



Newfoundland & Labrador

Centre for Health Information



2009-2010 Annual Business Report
Connecting Your Health

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Message from the Chair



On behalf of the Board of Directors, I am pleased to submit the Newfoundland and Labrador Centre for Health Information's 2009-2010 Annual Business Report. This report has been prepared in accordance with the *Transparency and Accountability Act* and the Board accepts accountability for the results and variances outlined within.

In 2009-2010, the Newfoundland and Labrador Centre for Health Information made significant progress towards achieving our vision of *improved health through quality health information* and continued to support the Department of Health and Community Services' strategic directions.

We witnessed connection of the first community pharmacies to the Pharmacy Network, marking a significant milestone in the development of the provincial electronic health record. Planning for the interoperable Electronic Health Records/Laboratory project began, setting the stage for continued expansion of the electronic health record. The Telehealth project that began in 2005 transitioned into an ongoing provincial program supported by the province of Newfoundland and Labrador. The Centre's Research and Evaluation Department continued their exemplary work in conducting and collaborating on many research-related initiatives.

Delivering upon the organization's strategic directions involves the leadership, contributions and efforts of many. I would like to take this opportunity to thank the Centre's Board of Directors, CEO, Executive Team, all employees and key partners, along with the Government of Newfoundland and Labrador, for their continued commitment to improving health in Newfoundland and Labrador through quality health information.

A handwritten signature in black ink, appearing to read 'Bill Fanning', written in a cursive style.

Bill Fanning
Chair, Board of Directors

Message from the CEO



The vision of improving the health of populations through the development and implementation of an interoperable electronic health record promises great value for Newfoundland and Labrador. The journey to realizing this vision is extremely complex and requires significant attention to technical, business and quality aspects that will span many years.

In our third year as a crown corporation, I am pleased to acknowledge that the Centre has continued to lead, grow and expand our contributions in this and other key areas.

Under the Centre's leadership, Newfoundland and Labrador remains on the national forefront of electronic health record development and is realizing significant progress on implementing priority elements. We continue to produce valuable research and evaluation and support ongoing improvements to the quality of information in our custody.

Achieving our vision of *improved health through quality health information* is a complex, challenging and critical task involving collaboration of many stakeholders, development and integration of multiple existing health information systems and strong, strategic leadership. Through the many facets of the Centre's work, we harness technology, innovation, research, information and skills to support the province's health system, health care professionals and the population at large to optimize access to care and improve patient health outcomes.

Acknowledging that our success is a collective effort, I would like to extend sincere appreciation to our Board of Directors, Executive Team and all Centre employees, along with the Government of Newfoundland and Labrador. Their continued and shared belief that we can improve the health of Newfoundlanders and Labradorians through quality health information is what positions us for success now and into the future.

A handwritten signature in black ink, appearing to read 'Mike Barron'. The signature is fluid and cursive, with a long horizontal stroke at the end.

Mike Barron
Chief Executive Officer

About the Centre for Health Information

The Newfoundland and Labrador Centre for Health Information (the Centre) provides quality information to health professionals, the public, researchers and health system decision-makers. Through collaboration with the health system, the Centre supports the development of data and technical standards, maintains key health databases, prepares and distributes health reports and supports and carries out applied health research and benefits evaluations. The Centre's mandate also includes the development of a confidential and secure provincial electronic health record, including the change management required to support adoption by end user clinicians.

Vision

Improved Health Through Quality Health Information

Mission

The Centre is responsible for the development of a confidential and secure Health Information Network, which will serve as the foundation for the provincial electronic health record. Through the support of the provincial government and Canada Health Infoway, the Centre has been recognized for its contribution to the national agenda for development of the electronic health record. The Centre is also responsible for the appropriate use of quality health data to support improvements in the health system.

By March 31, 2011, the Centre for Health Information will have implemented the priority elements of the electronic health record and supported the planning and implementation of other new or improved provincial health information systems, improved the quality of data held by the Centre and expanded health research capacity at the Centre to contribute to the improved health of the people of Newfoundland and Labrador.

Core Values

The following values guide the Centre's Board of Directors and staff in their actions:

Empowerment

Each person is empowered within their knowledge and skills to contribute to the goals of the Centre.

Accountability

Each person is accountable for their actions to achieve the goals of the Centre.

Respect

Each person provides opportunities to others to express their opinions in an open and supportive environment.

Collaboration

Each person engages in a positive way with others in conducting the work of the Centre.

Flexibility

Each person is open to the suggestions of others and recognizes the different perspectives of board members, staff, clients and stakeholders.

Privacy

Each person ensures all actions provide the greatest protection for personal information under the custodianship or management of the Centre.

Transparency

Each person is open about the actions taken in the work of the Centre and the decision-making process in support of these actions.

Excellence

Each person uses his or her knowledge and skills to strive for the best outcome in the actions taken in their work for the Centre.

Lines of Business

The Centre is an integral part of the Newfoundland and Labrador health system supporting improvements in the collection of data and use of information for individual care, administration, planning and research. The Centre's services are available to provincial and federal governments and their agencies, community organizations, health professionals and researchers. Information is also available to the public. While the Centre strives to deliver its services without cost to clients, there are instances when a fee is charged. The Centre ensures that all collection, use and disclosure of personal health information are compliant with the *Access to Information and Protection of Privacy Act*, the *Centre for Health Information Act* and other relevant legislation.

1. Provincial Health Information Systems

The Centre was established to provide a comprehensive province-wide information system for the health sector. Activities for the development of this information system are either led by the Centre or by other organizations within the health system with whom the Centre collaborates. The Centre is responsible for:

- Planning, designing, implementing and maintaining the provincial electronic health record and the Health Information Network;
- Collaborating with its clients to ensure the desired outcomes of the comprehensive province-wide information system are achieved;
- Managing the privacy and security of personal information transmitted to, or via, the Health Information Network;
- Coordinating provincial participation in national standard setting activities for the electronic health record; and,
- Managing the planning, designing and implementation of specific provincial health information systems.

2. Quality Information

Quality health information is information that is accurate, timely, useable, relevant and comparable. Recognition of the connection between quality health information and healthier people and communities led to the establishment of the Centre in 1996. Since then, the Centre has collaborated with the provincial health system to ensure quality health information is available for system-wide planning, research and policy development. The Centre is responsible for the development of financial, statistical, social, demographic and clinical data standards in the health sector; thereby ensuring that data collected is uniform in definition, measurement, collection and interpretation. The Centre is also responsible for developing and maintaining health databases on behalf of the Province. Activities supporting this are:

Standards Development and Implementation

- Participating in national standard setting committees and initiatives;
- Interpreting national standards and developing provincial customization, thereby adding value for the Newfoundland and Labrador health environment; and,

- Working closely with provincial stakeholders on the development and adoption of national and provincial standards and supporting implementation through education and consultative services.

Data Quality Initiatives

- Managing the provincial database of demographic information associated with the Client Registry;
- Managing databases on behalf of other custodians, including the Department of Health and Community Services;
- Evaluating data quality through assessing accuracy of coding in health records, an activity known as re-abstracting; and,
- Audits and training for the users of the Client Registry.

3. Research

The Centre engages in applied health research, which is the study into the health of populations and issues related to access, use, cost, quality, delivery, organizational management, financing and outcome of health information systems. The Centre uses administrative databases, surveys, focus groups and key informant interviews to conduct this work. The Centre assists the Department of Health and Community Services, Regional Health Authorities, researchers and others in similar research that they undertake. The Centre collaborates with Memorial University, the Patient Research Centre and other research organizations within the province. In its work, the Centre supports others by:

- Preparing reports and analyzing data using health databases available to the Centre;
- Conducting applied health research independently and in collaboration with clients; and,
- Performing data linkages for researchers and public bodies.

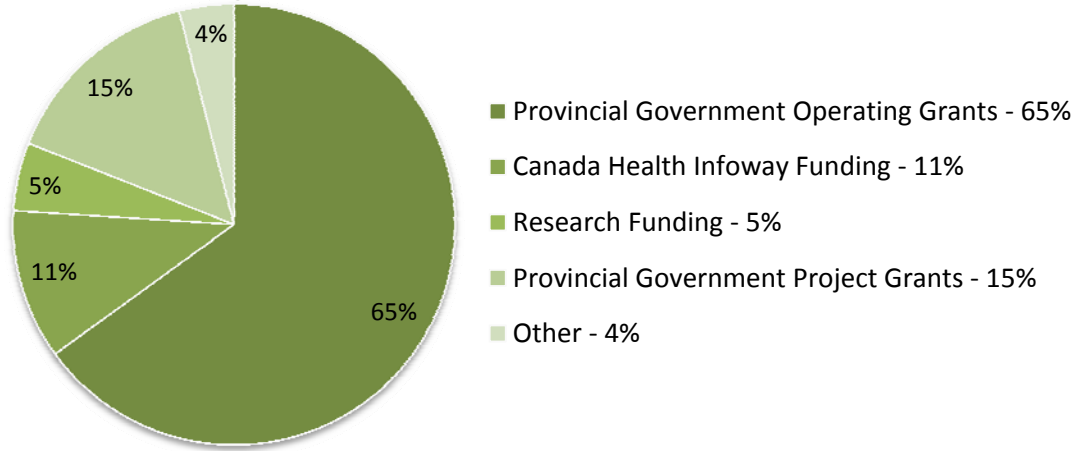
Number of Employees and Physical Location

The Centre is structured into five departments: Research and Evaluation; Health Information Network; Clinical Information Programs; Human Resources and Strategic Planning; and Finance and Administration. It currently employs 133 full-time staff; 57 males and 76 females, and had six vacancies at time of reporting.

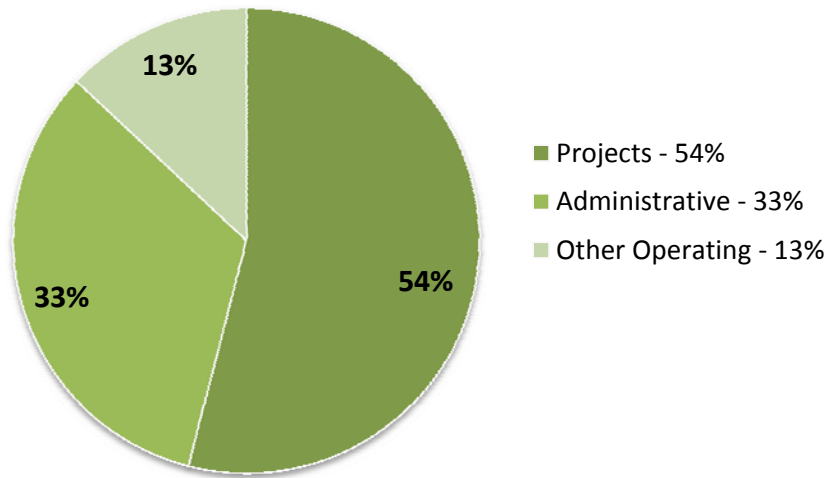
Most Centre employees are based in the head office located at 70 O'Leary Avenue in St. John's, Newfoundland and Labrador. The Registry Integrity Unit, with five employees, is located in Bay Roberts, Newfoundland and Labrador.



Revenue by Category



Expenses 2009-2010



Shared Commitments

The Centre's success is contingent on collaboration with many partners and stakeholders. Establishing strong working relationships with partners enables the Centre to advance its mandate and to successfully contribute to the Department of Health and Community Services' strategic directions.

Specifically, the Centre's work in developing the electronic health record contributes to improved accountability, stability and accessibility of health and community services province-wide. Upon implementation, the electronic health record will help identify and monitor outcomes for select programs, support alignment of regional services and improve efficiency and effectiveness of the health care system. For example, it is expected that the number of repeated procedures and test orders required will decrease with implementation of the electronic health record, potentially resulting in increased access to priority services.

The Centre also contributes to improving population health through maintenance of key data holdings on behalf of the provincial health system and through the work conducted in its Research and Evaluation Department. The knowledge generated through the Research and Evaluation Department's work supports health policy and decision-making within the health system. The Centre's Data Quality and Standards Division updates the Chart of Accounts annually, working to ensure accurate data is available at the regional level for use in policy development and resource allocation. The Centre also contributes to strengthening public health capacity, specifically in the area of public health surveillance.

Several key partners the Centre works closely with in fulfilling its mandate include:

Department of Health and Community Services

The Department of Health and Community Services (the Department) provides guidance and funding for provincial electronic health record projects, as well as supports the Centre in managing quality data and information. The Centre also works closely with the Department in the areas of applied health research and policy, including joint participation in the Evidence to Policy Committee, as well as in the preparation for implementation of the *Personal Health Information Act*.

Regional Health Authorities

Regional Health Authorities (RHAs) have an integral role in developing and implementing the provincial electronic health record, which includes engaging in planning, governance, implementation and operation of various electronic health record components. The Centre also collaborates with RHAs and the Department to ensure common approaches to protecting the privacy of personal health information. The Centre and RHAs also work together on initiatives supporting accurate collection and reporting of clinical, financial and statistical data and the Centre provides research, consulting and information services upon request.

Canada Health Infoway

Canada Health Infoway is a federally-funded, independent, not-for-profit organization that invests with public sector partners to accelerate electronic health record development across Canada. It provides joint funding with the Department for provincial electronic health record projects, facilitates knowledge transfer with other jurisdictions and provides guidance in project planning. This collaboration is critical to the development of the Newfoundland and Labrador electronic health record and enables the Centre to support the Department's strategic direction of improving accountability and stability in the health system.

Other Provincial Bodies

The Centre collaborates with various government departments and entities, including the Office of the Chief Information Officer, the Vital Statistics Branch of the Department of Government Services and the Office of the Information and Privacy Commissioner.

Health Professionals

Health professionals provide the Centre with valuable guidance and input for developing an electronic health record that is practical and supportive for individuals working in the health field. The Centre engages in ongoing consultation with health professionals through their professional associations, regulatory bodies and provincial committees on clinical practice and policy development matters.

Canadian Institute for Health Information

The Centre collaborates with the Canadian Institute for Health Information in its data quality and standards work. This includes supporting national database reporting, validating provincial data published in Canadian Institute for Health Information reports and identifying national and provincial data quality issues.

Research Partners

The Centre continues to collaborate on research initiatives with various disciplines at Memorial University's Faculty of Medicine and Eastern Health, the Janeway Children's Health and Rehabilitation Centre, the Patient Research Centre and the Population Therapeutics Research Group. The Centre collaborates with private sector researchers, as well as researchers and universities outside the province, including Dalhousie University, University of Western Ontario, University of Saskatchewan and University of Ottawa. A number of organizations also provide funding for health research, including Canada Health Infoway, Health Canada and the Public Health Agency of Canada.

Other Organizations

The Centre regularly works with a variety of organizations to achieve its goals, including community groups, patient representatives and advocacy groups. For example, the Centre is a member of the Western Health Information Collaborative and has representation on several of the organization's committees. The Centre also works with the local and national vendor community and other organizations to identify and implement the most appropriate electronic health record solutions for the provincial environment.

Highlights and Accomplishments

The Centre for Health Information is committed to realizing its vision of *improved health through quality health information* and supporting the Department in its core strategic directions: *improved population health, strengthened public health capacity, improved accessibility to priority services and improved accountability and stability in the delivery of health and community services within available resources*. The Centre has many significant accomplishments to highlight from 2009-2010 demonstrating the progress occurring across the organization.

Advancing the Provincial Electronic Health Record (EHR)

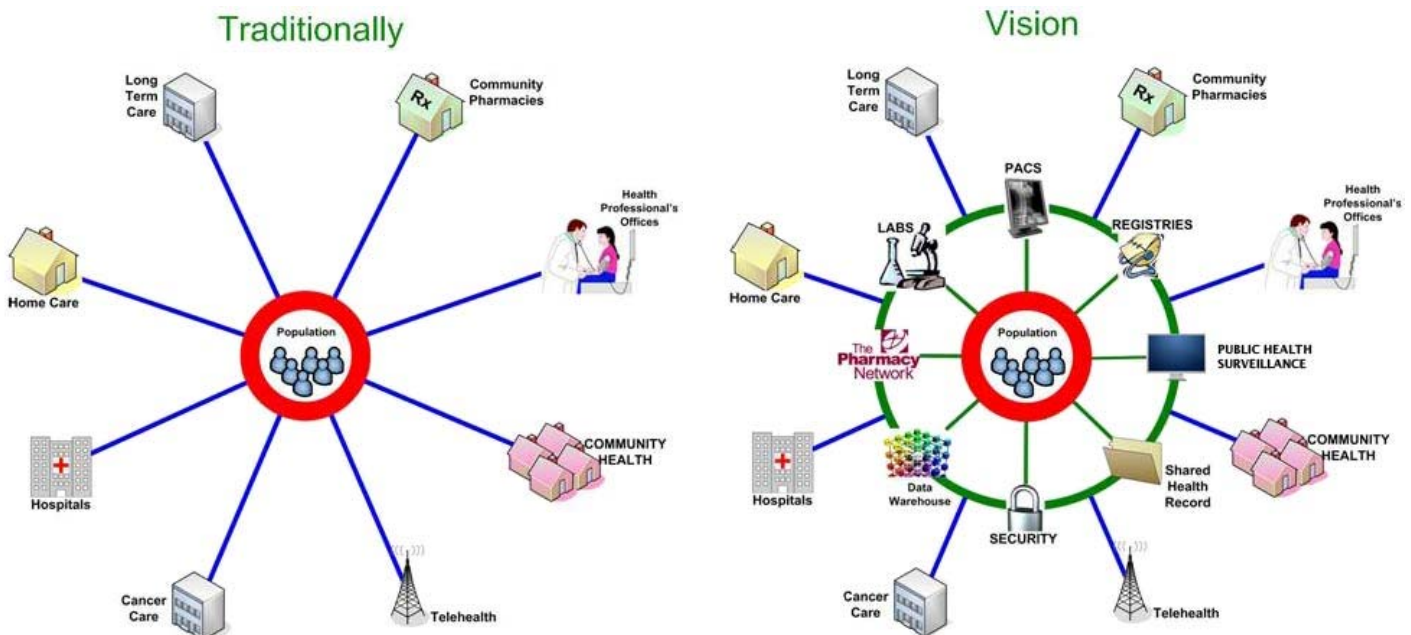
Development and implementation of the provincial electronic health record is part of the Centre's mandate. The Centre's focused effort and success in this area supports all of the Department's core strategic directions and realization of its own vision.

An electronic health record is a secure and private lifetime record of a person's health and health care history, available electronically to patient-authorized health care providers. An electronic health record is designed to facilitate data sharing across the continuum of care, across health care delivery organizations and across jurisdictions.

Once implemented, the electronic health record will provide more accurate, reliable and comparable data for health care and services policy making, program monitoring and resource allocation, supporting improved accountability and stability in the health system. The electronic health record is expected to reduce the need for repeated procedures and tests, supporting improved accessibility to priority services.

The Health Care System Pre- and Post-EHR Implementation

The following images demonstrate the traditional structure of the health care system pre-EHR and the vision for the future structure of the health care system once the EHR is implemented.



Several key components of the provincial electronic health record have already been implemented, including the Client Registry, the Provider Registry and the Picture Archiving and Communications Systems (PACS). In 2009-2010, the Centre continued to expand development and implementation of a number of electronic health record initiatives, including the following key accomplishments:

Pharmacy Network

The Centre connected the first community pharmacy reference site, the Baccalieu Trail Pharmacy, to the provincial Pharmacy Network in November 2009. In the last quarter of 2010, Sinyard's Pharmacy in Harbour Grace and Healy's Pharmacy in St. John's became the second and third reference sites to connect, respectively. These reference sites partnered with the Centre to enable testing and system refinement in preparation for full provincial deployment.

In partnership with Newfoundland and Labrador Pharmacy Board and other provincial stakeholders, the Centre has developed and delivered a provincially accredited Pharmacy Network Continuing Education program to over 400 pharmacists and technicians. Work continued to support clinical adoption of the Pharmacy Network through ongoing partnerships with provincial Pharmacy Practice Management System vendors.

Interoperable Electronic Health Records/Laboratory (iEHR/Labs) Project

Phase 2.1 of the iEHR/Labs program began in 2009-2010 and is well underway. In Phase 2.1, all tasks and deliverables necessary for an effective implementation will be completed and an RFP for solution procurement will be released in early 2010-2011. The work completed in 2009-2010 has ensured all key deliverables are on schedule and this phase of the project is expected to be completed by the end of 2010. Planning for Phase 2.2, a deliverable from Phase 2.1, also began in 2009-2010.

Picture Archiving and Communications Systems (PACS)

A PACS upgrade was completed in January 2010. This was the first PACS upgrade where clinicians could continue to view images via their workstations and to transfer images across the province during the downtime that occurs with such system improvements. Each of the four RHAs reported enhanced functionality as downtime for the upgrade was reduced from 12 to six hours and it occurred outside of peak hours.

Telehealth

Telehealth officially transitioned from a project to a program in February 2010. With the support of the Department, Telehealth will now continue as a provincial program supporting ongoing health care delivery via distance. Over the past five years, 8,601 Telehealth consultations have taken place, far exceeding the 2,000 originally projected. Among ongoing Telehealth priorities is a review of existing applications to identify gaps from the project in terms of chronic disease management. The Centre is working with mental health leadership to identify potential opportunities to leverage Telehealth technology for enhanced care delivery in that area. The Centre is also partnering with Eastern Health to implement a tele-ophthalmology

pilot project for the Burin Peninsula Health Centre. The goal of the pilot is to reduce patient waitlists related to screening for diabetic eye disease.

Client Registry

Collaboration and feedback from the Newfoundland and Labrador Pharmacy Board and from the first Pharmacy Network reference site led to approval of a Client Registry education program for pharmacy staff province-wide. The Centre is working with Newfoundland and Labrador Pharmacy Board to gain approval of a continuing education credit for this education program.

Change Management

Development and implementation of an electronic health record requires an increased use of technology, particularly on the part of health care professionals. The Centre continues to oversee and support a provincial change management model to ensure successful adoption of the technology across the health care system. In partnership with the RHAs, the Centre continued to roll-out its change management training to ensure a strategic approach for clinical adoption by health professionals.

Peer-to-Peer Network

The Newfoundland and Labrador Peer-to-Peer Network is the provincial implementation of a Canada Health Infoway project designed to facilitate the sharing of e-health experiences among clinicians and their peers. The provincial peer leader team consists of four physicians, two nurses and two pharmacists. This team works to promote and support the adoption and integration of information technology into regular work processes in order to improve access, quality and productivity. The Peer-to-Peer Network Demonstration Project was completed in November 2009 and provided many lessons on best practices for using information technology in clinical settings.

Information Protection Review

The Information Protection Assessment and Remediation (IPAR) Project was launched in October 2009 in response to the Centre's Information Protection Review. The IPAR Project has since moved forward with numerous sub-projects including: the purchase of hardware technical solutions; readying the SSL VPN (Secure Socket Layer Virtual Private Network) Project for implementation for corporate laptop users by March 31, 2010; purchasing software for the Notebook Encryption Project; and, developing information protection policies and procedures.

On behalf of the Province, the Centre has also undertaken a role in the following information management initiatives:

Meditech: Electronic Patient Record (EPR)

The Centre, in collaboration with the RHAs, explored options for furthering the provincial consolidation and standardization of regional Meditech systems in 2009-2010. Workshops were conducted with senior regional management representing clinical and information management functions and directors with regional information management and technology

responsibility. The purpose of these workshops was to validate information compiled through a survey process and provide input to operating and governance models. Recommendations from this work have been compiled in a final report for the Province, including the steps to achieve consolidation and standardization.

Occurrence Reporting

As part of a report from the Task Force on Adverse Health Events, the Centre was asked to support implementation of a provincial electronic occurrence reporting solution. This project will heavily leverage the work nearing completion at Eastern Health by scaling the electronic system deployed there into a provincial solution. An assessment and initial estimate has been prepared and approved by the Province and work has been authorized to begin. Planning workshops have been held and an RFP has been prepared and issued. The project is scheduled to begin in June 2010.

Telepathology

Canada Health Infoway approved a multi-jurisdictional telepathology (MJT) network planning project to create a national telepathology network strategy in December 2009. This six-month planning project is a partnership that includes the Centre, Eastern Health, Diagnostic Services of Manitoba and the University Health Network in Ontario. This planning project will identify clinical workflow, business and technical requirements for the implementation of a MJT network. The project will allow participating jurisdictions to remotely engage pathologists to support local workload issues, as well as access sub-specialty pathology services. Based on future funding availability, the Province will be positioned to avail of telepathology infrastructure for each region.

Pan-Canadian Primary Health Care (PHC) Electronic Medical Record (EMR) Content Standards

The Centre has partnered with the Canadian Institute for Health Information and Canada Health Infoway to develop PHC EMR content standards. When implemented, these standards will provide a data set enabling EMR functionality and information that will help improve patient care. Work continues to refine this core data set and participation in this initiative will better position the Province should it wish to move forward with an EMR program.

Research and Evaluation: Supporting an Evidence-Informed Health System

Applied health research supports the creation of an evidence-informed health system, which is necessary for achieving the Department's strategic directions. Specifically, the Centre's research work contributed to improving population health. The information and research conducted provides valuable information for use in health policy and decision-making. The Centre continued to engage in applied health research by expanding its capacity for health research, growing its reputation as a trusted leader in information management and continuing to support provincial policy development. Notable health research achievements from 2009-2010 include:

- \$1.4 million in external research revenues were recognized in 2009-2010.
- Continued to work on the estrogen reception/progesterone receptor (ER/PR) database management project on behalf of the Department. Provided additional support to the Task Force on Adverse Health Events and the Commission of Inquiry on Hormone Receptor Testing.
- Assisted the Department with the information management component of the H1N1 pandemic. The Research and Evaluation Department also provided RHAs with various analyses on hospital separations, prevalence and mortality for various chronic conditions thought to be associated with H1N1.
- Provided research/analytical support to the Department regarding lead contamination in the Buchans area.
- Continued to work closely with provincial and federal governments to ensure the Research and Evaluation Department is closely aligned with major provincial and/or national strategies and priority areas. Notably, 28 of the 30 major research/evaluation projects (excluding reports, internal projects and requests) undertaken in 2009-2010 were directly related to provincial and/or national strategies.
- Experienced considerable growth in evaluation activities, including the start up of the Atlantic iEHR/Labs evaluation. Other evaluation studies started in the last year include a new addictions program being developed by the Department, the new provincial Mental Health Act and the online privacy training initiative.
- Completed an evaluation of the provincial Chronic Disease Management (CDM) Telehealth program. This evaluation showed that Telehealth is associated with moderate to high levels of provider and patient satisfaction. As well, many benefits of Telehealth were demonstrated including improvements in care access, travel time and cost savings, communication and information transfer among providers, continuity of care and more frequent patient follow-up.
- Represented the Centre at 11 national and international conferences. Ten articles were accepted by peer-reviewed journals for publication, with four others submitted and awaiting decision.
- Responded to 123 major requests for data and information services. The main requestors for information were the Department, RHAs and community-based organizations. Requests took between five minutes to two weeks to complete.

Providing Essential Information to Facilitate Analysis of Newfoundland and Labrador's Health System and the Health of the People of the Province

Quality information supports sound clinical and administrative decision-making, accountability, health system management and sustainability, efficient and effective service delivery and research. In 2009-2010, the Centre continued to provide leadership for quality information based upon the adoption of standards within provincial administrative databases, as well as the provincial electronic health record system. It is critical that the data contained within these information systems is of the highest quality attainable. Data quality initiatives are a constant focus of activity, which is conducted through extensive partnerships with the RHAs and other stakeholders. Notable achievements in the area of quality information and standards include:

- Within the context of the corporate Data Quality Framework, draft Data Quality Assessment tools were developed to measure the quality of three key administrative databases held by the Centre with a reference implementation planned for early 2010-2011. Data collection processes required to support calculation of the performance indicators and revisions to the Data Quality Framework will be made as needed based on the lessons learned.
- Data Quality User Guides for the NLCHI Live Birth and Mortality Systems, as well as the Clinical Database Management System were developed. These documents will be provided to stakeholders who request data from these systems to assist them in accurate interpretation and use of the data. Master Methodology Documents were also developed for these systems. These internal documents provide a single detailed reference for Centre staff regarding the data and system maintenance for these key information systems.
- The Centre continued to support numerous provincial-level committees that address specific data standards and quality issues. It is through such committees that stakeholders are engaged in the development process, ensuring relevance and support for the standard. Examples include the Provincial Coding Committee, the Provincial Health Information Management Leadership Committee, numerous Provincial MIS Committees for various disciplines, CRMS Documentation and Statistical Reporting Standards Working groups. Regional education and training programs for health information management professionals and clinicians are provided throughout the province.
- Staff continued to facilitate and coordinate development of standardized Provider, Laboratory and Diagnostic Imaging Dictionaries for the regional Meditech systems at the request of various provincial committees.
- Data Quality and Standards employees were engaged in various provincial electronic health record initiatives in 2009-2010, particularly the iEHR/Labs project. The Centre has also partnered with Saskatchewan to assume a national role for maintenance and future enhancement to the Provider Registry solution currently used in several provinces.

- The 2009 re-abstracting study was completed in partnership with Canadian Institute for Health Information, involving five facilities from the four RHAs. Final reports are nearing completion.
- Noted improvements in annual data quality reports submitted by Newfoundland and Labrador to the Canadian MIS Database and Discharge Abstract Database at the Canadian Institute for Health Information. These improvements are the result of the collaborative effort of Canadian Institute for Health Information, RHAs and the Centre.
- The Centre expanded its capacity and expertise through the addition of an EHR Standards Specialist (laboratory), an EHR Data Quality Specialist and a Health Information Management Consultant.

Organizational Development

The Centre has experienced significant employee growth within the last several years as it builds the capacity to move forward with development and implementation of the electronic health record. In addition, as the interest for health research and electronic health record evaluation continues to grow, the requirement to develop and retain high quality research skills is critical. While such growth does pose challenges for an organization, it also creates a wealth of opportunities and positive results. A few highlights achieved in 2009-2010 include:

- The Centre relocated its head office to 70 O'Leary Avenue in April 2009 to accommodate its increased employee base. This location allows all St. John's-based employees to work out of one office location and facilitates a cohesive work environment.
- The Centre focused on strengthening an internal culture focused on the organization's core values. This included hiring a Director of Communications and restructuring the communications team to enable a stronger focus on both internal and external communications.
- 43 new hires were integrated into the organization using a strong orientation and staff development approach.
- Staff development resources were invested to ensure key skill sets were being acquired in strategic areas of the organization. These investments often reduced the need for ongoing consultant resources and brought necessary skill sets in-house.

Working to Ensure the Protection of Personal Health Information

The Centre is involved in the development of pan-Canadian privacy and security standards. The Centre continued to develop a safe and secure electronic health record for the Province and supported the Department's strategic mandate of improving accountability and stability in the health care system throughout 2009-2010. Specifically, the privacy work conducted at the

Centre contributed to the Department's strategic direction of improved accountability and stability in the delivery of health and community services within available resources.

Some of the Centre's key achievements in relation to the protection of personal health information include:

Online *Personal Health Information Act (PHIA)* Training

The *Personal Health Information Act (PHIA)* was passed during the spring 2008 sitting of the Newfoundland and Labrador House of Assembly. PHIA established rules related to the collection, use and disclosure of personal health information, as well as an individual's right of access and to request correction of his or her own health information. PHIA applies to both public and private custodians of personal health information.

The Centre was engaged by the Department in the spring of 2009 to lead development of an online training system to support the implementation of PHIA. The course will help PHIA custodians train their staff and consultants on their responsibilities under the new Act. It is anticipated that as many as 20,000 people will take this course in the first year alone.

An RFP was issued in the summer of 2009 and a private sector partner was selected in the fall of 2009. In conjunction with the PHIA Education/Materials Working Group and the private sector partner, significant advancements have been made on the development of the course. User acceptance testing was completed on the Learning Management System in the first quarter of 2010. Scripting of the course content is ongoing and will be completed in May 2010. A pilot of the course is planned for June 2010 with implementation scheduled to follow in July 2010.

Practical Strategies for Data De-identification

The Centre participated in a Canadian Institute for Health Information working group created to provide guidance of de-identification of health information. The working group is striving to offer practical guidance on how to embed de-identification into secondary use processes, which will be of benefit to all custodians of personal health information in the province.

Privacy Considerations for Genetic Research

Over the past year, the Centre has been involved with a joint research initiative with MUN Medicine and the MUN Population Therapeutics Research Group, which has investigated public attitudes towards the use of genetic information in research. The research, sponsored by the Office of the Privacy Commissioner of Canada, revealed findings about preferences for consenting to research and public concerns over research into illnesses that are often stigmatized. The preliminary report will be available on the Office of the Privacy Commissioner of Canada website later in 2010.

Report on Performance 2009-2010

Since the Centre was created in 1996, there has been a significant increase in the use of health information systems to assist in providing quality care and services for the people of Newfoundland and Labrador. Two core systems remain the primary health information systems in the province; the provincial Client and Referral Management System used in the community setting and Meditech used in the institutional and long-term care settings.

The Centre's mission of implementing priority elements of the electronic health record will have a significant impact on health informatics in the province. A priority project is one in which there is approval by all funders, the funding and budget are in place, the users of the information system support the implementation, it is a ministerial priority, it is logical in sequential development, the level of risk is manageable, it is sustainable and it supports quality health care and patient safety.

The Centre's mission contributes to several of the Department's strategic directions. Specifically, the development of the electronic health record contributes to the improvement of accountability and stability in the delivery of health and community services within available resources. Once implemented, the electronic health record will provide more accurate, reliable and comparable data for policy making, program monitoring and resource allocation. The mission will also contribute to strengthened public health capacity, specifically in the area of surveillance of communicable disease through the development of a public health surveillance system.

As more components of the provincial electronic health record are developed and implemented, one anticipated benefit is a reduction in the number of repeated procedures and tests, which may lead to improved accessibility to priority services for individuals. The provincial Chronic Disease Management Telehealth program also contributes to improved accessibility by expanding the services available to individuals in their own community or in near-by centres.

The Centre's contribution to improving population health is achieved through the development of the electronic health record and through the work conducted in its Research and Evaluation Department. This research and evaluation work provides valuable information for use in health policy and decision-making within the health system.

In accordance with the legislative requirements of the *Transparency and Accountability Act*, the Board of Directors is accountable for developing and implementing the priority components of the Newfoundland and Labrador electronic health record by 2011, through achieving the goals and objectives set out in its Business Plan for the period 2008 to 2011. The Business Plan is available on the Centre's website, www.nlchi.nl.ca, or by calling 709-752-6000. The Centre's full mandate is contained in the Business Plan.

Mission

As noted on page three of this report, the Centre's mission involves the development of a confidential and secure Health Information Network that will serve as the foundation for the provincial electronic health record, along with improving the quality of data and expanding research capacity at the Centre.

Note: The following tables indicate the initiatives planned for 2008-2011 and provide an update on the 2009-2010 progress on those initiatives.

Measure 1

Designed, developed and implemented priority elements of the electronic health record.

Planned for 2008-2011	Actual for 2009-2010
<p>Implemented the Pharmacy Network:</p> <ul style="list-style-type: none"> All community pharmacies are connected. All hospital pharmacies are connected. E-prescribing functionality is available to authorized prescribers. 	<ul style="list-style-type: none"> The Pharmacy Network went live at the first retail community pharmacy reference site in November 2009. Following successful testing at that site, the second and third pharmacies were connected, enabling the electronic transfer of prescriptions. Implementation continues and full community retail pharmacy access is projected by the first quarter of 2011-2012. Phase II of the project to provide health care facilities with the ability to view patient medication profiles will be rolled-out in Q4 of 2011-2012.
<p>Implemented the funded components of a provincial Laboratory Information System:</p> <ul style="list-style-type: none"> Information from the Laboratory Information System is available to authorized users. 	<ul style="list-style-type: none"> Preparation of systems and design requirements for the provincial Laboratory Information System is underway. The solution RFP is targeted for release in fiscal 2010-2011. Key input is being provided by a Clinical Advisory Group. Subject to government approval, the project could move to the implementation phase in 2011.

Planned for 2008-2011	Actual for 2009-2010
<p>Incorporated the necessary functionality in the Health Information Access Layer to allow approved provincial health information systems to become part of the electronic health record.</p>	<ul style="list-style-type: none"> • The first community pharmacy successfully connected to the Pharmacy Network component of the EHR using the functionality developed and tested in the Health Information Access Layer (HIAL). • As additional phases of the Pharmacy Network project (initial use of the HIAL) are implemented, care providers in other care settings will have access to patient information. Access to patient information residing in the EHR is made possible via the HIAL.
<p>Expanded use of electronic medical records (EMRs) by physicians in accordance with an approved strategic plan:</p> <ul style="list-style-type: none"> • An EMR governance model is adopted. • Physicians' offices employ an EMR. 	<ul style="list-style-type: none"> • Provincial funding was not available for moving forward with expanded use of EMRs by physicians, in part due to the national freeze on EMR funding. • The Centre is currently continuing with background work to position the Province for moving forward with an EMR program should it wish to do so in the future.
<p>Implemented the funded components of the provincial Telehealth strategy for delivery of services and management of chronic diseases in conjunction with the priorities of the Regional Health Authorities.</p>	<ul style="list-style-type: none"> • The Centre successfully implemented the Telehealth project. Telehealth services delivered by this project became operational in 2009-2010. • A Telehealth Benefits Evaluation was completed in 2009-2010 and a copy of the final report is available on the Centre's website at www.nlchi.nl.ca, in the section on Telehealth.

Measure 2

Supported the Department of Health and Community Services and the Regional Health Authorities in the planning, development and implementation or upgrading of provincial health information systems.

Planned for 2008-2011	Actual for 2009-2010
<p>Participated in and supported provincial and Regional Health Authority committees related to all provincial health information systems.</p>	<ul style="list-style-type: none"> • The Centre participated in and continues to participate in and support provincial and RHA committees related to all provincial health information systems. • An EHR oversight structure was created designed to engage CEOs, VPs and Directors within the RHAs, facilitating the collaborative approach. VPs meet monthly and other groups as required.
<p>Participated in and supported provincial and Regional Health Authority discussions on the future directions of the Client and Referral Management System.</p>	<p>The Centre participated in and continues to participate in and support provincial and RHA discussions on the future directions of the Client and Referral Management System.</p>
<p>Participated in and supported provincial discussion on the future directions of Panorama, the public health surveillance system.</p>	<p>The Centre participated in and supported provincial discussions regarding Panorama. A review identified issues with moving forward with Panorama. A decision was made to delay the project until the issues were resolved at the national level.</p>
<p>Undertook communications activities to promote the role of the Centre for Health Information in supporting provincial and regional health information systems development and operations activities.</p>	<p>The Centre undertook communications activities to promote its role, including:</p> <ul style="list-style-type: none"> • DQS employees delivered key messages about the role of the Centre to an extensive network of provincial committee members. • Regional visits were also made for consultative and educational purposes. • The Centre's R&E department distributed Fast Facts bulletins, including one on the EHR. • The DQS division distributed DQS Fact Sheets. • Maintained a public website with access to reports, publications and project information.

Planned for 2008-2011	Actual for 2009-2010
	<ul style="list-style-type: none"> • The Centre's Board Chair and the CEO began meeting with RHAs to further promote the role of the Centre in supporting provincial and regional health information systems development and operations activities. • An EHR oversight structure was created.

Measure 3

Designed and implemented a Data Quality Framework that supports the continuous improvement in the data quality of provincial health information databases.

Planned for 2008-2011	Actual for 2009-2010
<p>Developed a corporate Data Quality Framework used to evaluate and assess the quality of health information databases.</p>	<ul style="list-style-type: none"> • The Centre developed draft assessment tools for the NLCHI Live Birth and Mortality systems, as well as the Clinical Database Management System. Reference implementations are planned for 2010-2011. • The Centre completed Data Quality Reference Guides for users of data from the NLCHI Live Birth and Mortality systems, as well as the Clinical Database Management System. • The Centre completed Master Methodology documentation for these systems, which will be primary reference manuals for internal staff.
<p>Determined the process to adapt the corporate Data Quality Framework to other databases.</p>	<p>An EHR Data Quality specialist was hired in late 2009-2010, resulting in a deferral of this work until 2010-2011 for the EHR Registries.</p>

Measure 4

Expanded health research capacity

Planned for 2008-2011	Actual for 2009-2010
Increased number of full-time research staff.	Four new employees were hired in the Research and Evaluation Department in 2009-2010.
Increased number of staff who have PhDs.	One staff member received a PhD from Memorial University in 2009-2010, bringing the total to two. Ten additional PhDs are in progress.
Completed and implemented a research plan that identifies research themes, priorities, partners and resources.	A strategic plan for Research and Evaluation was completed following extensive consultations with 50 external and internal stakeholders. The plan will be reviewed by the Board of Directors in June 2010 and implementation will follow.
Identified applied and other health research projects.	The Centre identified and/or continued to work on 22 research projects. In addition, eight reports and Fast Facts were completed.
Completed research projects.	During 2009-2010, the Centre completed 19 research projects.
Reported annually on the results of the research plan.	Updates on the research plan will be reported annually through the Centre's annual business report and throughout the year to the Centre's Board of Directors.

The following section of the annual report is part of the 2008-2011 planning cycle. There were five strategic issues identified as priorities in the Business Plan for 2008-2011, with corresponding goals, objectives and measures. The following details the 2009-2010 progress and plans for 2010-2011 related to these five strategic issues.

Issue 1: Provincial Health Information Systems

Provincial health information systems are an essential tool for supporting and improving accountability in the health system through improved quality health information available for health care, system and program planning and health research.

The Centre's work in developing provincial health information systems, such as the electronic health record, contributes to the Department's strategic directions of *improved accessibility to priority services* and *improved accountability and stability in delivery of health and community services within available resources*. Upon implementation, the electronic health record will help identify and monitor outcomes for select programs, support alignment of regional services and improve efficiency and effectiveness of the health care system.

Two core systems remain the primary health information systems in the province; the provincial Client and Referral Management System used in the community setting and the Meditech system used in the institutional and long-term care settings. Current and future provincial health information systems as part of the electronic health record include registries, a drug information system, a diagnostic imaging system, a laboratory information system, telehealth, public health surveillance and electronic medical records. Once implemented, the electronic health record will provide more accurate, reliable and comparable data for policy making, program monitoring and resource allocation.

Goal 2008-2011

By March 31, 2011, the Centre for Health Information will have **implemented the priority elements of the provincial health information systems** with a focus on the Newfoundland and Labrador electronic health record priorities.

Measure 2008-2011

Implemented the priority components of the electronic health record and supported the planning and implementation of other provincial health information systems.

Indicators 2008-2011

- Approved, and updated as required, a strategic plan for provincial health information system development and operations management.
- Transitioned the interoperable Newfoundland and Labrador electronic health record to an operational state.
- Ensured benefits evaluations reports are prepared for each provincial health information system development.

Year Two Objective

By March 31, 2010, the Centre for Health Information has applied and reported on the Electronic Health Record Evaluation Framework on identified electronic health record systems implementation and other health information systems initiatives.

Measure 2009-2010

Reported on the identified electronic health record and other health information systems using the Electronic Health Record Evaluation Framework.

Planned for 2009-2010	Actual for 2009-2010
<p>Developed and received approval from the Board of Directors for the strategic plan for health information systems.</p>	<p>A final draft of the strategic plan for health information systems was developed. The Department asked the Centre to expand scope of project. A new date of June 2010 has been set to accommodate the Department's request. Approval of the plan is expected to follow.</p>
<p>Consulted with Regional Health Authorities, the Department of Health and Community Services and other key stakeholders on their readiness for further implementation of the priority components of the electronic health record and submitted semi-annual reports to the Board of Directors.</p>	<p>Consulted with Regional Health Authorities, the Department and other key stakeholders on their readiness for further implementation of the priority components of the electronic health record. This consultation included:</p> <ul style="list-style-type: none"> • Creation of a formalized EHR oversight group with representation and participation from the RHAs, the Department and the Centre. • Regular meetings between CEOs and directors to discuss implementation of the EHR. VPs across the province also meet monthly. • Workshops with senior regional management and directors with regional information management and technology responsibility to validate information compiled through a survey process and to provide input into operating and governance models. <p>Semi-annual reports on these consultation initiatives were provided to Board of Directors.</p>

Planned for 2009-2010	Actual for 2009-2010
Submitted quarterly reports to the Board of Directors on user adoption of implemented components of the electronic health record.	The Centre submitted quarterly reports for the Board of Directors on the status of all provincial health information systems, including reports on user adoption of implemented components.
Submitted semi-annual reports to the Board of Directors on the benefits evaluation of the implemented components of the electronic health record and other designated provincial health information systems.	The Centre submitted semi-annual reports to the Board of Directors on benefits evaluation. The Telehealth Benefits Evaluation was completed in 2009-2010. A copy of the final report is available on the Centre's website at www.nlchi.nl.ca , in the section on Telehealth.

Year Three Objective	Measure	Indicators
By March 31, 2011, the Centre for Health Information has an interoperable electronic health record.	Successful development of the funded components of an interoperable electronic health record.	<ul style="list-style-type: none"> • Successfully implemented funded components of Client Registry and Provider Registry as part of the Pharmacy Network project and this infrastructure is now interoperable. • Provided capability for 80 per cent of community pharmacies to connect to the Pharmacy Network. • Completed the RFP process for the iEHR/Labs project.

Issue 2: Data Quality

As the Centre becomes the custodian of more personal health information, its role in supporting evidence-based decision-making through assessing data quality becomes more important. Data quality is defined as having five attributes: accuracy, timeliness, usefulness, comparability and relevance.

Data quality is critical to the attainment of the Centre's vision and supports the Department's strategic direction of *improved population health*. It is intricately linked to the degree of use of the data holdings of the Centre, the confidence of users in the data and the accuracy, validity and reliability of the outcomes of decisions made based upon data provided by the Centre. The corporate Data Quality Framework will provide a coordinated and consistent method to evaluate the data holdings of the Centre within the overarching continuous quality improvement process.

Many processes are already in place within the Centre and the provincial health system that supports quality within key health information systems. To build on this, it is necessary to increase the health systems long-term capacity and culture for data quality by working with partners to share findings, identify data quality issues and information gaps and address these issues at all levels. Partnerships with stakeholders will support adoption of the framework to achieve optimal quality of data holdings of the Centre.

Goal 2008-2011	By March 31, 2011 the Centre for Health Information will have developed and implemented a corporate data quality program for key databases of which it is the custodian.
Measure 2008-2011	Implemented a corporate data quality framework to assess the quality of databases at the Centre for Health Information's databases.
Indicators 2008-2011	<ul style="list-style-type: none"> • Developed a data quality framework. • Reported regularly to the Board of Directors on the quality of data in the Centre for Health Information's databases.

Year Two Objective

By March 31, 2010, the Centre for Health Information has identified the components of a data quality framework, the indicators and the measures for each database covered by the framework.

Measure 2009-2010

Identified the components of a data quality framework and the indicators and measures that for each database covered by the framework.

Planned for 2009-2010	Actual for 2009-2010
Developed the conceptual model of a Data Quality Framework.	The Centre developed the conceptual model of a Data Quality Framework. Development of the Framework involved defining data quality, outlining a data quality strategy and identifying and defining the components of the Framework. This information provides context and implementation tools to enable the Centre to provide the highest quality of data to its stakeholders.
Identified the components of a Data Quality Framework.	<p>The Centre identified components of a Data Quality Framework, which are:</p> <ul style="list-style-type: none"> • Quality Work Cycle • Data Quality Assessment • Data Quality Documentation <p>Each of these components were identified and thoroughly defined within the Data Quality Framework. Collectively, these components provide a systematic method to assess, improve and document the quality of data within the Centre's data holdings.</p>
Submitted the indicators and measures for the identified databases.	<ul style="list-style-type: none"> • The Centre submitted the indicators and measures for the identified databases to the Senior Director of CIP for presentation to the Executive Committee and Board of Directors as necessary. • Data Quality Assessment tools were drafted for the NLCHI Live Birth and Mortality Systems, as well as the Clinical Database Management System.

Year Three Objective	Measure	Indicators
By March 31, 2011, the Centre for Health Information has implemented the Data Quality Framework.	Implemented the Data Quality Framework.	<ul style="list-style-type: none"> • Completed implementation of the Data Quality Assessment Tool on the Clinical Database Management System. • Completed development of the Data Quality Assessment Tool for the Client and Provider Registries.

Issue 3: Health Research Plan

The Centre plays an increasingly important role in applied health research, which contributes to evidenced-based planning in the health system. This work supports the Department's strategic directions of *improved population health and strengthened public health capacity*. To continue its role, the Centre needs to implement a strategy, particularly in light of new data available from the electronic health record.

Opportunities for undertaking innovative population/applied health research through secondary uses of administrative health data has grown significantly over the last five to seven years. External research revenues at the Centre, excluding provincial government operating grants, were \$1.4 million in 2009-2010. This research capacity has provided significant value to both the provincial and federal governments.

There are emerging trends in health research that are expected to grow over the next few years. The most important of these is genetics research, particularly following the implementation of priority components of the electronic health record in the province. Newfoundland and Labrador will have one of the first fully functional, population-based electronic health records encompassing a founder population in the world. To realize this opportunity, the Centre will need to establish relationships with both the private sector and academia in providing applied health/population research and database management services in support of pharmacogenetics and pharmacoepidemiology.

Goal 2008-2011

By March 31, 2011 the Centre for Health Information will have **developed, approved and implemented a comprehensive health research plan** that supports the use of quality information that can lead to improved health and health policy.

Measure 2008-2011

A comprehensive health research plan is implemented by the Centre for Health Information's Board of Directors.

Indicators 2008-2011

- Developed a research plan with input from key stakeholders.
- Approved research plan.
- Implemented research activities in line with the plan.

Year Two Objective

By March 31, 2010, the Centre for Health Information has approved a health research plan.

Measure 2009-2010

A health research plan has been approved by the Board of Directors.

Planned for 2009-2010	Actual for 2009-2010
Developed a health research plan that incorporated broad stakeholder feedback.	A strategic plan for Research and Evaluation was completed following extensive consultations with 50 external and internal stakeholders. The plan will be reviewed by the Board of Directors in June 2010.
Reviewed existing legislation and regulations to determine authority for the Centre for Health Information to expand its research capacity as identified in the preliminary health research plan.	The Centre completed a review of the current legislative framework and determined it had authority to expand its research capacity as required.
Conducted an environmental scan of other health research activities in Newfoundland and Labrador.	An environmental scan of other health research activities in Newfoundland and Labrador was conducted during the development of the research plan. Fifty in-depth interviews were conducted. It was also determined additional research of this nature was being undertaken by the DHCS.
Approved the health research plan for activities at the Centre for Health Information.	Due to competing priorities, the health research plan was not approved by March 31, 2010. The Board of Directors will review the health research plan in June 2010.
Identified priority elements of the research plan for implementation by 2011.	<p>Priority elements of the research plan were identified for implementation by 2011, which include:</p> <ul style="list-style-type: none"> • Meeting government and RHAs information needs by providing applied health research, evaluation and information services to support programs and development of evidence-based policy. • Supporting private sector and academic research as resources allow.

Year Three Objective	Measure	Indicators
By March 31, 2011, the Centre for Health Information has implemented approved elements of the health research plan.	Implemented approved elements of the health research plan.	<ul style="list-style-type: none"> • Established a process with the DHCS to determine the Department's health research priorities. • Implemented the health research plan.

Issue 4: Organizational Planning

The Board recognizes that strong planning and monitoring is necessary to achieve its mission statement.

The Centre has undergone significant growth over the past three years. Total revenues have increased from \$16,632,930 in 2009 to \$20,318,238 in 2010 and the number of employees has grown from 99 to 133 in that same time period. The Centre anticipates another year or two of change before it stabilizes. The organization must put in place strategies and structures to monitor its effectiveness.

Goal 2008-2011

By March 31, 2011, the Centre for Health Information will have **reported on the effectiveness of its organization** that includes a financial plan, a human resources plan, and an operational plan that supports the management of provincial health information systems operations under its jurisdiction.

Measure 2008-2011

Used an appropriate reporting mechanism.

Indicators 2008-2011

- Determined the appropriate reporting mechanism.
- Approved a three-year financial plan.
- Approved a three-year human resource plan.
- Approved the electronic health record operational plan.
- Approved a revenue-generating strategy for the Centre for Health Information.

Year Two Objective

By March 31, 2010, the Centre for Health Information has implemented the reporting mechanism format for all its operations and approved a business development plan for revenue generation.

Measure 2009-2010

Implemented the reporting mechanism format for all its operations and approved a business development plan for revenue generation.

Planned for 2009-2010

Developed a reporting mechanism, such as a balanced scorecard.

Actual for 2009-2010

The Centre developed a reporting mechanism via implementation of an organizational strategic planning process to define key goals and objectives for establishing operational priorities at all levels, similar to a balanced scorecard process. The plan was tied to the performance review process.

Planned for 2009-2010	Actual for 2009-2010
Continued to finalize health information system operations, financial and human resources plans.	As per the Centre's approved 2008-2011 business plan, the health information systems operation, financial and human resources plans are to be finalized by March 31, 2011. The Centre's work in 2009-2010 was continuing to finalize these plans as part of that process. Current status for each plan is as follows: <ul style="list-style-type: none"> • The EHR Operational Plan 2010-2015 will be completed by mid-June 2010. • The human resource plan developed in 2007 continues to evolve as the organizational operational needs expand. A revision of that plan is scheduled for 2010-2011. • A three-year financial plan has been completed and submitted to the Department.
Approved a business development plan for revenue generation.	Due to competing priorities, a business development plan for revenue generation was not approved. As part of the Research and Evaluation strategic plan, opportunities for revenue generation will be explored in the next two years.
Reported quarterly to the Board of Directors on: <ul style="list-style-type: none"> • Operations of the electronic health record. • Research activities. • Standards development and implementation. • Data Quality Framework implementation. • Revenue generation. 	The Centre reported quarterly to the Board of Directors on: <ul style="list-style-type: none"> • Operations of the electronic health record. • Research activities. • Standards development and implementation. • Data Quality Framework implementation. • Revenue generation.
Submitted to the Board of Directors semi-annual reports on: <ul style="list-style-type: none"> • Three-year financial plan. • Human resource plan. • Organizational strategic plan. • Communications plan. 	The Centre submitted semi-annual reports to the Board of Directors on: <ul style="list-style-type: none"> • Three-year financial plan. • Human resource plan. • Organizational strategic plan. • Communications plan.

Planned for 2009-2010	Actual for 2009-2010
Submitted an annual report to the Minister of Health and Community Services.	The Centre submitted an annual report to the Minister of Health and Community Services.

Year Three Objective	Measure	Indicators
By March 31, 2011, the Centre for Health Information has implemented and reported on the effectiveness of its organization plan.	Implemented and reported on the effectiveness of the organizational plan.	<ul style="list-style-type: none"> • Submitted an annual report to the Minister of Health and Community Services. • Further explored revenue generating opportunities. • Approved a three-year human resource plan in line with the Centre's EHR operations and strategic plans. • Completed the disaster recovery/business continuity plan.

Issue 5: Communications

The Newfoundland and Labrador Centre for Health Information provides significant health, economic and financial benefits to the province and support to health professionals, which the Centre needs to communicate to its clients and stakeholders. The Centre's accountability to the public includes making reasonable efforts to increase awareness of the value of its work.

Goal 2008-2011	By March 31, 2011, the Centre for Health Information will be recognized among stakeholders, researchers and the public for its role in promoting and using quality health information.
Measure 2008-2011	An increased awareness by stakeholders and the public of the Centre's role in providing quality health information.
Indicators 2008-2011	<ul style="list-style-type: none"> • Annual monitoring of stakeholders' awareness and understanding of the Centre for Health Information's mission and activities. • Appropriate changes made to the Centre's strategies and plan based on this monitoring.

Year Two Objective

By March 31, 2010, the Centre for Health Information has executed key strategic communications initiatives with respect to the data quality framework and health research plans.

Measure 2009-2010

Executed key communications strategic communications initiatives for the data quality framework and the health research plan.

Planned for 2009-2010	Actual for 2009-2010
Developed and implemented a communications plan for the approved Data Quality Framework.	<ul style="list-style-type: none"> • A communications plan for the Data Quality Framework is in development. Preliminary consultation and discussions for the communications plans have been conducted and priorities have been identified. • Due to competing priorities, the plan was not implemented by March 31, 2010. The plan will be finalized in early 2010-2011.
Developed and implemented a communications plan for the health research activities of the Centre for Health Information.	<ul style="list-style-type: none"> • Due to competing priorities, the communications plan for health research activities was not implemented by March 31, 2010. • Consultation to support the health research development of the communications plan was undertaken in

Planned for 2009-2010	Actual for 2009-2010
	2009-2010, including stakeholder engagement and 50 in-depth interviews. Work on the communications plan will be undertaken in 2010-2011.
Reported on the changes in stakeholder awareness of the Centre for Health Information.	The Centre did not conduct a stakeholder survey during the 2009-2010 fiscal year. The Centre strategically decided to postpone the survey until July 2010 due the opportunity to maximize the investment. The July 2010 timeframe aligns with completion of the planned Pharmacy Network public awareness campaign and enables evaluation of that initiative in addition to general changes in stakeholder awareness about the Centre.

Discussion of Results 2009-2010

As per the 2009-2010 objective and indicators noted, the Centre worked toward execution of strategic communications initiatives related to the Data Quality Framework and health research plans. While these objectives were not achieved in full due to timing and competing communications priorities, work was undertaken to advance both plans. Competing priorities included Pharmacy Network communications necessary for alignment with provincial deployment, as well as Telehealth communications initiatives. The stakeholder awareness assessment was also impacted by timing as completing the survey prior to March 31 was not the right time strategically for the organization.

Year Three Objective	Measure	Indicators
By March 31, 2011, the Centre for Health Information reported on the effectiveness of its role in the provincial health information systems development and operations, data quality and health research through its communications plan and activities.	Reported on the effectiveness of Centre's role in the provincial health information systems development and operations, data quality and health research through communications plan and activities.	<ul style="list-style-type: none"> • Conducted and reported results of a survey of stakeholder awareness of the Centre and its role. • Reported on effectiveness of an awareness strategy to increase public understanding and demand for e-Health information systems as part of the Pharmacy Network. • Developed and implemented a communications plan for the approved Data Quality Framework.

Year Three Objective	Measure	Indicators
		<ul style="list-style-type: none">• Developed and implemented a communications plan for the health research activities of the Centre for Health Information.• Updated and implemented an internal communications plan.

Opportunities and Challenges

The next few years will present both opportunities and challenges for the Centre as it continues to provide quality information to health professionals, the public, researchers and health system decision-makers.

Opportunities

- The Centre will continue to explore and leverage opportunities for external funding sources, as well as research opportunities with external partners including Canada Health Infoway, the Public Health Agency of Canada and in the private sector where appropriate.
- The Centre sees an opportunity to expand support for health policy development through its work in health research and quality data, particularly with the information that will be collected through the electronic health record.
- The growing employee base within the Centre provides expertise across various fields from research to health informatics to project management. This expertise will enable the Centre to further support the Department's strategic objectives, as well as position the Centre to remain a national leader in electronic health record development and implementation.
- Implementation of the electronic health record and its various components presents the opportunity to support enhanced health care delivery, improved patient care and patient safety and stronger accountability within the health care system.

Challenges

- The Centre has a long-term mandate in developing and implementing the provincial electronic health record and has planned its resources and organizational capacity accordingly to fulfill this mandate. The Centre is also asked by the Department to undertake additional requests on occasion. While it is a positive reflection on the organization that the Centre has the skill sets required to support other health system and policy initiatives, managing the expanding role of the Centre challenges its organizational capacity. The Centre constantly strives to prioritize initiatives, projects and requests to ensure the security and integrity of all initiatives is maintained.
- The Centre added 43 new employees in 2009-2010 and anticipates additional growth in the coming years. Managing this growth while maintaining a privacy and security-oriented internal culture, and ensuring new employees are successfully integrated into this culture, is an ongoing challenge.
- The complex and technical nature of electronic health record development presents ongoing challenges. Combined with increasing awareness and expectations of various stakeholders, the Centre will be challenged to manage those expectations with a realistic approach to development and implementation. Furthermore, there will continually be factors beyond the Centre's control that will impact upon expectations and the Centre's ability to meet those expectations.
- The Centre remains a trusted and independent third-party for data management and linkage of information by its stakeholders. Maintaining that reputation of secure and confidential information management is paramount to the Centre's future activities in these areas.

Financial Statements

Provincial Plan revenues of \$13.1M have increased in 2010 over the prior year, mainly due to funding received for the electronic health record initiative. On the project side, additional project milestones were achieved this year leading to higher revenues and capital assets funding from Canada Health Infoway and Government project grants. Government project grant revenue was comprised of provincial funding towards Telehealth, Diagnostic Imaging/Picture Archiving and Communications Systems and other initiatives.

Total expenses were higher for the year as the Pharmacy Network reached the implementation phase, electronic health record work proceeded and previously deferred project-related expenses were recognized with the completion of milestones.

The Audited Financial Statements, approved by the Centre's Board of Directors, are located in the next section of this report.



Financial Statements

Newfoundland and Labrador Centre for Health
Information

March 31, 2010

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Auditors' report

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To the Directors of the

Newfoundland and Labrador Centre for Health Information

We have audited the statement of financial position of the Newfoundland and Labrador Centre for Health Information at March 31, 2010 and the statements of operations, changes in net assets and cash flows for the year then ended. These financial statements are the responsibility of the Centre's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Newfoundland and Labrador Centre for Health Information as at March 31, 2010 and the results of its operations and its cash flow for the year then ended in accordance with Canadian generally accepted accounting principles.



St. John's, Newfoundland and Labrador

May 28, 2010

Chartered Accountants

Newfoundland and Labrador Centre for Health Information

Statements of Operations and Changes in Net Assets (Note 11)

Year Ended March 31	2010	2009
Revenue		
Government operating grants	\$ 13,137,780	\$ 7,164,089
Canada Health Infoway	2,163,586	5,660,958
Research funding	970,075	1,109,024
Government project grants	3,151,482	2,465,394
Amortization of deferred capital contributions	874,055	88,293
Interest income	21,260	145,172
	<u>20,318,238</u>	<u>16,632,930</u>
Expenditure		
Advertising	23,979	25,096
Data communications	708,707	936,538
Depreciation	1,347,185	207,453
Insurance	42,508	32,464
Minor equipment	1,575,464	61,404
Miscellaneous	9,295	21,098
Office supplies	297,093	288,252
Picture Archiving and Communication System Regional Integrated Health Authority reimbursements	-	1,219,684
Professional fees	72,639	104,415
Project consulting fees	4,023,438	5,179,589
Rent	911,744	291,904
Salaries and benefits	8,985,562	6,275,767
Software maintenance	1,883,629	1,165,661
Telephone	159,766	114,440
Training	161,017	174,834
Travel	230,667	311,703
	<u>20,432,693</u>	<u>16,410,302</u>
Excess of (expenditure over revenue) revenue over expenditure	\$ <u>(114,455)</u>	\$ <u>222,628</u>
Net assets, beginning of year		
	\$ 1,145,171	\$ 922,543
Excess of (expenditure over revenue) revenue over expenditure		
	<u>(114,455)</u>	<u>222,628</u>
Net assets, end of year		
	\$ <u>1,030,716</u>	\$ <u>1,145,171</u>

See accompanying notes to the financial statements.

Newfoundland and Labrador Centre for
Health Information
Statement of Financial Position

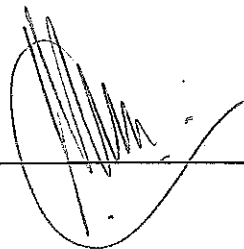
March 31	2010	2009
Assets		
Current		
Cash and cash equivalents	\$ 816,558	\$ 4,457,193
Receivables (Note 5)	7,049,484	7,383,936
Prepays	1,132,323	821,544
Deferred project costs	<u>4,610,316</u>	<u>2,964,562</u>
	13,608,681	15,627,235
Property and equipment (Note 6)	<u>17,168,205</u>	<u>14,419,239</u>
	<u>\$ 30,776,886</u>	<u>\$ 30,046,474</u>
Liabilities		
Current		
Payables and accruals (Note 7)	\$ 5,380,319	\$ 4,715,670
Deferred revenue	<u>9,833,950</u>	<u>14,298,576</u>
	15,214,269	19,014,246
Deferred capital contributions (Note 8)	13,719,541	9,306,981
Accrued severance pay	<u>812,360</u>	<u>580,076</u>
	29,746,170	28,901,303
Net Assets		
Net assets	<u>1,030,716</u>	<u>1,145,171</u>
	<u>\$ 30,776,886</u>	<u>\$ 30,046,474</u>

Commitments (Note 10)

On behalf of the Board



Director



Director

See accompanying notes to the financial statements.

Newfoundland and Labrador Centre for Health Information

Statement of Cash Flows

Year Ended March 31 2010 2009

(Decrease) increase in cash and cash equivalents		
Operating		
Excess of (expenditure over revenue)		
revenue over expenditure	\$ (114,455)	\$ 222,628
Items not requiring a cash outlay		
Depreciation	1,347,185	207,453
Amortization of deferred capital contributions	(874,055)	(88,293)
Increase in severance pay accrual	<u>232,284</u>	<u>159,165</u>
	590,959	500,953
Change in non-cash operating		
working capital (Note 9)	<u>(5,422,058)</u>	<u>6,062,940</u>
	<u>(4,831,099)</u>	<u>6,563,893</u>
Financing		
Capital contributions	<u>5,286,614</u>	<u>1,721,948</u>
Investing		
Purchase of capital assets	(4,103,150)	(6,007,045)
Proceeds on sale of capital assets	<u>7,000</u>	<u>-</u>
	<u>(4,096,150)</u>	<u>(6,007,045)</u>
(Decrease) increase in cash and cash equivalents	(3,640,635)	2,278,796
Cash and cash equivalents		
Beginning of year	<u>4,457,193</u>	<u>2,178,397</u>
End of year	<u>\$ 816,558</u>	<u>\$ 4,457,193</u>

See accompanying notes to the financial statements.

Newfoundland and Labrador Centre for Health Information

Notes to the Financial Statements

March 31, 2010

1. Nature of operations

The Newfoundland and Labrador Centre for Health Information (the Centre) was established by the Government of Newfoundland and Labrador in 1996 following the recommendation of the Health System Information Task Force (1995). Through the support of the provincial government and Canada Health Infoway Inc., the Centre has been recognized for its contribution to the national agenda for development of the Electronic Health Record with the first provincial client registry designed and implemented for the Electronic Health Record. The Centre is also involved with data standards development and dissemination, applied health research and the evaluation of health information systems.

The Newfoundland and Labrador Centre for Health Information Act was proclaimed on April 27, 2007, thereby establishing the Centre as a Corporation without share capital under the Corporations Act. The Centre now acts as an agent of the Crown.

2. Summary of significant accounting policies

These financial statements have been prepared within the framework of Canadian generally accepted accounting principles, the more significant of which are as follows:

Basis of accounting

These financial statements include only the assets, liabilities, revenues and expenditures relating to the operations carried on under the name of Newfoundland and Labrador Centre for Health Information.

Use of estimates

In preparing the Centre's financial statements in conformity with Canadian generally accepted accounting principles, management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and reported amounts of revenue and expenditure during the year. Actual results could differ from these estimates.

Cash and cash equivalents

Cash and cash equivalents include cash on hand, balances with banks, and short term deposits with original maturities of three months or less. Bank borrowings are considered to be financing activities.

Newfoundland and Labrador Centre for Health Information

Notes to the Financial Statements

March 31, 2010

2. Summary of significant accounting policies (cont'd.)

Revenue recognition

Government grants are recognized in the period in which entitlement arises. Revenue received for a future period is deferred until that future period and is reflected as deferred revenue. Revenue from research and other contracts is recognized as the related expenditures are incurred. Interest income is recognized as it is earned.

Depreciation

Rates and basis of depreciation applied to write off the cost of property and equipment over their estimated lives are as follows:

Computer equipment	20%, straight line
Office furniture	15%, straight line
Computer software	33%, straight line
Leasehold improvements	10%, straight line
Pharmacy Network	10%, straight line

Impairment of long-lived assets

Long-lived assets are reviewed for impairment upon the occurrence of events or changes in circumstances indicating that the value of the assets may not be recoverable, as measured by comparing their net book value to the estimated undiscounted cash flows generated by their use. Impaired assets are recorded at fair value, determined principally using discounted future cash flows expected from their use and eventual disposition.

Capital contributions

Capital contributions are recorded as deferred contributions and are amortized to income on a straight line basis using the same rates as the depreciation expense related to the capital assets purchased.

Deferred project costs

Project costs are deferred as incurred until the same period in which the related revenue can be recognized as per the terms of the project contract.

Newfoundland and Labrador Centre for Health Information

Notes to the Financial Statements

March 31, 2010

2. Summary of significant accounting policies (cont'd.)

Severance pay

Severance pay is accounted for on an accrual basis and is calculated based upon years of service and current salary levels. The right to be paid severance pay vests with employees with nine years of continual service, and accordingly no provision has been made in accounts for employees with less than nine years of continual service. Severance pay is payable when the employee ceases employment with the Centre.

Pension costs

Employees of the Centre are covered by the Public Service Pension Plan administered by the Government of Newfoundland and Labrador. Contributions to the plan are required from both the employees and the Centre. The annual contributions for pensions are recognized in the accounts on a current basis. Total pension expense for the Centre in the year was \$546,242 (2009 – \$362,750).

Financial instruments

The CICA Handbook Section 3855, "Financial Instruments - Recognition and Measurement", requires the Organization to revalue all of its financial assets and liabilities at fair value on the initial date of implementation.

This standard also requires the Centre to classify financial assets and liabilities according to their characteristics and management's choices and intentions related thereto for the purposes of ongoing measurements. Classification choices for financial assets include: a) held for trading - measured at fair value with changes in fair value recorded in excess of revenue over expenditure; b) held to maturity – recorded at amortized cost with gains and losses recognized in excess of revenue over expenditure in the period that the asset is no longer recognized or impaired; c) available-for-sale - measured at fair value with changes in fair value recognized in net assets for the current period until realized through disposal or impairment; and d) loans and receivables - recorded at amortized cost with gains and losses recognized in excess of revenue over expenditure in the period that the asset is no longer recognized or impaired.

Newfoundland and Labrador Centre for Health Information

Notes to the Financial Statements

March 31, 2010

2. Summary of significant accounting policies (cont'd.)

Classification choices for financial liabilities include: a) held for trading - measured at fair value with changes in fair value recorded in excess of revenue over expenditure and b) other – measured at amortized cost with gains and losses recognized in excess of revenue over expenditure in the period that the liability is no longer recognized.

Subsequent measurement for these assets and liabilities are based on either fair value or amortized cost using the effective interest method, depending upon their classification. Any financial asset or liability can be classified as held for trading as long as its fair value is reliably determinable.

In accordance with this standard, the Centre's financial assets and liabilities are generally classified and measured as follows:

Asset/Liability	Classification	Measurement
Cash and cash equivalents	Held for trading	Fair value
Receivables	Loans and receivables	Amortized cost
Payables and accruals	Other liabilities	Amortized cost

Other balance sheet accounts, such as prepaids, deferred project costs, property and equipment, deferred capital contributions and deferred revenue are not within the scope of these accounting standards as they are not financial instruments.

Embedded derivatives are required to be separated and measured at fair values if certain criteria are met. Under an election permitted by this standard, management reviewed contracts entered into or modified subsequent to April 1, 2007 and determined that the Centre does not currently have any significant embedded derivatives in its contracts that require separate accounting treatment.

The fair value of a financial instrument is the estimated amount that the Centre would receive or pay to terminate the instrument agreement at the reporting date. To estimate the fair value of each type of financial instrument various market value data and other valuation techniques were used as appropriate. The fair value of cash and cash equivalents approximated its carrying value.

Newfoundland and Labrador Centre for Health Information

Notes to the Financial Statements

March 31, 2010

3. Financial risk management

The Centre's policy for managing significant risks includes a comprehensive infrastructure of policies, procedures and oversight designed to reduce the risks identified to an appropriate threshold. The Board of Directors is provided with timely and relevant reports on the management of significant risks. Significant risks managed by the Centre include liquidity and credit risks.

Liquidity risk

Liquidity risk is the risk that the Centre will be unable to meet its contractual obligations and financial liabilities. The Centre manages liquidity risk by monitoring its cash flows and ensuring that it has sufficient cash available to meet its obligations and liabilities.

Credit risk

Credit risk is the risk of loss associated with a counterparty's inability to fulfill its payment obligations. The Centre's credit risk is attributable to receivables. Management believes that the credit risk concentration with respect to financial instruments included in receivables is remote.

4. Capital management

The capital structure of the Centre consists of net assets. The primary objective of the Centre's capital management is to ensure adequate funding for efficient operations.

The net assets are available for future operations and are preserved so the Centre can have financial flexibility in the future.

5. Receivables	<u>2010</u>	<u>2009</u>
Government of Newfoundland and Labrador	\$ 4,562,211	\$ 3,080,298
Canada Health Infoway	1,243,517	4,025,702
Harmonized sales tax	520,391	-
Other	<u>723,365</u>	<u>277,936</u>
	<u>\$ 7,049,484</u>	<u>\$ 7,383,936</u>

Newfoundland and Labrador Centre for Health Information

Notes to the Financial Statements

March 31, 2010

6. Property and equipment			<u>2010</u>	<u>2009</u>
	Cost	Accumulated Depreciation	Net Book Value	Net Book Value
Computer equipment	\$ 5,552,676	\$ 1,442,386	\$ 4,110,290	\$ 3,723,712
Office furniture	295,727	113,471	182,256	287,130
Computer software	2,531,927	1,788,553	743,374	313,743
Leasehold improvements	215,476	17,672	197,804	65,545
Pharmacy network	<u>12,438,979</u>	<u>504,498</u>	<u>11,934,481</u>	<u>10,029,109</u>
	<u>\$ 21,034,785</u>	<u>\$ 3,866,580</u>	<u>\$ 17,168,205</u>	<u>\$ 14,419,239</u>

During the year, the Centre purchased \$4,103,150 of capital assets. As of year end \$4,273,260 (2009-\$5,602,293) of unfunded additions remain from prior years. The majority of unfunded assets will be funded through claims once key project milestones have been reached.

During the year, the Centre acquired property and equipment totalling \$640,974 (2009 - \$6,378,511) which was not available for use during the year and was not depreciated.

7. Payables and accruals	<u>2010</u>	<u>2009</u>
Trade and sundry	\$ 4,415,461	\$ 4,085,279
Harmonized sales tax	-	58,153
Vacation and compensatory pay	<u>964,858</u>	<u>572,238</u>
	<u>\$ 5,380,319</u>	<u>\$ 4,715,670</u>

8. Deferred capital contributions	<u>2010</u>	<u>2009</u>
Opening balance	\$ 9,306,981	\$ 7,673,326
Capital contributions from Government	3,512,447	688,062
Capital contribution from Canada Health Infoway	1,774,168	1,033,886
Amortization of deferred capital contribution	<u>(874,055)</u>	<u>(88,293)</u>
	<u>\$ 13,719,541</u>	<u>\$ 9,306,981</u>

Newfoundland and Labrador Centre for Health Information

Notes to the Financial Statements

March 31, 2010

9. Supplemental cash flow information	<u>2010</u>	<u>2009</u>
Change in non-cash operating working capital		
Receivables	\$ 334,453	\$ (987,053)
Prepays	(310,779)	(777,546)
Deferred project costs	(1,645,754)	1,592,839
Payables and accruals	664,648	1,460,564
Deferred revenue	<u>(4,464,626)</u>	<u>4,774,136</u>
	<u>\$ (5,422,058)</u>	<u>\$ 6,062,940</u>

10. Commitments

Under the terms of several long-term contracts related to the rental of office space, equipment lease and software fees, the Centre is committed to make the approximate lease payments for the next five years as follows:

2011	\$ 4,591,423
2012	\$ 4,644,573
2013	\$ 4,429,427
2014	\$ 4,242,903
2015	\$ 3,118,846

11. Comparative figures

Certain of the comparative figures have been reclassified to conform to the financial statement presentation adopted for the current year.

Appendix A: List of Data Holdings (As of March 31, 2010)

Newfoundland and Labrador Electronic Health

Record

1. Client Registry
2. Provider Registry
3. Drug Information System (*Pharmacy Network*)
23. Suicide Database
24. Longitudinal Paediatric Research Database
25. Cancer and Chronic Disease Research Database

Administrative Data

4. Clinical Database Management System (CDMS)
5. Provider Listing (part of the Clinical Database Management System)
6. Community Table (part of the Clinical Database Management System)
7. NLCHI Live Birth System
8. NLCHI Stillbirth System
9. NLCHI Mortality System
10. Statistics Canada Annual Mortality Data Files
11. Statistics Canada Annual Stillbirth Data Files
12. Provincial Rehabilitation System
13. Telehealth Utilization Data

National Surveys

14. National Population Health Survey (NPHS)
15. Canadian Community Health Survey (CCHS)
16. National Longitudinal Survey of Children and Youth
17. Canadian Tobacco Use Monitoring Survey
18. Youth Smoking Survey

Population Data

19. Census
20. Population Estimates

Research Data

21. Newfoundland and Labrador Chronic Disease Surveillance System (NCDSS)
22. Cervical Cancer Surveillance System

MCP Data

26. MCP Provider Registry
27. MCP Beneficiary Registration Database
28. MCP Fee-For-Service Physician Claims Database

Research Studies or Special Projects:

29. First Nation Administrative Health Database (FNAHD)
30. ER/PR Patient Listing and Communications Database
31. NewLab Psoriasis Clinical Database
32. Total Joint Replacement Wait List Dataset
33. Childhood Leukemia Dataset
34. Illegal Drug Use Study Pharmacist Survey Dataset
35. Adverse Drug Events (ADEs) in Paediatric Patients Dataset
36. Adverse Drug Events (ADEs) in Adult Patients Dataset
37. Seniors Medication Use Dataset
38. Newfoundland and Labrador Prescription Drug Program (NLPDP) Dataset
39. Childhood Injury Research Dataset
40. Continuity of Care Research Dataset
41. Administrative Dataset for Surveillance of Depressive Disorders in Newfoundland and Labrador
42. Miawpukek Diabetes Study Dataset
43. Emergency Room Triage Dataset
44. Adolescent Health Survey
45. Impact of Out-of-Pocket Prescription Costs Survey Dataset



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