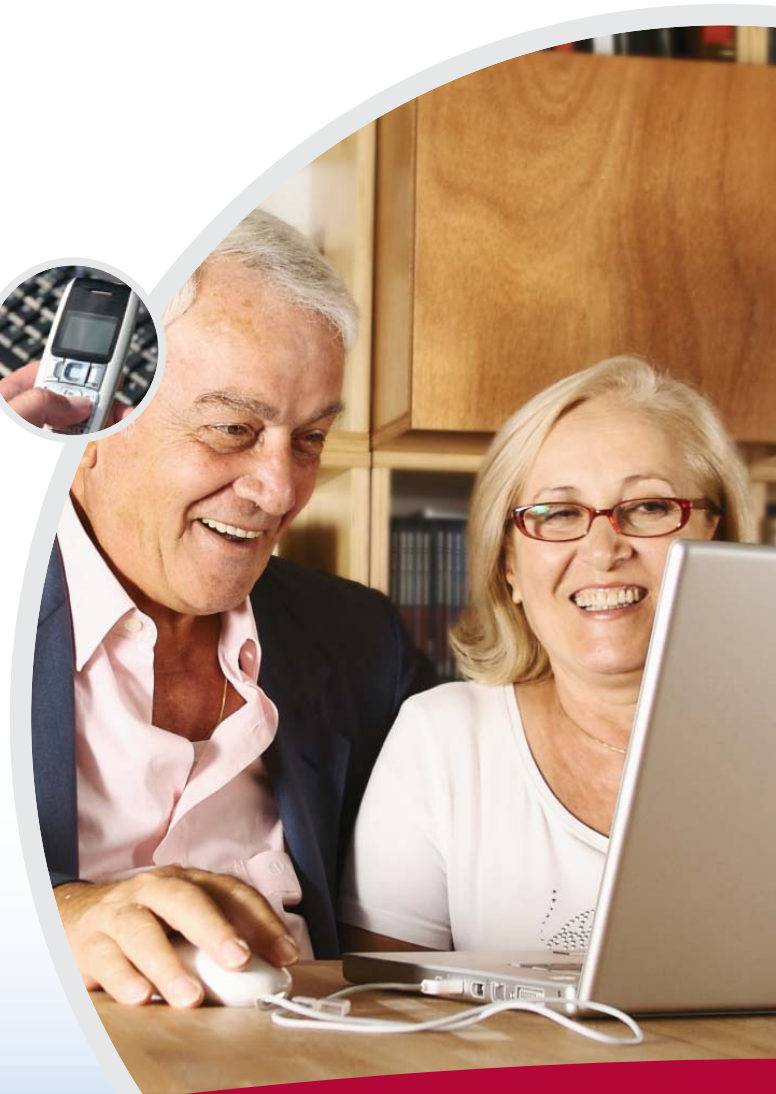


Integration through Information Communication Technology for Home Care in Canada

Final Report



MARCH 2008



Production of this document has been made possible by a financial contribution from Canada Health Infoway.
The views expressed herein do not necessarily represent the official policies of Canada Health Infoway.

© The Canadian Home Care Association, March 2008
www.cdnhomecare.ca

The use of any part of this publication reproduced, stored in a retrieval system, or transmitted in any other form or by any means, electronic, mechanical, photocopying, recording or otherwise, without proper written permission of the publisher and editors is an infringement of the copyright law.

Table of Contents

Executive Summary	5
Introduction	9
Background	12
Current State	13
Technology & Clients	15
Technology & Providers	16
Technology & System	17
Potential for ICT	19
Technology & Clients	22
Technology & Providers	23
Technology & System	25
The Electronic Health Record	27
Conclusion	30
Recommendations	31
Appendix A – Works Cited	32
Appendix B – Glossary of Terms	34

About the Canadian Home Care Association

The Canadian Home Care Association (CHCA) is a not-for-profit membership association dedicated to ensuring the availability of accessible, responsive home care and community supports to enable people to stay in their homes with safety, dignity and quality of life. Members of the Association include organizations and individuals from publicly funded home care programs, not-for-profit and proprietary service agencies, consumers, researchers, educators and others with an interest in home care. Through the support of the Association members who share a commitment to excellence, knowledge transfer and continuous improvement, CHCA serves as the national voice of home care and the access point for information and knowledge for home care across Canada.

For more information, visit our website at www.cdnhomecare.ca

Executive Summary

Our health care system is undergoing an enormous transformational change in order to be more responsive to the growing needs of aging Canadians.

Substantial changes will be needed to attain affordable, sustainable, value-based health care across Canada. A key component of this health care transformation is a shift towards providing health care services closer to home and a greater emphasis on community based care. While governments recognize the vital importance of home care services in meeting the needs of the aging population and of those with chronic diseases; they have not shifted their strategic thinking and funding decisions to adequately support this vital sector of health care. This lack of strategic investment is evidenced by the disjointed approach to funding and implementation of information communication technology (ICT) in the home care sector. Current technology initiatives focus on acute care and on developing electronic health records for patient care relating to an admission to hospital. While the acute care experience is an important episodic event, Canadians have the greatest longitudinal interaction with the health system in their communities – through visits to their family doctors and management of their health conditions in their homes and communities. It would therefore follow that future investment in ICT needs to reflect the essential role of community based services within our health care system.

Health system integration is essential to serving Canadians and effectively addressing their health and social care needs of today and tomorrow. Integration is driven by an aging population which typically develops long term chronic conditions. This is in stark contrast to a younger population that avails itself of the health care system periodically for short-term acute episodes, relying on the expert to intervene. Those with chronic conditions require the health system more often and for a greater length of time. The nature of chronic conditions is that they are complex and associated with many co-morbid complications. Integration between home care and primary care has been demonstrated to achieve improved client outcomes though more proactive comprehensive care for those with chronic conditions. These community based partnerships require information technology tools to support communication and improve adherence to established clinical practice guidelines that result in positive client outcomes.

Health care stakeholders recognize the critical role that technology plays in enabling health system integration by optimizing the effectiveness of the health care team.

The health care team is shrinking...

Practitioners are aging and it is predicted that demand will exceed supply in the very near future. It is therefore imperative that duplication and redundancies be eliminated from the health system and that providers are supported to do the work for



Executive Summary

which they were trained. This requires effective integration of the health care team so the members know when and how to transfer care. It also requires a knowledgeable and engaged consumer – someone who knows their health information, clinical targets, results and plans. Because technology is so accessible, it is no longer acceptable for the health consumer to have limited access to essential information and knowledge that in the past was solely maintained by the provider or system. Conversely, the consumer can no longer refuse ownership of his/her health care, assuming an omnipresent all knowing provider ready to fix whatever ails them – a declining issue as the health care consumers of today have high expectations of technology.

Consumers have high expectations of the health care system...

Consumers expect there to be: accurate information that moves with them across the health care continuum; communication between their various health care providers; protection of their privacy; opportunity for input into decisions; elimination of undue risk; and timely access to results (Nagle 2007). Full integration of the delivery of care is the current agenda for health care in Canada. ICT is the enabler of integration. It is through the application of technology that practitioner and consumer collaboration can be maximized achieving availability of clinical information; adoption of decision support tools; and the ability to communicate and practice across distances.

This report is a summation of the observations and findings arising from the project undertaken by the CHCA in partnership with Canada Health Infoway in order to better understand the potential of and readiness for ICT in the home care sector across Canada.

The opportunity to define where the ICT opportunities lie captured the attention of home care leaders from all jurisdictions. Examples of technology applications being tested in Canada include: remote monitoring to support client self-management and leverage the home care work force; communication between providers and the client and health care team through portals, emails and data file transfers; standardization of care through care management systems and consistent data collection; and automation of business processes within home care organizations.

Improving care and quality of life...

ICT helps to improve the care at the point of delivery and the quality of life for those requiring home care. For the home care provider, ICT improves the ability to see more patients, decrease paperwork and access the right information at the right time enabling collaboration with other providers. Effective application of ICT ensures that the system is used in the most appropriate and efficient way while improving the ability to measure, assess and manage health care.

Executive Summary

Finding the right solution...

Notwithstanding the benefits and the solutions that could address the need, ICT implementation advances cautiously. Most home care programs have not been given priority in provincial and/or regional IT plans, nor do they have dedicated budgets for technology. They are left with fragmented approaches of adopting systems through pilot program initiatives. Additionally, the lack of well defined information and reporting standards and limited data collection capabilities and supporting information technology, diminish the home care sector's ability to evaluate, compare and plan for future needs and services. Ongoing concerns about privacy, finding the 'right' solution that will interface within the broader network of solutions and the electronic health record; and the impact to existing staff workloads (compounded by the mobile workforce which makes re-assignment difficult) as new systems are tested all contribute to the sluggish rate of automation within home care.

As the health system continues to evolve through the implementation of the electronic health record and other information technology initiatives, it is imperative that governments undergo a paradigm shift and recognize the need for strategic investment in home care.

It is time to address the disproportional ICT investment in the hospital sector by investing in home and community care. Technology must support the evolution of community based health care that includes both home care and primary care. There exist real opportunities to increase efficiency of information exchange across the entire health care system; reduce errors, duplication and administrative costs; achieve more accessible diagnostic results more quickly; improve the quality and coordination of care and improve the capacity to support individuals to remain independent at home wherever that may be. Within Canada ICT has the potential to improve access to care for the estimated 22% of the population who live in rural, remote and northern communities.

Canadians live, work and access their health care in their communities; and as they age, Canadians want to remain in their communities where they can continue to make meaningful contributions. Accordingly, jurisdictions across the country have launched Aging in Place / Aging at Home initiatives which serve to underscore the importance of shifting the ICT strategic development and investment paradigm to the home and community. The CHCA has found that providers and clients are not only ready for the challenge but they embrace the opportunity to use technology more effectively.

Executive Summary



Recommendations to Support ICT Implementation in Home Care...

The CHCA therefore makes the following recommendations to policymakers, funders and home care leaders to support ICT implementation in home care:

- Invest, as a priority, in technology solutions that support identified linkages between primary health care teams and home care to enable improved integration, communication and collaboration.
- Invest in the implementation of an electronic clinical information system for home care that includes all elements of service delivery and is available at the point of care, wherever that service is provided.
- Host an interdisciplinary roundtable to determine the key information / data elements of an integrated electronic health record that includes information that is “pushed” and “pulled” from home care.
- Support demonstration projects that enable the introduction of consumer based technologies (e.g. point of care tools) that empower the consumer, improve access and sharing of health information with the health team.
- Support home care programs/providers to implement technology applications for administrative processes (to support monitoring, evaluation and planning of home care services) as a basic minimum requirement.
- Establish linkages between the electronic clinical information system for home care and the broader health care system (e.g. acute care, long term care, primary care).
- Leverage ICT applications (e.g. telehealth in all its forms) as a key strategy for managing risk for individuals remaining at home as they age.
- Provide forums to champion and leverage local ICT successes and broadly disseminate strategies to advance adoption in other communities.
- Support research into the outcomes and effectiveness of new technology applications for home and community care and its impacts on health human resource utilization and client empowerment.

It is time to address the disproportional ICT investment in the hospital sector by investing in home and community care. Technology must support the evolution of community based health care that includes both home care and primary care.

Introduction

Information Communication Technology (ICT) is defined as reflecting all forms of technology used to create, store, exchange and use information in its various forms.¹

Within health care, ICT is an essential enabler for improving client care, enhancing provider capacity and effectiveness and achieving appropriate utilization of the health system. However, ICT is not yet broadly implemented across the health care continuum; and there is even less application in home care.

In response to the absence of a strategy for ICT specific to home care, the Canadian Home Care Association (CHCA) has committed to building a national knowledge base on technology in the home and community sector and exploring the challenges and opportunities for current and future applications. To that end, this report is a summary of a key initiative undertaken by the CHCA with funding support from Canada Health Infoway. The seven month Project which was launched in June 2007 undertook to develop, in collaboration with home care stakeholders from across Canada, a common understanding about the potential role and value of ICT within home care in order to support this important sector and facilitate integration across the health care system.

ICT is a critical component of home care service delivery...

The exploration of information technology and its relevance and applicability to home and community settings has been underway for a number of years. Research shows that ICT is a critical component of health care team communication, innovation and collaboration, because an ICT environment can shape or be shaped by health care team behaviours.² With electronic connectivity, better integration of the knowledge and skills within a health care team can be achieved, thereby creating a higher level of confidence and/or positive change in attitude and patterns of practice among team members. Shared electronic access to health records can, moreover, facilitate collaboration with external providers/organizations and enable easy monitoring of a client's progress.³

The CHCA has demonstrated through its National Partnership Project⁴, and other initiatives that an appropriately resourced, comprehensive home care program will strengthen the health care system by improving access to primary health care,

1. CHCA. (2007) Survey on ICT in Home Care, retrieved www.cdnhomecare.ca. A listing of definitions for terminology used in this report is found at Appendix B.

2. Schlosser, J. (2003)

3. Canadian Diabetes Association (2003)

4. The National Partnership Project was a demonstration project funded through Health Canada's Primary Health Care Transition Fund and sponsored by the Canadian Home Care Association. By enhancing the integration of home care and primary health care services for a population with chronic disease, significant benefits to the health system, the providers and most importantly to patients were realized. For more information on the Project and to access CHCA's report – Partnership in Practice, visit www.cdnhomecare.ca.



Introduction

reducing wait times and assisting individuals to proactively manage their chronic diseases.⁵ However, limitations in access to information and information sharing amongst the health care team compromise the effectiveness of home care within the health system.

ICT that can contribute to better quality health care includes the use of electronic medical records (EMRs)⁶, home monitoring systems, preventive reminders, increased ability to track issues for follow-up, and disease management tools. However, many components of the health care system are eagerly pursuing ICT solutions through their silos, in isolation of their partners. Acute care monitoring of discharged patients can conflict with, or duplicate, the work of the home care team. It is essential, therefore, to develop an integrated strategy for ICT that clarifies and recognizes the transitions within the health system and supports the engagement of home care in all aspects of ICT in order to reduce duplication and optimize client care.

Challenges to Implementing ICT...

The challenges to ICT implementation within the home and community care sector identified at Health Canada workshop in 2002 still resonate today. They include:

1) the difficulty to implement projects and demonstrate benefits in an environment where they feel a general lack of support and recognition of the home and community sector in itself, of its growing importance in the provision of health services to Canadians, and 2) conducting this experimentation in a very complex, multifaceted sector of the health care continuum involving a very diverse range of settings, care providers, clients, and health needs, where financial resources are scarce, and the sector is not always well understood by technology developers.⁷

Progress toward increased adoption of information communication technology in home and community care has been made.

Notwithstanding these challenges, progress toward increased adoption of ICT in home and community care has been made; and home care leaders are prepared and keen to participate in the development of an electronic health record (EHR). This report serves to highlight where the potential for technology as an enabler of integration of home care lies within the broader health care system.

5. CHCA. (2007) The Integral Role

6. A systematic and historic digital record of every interaction a person has with the health care system. Several research studies have concluded that the use of an EMR is a powerful way to reduce medical errors, and therefore increase patient safety. See, for example, Webster, C., Cooper, J., McGee, D., The CPR in Eleven Paperless Physicians' Offices: Performance, Processes and Results. Healthcare Information and Management Systems Society, 2000.

7. Health Canada Office of Health and the Information Highway. (2002)

Introduction

The approach taken to this initiative involved:

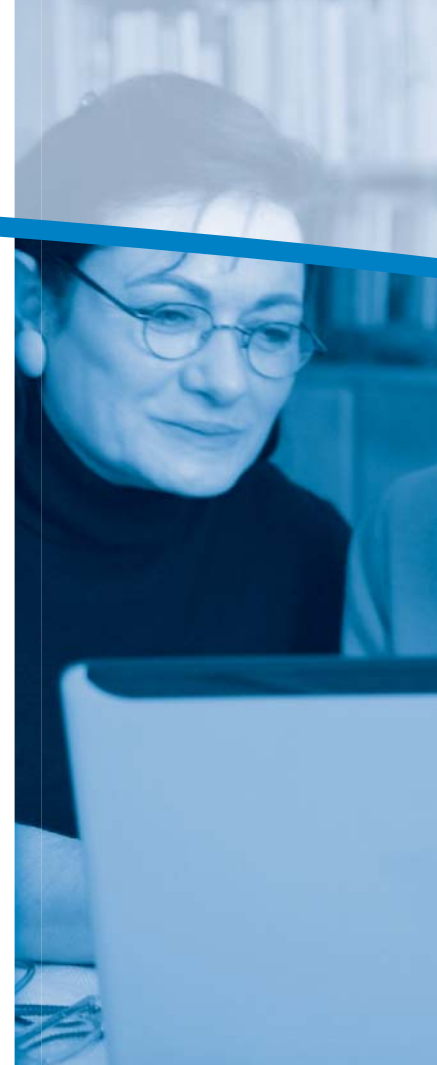
- A review of the literature on technology in home care from 2002 forward.
- An online survey (French and English) posted on the CHCA web site from August 13 – October 5, 2007.
- Stakeholder interviews, both solicited and unsolicited – as the project generated enormous interest from the sector.
- A pan-Canadian full day invitational roundtable discussion with home care and ICT leaders held in Mississauga, Ontario on September 12, 2007. Sixty-six people from every province across Canada attended. Participants included individuals from publicly funded home care programs, not-for-profit and proprietary service agencies, educators and information technology businesses.
- Interviews with individuals from home care programs across Canada, including the Interior Health Authority, British Columbia; the Ontario Association Community Care Access Centres and members of the Ontario Home Care Association; members of the CHCA Board.
- A half day pre-conference workshop at the CHCA's 2007 Home Care Summit⁸. Participants in the workshop offered their insights and recommendations through a facilitated dialogue on the issues relating to ICT in home care from across the country.

Throughout the initiative, the CHCA Board of Directors served in an advisory capacity for the project to provide direction, examine the analysis and develop recommendations.

Enthusiasm for this Project was high and the CHCA is grateful to all the home care and ICT leaders who contributed their time and shared their experiences and vision for technology applications within home care. This final report serves to share the observations made and lessons learned and provide recommendations from the system, provider and client perspectives.

It is hoped that the insights can be helpful to informing public policy and future investment in health care technology in Canada.

8. The Summit, Embracing the Future, was held in Victoria December 2-4, 2007



Background

The home care sector has experienced significant growth as the population ages; governments search for cost effective alternatives to institutional care; and technology advances enable a broader range of services to be provided in the home and community setting.

Home care services provide cost-effective alternatives to higher cost acute care by enabling shorter hospital stays, earlier discharge, and the use of more cost-effective outpatient procedures. While home care is not an insured service under the Canada Health Act, it has emerged as an essential element of the health care system. The CHCA estimates that one million clients receive home care annually across the country; and the number of transactions - home visits, calls to members of the health

team, equipment and supplies ordering - associated with the delivery of this care is of an unknown and un-quantified greater magnitude.

Provincial and territorial governments have clearly signaled a shift in policy focus from provision of care in an acute care setting to provision of care "closer to home".

This shift however, has not been reflected in government ICT strategic direction and investments which results in an even greater challenge for, administrators, service providers and clients who receive home care.

Home Care is an array of services for people of all ages, provided in the home and community setting, that encompasses health promotion and teaching, curative intervention, end-of-life care, rehabilitation, support and maintenance, social adaptation and integration and support for the informal (family) caregiver.

Canadian Home Care Association

Home care leaders identified ICT as a top priority...

According to a survey of home care leaders across Canada conducted by the CHCA, one of the top four challenges facing home care service providers and administrators is the limitation in information technology. This technology deficit impedes communication within and across the health care team and limits data collection capabilities which impedes the sector's ability to evaluate, compare and plan for future needs and services.

As the demand for health care for an aging population with chronic diseases shifts to the home and community sector, so too must the ICT paradigm shift from acute institutional based investments (where there have been multi-generational solutions implemented) to a focus on community where in fact the majority of the healthcare is delivered and experienced.

Current State

Implementation of ICT in home care is inconsistent across the country, with some home care programs that continue to rely heavily on manual systems and processes.

Information Communication Technology in home care is primarily focused on administrative applications, although there have been some technological initiatives across the country to support client assessments, including the RAI-HC⁹, point of care documentation and client monitoring. Administrative applications include voice mail, email, coordination, scheduling, access to policies and procedures on line, statistical trending, billing and payroll.

Lack of strategic investment in home care ICT...

There is a distinct lack of strategic investment of ICT in home care across the country. Most home care leaders from across the country reported that they do not have a dedicated ICT budget and that funds available within their operating budgets are small and the result of re-allocation of existing expenditures. This finding is consistent with ICT budgets in other health sectors; expenditures for “localized information and communication technology (including hardware, software, services and personnel) as a share of total hospital costs in Canada” was reported to be 1.5%.¹⁰ In the same report researchers stated that many decision-makers inside the health system view technology as a cost as opposed to an investment in potential health system benefits.

The current advancements in ICT in home care are therefore largely the result of pilot funding from governments and technology vendors. Home care service provider organizations and technology vendors believe that in large part the current ICT status is a result of their experimentation and investment. These investments have generated important learnings that can, and should, be applied as the ICT priority shifts to the home and community sector. Successful implementation is reliant on excellent leadership, project management and change management.

Shared learnings from pilot projects...

Those who have been involved in implementation of ICT solutions recommend the following best practices.

9. The RAI Home Care (RAI-HC)⁹, developed by an international research consortium (interRAI), is a standardized clinical instrument for the assessment of home care clients. The tool, which can be used manually or through electronic applications, provides feedback on client risks and needs for care planning; clinical benchmarking using indicators and outcome scales at regional, national and international levels; and a better understanding of the resource needs of diverse home care populations. Many jurisdictions across Canada have or are implementing the RAI-HC to assess their longer-term home care clients. The RAI-HC forms part of CIHI's Home Care Reporting System data standard.

10. The Conference Board of Canada. (2007), p23



Current State

Leadership: A Clear Vision

A clear vision supported by champions at all levels within the organization is important. The motivation and perspective of individuals within an organization varies according to their responsibilities and so may their level of support for an implementation. Ongoing support is crucial in order to accommodate the learning curve and ensure that staff have access to the necessary training. People may be tempted to skip training sessions because they are “too busy”. It is critical to plan for sufficient human and financial resources to support staff learning. Some believe that the most challenging and time consuming aspect to ICT implementation is the staff training and the assimilation of the new technology into the current workflows.

It is important that system partners and customers understand the implementation that is underway; and securing their support for the vision is part of the integrated nature of health care. Engagement of stakeholders in the design, implementation and maintenance of the system makes it personal to all and helps to ensure successful implementation and sustainability.

Leadership is about communicating the plan and implementation progress regularly and acting promptly on staff feedback. The responsiveness of the organization to the staff's needs and perspectives helps to ready them to accept the new technology. Home care providers who have implemented initiatives that involve clients (be it telemonitoring, provider documentation systems etc) reported that clients were very open and receptive to the technology when the benefit was explained.

Project Management

A pre-implementation analysis needs to be conducted as well as a business process review, both of which are essential to ensuring that the technology is enhancing the services as opposed to driving the business approach. By agreeing on the process to be automated and understanding what the technology can accomplish, organizations are able to minimize the “exceptions” or “work arounds” that can creep into an automation process.

Preparing for the implementation and the ensuing change to the way work occurs is critical. A clear, detailed and well communicated project plan engages stakeholders and facilitates successful implementation.

Change Management

Business processes are difficult to change. Staff may feel threatened by perceived changes to their responsibilities and duties. Change management theory must be applied and staff supported through the process.

Additionally, funding, live training sessions, the presence of a help desk, additional staffing during implementation and organization cultural readiness are vital to successful adoption of ICT.

Current State

Technology & Clients

Patients' expectations of the health care system are straightforward:

- Be there when I need it.
- Treat me with dignity and respect.
- Value my time.
- Keep me informed and allow me to become involved in my health care decisions.¹¹

The health care consumers of today expect services to be readily available and accessible. They are accustomed to technological applications which support other aspects of their lives and expect comparable efficiency and service within healthcare. Home care clients want and expect the system to enable them to remain independent at home; feeling empowered and safe and having confidence in their ability to self-manage their needs with support when and how they determine. To that end, they expect to be knowledgeable about their health conditions and needs and actively involved in care planning. They expect that the health care system will be accessible, that the providers will work together providing them with comprehensive, seamless and coordinated care, thereby negating the need for them to repeat their clinical history or demographic information, for example, and ultimately achieving improved clinical outcomes. Clients also expect the healthcare system to provide more proactive supportive care to delay the impacts of aging and chronic disease.

Today ICT applications used in home care that are directly impacting clients include active monitoring devices, such as button activated call systems; telerriage, one of the oldest forms being nurse provided advice over the telephone and tele-monitoring systems – telehealth, telemedicine or tele-homecare.

Telemedicine uses information and communications technology to transfer health-care information for diagnosis, therapy and education. Today with the advances of technology, telemedicine applications involve advanced camera technology, video-

ICT Innovation: duET®

A digital wound therapy program that combines technology with clinical expertise to produce improved clinical outcomes for clients with problematic wounds and ostomies; and as importantly, more confident and competent community health nurses.

Program developed by:
Comcare Health Services

11. Canada Health Infoway, <http://www.infoway-inforoute.ca/en/ValueToCanadians/Overview.aspx>

Current State

conferencing technology, store-and-forward technology, and audio capabilities. Store-and-forward systems allow images and other data to be held and transmitted to a specialist for review and are especially appropriate for such situations as chronic wounds where direct expert contact is unnecessary. Because chronic wounds do not require immediate or acute intervention, clients can be kept at home and images of their wounds can be submitted in a “batch format” from a secure and convenient location to the specialist for consultation. “Real time” (synchronous) transmission of information, which is costly and not reliable across the country, is not required.¹²

ICT Innovation: EMPcare@home

A telehomecare project that combines technology, timely staff intervention and an enhanced patient education program to produce improved clinical outcomes for clients with chronic disease.

Program developed by:
Extra-Mural Program, River Valley Health
New Brunswick

Telehealth systems employ information and communication technologies to transfer healthcare information for the delivery of clinical, administrative and educational services. Home care telehealth, also known as telehomecare, is a rapidly growing area. Telehomecare is the use of a digital network to provide automated monitoring and treatment delivery to a patient who is in a different physical location than the care provider. Telehomecare monitoring has been implemented in many jurisdictions in the country. The goal is to provide clients with equipment in their homes that can be used to

monitor their clinical status. The system is connected to the health care team electronically or through telephone lines providing the team (which is remotely located) with the client’s clinical signs. The benefits are numerous. Clients are able to take their readings and show them to the healthcare team frequently. This allows for fine tuning of treatment plans without trips to hospital; and for prompt reaction to signs and symptoms that may occur at times other than when the health care provider is conducting the home visit. The technology reduces the frequency of home care visits required and increases satisfaction for providers and clients as a result of enhanced and specific health care education and follow through.

Technology & Providers

As the complexity of home care clients has increased, it has become increasingly important to providers that they have access to real time relevant information about their clients.

Providers in home care currently operate largely on a manual basis. They need to be connected to other providers of the healthcare team in order to enable inter-disci-

12. Norris, A.C. (2002)

Current State

iplinary collaboration, access to experts when care needs to be escalated and clinical decision making support. Documentation is primarily manual and kept in a folder in the client's home. Providers need to be able to share their clinical findings and believe that through standardization they can advance home care delivery through benchmarking approach and outcomes.

Currently, the cellular telephone is the primary ICT provided to staff in home care. This is followed by the personal digital assistant (PDA) and pager. These tools are designed to enhance communication between members of the health care team; to allow clinicians to contact their clients directly while out in the community and to provide home care administration more readily able to access their staff who are widely dispersed throughout the community that they serve.

Laptops are used by home care case managers, primarily to conduct the Inter-RAI home care assessment. To date there is limited application of technology to support frontline home care clinicians – nurses, home support/personal support staff, therapists – in direct care provision.

Home care programs, particularly operating in rural and remote areas of the country, use telehealth technology to access tertiary care centres for case conferencing and advice.

Some home care providers are using the internet to provide education programs to support (tele-education) the learning needs of their staff; and to provide staff with access to policies, procedures and other resource tools to support the delivery of safe care in the home. Recognizing the importance to health care professionals of continuing education is vital to staff retention. Internet based programs reflect the home care sector reality that staff are rarely able to congregate for classroom style education.

Technology & System

The health care system needs technology enabled integration. Standardization, accountability and outcomes within home care and ultimately across the health system continuum is essential.

Within home care fundamentals include quantifiable information to demonstrate the impact of the sector and to share data with other sectors. It is a given that security and privacy must be respected.

ICT applications in home care have been centered on the operational aspects of the delivery of care in order to increase administrative efficiency thereby freeing more resource for direct client care. Initiatives to support scheduling systems of staff to conduct home visits, coordination of different providers and services, and stream-



Current State

lining the referral process have been the focus to date, with some exceptions such as Saskatchewan where the regions have moved quickly from administrative gains to positioning themselves for an electronic record (see insert)¹³. Administrative functions, such as billing, payroll and statistical trending are the priority for automation in home care programs. Although it is important to note that approximately 10% of respondents to the online survey indicated that their administrative functions were manual. Additionally 60% of respondents indicated that their organizations intended, within the next 12 months, to implement a scheduling system and almost 30% had plans for implementation of financial systems; suggesting a significant lack within the sector for this most basis need.

Once automated it can be expected that administrative cost savings can be realized and redirected to client services. Improved reporting of services delivered will translate to better knowledge about the nature of home care delivery and ultimately lead to benchmarking and improved accountability.

Communications in home care is complex as, unlike most other health care services which operate under one roof, home care staff operate from satellite locations, vehicles and client homes. Streamlining voice and data communications is an important foundational piece of work that has been initiated in a number of home care organizations.

ICT Innovation: A province wide approach

Following its implementation, the schedulers were able to manage client needs well in advance of the care date. Billing and payroll functions followed. Standardizing assessment through a common system and integrating the RAI-HC has resulted in client assessment information for care coordinators and data at a provincial level for health system planning.

System implemented throughout:
Saskatchewan Health Regions

13. Gregoryk, Carol (2006)

Potential for ICT

Technology in the home and community setting can and will play an increasingly important role in enabling and empowering patients and their families to manage their own condition more effectively and live independently in their homes.

Home care is and will continue to be an integral part of our health care system. With an aging population more individuals can be expected to have the characteristic chronic conditions and frailties associated with growing older which require long term, multiple interactions with various health disciplines. Our health care system will continue to evolve to become more integrated to proactively address these needs. As the preferred location of care, individuals will insist on receiving care at home.

CHCA envisions a strong future for home care. Based on current trends and the rapid evolution of both the health system and technology, the CHCA envisions that in 2025:

- Flexible, comprehensive home care services are accessible to all Canadians regardless of where they live, allowing them to maximize their independence and choose their setting of care.
- Home care services are integrated with primary health care and form the foundational base to manage chronic diseases and long term conditions.
- Planning and funding of home care services reflects its role as a core component of the health care system.

Strategic investment and implementation of ICT will enable this vision.

Technology, enabling the future vision of home care...

Our future populations will be technology savvy and will embrace the use of technology to support their health care needs. Technology in the home and community setting can and will play an increasingly important role in enabling and empowering patients and their families to manage their own condition more effectively and live independently in their homes; will enhance provider effectiveness and safety; and will contribute to more appropriate utilization of the health system.

The potential for technology within home care is exciting and captures the imagination of home care leaders across the country. Being able to have immediate access

“The home care industry’s greatest challenge is that it must deliver the best home health care services possible while maintaining operational efficiency. We can only meet this challenge through advanced technology solutions.”

John Schram, We Care Health Services Inc

Potential for ICT

to a client's historical medical record on admission into home care; and conversely being able to share information about the client's functional status and approach to care at home with the broader health care team would increase the efficiency of the system, but most importantly would improve the individual's experience and clinical outcomes. ICT has the potential to increase the efficiency and effectiveness of home care delivery directly; and because of the limited funding available for technology applications, an estimated 50% of the sector is in need of clinical applications and 30% of administrative functions.¹⁴

Technology, enabling health care integration...

ICT serves as an effective enabler of health care integration enhancing communication between the health care team and facilitating timely access to pertinent client clinical information. Reducing the amount of time spent tracking down lab results, provider reports and duplicating the work already completed will unleash resources for client care.

ICT Innovation: Sharing resources across organizations – SIMS (SIMS)

Shared Information Management Systems involves hospitals, rehab centres and home care working together. Shared projects are facilitated through integrated IT support from hospital to CCAC to the home, ensuring alignment across the continuum.

Supported by:
COTA Health Care,
Central and Toronto CCACs

The important role of home care as the source for information and referral in the community is also more effectively realized when ICT solutions are applied. Web-based directories position clients and all providers to search for local resources. Integrating the information and referral activity into the electronic system within home care means that in addition to easy access to information, important data about the nature of inquiries and client disposition and outcome can be captured.

It is the potential of a fully automated healthcare record to enable clients to receive seamless care and, more importantly, be knowledgeable about their health status and care needs and direct their care. A fully

automated healthcare record will leverage the capacity of the limited number of health practitioners to effectively meet the health needs of our aging population; and will enable the gathering of objective comparable data on system utilization and outcomes to inform policy development.

Key to ICT enabled integration within the healthcare system is:

1. Interoperability – the ability to share data accurately, securely and reliably between systems regardless of the applications within individual organizations

14. Assuming survey trend is reflective of the needs across the country.

Potential for ICT

2. Implementation of electronic medical records – capturing relevant clinical data electronically within a sector, service or organization is an important step to sharing information electronically
3. Linkages to an electronic health record – determining the key elements within healthcare that must be shared in order to ensure the best care for the individual and then linking to an electronic record accessible by healthcare practitioners anywhere in the country
4. Standardized documentation systems – standardization of clinical data, and terminology enhance interoperability and minimize duplication of effort

Outcomes of ICT enabled integration include:

- Reduction in medication errors
- Reduction in duplicate testing
- Reduction in time spent in duplicate data entry
- Reduction in time spent by physicians searching for results
- Reduction in patient days
- Reduction in costs
- Improved quality, consistency and better outcomes
- Better outcomes measurement
- Improved client empowerment

Client empowerment is arguably the single most important outcome of ICT in home care. Home care programs across Canada embrace a client-centred approach to care which includes responsive, quality care that acknowledges, understands, and respects a client's ability, status, and decision making within their own context. The home care system relies on clients and their families as key partners in care. Staff are guests in the clients' homes and must engage clients and their families in active consultation in order to achieve optimal client outcomes.

With increasing demand for care at home for an aging population with concomitant chronic disease and decreasing health human resource, it is imperative that clients are provided with the tools and information that will enable them to become more informed and able to direct their care.



Potential for ICT

Technology & Clients

Tools to support client self-management have been identified as the most promising aspect to improve client care by the home care leadership in Canada.

Active and passive monitoring have been shown to increase client confidence in their self-management of health care and in their ability to live independently at home.

Active monitoring applications require client action, such as pushing a button, or turning on equipment. Telehomecare is an example of an active application that has proven to be very successful for individuals with a chronic disease that requires close monitoring and would otherwise require numerous home care visits or trips to hospital in order to have medication adjustment and/or reinforce teaching. Through this technology, barriers to care, especially distance, are mitigated. Furthermore, self-management is enhanced as clients are able to link their behaviours to clinical findings and feedback from the health care practitioner. This is particularly important in post discharge from the hospital after an acute event. Typically individuals do not remember all the instructions and may be quite frightened about coping at home. Telehomecare has been shown to greatly alleviate client anxiety and increase self-confidence.

Telehomecare does not however meet the needs of those in remote settings where the telephone or wireless technology is not available. Nor does it negate the need for visits and face to face care. Further study is required to determine the best mix of monitoring and in person care; and to identify how long the technology is required in the home and how lasting the benefit of the monitoring is post removal from the home.

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. The opportunity is to use the technology to help someone at a distant location determine if there are issues in the home. Some passive systems put cameras in the older person's home that allow someone somewhere else to see what the camera sees. Others use sensors that can detect motion to alert others if the elderly person is not eating, has not taken their medication, or has fallen. These systems may be used to watch over elderly people who might not realize they need help, like someone with early stage Alzheimer's who might forget to eat or take medications. They can also be used to detect falls or other problems as they happen, or to monitor third parties like home health aides and other home help. It is not known yet how well these types of systems will be accepted by clients as they may object to this level of observation.

The establishment of portals through which clients can access information and their own clinical information will respond to the increasing demands of the consumer.

Potential for ICT

This service helps to further the client's ability to self-manage and position them as equal partners in care.

The technology tools of great benefit to client self-management assume computer literacy.

Technology & Providers

Best practice knowledge and home care expertise needs to be captured and integrated into technology based tools in order to facilitate knowledge transfer and consistency of care

Community healthcare providers are faced with a challenging environment. There is an increasing expectation that they will continue to provide a high level of quality of service using best practices while seeing more patients in less time. The managing organizations are challenged to attract and retain skilled mobile staff and must increase their competitive advantage. In addition, the legacy paper-based systems for notes and clinical record keeping is inefficient (service providers spend an estimated 20-25% of their time on administration¹⁵) and will not allow the competitive and clinical advantages required to meet the expectations of a community-empowered healthcare system. Best practice knowledge and home care expertise needs to be captured and integrated into technology based tools in order to facilitate knowledge transfer and consistency of care.

ICT Innovation: Community Care Management Solution

Staff are able to optimize direct client care time through the use of a secure hand-held device at the point of care to enable real-time mobile electronic recording of clinical notes.

Program developed by: Healthphone
Implemented by: Closing the Gap
Healthcare Group

The potential of technology for providers is first and foremost in the ability to establish timely communications and access to information, ultimately and ideally through the electronic health record (EHR). Home care providers have a need to communicate and exchange information more readily amongst: 1) the members of the home care sector, including their own staff; and 2) other members of the health care team, particularly family physicians. It is the client's relationship (and by extension the home care relationship) with the doctor that keeps clients at home. The reduction in duplication of documentation and effort is a huge and immediate benefit identified by providers. Standardization of documentation will help to support holistic caregiving and will enable access to reliable data upon which to base outcomes.

15. Krebs, David. (2007) p4

Potential for ICT

Technology supports the mobile nature of home care...

The mobile nature of the home care workforce necessitates point of care documentation solutions that can be linked to the organization's electronic client record (ECR) and in turn to the EHR synchronously or asynchronously, depending on the realities of the community served. The system must support information exchange between members of the health team – through web based communications, the EHR or interoperability of various provider systems. Telephone and/or fax communications have long proven to be frustrating and inadequate in home care. The electronic record can be viewed by more than one team member at one time and is legible.

ICT Innovation: @YourSide Colleague

A web-based portal that provides staff with continuing education and reference materials to enhance their competency in the community. Continuing certification programs are offered through the portal enabling staff, who are widely dispersed and have various working hours, to pursue education on their own timeline.

Program developed by:
Saint Elizabeth Health Care

An important application would be in the area of medication management. Home care typically manages six times the number of medications than the institutional sector on any day.¹⁶ There are no good systems for tracking medication management and events in the home and community sector. Home care staff report however that medication management is a challenge, particularly after admissions to hospital or visits to specialists as there is generally a need to review new regimes in the context of the medications that clients keep at home. Maintaining the medication history on an electronic record will help to improve client safety and will facilitate the ability to consult with the pharmacist.

ICT applications that support the administration of home care are foundational elements which cannot be ignored. Work processes within home care can be streamlined improving continuity and consistency of care; and improving efficiency. Ultimately this is enormously satisfying for the clinician who may well be able to visit more clients as a result of being effectively supported.

Hand-held tools and wireless devices that integrate communications, documentation and access to clinical resource information, and mapping information have potential for the home care clinician. Light weight and functional, these systems are being piloted by a number of providers across the county.

What home care data informs patient outcomes? A project in Ontario, Health Outcomes for Better Information and Care (HOBIC) is underway to identify nursing-sensitive patient outcomes and their attendant nursing inputs and processes that can

16. Korabek, Barbara, President CHCA Board of Directors at CHCA Board Meeting, Dec 2, 2007

Potential for ICT

be abstracted from patients' charts or provided in other formats. This information will allow nurses to plan their care with the objective of achieving the best patient outcomes, and will allow administrators and researchers to describe how different nursing interventions and different numbers and types of nurses (RNs, RPNs) affect patient outcomes. While the original focus was on nursing, the scope of the project has been expanded under the IM Strategy to include other interdisciplinary team members starting with pharmacists, occupational therapists and physical therapists.¹⁷ The information from HOBIC will help to evaluate clinical practice, improve the health system and benchmark practices. In so doing it will serve as a means for understanding the data elements that need to be shared across providers.

Technology & System

Technology that supports data capture and standardization of information is believed to have the greatest potential for increased efficiency, reduced duplication and better planning.

Paper systems need to be eliminated and a common platform for data assimilation and transfer must be established. The sharing of information amongst the health care team, including the client, allows for better utilization of clinicians and organizational resources across the system and is fundamental to an integrated service delivery model.

Ultimately technology supports collaboration; an essential component of integrated care. Integrated care is necessary because of the demographic shift to an older population with chronic conditions. These individuals will have a long term relationship with the health system (as contrasted with a younger population that typically access healthcare periodically for episodic acute events). Those with long term conditions will see more providers more frequently; and providers require access to records that capture the longitudinal care of the clients. The shift in influencers within health-care drives the imperative to re-evaluate operational processes and automate. The organizational need to centralize – driven by shortages of personnel and attempts to achieve economies of scale – can still support client responsiveness through technology. Instead of requiring clients to travel to a healthcare center for care, technology can be used to transfer the client's health information from their community. Moving client information as opposed to moving the client will serve Canadians well, especially those living in rural and remote communities.

The Canadian Institute for Health Information (CIHI) has developed the Home Care Reporting System (HCRS) in order to provide objective comparable information on publicly funded home care to enable policy-makers and health planners to manage,

17. MOHLTC.



Potential for ICT

evaluate and improve the quality of home care services in Canada.¹⁸ ICT is essential to support this work. Beyond home care, whether it is within regions, provinces or territories, system wide ICT provides program and administrative management an enterprise view of the health care services.

Challenges to system wide implementation of ICT include the complexity, diversity and interoperability needs. Knowing what data elements are relevant and how they can be organized across providers to enable a system wide view of health delivery within a region is challenging. However the benefits of integrated health care necessitate ICT enabling environments.

Yukon first to submit home care data to CIHI

In February 2007 the Yukon became the first jurisdiction to submit CIHI data. While the initial data reflects a subset of home care patients, it is a good first step to understanding home care clients, their caregivers and care needs.

18. CIHI (2007)

The Electronic Health Record

The EHR will enable access to the right information by the right provider at the right time in order to enable safe patient health care as a priority and efficiency through improved provider performance and data mining to inform the system.

Building blocks to an EHR include – digital imaging systems; drug information systems; laboratory information systems. Other foundational pieces include integrating the primary care settings – physicians, home care etc; acute care; long-term care; and patient experience.

A comprehensive and effective electronic health record, accessible to health care practitioners across the country, will not be realized until the key elements of the home care sector contribution are embedded. Canadians access and receive the majority of their health care services in the community, thus the home and primary care systems should be essential building blocks for any electronic health record. Periodic episodic visits to hospital may be interesting and the treatment approaches enlightening to subsequent care; but generally it is the health needs and care plans of the community which will inform practitioners' care in an emergency.

ICT Innovation: Linking providers through an EHR

One patient record capturing administrative data, interactions with the health system and interRAI assessments allows data mining and enhances reporting. The interRAI is the foundational piece for care planning between sectors.

Implemented by:
Interior Health, British Columbia

The key components of home care services include:

- Initial assessment of client needs (within their home environment)
- Ongoing visits (treatment and intervention)
- Care specific tools – such as pain management, wound management
- Diagnostic information – primarily laboratory results
- Therapeutics – from other disciplines
- Discharge – directions and disposition (client health outcomes and future needs)

While these interrelated components all impact a client's care, there are very few electronic client records that capture this comprehensive data currently in use in the home care sector; and very few electronic home care client records [similar to an electronic patient record used in the acute setting]. Instead home care programs and service providers have automated single elements of home care services such as the

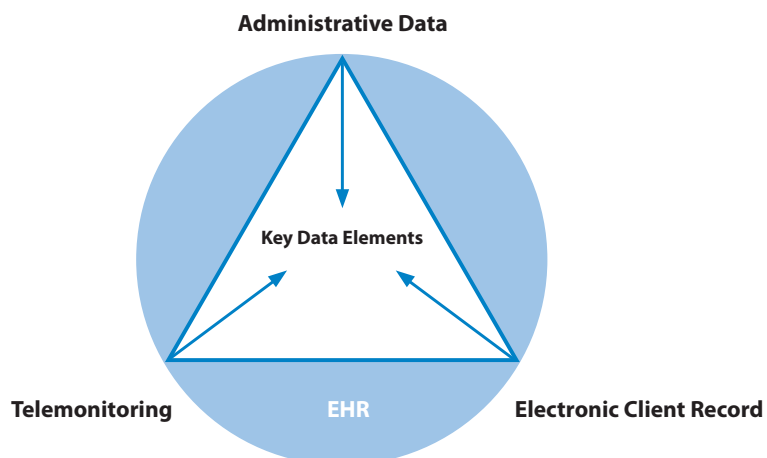
The Electronic Health Record

assessment conducted by a case manager, but not incorporated are the intervention, diagnostics and outcomes.

The electronic client record will form the basis of the EHR...

Automation of clinical care notes and ideally the establishment of point of care documentation within home care organizations is an important first step in the development of an electronic client record for community care. This electronic client record will form the basis for identifying the key elements that need to be interchanged within an electronic health record. Telehomecare and administrative data also contain important information that needs to be shared with the broader health care team and linked through the electronic health record.

The model below depicts the data sources and supporting technology components within home care that should contribute to the electronic health record. As with any sector of the health care system, not all the administrative data, information recorded in the client record on each home visit or all the readings from the telemonitoring are necessary for an integrated record – the EHR.



It is necessary to consider and agree upon the key informational elements from a home care episode that need to populate an electronic health record and conversely which client data elements from other sectors (primary care, acute care, etc) should be pulled into the home care record to inform the plan of care.

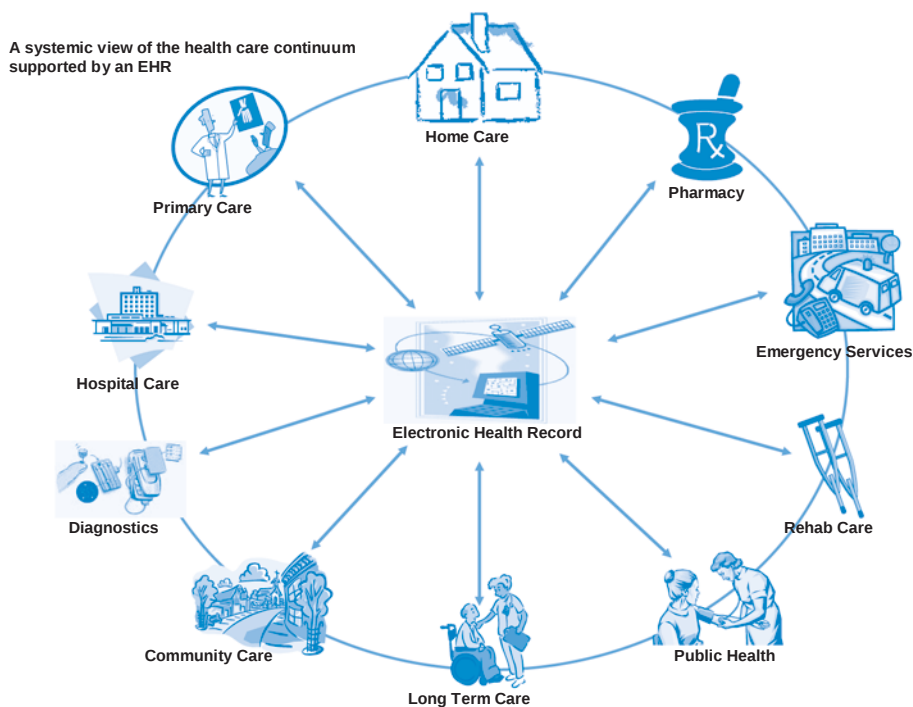
This challenges home care practitioners to question, “What care activities in home care are truly relevant to support an integrated health care approach for the client?” This is a difficult question especially where providers have not undertaken to define how they collaborate in the provision of care.

Technically all information can be viewed and to be efficient, users can define their views to a range of information that is important to support their practice, but in

The Electronic Health Record

order to optimize technology to enable integration, there needs to be an understanding of the providers on the team and agreement as to how care will be delivered. The challenge is further compounded by the professional governing bodies responsible for practice and documentation standards. At this point in time healthcare practitioner documentation standards are not yet aligned to the concept of minimum data sets.

The health system requires that the full range of providers/sectors share health information in an electronic client record:



A comprehensive and effective electronic health record, accessible to health care practitioners across the country, will not be realized until the key elements of the home care sector contribution are embedded.



Conclusions

The benefits and realization of an integrated health system in which home care is an integral component cannot be achieved without the full automation of home care – administrative, provider delivery and client enabling systems.

Information Communication Technology (ICT) has been defined as reflecting all forms of technology used to create, store, exchange and use information in its various forms. The adoption of ICT is much broader than the development and implementation of hardware and software. It requires business process redesign; staff adjustments to the way they do their work and client adoption to a new level of interface with the health system.

While the implementation of telehealth and home monitoring initiatives have had positive impacts on clients and home care programs, they are only a small component of the technology that is essential to support the delivery of home care programs. There is so much more that can and should be automated within home care.

The findings of this project show that home care programs and service providers across Canada still rely heavily on manual systems. The benefits and realization of an integrated health system in which home care is an integral component cannot be achieved without the full automation of home care – administrative, provider delivery and client enabling systems. Client applications, provider applications and system application must all be taken into account and supported through strategic approaches and investment in technology.

Information technology implementation is perceived by some to never end – there are repeated cycles of refinement, upgrades and replacement.¹⁹ ICT implementation in the hospital setting has been longstanding; however it is limited within the home care sector. The shift in policy direction to provide health services in the home and the clear emergence of home care as integral to our health system necessitates a refocus of priorities. In a recent survey of Canadians, over 86% believe that government incentives should be put in place to encourage the adoption of new health care technologies, and 78% indicated strong support for investment in home care.²⁰ Given this strong message from Canadians and the recognition by governments of the important role for home and community care, the CHCA offers a number of recommendations to advance this important agenda.

19. Leatt, Peggy. et al

20. Health Care in Canada Survey p6

Recommendations

First and foremost, fundamental to the advancement of ICT in home care is a paradigm shift by policymakers and funders away from episodic, acute care to a focus on the health care outside of the hospital where individuals experience the majority of their health care.

- Invest, as a priority, in technology solutions that support identified linkages between primary health care teams and home care to enable improved integration, communication and collaboration.
- Invest in the implementation of an electronic clinical information system for home care that includes all elements of service delivery and is available at the point of care, wherever that service is provided.
- Host an interdisciplinary roundtable to determine the key information / data elements of an integrated electronic health record that includes information that is “pushed” and “pulled” from home care.
- Support demonstration projects that enable the introduction of consumer based technologies (e.g. point of care tools) that empower the consumer, improve access and sharing of health information with the health team.
- Support home care programs/providers to implement technology applications for administrative processes (to support monitoring, evaluation and planning of home care services) as a basic minimum requirement.
- Establish linkages between the electronic clinical information system for home care and the broader health care system, e.g. acute care, long term care, primary care.
- Leverage ICT applications (e.g. telehealth in all its forms) as a key strategy for managing risk for individuals remaining at home as they age.
- Provide forums to champion and leverage local ICT successes and broadly disseminate strategies to advance adoption in other communities.
- Support research into the outcomes and effectiveness of new technology applications for home and community care and its impacts on health human resource utilization and client empowerment.



Appendix A - Works Cited

- Canadian Home Care Association. (2007) The Integral Role of Home Care in Improving Access to Care, Ottawa
- Canadian Home Care Association. (2007) Survey on ICT in Home Care, Ottawa, retrieved www.cdnhomecare.ca
- Canadian Institute for Health Information. (2007) The Yukon Pioneers in Home Health Information, retrieved from http://secure.cihi.ca/cihiweb/en/downloads/HCRS_Yukon_AiB_ENG.pdf
- Schlosser, J. (2003) Commentary on Primary Health Care Teams: Opportunities and Challenges in Evaluation of Service Delivery Innovations, *Journal of Ambulatory Care Management*, (26)1, 36-38.
- Canadian Diabetes Association. (2003) 2003 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada, *Canadian Journal of Diabetes* (27)2
- Gregoryk, Carol (2006) Implementing a Province-wide Solution for Saskatchewan Home Care, Case Study, Prince Albert Parkland Home Care, retrieved from http://www.goprocure.com/cms/?News_%26amp%3B_Events:Case_Studies
- Krebs, David. (2007) Wireless Home Care Solutions: Addressing the Quality of Service and Performance Gap, Venture Development Corporation USA
- Prada, Gabriela. (2007) Exploring Technological Innovation in Health Systems, Conference Board of Canada, Ottawa
- Health Care in Canada Survey 2003, http://www.hcic-sssc.ca/pdf/HCiC_1998-2003_retro.pdf
- Health Care in Canada Survey 2007, http://www.mediresource.com/e/pages/hcc_survey/pdf/2007_hcic.pdf
- Health Canada Office of Health and the Information Highway, March 2002. E-Health Services in Home and Community Settings Workshop Aylmer Quebec
- Hopp, Faith, Woodbridge Peter, et al. (2006). Outcomes Associated with a Home Care Telehealth Intervention, *Telemedicine and e-Health* (12)3, 297 – 307
- Leatt, Peggy, Shea, Chris, Studer, Melanie, Wang, Victoria. IT Solutions for Patient Safety – Best Practices for Successful Implementation in Healthcare Electronic Healthcare, (4)3, 94–104
- MOHLTC. Health Outcomes for Better Information and Care formerly Nursing and Health Outcomes Project, Project Overview, Retrieved from <http://www.health.gov.on.ca/english/providers/project/nursing/overview/overview.html>
- Nagle, Lynn M. Everything I Know About Informatics, I Didn't Learn in Nursing School *Nursing Leadership*, CJNL, 20(3) 2007: 22-25
- Nagle, Lynn M. (2007) Clinical Documentation Standards - Promise or Peril? *Nursing Leadership*, CJNL, 20(4) 2007: 33-36

Appendix A - Works Cited

Norris, A.C. (2002). Essentials of telemedicine and telecare, New Jersey: Wiley

Webster, C., Cooper, J., McGee, D. (2000) The CPR in Eleven Paperless Physicians' Offices: Performance, Processes and Results, Healthcare Information and Management Systems Society

Appendix B - Glossary of Terms

E-health – a consumer-centred model of health care where stakeholders collaborate utilizing information communication technologies, including internet technologies to manage health, arrange, deliver and account for care and manage the health care system. (National Initiative for Telehealth (NIFTE) Framework of Guidelines, September 2003)

Electronic Client Record (ECR) – more commonly used by community-based health service providers.

Electronic Health Record (EHR) – a secure and private lifetime record of an individual's health and care history, available electronically to authorized health care providers. It facilitates the sharing of data across the continuum of care, across health care delivery organizations and across geographies. (Canada Health Infoway)

Electronic Medical Record (EMR) – an electronic patient record that is specific to an organization or provider. Term often used for the record within a physician office.

Electronic Patient Record (EPR) – the hospital/institution based patient record.

Information Communication Technology (ICT) – reflects all forms of technology used to create, store, exchange and use information in its various forms.

Personal Health Record (PHR) – a health record that is initiated and maintained by an individual. An ideal PHR would provide a complete and accurate summary of the health and medical history of an individual by gathering data from many sources and making this information accessible online to anyone who has the necessary electronic credentials to view the information. (Wikipedia)

Portal – a web portal is a site that functions as a point of access to information on the World Wide Web. Portals present information from diverse sources in a unified way and provide a way for enterprises to provide a consistent look and feel with access control and procedures for multiple applications, which otherwise would have been different entities altogether. (Wikipedia)

Telehomecare – the application of information and communication technologies to enable effective delivery and management of health services like medical diagnosis, treatment, consultation and/ or health maintenance between a patient's residence and a health care facility or professional. (Advisory Council on Health Info-structure, Connecting for Better Health: Strategic Issues – Interim report, Health Canada, 1998) It has also been described as a subset of telehealth focusing on the use of information and communications technology to bring health care directly to a patient's home. In combination with a care team and evidence-based model of care, telehomecare provides for remote monitoring of the patient's condition, targeted and rapid response from the care team to an emerging health crisis, and coordination of care amongst multiple care providers (Government of Ontario, 2006A)

Telehealth – the use of advanced telecommunications technologies to exchange information and provide health care services across geographic time social and cultural barriers (Canadian Society for Telehealth, 2001)

Telemedicine – often used interchangeably with 'telehealth', however, the term generally implies a physician mediated interaction with patients, and is used more in the USA. (University of Calgary, Canada, Telehealth Glossary of Terms) It has been described as the use of telecommunications technology for medical diagnostic, monitoring, and therapeutic purposes when distance and / or time separates the participants (Hersh, 2006).



**Canadian Home Care
Association
canadienne de soins
et services à domicile**