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FOREWORD

Home Care Ontario, the voice of home care in Ontario™, is a member-based organization with a mandate to promote growth and development of the home care sector through advocacy, knowledge transfer, and member service. Home Care Ontario members include those engaged in and/or supportive of home-based health care.

In Ontario, Home care providers are responsible for delivering nursing care, home support services, personal care, physiotherapy, occupational therapy, respiratory therapy, social work, dietetics, speech language therapy and medical equipment and supplies in the home to individuals of all ages.

An estimated 59 million hours of publicly and privately purchased home care service is provided annually across the province.

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For the latest in news and information about the home care sector in Ontario, subscribe to “House Call” at www.homecareontario.ca.

@HomeCareOntario
EXECUTIVE SUMMARY

Home care is continuing to evolve and has become the cornerstone of the health care system in Ontario often seen as the system opportunity for transformation. As a result, service expectations of the sector have increased significantly.

Achieving Ontario’s promise of high-quality, universal health care is critical to the province’s success. However, over many years, the health system has become increasingly fragmented, and the model of care that worked well in the past, is no longer functional given the current speed of technological change and demographics of Ontario’s population.

Current State of Ontario Health Care Technology

Nowhere is this fragmentation more evident than in the use of health care technology in the home care sector. Technology has the potential to provide both patients and caregivers with opportunities to have real-time access to records, virtually connect patients with their care team, and new opportunities to deliver more care at home.

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 centers, are not satisfied with the current fragmented implementation of information and the inability to link directly to home care clinicians through provincial portals/viewers. The inability to communicate directly with frontline 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 frontline care. Patients expect that frontline 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.

Importance of Accessing Patient Information Efficiently

While patients perceive their frontline home care provider to be an essential part of the ‘circle of care’¹,², 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 importance, is the need for electronic access to primary care (individual physicians, family health teams, community health centers) through asynchronous³ 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.

Currently the frontline home care provider has no ability to view or contribute to the patient’s overall health record. Instead, these providers must rely on using workarounds to find necessary patient information through multiple sources that are often out of date.

Patient information is currently contained in islands of data that reside mostly within the walls of each health care provider. There are countless examples throughout the system where direct home care providers are left out of the loop, not at
the decision-making tables and not linked into key patient information in the health care record.

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. If we are going to do better and implement quality standards, then we must have the tools to make that integration possible.

Nurses, Therapists and PSWs cannot readily access electronic information needed to make consistent patient care decisions in real time in the home environment, nor can those professionals contribute to the patient provincial electronic record.

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 frontline home care providers to enable connectivity to existing provincial systems. This is a significant risk to the safety and quality of patients and their care.

**Expanding Home Care Services with Mobile Technology**

Ontario’s transformation agenda provides a unique opportunity to re-imagine and expand the use of home care services.

Specifically, this would include future expansion and development of Ontario’s existing home care technology assets to meet the system transformation efforts for safe, quality patient care. As mentioned earlier, technology is a key enabler of this effort, but to be effective a robust mobile technology needs to be leveraged and made accessible to frontline home care providers even in the most remote locations across the province.

A coherent, consistent and comprehensive provincial strategy to effectively deploy technology solutions to the frontline of home care is required.

“There is an overwhelming need to clearly enable access to the right information by all providers including those responsible for the provision of frontline care.”

**Increased Collaboration to Improve Home Care Provision**

This paper was initially created through a consultative process with Home Care Ontario members and most recently was enhanced with a review of the provincial and national work currently underway in the digital health space.

An examination of the current state of technology in the publicly funded home care system from the view of the patient’s home as experienced by frontline home care providers, 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 where integration, collaboration, communication and coordination of care can be optimized.

Implementation of Health Quality Ontario-Quality Standards work to improve health outcomes of Ontarians, expansion of Health Links and the transformation to Ontario Health have a significant implication for provincial resources and support for technology to enable real-time connectivity and continuity of care at the frontline.

Ontario Health Teams (OHTs) are a new way of designing and delivering health care services in local communities and will involve all health care providers such as hospitals, physicians and home and community care all working together to deliver seamless care to patients. 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.
SUMMARY OF RECOMMENDATIONS

01 Real time access to patient health information for all members of the patient health care team including the patient and the patient’s circle of trust.

02 Standardization of systems and processes.

03 Integration of internationally recognized data standards and terminologies for all technology initiatives.

04 Optimize privacy and security compliance by all providers.

05 Universal data sharing agreements.

06 Enable diversified service delivery models and innovation

07 Implement shared decision-making model at the local and provincial level, that recognizes that the LHIN’s do not represent the home and community care provider voice

08 Modernize provincial digital assets to be inclusive of Home and Community Care

09 Optimal data management at the local, provincial and national level

10 Funding models that will support patients at home safely for the longest time possible
BACKGROUND

Key to ending hallway health care is enabling more care to be delivered at home, however doing so without access to information about the patient from other parts of the system is irresponsible.

Hospitals now regularly operate above 100% capacity resulting in inappropriate use of emergency departments and care provision in hallways and common rooms due to lack of space.

IN 2016/2017, OVER 60% OF ALL ALTERNATE CARE LEVEL (ALC) PATIENTS WERE WAITING FOR LONG TERM CARE OR HOME CARE.

A critical strategy to strengthening the health system is ensuring that there is relevant and timely information exchange between all providers. Amending contracts to restore home care provider status as Health Information Custodians will facilitate this strategy.

Building Ontario’s Healthcare Capacity

The Premier’s Council reports “a number of current day challenges for our health system such as: less than optimal patient experience, increased stress and burden on caregivers/providers; increasing complexity of needs and increased pressures to ensure the right service mix exists in our health system. Opportunities to strengthen care coordination at all levels of the system by leveraging the use of technology as a key enabler of care and service are evident.”

Digital Health Canada recently undertook a Community of Action Working Group for Community Care-the intent being to enhance the quality of healthcare for Canadians by learning more about an important digital health topic. Digital Health Canada’s goal was “to provide actionable recommendations and identify strategic opportunities of technology-enabled solutions supporting care coordination and integrated patient transitions. An analysis of current state of technology-enabled solutions and identification of converging digital technologies, starting with high level and environmental jurisdictional scans of home and community care practices, integration, and structure.”

The Canadian Patient Safety Institute has identified technology as a key enabler of outcomes such as improved patient safety and reduction of risks in home care. Canada Health Infoway’s ACCESS Health strategy speaks to the need to increase access to information, access to services and access to clinicians. Technology strengthens that access.

“A critical strategy to strengthening the health system is ensuring that there is relevant and timely information exchange between all providers.”
Increased Access to Mobile Data Tools

Underpinning both provincial and national digital health agency exploration of potential transformation of our health care system is the very real requirement to leverage technology to increase access, sharing, and use of patient health information that will strengthen real time coordination, collaboration and communication among the health care team.

Home Care Ontario believes that implementation of the recommendations for action outlined in this paper will allow Ontario to better utilize more home-based solutions to begin the needed shift from a hospital-based system to one that focuses on supporting the patient at home. These steps would enable more care to be delivered at home—where people want to be and will begin to address the need for the greater use of digital tools to improve the patient’s experience in their homes and communities.

Achieving these goals will also allow for improved system synergy within OHTs, between home and community care providers, family physicians, hospitals, and all those working across the health care system to deliver optimized care to patients.

In alignment with the government pillars of ending hallway health care: Integration of Services, Building Capacity, Connecting Care and Improving the Patient Experience, Home Care Ontario has prepared a series of recommendations for action to both Ontario Health (OH) and Ontario Health Teams (OHTs) to assist in the development a coherent, consistent and comprehensive digital strategy to effectively deploy technology solutions to the frontline of home care.
REAL TIME ACCESS TO PATIENT HEALTH INFORMATION

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 allows it to access information in a timely way and seamlessly connect clients to the required system resources.

Access to personal health information is driven through the Personal Health Information Protection Act (PHIPA) and designation of Health Information Custodian (HIC). Currently home care providers and their staff, are not considered a Health Information Custodian (HIC). This critical role was removed as part of the contract for the home care contractual process which began in the late 1990’s. The loss of HIC status limits the accessibility of patient information in real time at the point of care.

Within home care, communication has been hierarchical, with the LHIN historically determining the nature and exchange of patient information. This hierarchical approach leads to an untenable situation whereby the members of the frontline team do not have the full picture of care and therefore remain focused on independent tasks.

The growing complexity and nature of home care and the people served now requires a more interdisciplinary, integrated patient and family focussed approach to communication and subsequent care decision-making.

RECOMMENDATIONS TO ONTARIO HEALTH

--- 01 ---

Restore HIC status by removing the statement in the current contract template that refers to home health care providers as agents of the HIC. Ensure language in the revised template removes any barriers to regulated health professionals practising as HIC’s as appropriate.

--- 02 ---

Give all people of Ontario access to their own health information using a co-design process with patients.

--- 03 ---

Create a provincial electronic patient record minimum data set that enables bidirectional health information exchange in real time and that supports the right information, at the right time by the right health care team members throughout the patient trajectory of care.

--- 04 ---

Modernize Personal Health Information Protection Act (PHIPA) by redefining HIC and agent of HIC and creating an Act that is person-centered enabling the patient’s right to their own information and ensuring that the common elements of data sharing agreements as outlined by the Auditor General’s Office are aligned.
STANDARDIZATION OF SYSTEMS AND PROCESSES

“Standardization of business processes across the province and the Ontario Health Teams must be a priority.”

Consistency to Improve Patient Experience and Improve Workflow

Currently there is excessive variation in systems and processes across sectors, within sectors and now within OHT’s, that have the potential to create significant barriers to adoption and transformation.

eHealth Ontario’s Connectivity Strategy12 (now Ontario Health Digital Services) highlights how all services and sectors can work together to gather, share and utilized patient health information that can support the patient and family in achieving better outcomes; improve patient experience; at the same time as enabling frontline clinicians with the information to make more informed care decisions at the right time and at the right place.

Integration of services such as laboratory, diagnostic imaging, pharmacy and linkages to primary care, acute care, ambulatory care, community care and long-term care, using important assets such as ONE ID, provider and client registries, repositories and clinical portals/viewers, enable all clinicians to work collaboratively for the patient.

Both data standardization and data quality are critical to successful transformation. Standardization of business processes across the province and the Ontario Health Teams must be a priority. Technical specifications, associated workflows and business rules must be clear and standardized. Additionally, standardized assessment instruments and minimum data sets must be established.

There are many resources to aid in this work that include clinical standards, outcome measures and data quality check systems. Systems that are agnostic to specific technology partners must be considered as “one size does not fit all”.

“Both data standardization and data quality are critical to successful transformation.”

Consistency to Improve Patient Experience and Improve Workflow

Technology partners must continue to meet international standards, interoperability and facilitate data sharing.

Province-wide standard business processes need to be implemented and supported, without compromising innovation, in a framework which must be systematically and consistently applied across the province. In addition, such a framework will ensure that all types of “eTransactions” are delivered safely and in a timely manner.

Frontline home care providers have already invested heavily in software modifications, people and processes and must be part of the overall planning, deployment and evaluation processes for this modernization and standardization.
TO ONTARIO HEALTH

— 01 —
Standardize back-end processes that create operational stability such as communication and payment processes

— 02 —
Ensure that technology innovations contain open Application Programming Interfaces (API) with no field variation across OHTs to optimize adoption and integration across multiple solutions

— 03 —
Leverage Ontario Health Quality Division as the governance structure to identify quality standards and quality-based protocols for unique populations that will be distributed and implemented across all OHTs that focus on that unique population

— 04 —
Identify intra and inter sectoral standard assessment tools for unique populations to be used across all OHTs recognizing that each sector will share common assessment elements but will also have additional unique assessment elements. Each discipline must identify an essential clinical data set that will be used across the province

— 05 —
Assess standardized care planning tools such as electronic Care Coordination Tool (eCCT) available and identify the most appropriate care planning tool for unique populations

— 06 —
Include Home Care Ontario representation throughout the decision-making process regarding quality standards, quality-based protocols, assessment and care planning tool standardization

DEFINITION:
FRONTLINE HOME CARE PROVIDERS

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 frontline home care provider is reimbursed for their services by government, insurance companies or through private pay.
INTEGRATE INTERNATIONALLY RECOGNIZED DATA STANDARDS AND TERMINOLOGIES FOR ALL TECHNOLOGY INITIATIVES

A core team must be created and given leadership authority to work with Ontario Health Digital Services and other health system stakeholders to leverage existing international 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.

Leveraging internationally recognized standards will ensure maintenance of those standards is managed. Home care providers, working collaboratively with Ontario Health, in an advisory role, can provide input into the data standards that are most meaningful to care provision in the home care sector.

RECOMMENDATIONS TO ONTARIO HEALTH

As a baseline, Home Care Providers should be compliant with the following:

— 01 —
HL7 (Health Level Seven International) refers to a set of international standards for transfer of clinical and administrative data between software applications used by various healthcare providers.

— 02 —
HLR FHIR readiness in progress (Fast Healthcare Interoperability Resources) is a standard describing data formats and elements and an application programming interface for exchanging electronic health records.

— 03 —
SNOMED CT embedded in technology systems (Systematized Nomenclature of Medicine Clinical Terms) is a systematically organized computer processable collection of medical terms providing codes, terms, synonyms and definitions used in clinical documentation and reporting.

— 04 —
ICNP embedded in technology systems (International Classification of Nursing) provides an agreed set of terms that can be used to record the observations and interventions of nurses across the world. ICNP also provides a framework for sharing data about nursing and for comparing...
For many years, as part of the contract process, home care providers have been required to meet stringent cybersecurity standards. Further, all providers participating in OHTs must continue to meet those standards so questions of privacy and security don’t become the barriers to information exchange.

“Give patients the right to their own information…”

**RECOMMENDATIONS TO ONTARIO HEALTH**

--- 01 ---

Leverage HSSO/Ontario Health (Health Shared Services Ontario) as a mechanism to ensure that all home care providers continue to meet defined cybersecurity requirements as part of the pre-qualification process.

--- 02 ---

Ensure HSSO/Ontario Health integrate Ontario Health Digital Services privacy and security requirements in the pre-qualification cybersecurity requirements ensuring privacy and security will not be the barrier to accessing provincial assets.

--- 03 ---

Determine a patient identifier, authorization and authentication mechanism and ensure Home Care Ontario representation is included in the decision-making process.

--- 04 ---

Conduct a comprehensive review of best architecture to manage access to personal health information by patients and their health care team.

--- 05 ---

Give patients the right to share their own information through modernization of PHIPA.

--- 06 ---

Designate Ontario Health Digital Services to manage ONE ID and ONE Mail assignment (or other provincial digital credential standard) for all frontline care providers including home care frontline providers.
UNIVERSAL DATA SHARING AGREEMENTS

Complexity of data sharing agreements, the resources involved in developing those agreements and the multiplicity of agreements that could be required across OHT’s makes “leaning” out this process essential.

Without a minimum data set, data sharing discussions are protracted and without action. It is essential to share key patient data across all members of the health care team.

The technology partners members of Home Care Ontario have international experience and are ready, willing and able to integrate internationally recognized standards, but Ontario Health must require Ontario Health Teams to function at a specific accepted baseline without ‘add-ons’. It is the data ‘add-ons’ that make interface work complicated, expensive and time consuming.

Differentiation between technical standards and clinical standards is imperative but what is really required is a provincial “Information Management Strategy” that can support not only minimally viable essential data sets but also benchmarking opportunities across the province as each of the Ontario Health Teams is established.

RECOMMENDATIONS TO ONTARIO HEALTH

Designate Information Management Division of Ontario Health to establish an Information Management Strategy of which the following would be included:

— 01 —
Create reciprocal data sharing agreements that enable sharing of information across OHTs and within OHTs based on a common template that can be used across OHTs and within the OHT leads, participants and affiliates

— 02 —
Establish a consultation table, inclusive of Home Care Ontario, to create a minimum data set for provincial electronic health record (EHR) that supports bidirectional information flow and real time exchange
ENABLE DIVERSIFIED SERVICE DELIVERY MODELS AND INNOVATION

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 unnecessary emergency room visits and improve the patient experience.

Frontline home care providers have either spearheaded or indicated interest in leading new technology projects. There are opportunities to educate patients, provide technical support and most importantly, to integrate these innovations into the care delivery model to enhance care outcomes.

“The timing for innovation in home care is right.”

Promoting Self-Managed Care and Advanced Delivery Models

With growing numbers of patients experiencing more than two chronic conditions, every opportunity to enable self-directed and self-managed care are essential to reduce unnecessary hospitalization and emergency department use.

There are several eSolutions that have been introduced by the province, (eConsult, eVisit, eReferral and eShift) but each operate uniquely and without integration as one collective eSolutions strategy. Home care providers have not had full access to all the current eSolutions available. A framework to coordinate the design, implementation and evaluation of provincial eSolutions is critical.

Home care providers are private sector organizations with no direct transfer payments that include technology enhancement envelopes. While most home care providers provide care under a publicly funded care contract, those contracts do not include the necessary innovation funds required to support substantive technological integration.

Complex Care at Home

There are innovations in medical devices that allow frontline home care providers to perform more complex diagnostic and procedural activities in the home setting. Examples include wound care, laboratory work, pulse oximeters, remote EKGs and even x-rays13.

Coupled with the superior patient assessment skills of frontline 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. In addition, policy changes to support diversified care delivery models is required.

The innovation dollars identified by Ontario Health must support not only creative thinking but be scalable and be inclusive of social determinants of health to realize significant health benefits for Ontarians.
The timing for innovation in home care is right. The province has 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. eHealth Ontario (now Ontario Health Digital Services) has created an innovation lab that allows digital technology innovators to test their connectivity with their assets.

Frontline home care providers must be full partners in these initiatives and have the opportunity to share their expertise gleaned from decades of service in the homes of Ontarians.

**Adoption Strategies for Home Care Technology**

Technology partners and technology innovators need a mechanism to engage with the wider home care community to inform how technology is evolving and should be deployed.

Home care providers are eager to drive new innovations that will improve patient care. Government-funded innovation funds and initiatives should require frontline home care provider participation in order to be funded.

Targeted investment in home care technology should be made. As Ontario Health establishes early adopter Ontario Health Teams, it will be necessary to consider redistribution of funds so that home care provider partners can leverage funds to build their technology infrastructures.

Key home care provider representatives must be invited to discussions on innovation in health care. How tools and technology such as artificial intelligence, predictive analytics and personalized health care are used in home care must be informed by many stakeholders including home care providers.

The innovation dollars identified by Ontario Health must support not only creative thinking but be scalable and be inclusive of social determinants of health to realize significant health benefits for Ontarians.

**RECOMMENDATIONS TO ONTARIO HEALTH**

Create an eSolutions framework that includes:

1. Access for home care providers and all staff (including frontline care providers)
2. Billing and reimbursement mechanism for all care providers, not just primary care providers
3. Allow for OHT tests of change and to explore new opportunities ensuring that when initial outcomes are met and change is determined as scalable ensure there is a mechanism such as Health Quality Ontario (now Ontario Health Quality Division) to facilitate spread of that innovation across all OHTs

**DEFINITION: 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.
IMPLEMENT A SHARED DECISION-MAKING MODEL AT THE LOCAL AND PROVINCIAL LEVEL

Home Care Ontario represents more than 70 home care providers and technology partners across the province and has been working with government to ensure that home care can make important contributions as part of the transformation agenda while delivering best possible care, best possible outcomes and best possible value to patients and families.

As a continued partner, Home Care Ontario can provide:

- Access to best-in-class home care advice to key issues, policy discussions and strategy creation

- Representatives at provincial tables such as eHealth Architecture and Standards-Business & Technical Committee; Ontario Health Quality-Ontario Quality Standards Committee

-Input into design, implementation plans and evaluation of a provincial Digital Health Strategy, Information Management Strategy and eSolutions Strategy;

- Expertise of technology partners in data standards, data sharing and design of systems

- Similar to Ontario MD and its key role in supporting new technology to all primary care offices, Home Care Ontario can champion the successful integration of the provincial agenda for technology as an enabler of provincial transformation with a focus on patients receiving home care.

RECOMMENDATIONS TO ONTARIO HEALTH

Ensure that Home Care Ontario representation is at every decision-making table and can actively participate in planning, implementation and evaluation of system changes including but not limited to the Clinical Advisory Workgroup formerly of eHealth Ontario
MODERNIZE PROVINCIAL DIGITAL ASSETS TO BE INCLUSIVE OF HOME AND COMMUNITY CARE

A number of provincial digital assets need to be reviewed and modernized.

HSSO/Ontario Health currently hosts multiple versions of CHRIS as each LHIN 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 LHIN’s have deployed the same modules, they are often used differently. For example, there are differing business rules how fields should be completed, even across the various services.

To date, **frontline 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 LHIN’s data to their operating system.

**Improvements necessary to the 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 manage the experimentation and related **frontline home care provider** cost to support the various processes.
- Inclusion of bi-directional electronic integration with legacy **frontline home care provider** systems for scheduling, clinical documentation and clinical care, 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, as well as to democratize the sharing of information across the team.
Health Partner Gateway (HPG) is the mechanism / portal for frontline 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 frontline clinicians, patients and families to access the portal.

“The opportunity for better patient care by permitting exchange of patient information across the circle of care is significant...”

Frontline home care providers have no visibility to the Integrated Assessment Record (IAR) used by community support agency providers that allows RAI assessment information to move with a client from one home care provider to another. Home care providers can use the IAR to collaborate with other care providers and to view assessment information electronically, securely and accurately. These data include information in the:

- Care Coordination Tool (CCT) used by Health Links teams across the province treating those with most complex health issues
- Portals/viewers/repositories which would provide access to OLIS, hospital and specialist reports, and primary care records.

In order to deliver best care, frontline 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, discharge and transition in care hand offs
- the most recent assessments and care goals that have been developed

It is important to also note that frontline home care providers retained by clients privately have no access to the patients’ HPG or LHIN information. As privately retained care will increase substantially in the coming years, this issue will need to be addressed.

With greater patient engagement and direct involvement in their care a system imperative, 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: (cSWO, CGTA and NEO) Frontline home care providers have administrative, documentation and monitoring systems that allow them to deliver care efficiently and to gather data 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/viewers 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 and a major key to ending hallway health care.

**DEFINITION:**

**CARE COORDINATION TOOL**

An assessment tool for use by Health Links in order to develop a coordinated care plan that can be tracked by various providers.
RECOMMENDATIONS TO ONTARIO HEALTH

— 01 —

Designate Ontario Health Digital Services to build open API for all provincial assets to enable digitization of point of care clinical information.

— 02 —

Review and assess the provincial home care coordination digital asset (14 versions of CHRIS) to ensure that they will work well in the future. Modernize CHRIS to enable optimal back end data exchange, point of care information exchange and determine if CHRIS is the right solution for a full electronic health record functionality for home care.

— 03 —

Support the principle of the right technology to support the patient in achieving the desired outcomes. Allow care models to drive the technology solutions that are needed to enable improved access to information, and support provincial performance accountability. Encourage co-design methodology to drive care models that can support an improved patient and family experience. Identify a mechanism to capture and communicate the scalable use of rapidly growing technology solutions and their use such as artificial intelligence, virtual reality, internet of things and 3D printing so that OHTs can consider more leading-edge technologies over and above the provincial technology assets as outlined in the Digital Health Services Catalogue.

DEFINITION:
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 LHIN preference and priority.

“Allow care models to drive the technology solutions that are needed to enable improved access to information, and support provincial performance accountability.”
OPTIMAL DATA MANAGEMENT AT THE LOCAL, PROVINCIAL, AND NATIONAL LEVEL

All OHTs must follow the principles of ‘collect once, use many times’ to drive informed decision making. Dashboards must be inclusive of service, care, staff and financial standardized outcomes measure and cover the Quadruple Aim domains with local and provincial views.

Transparency and public reporting of results is also a critical component to data management. Technology innovations must also make it easy for frontline care providers to use data in practice to benefit patients and the system.

RECOMMENDATIONS TO ONTARIO HEALTH

Home Care Ontario is recommending that Ontario Health should:

— 01 —
Ensure each discipline has a unique identifier to enable understanding between discipline specific interventions and patient care outcome achievement

— 02 —
Essential clinical data sets must be part of the overall essential data set for the provincial electronic health record

— 03 —
Expand data sharing between the province and Canadian Institute of Health Information (CIHI) with a recommendation that CIHI open data sharing to the Home Care Reporting System to include data from actual home care providers not just the OHT

— 04 —
Request that Ontario Health Quality Division and CIHI collaborate to create a minimum set of metrics, inclusive of the Quadruple Aim, that will be used across OHTs and that are reportable by all sectors including home care providers

DEFINITION: HOME CARE REPORTING SYSTEM

A system containing demographic, clinical, functional and resource utilization information on clients served by publicly funded home care programs in Canada.
FUNDING MODELS SUPPORT PATIENTS AT HOME SAFELY

With a goal to end hallway health care and the ensure Ontarians receive care as close to home as possible, funding models and infrastructure need to be adapted to enable achievement of this goal.

A variety of funding model changes have been explored such as Integrated Care and Bundled reimbursement as well as other unique provider-trialled modifications.

Perhaps the best funding model is one that is a hybrid of all the pilot tests that have yet to be defined through the OHT experience.

RECOMMENDATIONS TO ONTARIO HEALTH

Leverage Health Quality Ontario (now Ontario Health) as a governance structure to define patient outcomes (including patient experience outcomes) for specific patient cohorts that will be used to fund home care providers
CONCLUSION

The overarching goal of the health care systems and health care providers is to maximize patient wellbeing and support best possible patient outcomes to remain at home safely and independently for the longest period possible. 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 in real time.

The recommendations for action outlined in this paper provide a solid foundation for achieving the goal of supporting people at home safely for the longest period possible while realizing Ontario’s promise for high quality universal health care.
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 LHIN preference and priority.

Circle of Care
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 is accessible across hospitals and LHINs 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 used by many approved health care providers or health care organizations.

Electronic Visit Verification
An application or telephone system that allows staff to confirm they have arrived at and left a client’s home thereby improving safety of staff, accuracy of visit times and the elimination of paper timesheets.

Frontline 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 frontline 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 LHINs to exchange patient information with partners such as frontline 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 Canada23.

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 system24.

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 record25.

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 services26.

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.
ENDNOTES

1. 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.


3. Whereby each operation is started only after the preceding operation is completed.

4. **Frontline 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. **Frontline home care providers** are reimbursed for their services by government, insurance companies or through private pay.

5. Home Care Ontario: Stronger Care at Home, Better Health Care for Ontarians: Recommendations to the New OHT’s, Fall 2019.

6. 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.


11. A person or organization listed in PHIPA that, as a result of his, her or its power or duties or work set out in PHIPA, has custody or control of personal health information.


19. In some LHINs **frontline home care providers** must still fax the supply orders.


22. Institute of Healthcare Improvement


