "new organization" would focus on home care and be a resource and advocate for funding, implementation support and standardization in home care and a resource for front line Home Care Providers. As a provincial resource, the organization would monitor, educate and consult regarding the data that is exchanged in order to maintain consistency and relevancy as determined by clinicians, administration and policymakers. The resource would also represent the front line Home Care Provider's perspective at provincial tables and be responsible to ensure that plans reflect the provider capacity and ability.

Inform

5. *Develop data standards and definitions that are applied consistently across the health care system to enable measurability and ensure public accountability.*

A core team must be created and given leadership authority to work with health system stakeholders to establish data standards within home care and across all health care sectors so that analytics can be used to measure and assess the outcomes of care; and so that information that is shared at the local, regional, provincial and national levels is meaningful and instructive to improving care and the health system.

6. *Establish front line Home Care Provider representation at all levels of eHealth technology planning, implementation and evaluation.*

Front line Home Care Provider representation from the service delivery level is vital to ensure effective deployment of technology in the context of the processes and resources in the community. Existing eHealth committees and groups that currently have CCAC representation must be expanded to include at least three front line Home Care Providers who can address the perspectives from the Southwestern Ontario, the GTA, and Northern/Eastern Ontario.

Protect

7. *Protect and modernize the Client Health and Related Information System (CHRIS)*

CHRIS is a mission critical tool for front line Home Care Providers and should be retained by the future provincial Shared Services Organization. Province wide standard business processes need to be implemented and supported through the CHRIS application which must be systematically and consistently applied across the province. Front line Home Care Providers have already invested heavily in software modifications, people and processes and must be part of the overall planning, deployment and evaluation process.

The Association's underlying premise is that partners must work together and make every effort to ensure that people are well informed, confident that the home care system as a part of the broader health care system is available and that disruption is minimized.

Home Care Ontario will leverage the recommendations of this Home Care Technology Policy Paper to advocate for changes to system. Front line Home Care Providers have been left out of the information loop for too long. In order to realize a plan of improving the patient experience, it is essential that home care be integrated into the Digital Health strategy for the province.

GLOSSARY

Active Monitoring Applications – devices that require client action, such as pushing a button, or turning on equipment, e.g. telehomecare.

Automated Provider Reporting (APR) - uploading of provider status reports through an interface with CHRIS.

Automated supplies ordering (ASO) - electronic upload of patient supply orders by the nurse through an interface with CHRIS.

Care Coordination Tool (CCT) - assessment tool for use by Health Links in order to develop a coordinated care plan that can be tracked by various providers.

Client Health & Related Information System (CHRIS) - a web-based patient management system, from which their staff access patient information and care plan details. The system has a number of supporting applications that are deployed according to CCAC preference and priority.

Circle of Care - is a term commonly used to describe the ability of certain health information custodians to assume an individual's implied consent to collect, use or disclose personal health information for the purpose of providing health care, in circumstances defined in the Personal Health Information Protection Act (PHIPA).

Clinical Data Repository (CDR) - a repository containing clinical documents such as discharge summaries and clinical notes from health providers starting with the Greater Toronto Area Hospitals, and some CCACs. It is expanding its reach to other hospitals and CCAC's across the province.

Diagnostic Imaging (DI) Repositories - contain diagnostic digital images and reports

Drug Profile Viewer (DPV) - provides a view into the Ontario Drug Benefit claims database,

which contains publicly funded dispensed drug history information of all seniors, social assistance recipients and Trillium Drug Plan members.

Electronic Medical Record (EMR) – a partial health record under the custodianship of a health care provider(s) that holds a portion of the relevant health information about a person over their lifetime. This is often described as a provider-centric or health organization-centric health record of a person.

Electronic Health Record (EHR) – a complete health record under the custodianship of a health care provider(s) that holds all relevant health information about a person over their lifetime. This is often described as a person-centric health record, which can be used by many approved health care providers or health care organizations.

Front Line Home Care Provider - an incorporated entity which can be a non-profit organization, a private corporation, a municipal government or an aboriginal organization. The provider is responsible for delivering services such as nursing care, home support services, personal care therapy and medical equipment and supplies in the home to individuals of all ages. The front line Home Care Provider is reimbursed for their services by government, insurance companies or through private pay.

Health Information Custodian (HIC) - defined in the Personal Health Information Protection Act, 2004 as persons or organizations who have custody or control of personal health information as a result of or in connection with performing the person's or organization's powers or duties or the work described in the section 3(1) of the Act.

Health Links - a team of providers in a geographic area (primary care, hospital, home, community

care, long term care providers, community support agencies and other community partners) working together to provide coordinated health care to patients with multiple complex conditions – often seniors.

Health Partner Gateway (HPG) - allows the CCACs to exchange patient information with partners such as front line Home Care Providers, community support agencies and long term care facilities.

Home Care Reporting System (HCRS) - contains demographic, clinical, functional and resource utilization information on clients served by publicly funded home care programs in Canada.

Hospital Information System – an element of health informatics that automates the administrative, clinical, electronic medical records and inventory functions of hospitals.

Integrated Assessment Record (IAR) - a database (repository) and clinical viewer (portal) that allows authorized users to view a consenting client's RAI assessment information.

Ontario Lab Information System (OLIS) - a provincial repository managed by eHealth Ontario, storing patient lab data from community laboratories and hospitals.

Ontario Telemedicine Network (OTN) - a not-for-profit organization funded by the Ontario MOHLTC charged with building a sustainable and responsive virtual care system.

Passive monitoring system - does not require any action by the client to make the system work; includes video cameras, sensors and motion detectors.

Personal Health Record – a complete or partial health record under the custodianship of a person(s)

(e.g. a patient or family member) that holds all or a portion of the relevant health information about that person over their lifetime. This is also a person-centric health record.

Point of Care - the location at which patient care services are delivered.

Portal - a website that brings information together from diverse sources in a uniform way.

Repository - a general term used to describe a kind of setup within an overall IT structure where an organization has chosen to keep data.

Telehealth – a collection of means or methods for enhancing health care, public health, and health education delivery and support using telecommunications technologies. Telehealth encompasses a broad variety of technologies and tactics to deliver virtual medical, health, and education services.

Telemedicine - uses telecommunications technology to provide clinical health care at a distance. It helps improve access to medical services that often would not be available consistently in distant rural communities.

Telephony - an electronic visit verification system that requires staff to call a toll-free number when they arrive at and leave a client's home thereby improving safety of staff, accuracy of visit times and the elimination of paper timesheets.

ENDNOTES

- 01 Bill 210, retrieved on Aug 21, 2016 from http://www.ontla.on.ca/web/bills/bills_detail.do?locale=en&BillID=4054
- 02 Front line Home Care Providers are usually incorporated entities and can be a non-profit organization, a private corporation, a municipal government or an aboriginal organization. They are responsible for delivering nursing care, home support services, personal care, therapy and medical equipment and supplies in the home to individuals of all ages. Front line Home Care Providers are reimbursed for their services by government, insurance companies or through private pay.
- 03 Health Links is a concept representing a team of providers in a geographic area (primary care, hospital, home, community care, long-term care providers, community support agencies and other community partners) working together to provide coordinated health care to patients with multiple complex conditions – often seniors.
- 04 The term front line Home Care Provider is used as a distinction from CCACs and to represent the organizations that deliver clinical care directly in the home.
- 05 MOHLTC. (2015) Patients First: Action Plan for Health Care. http://www.health.gov.on.ca/en/ms/ecfa/healthy_change/docs/rep_patientsfirst.pdf
- 06 Similar to OntarioMD, which is a wholly-owned subsidiary of the Ontario Medical Association and receives funding from the MOHLTC. The organization provides education and support to enable full technology adoption.
- 07 Canadian Home Care Association www.cdnhomecare.ca
- 08 See <http://www.hqontario.ca/System-Performance/Home-Care-Sector-Performance>
- 09 Auditor General of Ontario. (2015) 2015 Annual Report of the Office of the Auditor General of Ontario. p 71 <http://www.auditor.on.ca>
- 10 I bid. p 72
- 11 OACCAC. (2016) Right Care, Right Time, Right Price: Investing in Ontario's Home and Community Care Sector, Advice on the 2016 Ontario Budget. <http://oaccac.com/Policy/Documents/papers%20and%20reports/OACCAC-Pre-Budget-Submission-2016.pdf>
- 12 Ibid.
- 13 Uploading of front line Home Care Provider status reports through an interface with CHRIS.
- 14 Electronic upload of patient supply orders by the nurse through an interface with CHRIS.
- 15 Telephony is an electronic visit verification system that requires staff to call a toll-free number when they arrive at and leave a client's home thereby improving safety of staff, accuracy of visit times and the elimination of paper timesheets.
- 16 Point of care is the location at which patient care services are delivered.
- 17 Includes smartphones, tablets.
- 18 Active monitoring applications require client action, such as pushing a button, or turning on equipment. Tele homecare is an example of an active application. A passive system does not require any action by the client to make the system work. Passive monitoring systems range from video cameras, to sensors and motion detectors.

- 19 Similar to OntarioMD, which is a wholly-owned subsidiary of the Ontario Medical Association and receives funding from the MOHLTC. The organization provides education and support to enable full technology adoption.
- 20 McKinley, J., Orridge C. (2007) Continuing Care e-Health Portfolio Overview. Presentation. Sl 7
- 21 FHT, FHG, FHN, FHO, CHC, solo practitioners. Currently approximately 83% operate with an EMR (Electronic Medical Record).
- 22 EMR is a partial health record under the custodianship of a health care provider(s) that holds a portion of the relevant health information about a person over their lifetime. This is often described as a provider-centric or health organization-centric health record of a person.
- 23 Retrieved on Aug 9, 2016 from https://www.ontariomd.ca/portal/server.pt/community/certified_emrs/vendor_market_share/
- 24 Retrieved on Aug 9, 2016 from <http://healthcareathome.ca/serviceproviders/en/Health-Partner-Gateway>
- 25 Long term care providers are long term care homes where adults can live and receive 24-hour nursing, personal care and help with their daily activities. These homes are also called nursing homes, municipal homes for the aged or charitable homes. Retrieved on Sept 25, 2016 from <http://www.health.gov.on.ca/en/public/programs/ltc/home-finder.aspx>
- 26 Retrieved on Aug 10, 2016 from <http://www.canhealth.com/blog/ontario-to-connect-ltc-systems-with-hospital-records/>
- 27 Community care providers include adult day programs, attendant services, meals on wheels, supportive housing, transportation, mental health, personal support.
- 28 Retrieved on Sept 26, 2016 from <http://pmservices.reconnect.on.ca/community-information-management/>
- 29 A repository is a general term used to describe a kind of setup within an overall IT structure where an organization has chosen to keep data (From Techopedia).
- 30 A web portal is a website that brings information together from diverse sources in a uniform way. (From Wikipedia).
- 31 Independent Health Facilities perform procedures funded by the Ontario Health Insurance Plan (OHIP) and traditionally performed by hospitals. The largest class of services provided by IHFs are diagnostic radiology and ultrasound. (From Fasken Martineau Health Bulletin 2013)
- 32 Retrieved on Aug 15, 2016 from <http://www.ehealthontario.on.ca/en/initiatives/view/diagnostic-imaging-program#recent>
- 33 Retrieved on Aug 9, 2016 from <http://www.ehealthontario.on.ca/en/initiatives/view/ConnectingOntario>
- 34 Retrieved on Aug 12, 2016 from <http://www.ehealthontario.on.ca/en/initiatives/view/ConnectingOntario>
- 35 This could include the RAI-HC, the RAI-CA (Contact Assessment), the RAI-CHA (Community Health Assessment).
- 36 Retrieved on Aug 5 from <https://www.ccim.on.ca/IAR/Default.aspx>

- 37 Retrieved on Aug 11, 2016 from <https://www.ehealthontario.ca/portal/server.pt/community/home/3144>
- 38 Teamwork and Communication Working Group. Improving patient safety with effective teamwork and communication: Literature review needs assessment, evaluation of training tools and expert consultations. Edmonton (AB): Canadian Patient Safety Institute; 2011. P1 <http://www.patientsafetyinstitute.ca/en/toolsResources/teamworkCommunication/Documents/Canadian%20Framework%20for%20Teamwork%20and%20Communications.pdf>
- 39 The term “circle of care” is not a defined term in the Personal Health Information Protection Act, 2004 (PHIPA). It is a term commonly used to describe the ability of certain health information custodians to assume an individual’s implied consent to collect, use or disclose personal health information for the purpose of providing health care, in circumstances defined in PHIPA.
- 40 Information and Privacy Commissioner of Ontario. (2015) Sharing Personal Health Information for Health-Care Purposes. P1 <https://www.ipc.on.ca/wp-content/uploads/Resources/circle-of-care.pdf>
- 41 Whereby each operation is started only after the preceding operation is completed.
- 42 Retrieved on July 26, 2016 from: <http://www.health.gov.on.ca/en/pro/programs/transformation/community.aspx>
- 43 Retrieved July 31, 2016 from https://www.ontariomd.ca/portal/server.pt/community/hospital_report_manager/enotifications/
- 44 Resident Assessment Instrument – Home Care is a standardized, multi-dimensional assessment system for determining client needs, which includes quality indicators, client assessment protocols, outcome measurement scales and a case mix system. The Resident Assessment Instrument – Contact Assessment is the common assessment tool for intake/short stay patients. The RAI-CA is an assessment instrument consisting of: similar data fields as the RAI-HC assessment, but is a scaled down version with approximately 40 assessment data items; an Early Triage component that can fast track otherwise healthy patients that have an acute condition, requiring short term service and do not require a further comprehensive assessment.
- 45 A complete health record under the custodianship of a health care provider(s) that holds all relevant health information about a person over their lifetime. This is often described as a person-centric health record, which can be used by many approved health care providers or health care organizations. Canada Health Infoway. Retrieved on Sept 13, 2016 from <https://www.infoway-inforoute.ca/en/what-we-do/blog/digital-health-records/6852-emr-ehr-and-phr-why-all-the-confusion>
- 46 Retrieved on Aug 9, 2016 from http://c-hobic.cna-aaic.ca/about/default_e.aspx
- 47 Ibid
- 48 Ibid
- 49 A Health Link is a team of providers in a geographic area (primary care, hospital, home, community care, long term care providers, community support agencies and other community partners) working together to provide coordinated health care to patients with multiple complex conditions – often seniors. Retrieved on Aug 5 from http://www.health.gov.on.ca/en/ms/ecfa/healthy_change/healthlinks.aspx

- 50 Retrieved on Aug 5 from <http://www.hqontario.ca/Portals/0/documents/qi/health-links/ccm-care-coordination-tool-en.pdf>
- 51 In some CCACs front line Home Care Providers must still fax the supply orders.
- 52 Defined in the Personal Health Information Protection Act, 2004 as persons or organizations who have custody or control of personal health information as a result of or in connection with performing the person's or organization's powers or duties or the work described in the section 3(1) of the Act.
- 53 Section 5, 5.1.1 (1), (2) of the General Conditions 2014 Consolidated Services Version Template Final Version September 2014. Retrieved on September 14 from http://healthcareathome.ca/serviceproviders/en/Documents/PDF%20Cleans-Sept.%202%2c%202014/General_Conditions_of_the_Agreement_%28Consolidated_Services_Version%29.pdf
- 54 Retrieved on Aug 5 from <https://www.ccim.on.ca/IAR/Default.aspx>
- 55 Presentation. Retrieved on Aug 4, 2016 from <http://centraleastlin.on.ca/en/boardandgovernance/boardmeetings/2015BoardMeetings/BoardMeetingJuly222015.aspx>
- 56 Ibid.
- 57 OHCA is the acronym for Ontario Home Care Association which operates as Home Care Ontario.
- 58 eHealth Ontario published a Connectivity Strategy in 2015 that outlines a similar vision. It is critical that the Connectivity Strategy includes front line Home Care Providers as equal partners to contribute and access provincial health record systems.
- 59 Retrieved on Sept 13, 2016 from http://www.mckesson.com/blog/unleashing-home-cares-cost-controlling-potential/?utm_content=sf34250106&utm_medium=spreadfast&utm_source=linkedin&utm_campaign=McKesson&sf34250106=1
- 60 Retrieved on Aug 9, 2016 from <http://www.health.gov.on.ca/en/pro/programs/ochis/>
- 61 Retrieved on Aug 9, 2016 from <http://oce-ontario.org/health-technologies-fund>
- 62 Retrieved on Aug 9, 2016 from <https://otn.ca/health-care-is-a-changing-and-otn-is-helping-guide-the-way/>
- 63 Retrieved on Aug 11, 2106 from <https://otn.ca/innovation/>
- 64 Retrieved on Aug 11, 2106 from <https://www.innovation-lab.ca>
- 65 Similar to OntarioMD, which is a wholly-owned subsidiary of the Ontario Medical Association and receives funding from the MOHLTC. The organization provides education and support to enable full technology adoption.
- 66 Retrieved on Sept 13, 2016 from <https://www.cihi.ca/en/types-of-care/community-care/home-care>
- 67 Retrieved on Sept 13, 2016 from <https://otn.ca>
- 68 Canada Health Infoway. Retrieved on Sept 13, 2016 from <https://www.infoway-inforoute.ca/en/what-we-do/blog/digital-health-records/6852-emr-ehr-and-phr-why-all-the-confusion>
- 69 Retrieved on Sept 13, 2016 from <http://cchpca.org/what-is-telehealth>
- 70 Retrieved on Sept 13, 2016 from <https://otn.ca>

