

Connecting Care:

OACCAC's eHealth Assets

October 2016

Executive Summary

The Ontario Association of Community Care Access Centres (OACCAC) has introduced a number of eHealth solutions since 2008. Together, these technologies help deliver home and community care to more than 700,000 patients across Ontario each year. The OACCAC's technology assets provide a single, integrated province-wide eHealth platform that helps patients get the care they need.

The OACCAC solutions connect patients with care at home and in the community, and also with care providers in many settings across the health care system. These include hospitals, primary care providers, long-term care homes, community service agencies and Emergency Medical Services (EMS). Strong connections and effective communication between different health care providers and settings improve their ability to respond to people's needs and create a smooth care experience for patients.

The Client Health & Related Information System (CHRIS) is a web-based application and the core patient-care system for the home and community care sector. Other components of the platform include:

- An assessment solution that hosts a number of standardized tools to assess patient needs and help develop care plans
- A Document Management System (DMS) tool that provides for the safe and secure management and sharing of patient documents in electronic form
- Direct communication between CHRIS and the health-information systems of other care providers, such as hospitals and EMS. These include eNotification and eReferral
- Health Partner Gateway, a secure online portal that facilitates communication between an expanding list of health service providers, including long-term care homes, hospitals, primary care physicians and community service agencies

Our core eHealth technologies support both inter-operability and connectivity—two important considerations as the province moves forward with an overarching eHealth strategy. Looking forward, open architecture offers flexibility for future system innovation and integration. The OACCAC eHealth team has expertise and experience working with key stakeholders to evolve our systems—and is a willing partner in the development of tools that align with an overall eHealth strategy. Our core solutions will be key to support the creation of future patient-facing applications – applications that will protect privacy and data integrity while finding ways to make information available to patients and enable ongoing innovations in care.

OACCAC development costs have remained constant over the past 10 years, but our technology assets have grown and our patient caseload has increased by more than 100 per cent. Our responsiveness to the ongoing needs of multiple stakeholders and our strong understanding of how patients get home and community care help us keep costs in check.

The OACCAC's focus is always on improving the care patients receive. That is our approach to developing new eHealth solutions or improving solutions already in place. The OACCAC is working on ways to enable consistency in how care is delivered, create more efficiencies, and strengthen the connections and communication between care providers across the health care system to benefit patients across Ontario.

The OACCAC's eHealth assets, built with a strong customer focus in mind, are mature and field tested. They continue to evolve to meet the quickly changing needs of patients and care providers and offer powerful tools that can be harnessed in the province's eHealth strategy.

Part I: A History and Overview of the OACCAC's eHealth Assets

Introduction

The Ontario Association of Community Care Access Centres (OACCAC) has introduced a number of eHealth solutions. Together, these technologies support the delivery of home and community care to more than 700,000 patients across Ontario each year.

By focusing on what patients and the people who care for them need, the OACCAC designs and builds technologies that help health care providers do their jobs every day. The OACCAC has successfully created eHealth solutions that:

- Improve care delivery through collaborative planning among providers, patients and caregivers
- Allow patients to navigate between parts of the health care system seamlessly without having to repeat their stories
- Are designed using evidence about the best ways to improve care
- Are created to help health providers carry out the day-to-day activities required to deliver high-quality care
- Provide rich data that help improve quality, consistency and transparency
- Reduce costs, create efficiencies and provide value
- Protect patient privacy and safely and securely share patient health information
- Are mature and flexible enough to support ongoing system-wide inter-operability and connectivity

The OACCAC's eHealth solutions provide a solid foundation for common provincial standards and more consistent care. The OACCAC is able to build on this foundation on an ongoing basis to design and support new tools that offer new and better ways to care for patients.

History of the Development of Home Care and CHRIS

Ontario's Community Care Access Centres (CCACs) provide a single point of access to home and community care. The 14 CCACs are aligned with the boundaries of the province's Local Health Integration Networks (LHINs). The government created the current CCACs by combining 42 predecessor organizations in 2007. Each of the new organizations inherited up to four different patient-management systems that were neither interconnected nor web-based.

The OACCAC saw an opportunity to create a single provincial eHealth platform to support patient care for all CCACs. The OACCAC, working closely with CCACs, looked at existing solutions, both in use and in the marketplace, as well as the needs of patients and care providers. With approval from the Ministry of Health and Long-Term Care, we concluded that it would be the best approach, in terms of cost, efficiency and future potential, to create our own flexible system.

The OACCAC began to develop the Client Health & Related Information System (CHRIS) in 2007. CHRIS 1.0, completed in 2008, was designed to support basic patient care and business functions. These

included patient intake, assessment, care planning and delivery, as well as service-provider billing. By the end of 2008, CHRIS was being used by nine of the 14 CCACs. All CCACs were using CHRIS by 2011.

CHRIS has evolved into an integrated set of online tools that connect home and community care to the broader health care system. It also promotes integrated care. CHRIS provides a stable platform that can be built upon to meet the changing needs of health-service providers, patients and families.



CHRIS icons made by Freepik from www.flaticon.com

A Care Organization

The OACCAC is first and foremost a care organization. With CHRIS, it supports the delivery of home and community care to thousands of patients in their homes every day.

What patients and families expect when it comes to their health care is changing. As the population ages, we are helping people live at home longer. With support from home and community care, they can continue to stay safely in their own homes with age-related issues and complex, chronic diseases. Not so long ago, these individuals almost certainly would have had to be cared for in hospitals or other institutional settings.

Home and community care is an important part of a modern health care system. It provides more affordable care and helps people return home from hospital sooner, or stay in their communities.

At the same time, closer ties between home and community care, doctors and other health care providers are needed to support patients better. Technology allows care providers to work together to deliver seamless care. It lets members of a care team share real-time information. It also supports planning and improves results. The benefits? A better patient experience and value for tax dollars.

Health care professionals use CHRIS to effectively manage patient care at home and in the community. They use their clinical skills to assess people's needs, provide information, and help patients and their families make decisions about their care options. These care coordinators then develop individualized care plans, arrange services, manage wait-lists and monitor care delivery. They also help patients connect to community services and ensure smooth care transitions, whether they be a discharge home from hospital, a move to a long-term care home, or admission to a hospice. Most home care is delivered through contracted, third-party agencies. These agencies provide nursing, personal support, rehabilitation services, social work, medical supplies and equipment.

What Others Say About the OACCAC

eHealth Ontario recognizes CHRIS, the Provincial Assessment Solution, and HPG as strategic provincial eHealth assets.

- eHealth Ontario, *Provincial EHR Asset Inventory*

In addition to helping health care professionals do their day-to-day work, CHRIS helps manage:

- More than 1,500 arrangements with organizations that provide services such as nursing, physiotherapy and personal support
- Hundreds of millions of transactions annually (e.g., referrals, orders, confirmations, provider billings and payments), including medical supplies and equipment

Overview of the OACCAC's eHealth Assets

The OACCAC's eHealth assets are best understood in terms of how they connect the patient with care. They enable integrated care across many settings, including the patient's home.

CHRIS is a web-based solution and the home and community care sector's core patient-care system. Health care professionals use CHRIS to plan and provide care and to manage referrals to other care providers. CHRIS is also used to refer patients to long-term care homes and other care settings.

How CHRIS works

When a patient is looking for home and community care, a CCAC creates a unique digital record. The care coordinator asks each patient for consent for both care and information-sharing. CHRIS helps record and organize this process so that the right information gets shared with the right people at the right time. Delivering home care demands extraordinary coordination.

CHRIS also captures key information, such as where a patient lives, his or her other health care providers, family supports and other details important to care. These are especially important when care is delivered in the home. Patients sometimes stay in different locations. For example, they may be in their own home from Monday to Thursday, but spend Friday to Sunday at the home of a family member. CHRIS not only records this information, but uses it to coordinate care delivery. Emergency response

codes in CHRIS identify patients who will need an immediate response in the event of emergency, such as a power outage for someone dependent on life-support equipment.

Care providers also need to know details such as whether there are pets, smoking or firearms in the home. The homes of our patients are also workplaces for care providers—and we need to ensure that they are safe for everyone.

In order to create a care plan, relevant information from all care providers must be recorded. Examples include hospital-discharge summaries and assessments completed by other health care professionals.

Connecting Across the Health Care System

The OACCAC created Health Partner Gateway, a secure online portal that allows approved users to log on, access and share information. It was introduced in 2008 to help CCACs communicate with their contracted service providers.

Health Links and Health Partner Gateway

The government has created 69 community Health Links across Ontario to provide coordinated care to patients with multiple, complex conditions. Many Health Links are using Health Partner Gateway to create and manage coordinated care plans. Members of a patient's care team can create, change, or view a plan.

Health Partner Gateway has since expanded substantially. It now facilitates communication between home care and a growing list of health service providers, including long-term care homes, hospitals, primary care physicians and community service agencies. For example, sending and receiving referrals, client summaries, documents and assessments is now possible between members of a care team at any point in a care plan.

Health Partner Gateway also provides a way for members of care teams to develop a coordinated care plan. Authorized members of a patient's care team can log into the portal, create or view his or her care plan, and make changes to keep the whole team informed about the patient's condition and care. Many Health Links across Ontario use Health Partner Gateway to create coordinated care plans for their patients.

Health Partner Gateway has eliminated the need for mailing, faxing or couriering patient documents. Information can now be shared in real-time, efficiently, safely and securely.

Health Partner Gateway provides referral management to facilitate:

- Placement of patients in long-term care homes, both short-stay and long-stay
- Placement in complex care and rehabilitation beds
- Connecting patients with community support services, including adult day programs, supportive housing, assisted living and many other services

Health Partner Gateway can be tailored to a specific health care provider. For example, a hospital needs different information about a patient than does a community support service organization, such as Meals on Wheels. A primary care physician may not need to know when a patient's personal support worker is visiting, but will want to know if that patient's home-care assessment has identified a recent decline in their physical health or mood.

Health Partner Gateway can ensure the right information gets to the right providers as required, so that patients get the right care or support at the right time and in the right place.

Connecting Care

Health Partner Gateway (HPG) supports information-sharing and electronic referral management among health care partners. HPG has:

- **7,900** registered users and growing
- **2,600** registered organizations
- **8,200** logins per day
- **8,800** views of CCAC Patient Summary per day
- **5.1 million** referrals and updates annually

CHRIS Document Management System

The Document Management System (DMS) is a tool within CHRIS that gives CCACs a way to safely and securely manage client documents in electronic form. The DMS is seamlessly integrated with CHRIS to link documents to the CHRIS patient record. The DMS is also integrated with Health Partner Gateway to share information in real time.

The DMS creates administrative efficiencies—all documents, and there are millions of them, are stored in one place and shared easily across health care providers.

Efficient Management of Patient-Care Documents

Millions of documents are stored and managed electronically in CHRIS using the integrated Document Management System (DMS)

- **3.9 million** documents are shared annually using Health Partner Gateway
- **2.3 million** assessments are managed and shared
- **1.6 million** other documents made available to the health care team members

CHRIS Assessment Solution

CCACs use a number of standardized clinical tools to assess patient needs and help develop care plans. An assessment solution available through CHRIS hosts these tools.

The evidence-based outputs from assessments are interpreted by health professionals. They use this information to evaluate health needs and develop individualized care plans. CHRIS also alerts the patient care team when it is time for reassessment.

Integrating Care across Providers and Settings

CHRIS can also communicate directly with the health-information systems of other care providers, such as hospitals and Emergency Medical Services (EMS).

One example is eNotification. eNotifications integrate patient care by alerting the right care providers about a patient's hospital status. They automatically:

- Let a CCAC know when a patient is admitted or discharged from a hospital emergency department or in-patient unit
- Let a hospital know a patient is also receiving CCAC services
- Let a primary care physician, through OntarioMD's Hospital Report Manager, know when a patient has been discharged from an emergency department or admitted to or discharged from an in-patient unit

Another example is eReferral. Before discharging a patient, a hospital can send an eReferral to a CCAC requesting an assessment. Emergency Medical Services (EMS) also have the ability to make eReferrals to a CCAC through this system.

Connecting Health Care Partners through System-to-System Integration

- **Half** of Ontario's hospitals are connected to CHRIS, and the rest will be connected in coming months
- **12,800** eNotifications are sent each day
- **4,000** eReferrals are received from hospitals each month

CHRIS also sends patient health information to the ConnectingOntario electronic health records. There are three separate regional initiatives that make up the ConnectingOntario electronic health record program: ConnectingOntario Greater Toronto Area (cGTA), ConnectingOntario Northern and Eastern Region (cNER) and Connecting South West Ontario (cSWO). Providers can view patients' ConnectingOntario records through CHRIS in all parts of the province. It is a seamless user experience.

Information for Patients and their Caregivers

The OACCAC manages *thehealthline.ca*, a single, online, searchable provincial database that patients, families and care providers can use to find community health and social services. It contains information about more than 40,000 services across the province. The OACCAC sets the standards that ensure this rich resource is comprehensive, accurate and up-to-date.

“Big Data” That Is Helping to Improve Quality, Accountability and Planning

Through CHRIS and its related applications, Ontario has the richest store of data on home and community care in the country, and possibly the world. The potential for these data is limitless.

Currently, data are used to guide care improvements, track and monitor quality, and to research new and better ways to provide care. Data are shared through agreements with the Ministry of Health and Long-Term Care, Health Quality Ontario, Cancer Care Ontario, the University of Waterloo (InterRAI), the Institute for Clinical Evaluative Sciences and Canadian Institute for Health Information, to name a few.

The OACCAC relies on data generated from CHRIS to support the ongoing development of provincial care standards and evidence-informed decision tools. These standards and tools guide consistent, high-quality care and better patient outcomes. Because the OACCAC combines clinical care and technology expertise in the development process, CHRIS helps to drive improvements in care and provides technology tools that support care delivery.

Continued Evolution

The OACCAC’s core eHealth assets are constantly evolving to meet the needs of both care providers and patients. Still, they have yet to be deployed to their full potential. The OACCAC’s eHealth team looks forward to continued partnership with the ministry and other eHealth providers to support further evolution of our assets and to enable greater overall system integration, inter-operability and connectivity. Our eHealth assets are a solid foundation on which to build.

Part II: Valuable eHealth Solutions and How the OACCAC Developed Them

Creating Value for Patients and the Health Care System

The OACCAC has had great success with its eHealth assets. CCACs are the only part of Ontario's health care system with a single province-wide eHealth platform that helps patients get the care they need.

The OACCAC eHealth assets and solutions connect patients with care at home and in the community, and also with health care providers in many settings, such as hospitals, primary care providers, long-term care homes, community service agencies and Emergency Medical Services (EMS).

What Others Say About the OACCAC

“The OACCAC meets and exceeds the target capability maturities for the roles it currently plays in the eHealth ecosystem.”

“Within its domain, OACCAC has particularly strong capabilities in:

- eHealth Strategy & Governance
- Solution Development
- Operations and Support”

“eHealth Strategy & Governance capabilities have been used to effectively identify solutions to meet the need of its customer base.”

- *Gartner eHealth Capability Assessment Report, 2016*

Strong connections empowered by technology improve the quality of care patients receive, as well as their overall care experience.

The OACCAC has successfully kept eHealth development costs stable. Costs have remained constant over the past 10 years, but our offerings have grown and our patient caseload has increased by more than 100 per cent.

While the OACCAC is focused on improved care, we also create efficiencies that benefit patients, avoiding increased ongoing operational and maintenance costs. Our responsiveness to the ongoing needs of multiple stakeholders, coupled with our strong understanding of how patients get home and community care, also helps keep costs in check.

The OACCAC makes constant improvements to CHRIS to enhance efficiencies. To calculate the monetary value of those efficiencies, we looked at the time required to complete key tasks both before and after the introduction of improvements to CHRIS. Using this approach, the estimated value of staff time saved using CHRIS was \$16 million in 2015/16. These savings are projected to increase to \$80 million by 2019/20. CCACs use such savings to provide more care to more patients.

Patient Care is at the Core of Our Technology Design

The OACCAC listens to front-line care providers to identify ideas and concepts for new technology solutions. This connection to front-line realities is what makes our solutions work. Whether it's to realize a business efficiency, enable a new innovation in care, or meet a requirement set out by the Ministry of Health and Long-Term Care, the OACCAC's in-house home and community care and technology experts work hand-in-hand with front-line care providers to co-design solutions to improve patient care. The collaboration of the OACCAC's development team, which includes clinical, information-management and information-technology experts, is our key asset. This way of working translates ideas into workable solutions.

When it comes to rolling out new solutions and products, the OACCAC has a mature process that includes testing, pilots, province-wide outreach and education. Because our team understands the effect any new solution might have on the day-to-day work of providing care to patients, business risks are well-understood and mitigated throughout implementation.

The OACCAC rolls out an updated and improved version of CHRIS two times a year. Our eHealth team is responsive to customer-service needs. Change management is a way of life for the OACCAC.

Our solutions have been created with secure future strategic eHealth integration and inter-connectivity in mind. They provide a solid foundation that can assist in the formulation of an overriding provincial eHealth strategy.

How We Develop Successful Technology Solutions

Our primary focus is improving patient care

Delivering better quality care to patients and their families across Ontario is what drives all our technology solutions.

Real solutions

The key to success is to be responsive and collaborative. Understanding the business needs of front-line care providers is critical. We listen to home and community care professionals to design solutions that help them provide better care. People want solutions that help them do their jobs better rather than bureaucratic "add-ons."

Develop, test, evaluate and deploy. Repeat as required

Once we understand patient and business needs, we build a solution, field test it, make evidence-based adjustments, and deploy across the province. We monitor success and modify solutions over time. We are committed to continuous quality improvement.

A culture of listening and learning

We have long-term relationships with multiple stakeholders and listen to them carefully. This responsive approach improves outcomes, minimizes failures, is cost-effective, and supports sustainable success.

An eye to value

We never lose sight of the need to create value for every dollar spent on improving home and community care. That means finding efficiencies, keeping ongoing operational costs low, and using the rich data our technologies provide to enhance ongoing performance.

PART III: A Foundation for the Future

The potential of the OACCAC’s technology solutions has yet to be fully realized. Our current eHealth assets provide a strong foundation that can be adapted and built upon to continue to improve care quality, access and delivery. We see even greater opportunity to share our technologies to deepen connections and integration across the health care system—and to help patients and their families with access to useful information.

More Integrated, Effective and Efficient Care

Based on our ongoing consultation with stakeholders, the OACCAC has identified and is working on improvements that will:

- Increase the mobility of eHealth technologies
- Streamline service-provider payments and communicate expected patient outcomes to providers
- Spread successful local eHealth innovations across the province
- Expand eNotification to even more users
- Improve the coordinated care-plan tool in Health Partner Gateway
- Increase the number of users who can access CHRIS directly
- Allow CHRIS to contribute to a patient-facing tool, available via mobile phone, computer or other device, that enables patients to access their health information in a safe, secure way

Looking Forward: Where Do We Need Provincial eHealth Standards?

Striking the right balance between innovation and standardization delivers tremendous dividends. Ontario is a large province with a diverse population spread over a vast geography. It has thousands of health care providers and millions of patients. The biggest challenge is creating meaningful connections between multiple health care providers to serve the increasingly complex needs of patients.

eHealth solutions should be adaptable, but having stable system foundations offers incredible benefits—especially for system connectivity and inter-operability.

The OACCAC is a willing partner to continue to work with the government, and other system partners, as it develops a robust, sustainable and integrated overall eHealth strategy. A commitment from the province to foundational systems upon which innovations can be built and thrive—and connections between health partners can grow—is key to achieving the full promise of eHealth. The province now has an unprecedented chance

What Others Say about the OACCAC

“The maturity of OACCAC’s technology management & development processes is very high when compared with other public-sector development organizations.”

“OACCAC provincial platforms and associated services ensure centralized and seamless access to patient’s community care information.”

“Expansion of these platforms can enable a circle-of-care by uploading clinical information & associating it with the client record in support of creating a Patient Community Health Record.”

- Deloitte “Value for Money” Review, 2015

to work with proven eHealth platforms to further improve consistency in patient care, help achieve better outcomes, and create even more value for money.

Our eHealth solutions have created benefits greater than the costs—but they can be leveraged even further. Their future potential to support further system integration and responsiveness is substantial.

Sparking Innovations

The OACCAC eHealth assets offer a solid foundation for other developers to create new, innovative solutions that can interact with CHRIS. Such flexibility provides an ideal opportunity to inspire creative, unified solutions across Ontario’s health care system.

A strong, open architecture foundation is better than allowing the creation of multiple platforms incapable of communicating with each other—and can clearly enhance a seamless patient experience.

Empowering Patients and their Families

Patients and families are partners in care. They want tools to help them make informed decisions.

The OACCAC believes that innovations in eHealth must now focus on patient-facing solutions. For example, eNotification could be adapted to safely and securely notify a family member on a mobile device if a loved one presents at an emergency department or is admitted to hospital.

Looking Forward: A Comprehensive Patient-Facing Tool

The OACCAC eHealth team remains committed to innovations that enable patients to access their own home and community health care information.

Ontarians should have access to a single, online tool that would allow them to review their health care information, including their appointments, test results and care plans from any computer or mobile device. The tool should also help them communicate with their health care providers, ask questions, and allow them to update relevant information in a timely way.

Here, too, the province has an unprecedented opportunity. Through legislation and other measures, it can enable eHealth technology providers to implement a tool that will allow patients and caregivers access to vital information about their care.

A tool with open architecture, similar to what we propose for CHRIS, would support the development of patient-facing applications that could allow for future innovation in the presentation of patient data in a way that protects the privacy of patient data and the integrity of the overall system.

Conclusion

The OACCAC has developed a set of eHealth solutions designed to improve clinical decisions, drive quality and efficiency, support planning locally and provincially, and offer value to Ontarians.

Our experience has taught us that successful eHealth solutions come from combining expertise about how care is delivered with technology development.

We believe the best opportunities for Ontario will build on proven assets, open doors to new innovators, while expanding access to patients and their families.