Newfoundland & Labrador
**Centre for
Health Information**

Annual
Business
Report

2010-2011

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On behalf of the Board of Directors, I am pleased to submit the Newfoundland and Labrador Centre for Health Information's 2010-2011 Annual Business Report. This report has been prepared according to the guidelines for Category 2 Government Entities in accordance with the Transparency and Accountability Act, and the Board accepts accountability for the results and variances outlined within.

In 2010-2011, the Newfoundland and Labrador Centre for Health Information continued its work towards achieving our vision of improved health through quality health information and support for the Provincial Government's strategic directions.

During the past year, the number of community pharmacies connecting to the Pharmacy Network continued to increase and the Centre made considerable progress on the development and implementation of the electronic health record. Planning for the interoperable Electronic Health Records/Laboratory project was completed and the Centre, on behalf of the Department of Health and Community Services, managed the implementation of a province-wide electronic occurrence reporting system that will be made available at all Regional Health Authorities. Additionally, with support from the Department of Health and Community Services and Canada Health Infoway, the Centre began planning for a project that will increase the adoption of electronic medical records by physicians in the province. The Research and Evaluation Department also continued its invaluable work in applied health research, evaluation and information services to meet the needs of a broad range of health stakeholders.

The achievements made over the last year by the Centre would not have been possible without the leadership, contributions and efforts of many. I would like to thank the Centre's Board of Directors, the President and CEO, the Executive Team, all employees and key partners, and the Government of Newfoundland and Labrador for their continued commitment to improving health in Newfoundland and Labrador through quality health information.

Bill Fanning
Chair, Board of Directors

Message from the CEO

This year highlighted many accomplishments for the Centre that included the continued roll out of key priority components of the electronic health record, and ongoing support and assistance with new initiatives and projects for the Provincial Government and the Regional Health Authorities. We maintained strong partnerships and collaborated with key health-system stakeholders as we worked toward achieving our vision of *improved health through quality health information.*

As custodians of personal health information, the Centre is acutely aware of its responsibility. To ensure we earn the confidence of stakeholders, we have established numerous security measures to ensure healthcare professionals and the public that the information held in our systems is accurate as well as secure, and that policies and procedures are in place to ensure compliance with the *Personal Health Information Act.*

Through its excellent work and ongoing efforts in many areas including technology, innovation, research and information, the Centre remained focused and steadfast in its belief that our approach to providing quality health information is adding value to the delivery of health care in our province and ultimately improving patient outcomes.

Partnerships are essential to the Centre's ability to meet its mandate, achieve its success, and sustain its reputation as a leader of electronic health record development in the country. As we move forward developing and implementing the various components of the provincial health information system, we will continue to collaborate with and engage appropriate stakeholders to reach our vision.

I extend sincere appreciation to our Board of Directors, Executive Team, all Centre employees, and the Government of Newfoundland and Labrador. They remain dedicated and committed to improving the health of Newfoundlanders and Labradorians through quality health information.

Mike Barron
Chief Executive Officer

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 (EHR), including the change management required to support adoption by end user clinicians. In addition to the EHR, the Centre also manages the planning, design and implementation of specific provincial health information systems.

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 and population level 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. 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*, the *Personal 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 (EHR) 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 EHR.

- Managing the planning, designing, and implementation of specific provincial health information systems.

Quality Information

Good decisions require good data. Data quality is critical to attaining the Centre's vision, *improved health through quality health information*. Recognizing 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 need and expectations for high quality data have risen as the scope and magnitude of decisions made about and within the health system has increased at the national, provincial and regional levels. The Centre responds to this need through its role as custodian of many health information systems on behalf of the province, including provincial EHR systems. The Centre is a leader in provincial standards development and implementation and the active pursuit of optimal quality of the data contained within the systems for which it is responsible.

Quality health information is information that is accurate, timely, useable, relevant and comparable. To achieve the optimal level of quality for the information used and provided by the Centre to the health system, quality initiatives of various types are undertaken throughout the Centre. The following summarizes work undertaken by the Centre to ensure quality information is provided to its stakeholders:

Custodian of Health Information Systems
- Creating datasets from various sources of information for use by the Centre and the health system.
- Receiving and using data sets from other organizations.
- Operating provincial health information systems, including the provincial EHR systems.
- Providing a secure environment to house health information systems and use the data with the highest regard for privacy.

Standards Development and Implementation
- Developing financial, statistical, social, demographic and clinical data standards for the health sector in collaboration with stakeholders; thereby ensuring that data collected is uniform in definition, measurement, collection and interpretation.
- Participating in national and provincial health information standards committees and initiatives; customizing standards where necessary for provincial application, thereby adding value for the Newfoundland and Labrador health environment.
- Participating in the development of technical, messaging and data standards for EHR systems; supporting implementation of such standards in support of interoperability, which is an important goal - enabling appropriate sharing of select information.
- Supporting implementation of health information standards through education and consultative services.

Data Quality Initiatives
- Developing and adopting a corporate Data Quality Framework that fosters a corporate culture for quality, guides daily quality assurance activities, provides periodic evaluation of data quality and reports results to internal and external stakeholders.
- Conducting various types of audits to identify data standards and quality issues and develop an action plan to address the matter. The solution may require revision to existing standards or development of new standards to fully resolve the issue.
- Providing education and training for data collectors and users to ensure data is accurately recorded and processed, and is used and interpreted appropriately.
- Publishing health information standards reference materials for use by stakeholders.
- Supporting and participating in the data quality initiatives of other organizations, such as the Canadian Institute for Health Information (CIHI), that complement and enhance provincial quality initiatives.

Research

The Centre engages in applied health research, which is the study into the health of populations to identify health outcomes and risk factors for disease, as well as areas related to access, use, costs, safety, quality, delivery and organization of health systems. Applied health research also includes the evaluation of information systems and government policy and programs. The Centre uses administrative data, surveys, focus groups and key informant interviews in carrying out this work. The Centre also supports the Department of Health and Community Services, Regional Health Authorities, researchers and others with their information and research needs by providing data extraction, data linkage, data management, and information and analytical services. The Centre collaborates with Memorial University and other research organizations within and outside the province.

Number of Employees and Physical Location

The Centre is structured into five departments: Research and Evaluation; Health Information Network; Clinical Information Programs and Quality; Human Resources and Strategic Planning; and Business Services and Finance and Administration. It currently employs 140 full-time staff; 57 males and 83 females.

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 seven employees, is located in Bay Roberts, Newfoundland and Labrador.

Financial Statements

Provincial Plan revenues of $17.2M have increased in 2011 over the prior year, mainly due to growth associated with a number of projects transitioning into operations. On the project side, additional project milestones were achieved this year leading to higher revenues and capital assets funding from Canada Health Infoway. Government project grant revenue was comprised of provincial funding towards Clinical Safety and Reporting Systems, Picture Archiving and Communications Systems, and other initiatives.

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

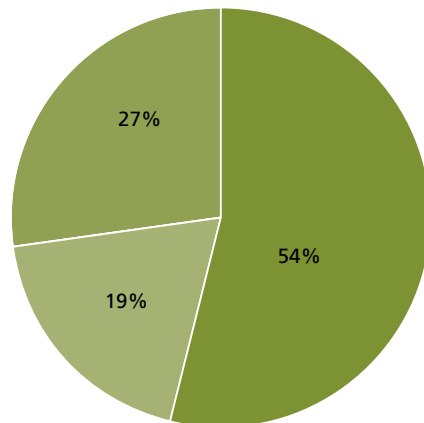The Audited Financial Statements, approved by the Centre's Board of Directors, are located on page 40 of this report.

Revenues and Expenditures
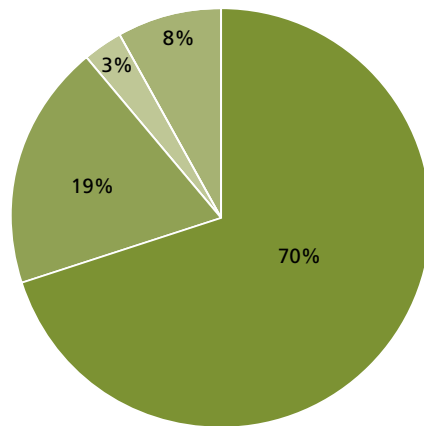
Revenue by Category

■ Provincial Government Operating Grants - 70%
■ Canada Health Infoway Funding - 19%
■ Research Funding - 3%
■ Provincial Government Project Grants - 8%

Expenses 2010-2011

■ Administrative - 54%
■ Projects - 27%
■ Other Operating - 19%

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 Government's strategic directions.

Considerable progress has been achieved on the development and implementation of the provincial electronic health record (EHR). The EHR is intended to support enhanced patient care as well as to improve efficiency and effectiveness of the health care system. For example, with the implementation of the EHR, it is expected that patient wait times will be reduced as fewer tests are repeated. As well, the EHR provides a better ability to consolidate clinical findings and offers a higher probability of positive patient outcomes.

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 by 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.

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 EHR projects, as well as supports the Centre in managing quality data and information. The Centre responds to numerous requests for information from and works closely with the Department in the areas of applied health research and policy, including joint participation in the Evidence to Policy Liaison Committee, as well as 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 EHR, which includes engaging in planning, governance, implementation and operation of various EHR components. The Centre also serves as a coordinator for Telehealth

and engages the RHAs to provide advice for governance-related issues around the EHR. The Centre collaborates with RHAs and the Department to ensure common approaches to protecting the privacy of personal health information, and also works together with the RHAs 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 EHR development across Canada. It provides joint funding with the Department for provincial EHR projects, facilitates knowledge transfer with other jurisdictions, and supports project planning. This collaboration is critical to the development of the provincial EHR and enables the Centre to support Government'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 Service NL and the Office of the Information and Privacy Commissioner.

Health Professionals

Health professionals provide the Centre with valuable guidance and input for developing an EHR 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 as well as numerous meetings of key professional groups.

Canadian Institute for Health Information

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

Research Partners

The Centre continues to collaborate on research initiatives with various research partners including Memorial University's Faculty of Medicine and School of Pharmacy, Eastern Health, the Janeway Pediatric Research Unit, the Patient Research Centre, and the Population Therapeutics Research Group. The Centre collaborates with private sector researchers as well as universities outside the province, including the University of Ottawa, University of Toronto, University of Calgary, University of British Columbia, University of Saskatchewan, University of Western Ontario and McMaster University. A number of federal organizations also provide funding to the Centre's 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 EHR solutions for the provincial environment.

Canada Health Informatics Association (COACH)

COACH provides access to a diverse community of accomplished, influential professionals who work to make a difference in advancing healthcare through information technology. COACH is recognized nationally not only for its work around technology and systems, but also for its focus on effective use of health information for decision-making. A number of Centre employees are active members of COACH. As well, the Centre's CEO serves on the Board of Directors. The association offers a broad range of services for networking, forums, information and best practice sharing, peer awards, national conferences and professional development, including specialized career resources and professional certification.

Highlights and Accomplishments

The Centre is committed to realizing its vision of *improved health through quality health information* and supporting Government in its 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 2010-2011 demonstrating the progress occurring across the organization.

The Provincial Electronic Health Record (EHR)

Development and implementation of the provincial EHR 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 EHR is a secure and private lifetime record of select components of a person's health and health care history, available electronically to authorized health care providers. It is designed to facilitate data sharing across the continuum of care, across health care delivery organizations and across jurisdictions.

The EHR will provide 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. Once implemented and adopted by clinicians, the EHR 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.

Traditionally   **Vision**
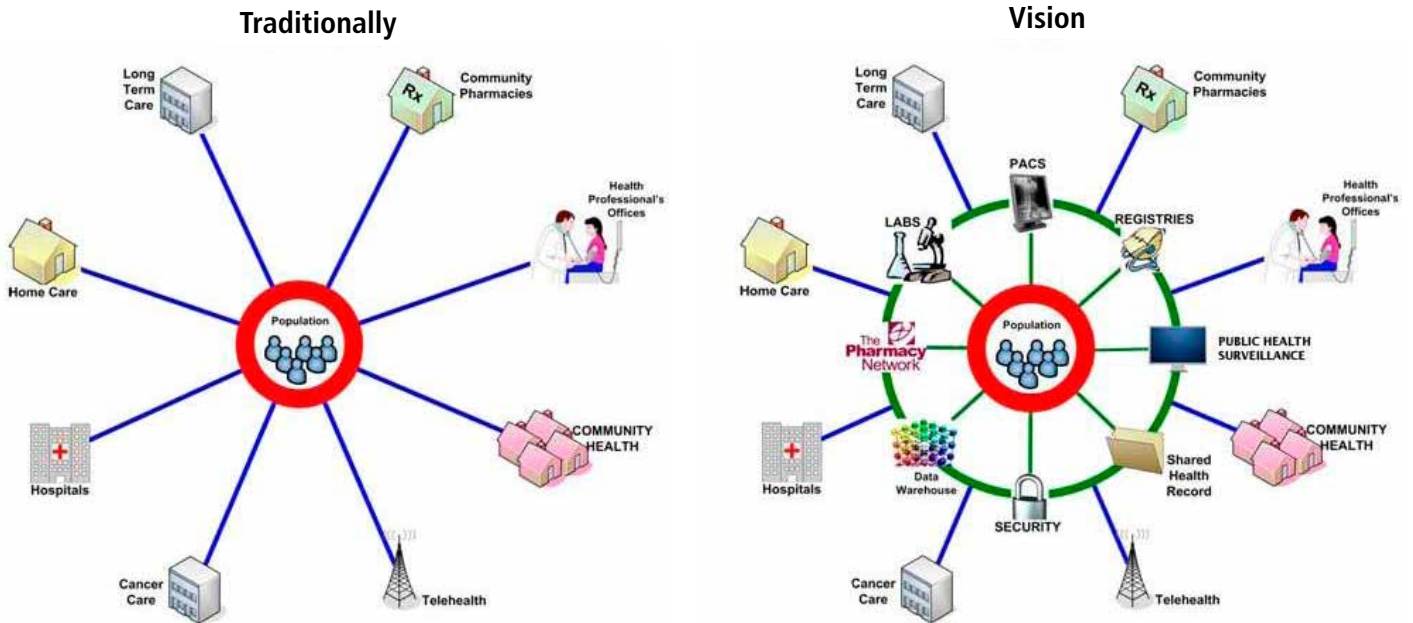
Several key components of the provincial EHR have already been implemented, including the Client Registry, the Provider Registry and the Picture Archiving and Communications Systems (PACS). In 2010-2011, the Centre continued to expand development and implementation of a number of EHR initiatives, including the following key accomplishments:

Pharmacy Network
The Pharmacy Network is a province-wide network linking pharmacies with essential patient medication information. The provincial Pharmacy Network was officially launched in May 2010. In partnership with community pharmacists and practice management vendors, deployment continued throughout 2010-11 in a phased-in approach.

The benefits of the Pharmacy Network are being realized. In March 2011, with just over 20 per cent of pharmacies connected, more than 650,000 prescriptions were added to the system for more than 75,000 patients. More notably, there were 3,800 instances where additional medication-related information was available for patient-care decision making by the pharmacist, had it been required.

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

The provincial EHR will tie together patient health information from numerous information systems to provide one patient record, and the interoperability function and the laboratory information system are vital components. Planning for the iEHR/Labs program was completed and the RFP for solution procurement was released.

Picture Archiving and Communications Systems (PACS)

PACS experienced significant growth in 2010-2011 with the addition of new modalities including digital mammography, new CT Scanners, and upgrades to existing equipment. In partnership with RHAs, vendors, and the support of the Department, the Centre addressed these challenges and opportunities and strengthened the PACS governance structure. Significant highlights include:

- The PACS Long Term Archive (LTA)/Short Term Storage (STS) Project is near completion. The LTA has been upgraded and all RHA STS systems have also been upgraded; with the exception of Eastern Health. The Centre is currently working with Eastern Health to complete this upgrade. The upgrade was implemented ahead of schedule, and relatively seamlessly due to the great collaboration amongst the RHAs, General Electric and the Centre.

Telehealth

Telehealth continued to experience resounding success with over 8,500 patient encounters in 2010. To date, more than 50 certified sites offer Telehealth throughout the province. The Centre continues to work with the RHAs and provincial partners to identify opportunities for Telehealth.

Client Registry

As the foundational layer of the provincial EHR, the Client Registry contains the most accurate and timely person-specific clinical information collected by the provincial Medical Care Plan (MCP), Vital Statistics, the Drug Information System (DIS/Pharmacy Network), and all instances of Meditech and the Client Referral and Management System (CRMS) within the RHAs.

Provider Registry

The Provider Registry is the second foundational registry of the provincial EHR. It uses a secure web-based system to hold information that identifies licensed health professionals across all care settings and will integrate with each component of the provincial EHR to identify providers before access, use or disclosure of clinical information. The information in the Provider Registry is supplied by the five regulatory bodies/colleges of the province, and is an essential component of the current and future technologies of the Health Information Network being developed in the province.

Change Management

Adoption of an EHR requires an increased use of technology, particularly by end-user clinicians. The Centre provides a provincial change management strategy and approach as well as specialist resources to ensure successful adoption of eHealth technology across the health care system. NL change management staff are participating in leadership roles with a national change management network.

Information Protection Review

The Centre's Information Protection Assessment and Remediation (IPAR) project was completed in 2010. IPAR consisted of 17 sub-projects that collectively positioned the Centre as a leader for the protection of personal health information, personal information and other types of sensitive information. Projects included disaster recovery and business continuity, laptop encryption, the NLCHI Information Management Solution (NIMS), a managed file transfer system, and a review and evaluation of a Data Centre move.

In 2010-2011, the Centre established the Information Protection Division. This new division reflects the Centre's commitment to a higher standard of protecting personal information in a changing environment with growing threats to security in both the information technology and health sectors. The division has begun work on an Information Protection Training Needs Assessment for staff and contractors.

Governance

Governance of the EHR is an emerging area of high importance nationally. The Centre is positioned as one of the leading provinces in terms of governance structure and processes. Managing numerous collaborative partnerships to support governance is a key function played by the Centre.

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

Clinical Safety Reporting System (CSRS) Project

As part of a report from the Task Force on Adverse Health Events, the Centre was asked to support the implementation of a provincial electronic occurrence reporting solution. In January 2011, the CSRS Steering Committee approved recommendations by the provincial project team that included the provincial Datix solution be hosted by Eastern Health and the provincial CSRS

pilot site be located at Western Health (Western Memorial Regional Hospital). The provincial CSRS project team completed the planning and development phase of the project. The system was tested and the provincial project team trained, and both Eastern Health and the pilot site at Western Health went live. Implementations are scheduled to begin at Western, Central, and Labrador-Grenfell Health in 2011.

Telepathology
The Multi Jurisdictional Telepathology will enable increased access to Telepathology sub-specialists across three provinces including Newfoundland and Labrador, Ontario and Manitoba. The Multi Jurisdictional Telepathology Phase 1 planning project was completed in 2010.

Pan-Canadian Primary Health Care (PHC) Electronic Medical Record (EMR) Content Standards
The Centre 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. The PHC EMR Content Standards will be incorporated in the RFP requirements in defining an EMR solution for the province.

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 Government's strategic directions. It provides valuable information for use in health policy and decision-making and contributes to improved population health. In 2010-2011, the Centre continued to engage in applied health research and evaluation through expanding its research capacity, growing its reputation as a trusted leader in information management, and continuing to support provincial policy development. Notable health research achievements over the past year include:

- Experienced continued growth in research and evaluation activities with $1.36 million in external research grants realized in 2010-2011.

- Established the Evidence to Policy Liaison Committee to formalize the relationship between the Centre's Research and Evaluation Department and the Policy and Planning Branch of the Department in order to facilitate the use of information, research and evaluation to support provincial policy development and implementation.

- Achieved a significant milestone in the de-identification project with the implementation of the secure data environment. This project has been a significant collaborative effort between multiple areas within the Centre.

- Represented the Centre at four national and international conferences and had 15 articles accepted for publication in peer-reviewed journals.

- Responded to 89 major requests for data and information services. The main requestors for information continue to be the Department, RHAs and the Research Community. Time to complete requests ranged from 10 minutes to two-and-a-half weeks.

Providing essential information to facilitate analysis of Newfoundland and Labrador's health system and the health of the people of the province

In 2010-2011, the Centre continued to provide leadership for quality information through the development and adoption of standards within provincial administrative databases, as well as the provincial EHR. To ensure that the data contained within these information systems is of the highest quality attainable, data quality initiatives are a constant focus of activity. Such initiatives are 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, Data Quality Assessment tools previously developed to measure the data quality of three key administrative databases held by the Centre were tested and revised. Data collection processes required to support calculation of the performance indicators were implemented to support future data quality assessments of the NLCHI Live Birth and Mortality Systems, as well as the Clinical Database Management System. Similar assessment tools have been developed for the NLCHI Stillbirth System and the EHR Client Registry which will be tested and revised in 2011-12.

- The Centre continued to support numerous provincial-level committees that address specific data standards and quality issues.

- A proposed format and implementation approach was determined for the development of an Aboriginal Administrative Data Identifier standard. The Centre was engaged in the development of these standards in partnership with the Department of Health and Community Services, the Department of Labrador and Aboriginal Affairs, Vital Statistics, Labrador-Grenfell Health, and Aboriginal communities across the province.

- Standardized Diagnostic Imaging Dictionaries for the regional Meditech systems was developed in collaboration with the RHAs.

- In collaboration with the RHAs, work continued on the standardization of the Laboratory Dictionaries in preparation for regional consolidation of Meditech systems and the provincial iEHR/Labs project.

- In 2010, a major Client Registry (CR) data quality initiative was undertaken to provide training on optimal registration processes and practices to approximately 740 staff throughout the RHAs.

- A new re-abstracting study was initiated in partnership with the Canadian Institute for Health Information (CIHI) to examine the accuracy and completeness of data submitted to the 2009-10 Discharge Abstract Database by Newfoundland and Labrador facilities.

Organizational Development

Within the past several years, the Centre has experienced significant employee growth as it builds its capacity to move forward with development and implementation of the electronic health record. As the interest in 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 2010-2011 include:

Building the Skill Sets Required for Ongoing Sustainability
Significant investments have been made in addressing immediate skill needs through training and other professional development. Training strategies were developed to ensure appropriate skill sets are available to meet the operational requirements and more effectively guide the investment in staff for future organizational needs and career development.

Managing Growth
The Centre continued to plan its human resource needs and developed and implemented policies and programs to ensure recruitment, retention and ongoing productivity. These policies were all renewed over the past year.

Values Driven Culture
The Centre's eight core values were highlighted in performance appraisals, rewards and recognition programs and through all staff meetings. Additional initiatives were undertaken to ensure that the culture of values are understood by staff and guide staff in their actions.

Working to ensure the protection of personal health information

Throughout 2010-2011, the Centre continued to develop a safe and secure provincial EHR by supporting the Department's strategic mandate of improving accountability and stability in the health care system. Specifically, the privacy work conducted at the Centre contributed to Government's strategic direction of improved accountability and stability in the delivery of health and community services within available resources. The Centre is also involved in the development of pan-Canadian privacy and security standards. 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 Centre developed an online training system for the *Personal Health Information Act* (PHIA) in partnership with the PHIA Education/Materials Working Group and a private sector partner. This included scripting for the course, user acceptance testing, a pilot, and full implementation.

The Centre made this course a mandatory component of staff's information protection training. In addition, the Centre provided operational oversight for the course and worked with three RHAs to allow them to track staff completion. The Centre is also working with Western Health and Memorial University of Newfoundland and Labrador to coordinate local hosting of the training.

Practical Strategies for Data De-identification
The Centre continued to participate in a pan-Canadian working group created to provide guidance of de-identification of health information. In late 2010, the working group prepared a report which offers practical guidance on how to embed de-identification into secondary use (health system use) processes, which will be of benefit to all custodians of personal health information in the province.

RHA/Centre Health Information Privacy Collaborative
The Centre and Regional Health Authorities have formed a Health Information Privacy Collaborative (HIPC) designed to support health information privacy and protection within the RHAs and the Centre. Specifically, the Collaborative will provide guidance, facilitate knowledge transfer, support decision making, and produce work products on topics of common health information privacy interest.

Report On Performance

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 information systems remain the primary health information systems in the province; the provincial Client and Referral Management System (CRMS) used in the community setting and Meditech used in the institutional and long-term care settings.

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 (EHR). 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.

The Centre's mission of implementing priority elements of the EHR will have a significant impact on health informatics in the province. As a priority project, the EHR was approved by all funders, and the funding and budget were in place to support sustainability. Development was logical (i.e. sequential) and the level of risk was manageable. As a ministerial priority, the EHR supported quality health care and patient safety and the users of the information system supported the implementation. Progress on achieving this mission for the *2006-2008 Business Plan* is found in the annual reports for the respective fiscal years covered by that plan, which are available on the Centre's website, www.nlchi.nl.ca. This report focuses on the progress in achieving the mission and issues identified in the *Business Plan 2008-2011*, and are documented on the next page.

The 2008-2011 mission contributed to several Government strategic directions (see Appendix C). Specifically, the development of the provincial electronic health record contributed to the improvement of accountability and stability in the delivery of health and community services within available resources. As it continues to be implemented, the EHR will increasingly provide more accurate, reliable, and comparable data for policy making, program monitoring, and resource allocation. The Centre's contribution to improving population health is achieved through the development of the EHR and through the work conducted in its Research and Evaluation Department. This research and evaluation work provided valuable information for use in health policy and decision-making within the health system.

Vision

Improved Health Through Quality Health Information.

Mission

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.

Measure 1

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

Planned for 2008-2011	Actual for 2008-2011
Implemented the Pharmacy Network (PN): • All community pharmacies are connected. • All hospital pharmacies are connected. • E-prescribing functionality is available to authorized prescribers.	• The provincial Pharmacy Network Drug Information System was implemented and made available to all community pharmacies and their vendor systems. This process is taking longer than anticipated; however forty-one pharmacies have connected to the PN. • Hospital pharmacies are not connected because successful connection of hospital pharmacies to the PN is dependent on achievement of deployment to a critical mass of community pharmacies. Work is ongoing to define connectivity requirements on a regional level. • Final testing of the system was completed in 2008. • The first community pharmacy was connected in 2009. • The PN was publicly launched in May 2010. • Implementation continues and full community retail pharmacy access is projected by 2012-2013. • E-prescribing functionality was not available. E-prescribing functionality was planned for Phase II of the PN which will be implemented when 50 per cent of community pharmacies are connected.

Planned for 2008-2011	Actual for 2008-2011
	• Phase II of the project to provide health care facilities with the ability to view patient medication profiles are planned for roll-out in 2011-2012.
Implemented the funded components of a provincial Laboratory Information System: • Information from the Laboratory Information System is available to authorized users.	• Funding was received for planning of the iEHR/Labs program. • Planning for the iEHR/Labs program was completed and the RFP for solution procurement released. • Information will not be available to authorized users until the iEHR/Labs system is built and implemented.
Incorporated the necessary functionality in the Health Information Access Layer (HIAL) to allow approved provincial health information systems to become part of the electronic health record.	• Planning and design for the implementation of HIAL began in 2009. • The design and planning to evolve the HIAL was completed as part of iEHR/Labs Phase 2.1 in 2010-2011.
Expanded use of electronic medical records (EMRs) by physicians in accordance with an approved strategic plan: • An EMR governance model is adopted. • Physicians' offices employ an EMR.	• In 2008-2009, the Centre initiated a Peer-to-Peer EMR Demonstration Project which engaged stakeholders across the province. Some increase in physicians' offices employing an EMR was realized through the project. • In 2009-2010, program governance models were developed and explored in preparation for approval and implementation of an EMR program geared to NL. National requirements were adopted to meet provincial needs. • In 2010-2011, the Centre engaged in refining the definition of the program to enable implementation in preparation for releasing a RFP for an EMR solution. Funding has not yet been received to implement the program.

Planned for 2008-2011	Actual for 2008-2011
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.	• The Telehealth project was successfully implemented. • Services delivered by this project became operational in 2009-2010. • A Telehealth Benefits Evaluation is available on the Centre's website at www.nlchi.nl.ca.

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.

The Centre worked closely with the Department and RHAs at all levels to provide support in strategic ehealth planning and oversight, and to provide governance for EHR components. The Centre participated in provincial and RHA committees related to health information systems. The Centre also worked with the RHAs to develop an oversight structure to ensure ehealth systems are supported within the provincial health system, and facilitated the development of standards for information management through working committees and education programs.

Planned for 2008-2011	Actual for 2008-2011
Participated in and supported provincial and Regional Health Authority committees related to all provincial health information systems.	• Participated and supported provincial and RHA committees related to all provincial health information systems since 2008. • Created an EHR oversight structure in 2009-2010 to engage RHA CEOs, VPs, and Directors. • The Director of Data Quality and Standards (DQS) continued to represent the Centre on the Community Provincial Information Systems Steering Committee and chair the CRMS Standards Sub-committee.

Planned for 2008-2011	Actual for 2008-2011
Participated in and supported provincial and Regional Health Authority discussions on the future directions of the Client and Referral Management System.	• The Centre participates in and supports discussions on the future directions of the Client and Referral Management system in a variety of ways. The Centre is a member of the Community Provincial Information Systems Steering Committee, formerly known as the Client and Referral Management System Committee. As well, the Centre is participating in discussions with the Department of Health and Community Services and the Regiona Health Authorities regarding a new governance model for the system. A technical review was completed and a business review is underway for the Office of the Chief Information Officer by an external company, with representatives from the Centre participating as interview subjects.
Participated in and supported provincial discussion on the future directions of a public health surveillance system.	• Participated in and supported provincial discussions on the future of a specific public health surveillance system known as Panorama in 2008-2009. • A review identified issues with moving forward and the project was delayed until these issues were resolved at the national level.

Planned for 2008-2011	Actual for 2008-2011
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.	The Centre undertook communications activities to promote its role, including: • Hosted a two-day conference in 2009 to promote the role of the Centre in supporting provincial and regional health information systems. • DQS employees continued to deliver key messages about the role of the Centre to an extensive network of provincial committee members. • Maintained a public website with access to reports, publications, and project information. • Undertook a Pharmacy Network public awareness campaign in 2010. • Created an EHR oversight structure. • Presented five abstracts at eHealth Conference 2010.

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 2008-2011
Developed a corporate Data Quality Framework used to evaluate and assess the quality of health information databases.	• Developed a Data Quality Framework in 2008-2009. • Conducted reference implementations of the Data Quality Assessment Tools for the NLCHI Live Birth and Mortality Systems as well as CDMS. • Developed User Guide and Master Methodology documents in 2009-2010 for the NLCHI Stillbirth System. • Developed draft assessment tools for the NLCHI Stillbirth System.

Planned for 2008-2011	Actual for 2008-2011
Determined the process to adapt the corporate Data Quality Framework to other databases.	• Hired a Data Quality Specialist in late 2009-2010. • Adapted the Data Quality Framework for the provincial Client Registry.

Measure 4
Expanded health research capacity.

Planned for 2008-2011	Actual for 2008-2011
Increased number of full-time research staff.	• Hired 10 new employees in the Research and Evaluation Department (R&E) in 2008-2009. • Four more employees were hired in 2009-2010. • In 2010-2011, staff attrition resulted in a decrease of three employees (from 28 to 25). These positions were not filled in the short term due to workload re-assignment.
Increased number of staff who have PhDs.	• One staff member received a PhD in 2008-2009. • In 2009-2010, one staff member received a PhD. • In 2010-2011, R&E increased the number of PhD graduates by two to bring the department total to four.

Planned for 2008-2011	Actual for 2008-2011
Completed and implemented a research plan that identifies research themes, priorities, partners and resources.	• In 2009-2010, a strategic plan for R&E was completed. • The research plan was approved by the Centre's Executive and Board of Management in August 2010 and implemented thereafter.
Identified applied and other health research projects.	• In 2008-2009, the Centre worked on 41 health research projects. • In 2009-2010, the Centre identified and/or continued to work on 22 research projects. • In 2010-2011, 18 new projects started and 39 were in progress.
Completed research projects.	• In 2008-2009 the Centre completed 12 research projects. • Nineteen research projects were completed in 2009-2010. • Fifteen research and evaluation projects were completed in 2010-2011.
Reported annually on the results of the research plan.	Updates on the research plan have been and will continue to 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. Five strategic issues were identified as priorities in the 2008-2011 Business Plan, with corresponding goals, objectives and measures. The following details the 2010-2011 progress and plans 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, contributed to Government'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 information 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 EHR include: registries, a drug information system, a digital diagnostic imaging system, a laboratory information system, public health surveillance and electronic medical records. Once implemented, the provincial EHR will provide 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.

Goal Planned for 2008-2011	Goal Actual for 2008-2011
Approved, and updated as required, a strategic plan for provincial health information system development and operations management.	• Electronic health record strategic plan was completed and approved.
Transitioned the interoperable Newfoundland and Labrador electronic health record to an operational state.	• Transitioned the interoperable Newfoundland and Labrador electronic health record to an operational state through the implementation of the Pharmacy Network including its interoperability with the Client and Provider Registries.
Ensured benefits evaluations reports are prepared for each provincial health information system development.	• Completed benefits evaluations reports for PACS and Telehealth, and collected a pre-implementation baseline data for Pharmacy Program evaluation.

Year Three Objective
By March 31, 2011, the Centre for Health Information has an interoperable electronic health record.

Measure 2010-2011
Successful development of the funded components of an interoperable electronic health record.

Goal Planned for 2008-2011	Goal Actual for 2008-2011
Successfully implemented funded components of Client Registry and Provider Registry as part of the Pharmacy Network project and this infrastructure is now interoperable.	• Forty-eight community pharmacies are connected to the Pharmacy Network with full interoperability with the Client Registry and Provider Registry.
Provided capability for 80 per cent of community pharmacies to connect to the Pharmacy Network.	• Capability for 80 per cent of pharmacies to connect to the Pharmacy Network was achieved with conformance criteria being met by three of the five vendor Practice Management Systems operating in the province. • Dependency on pharmacy practice management system vendors and pharmacy owners has slowed deployment to date.
Completed the RFP process for the iEHR/Labs project.	• The iEHR/Labs RFP was developed, issued and assessed. Approval to award will be determined in 2011-2012.

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 Government'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 support quality within key health information systems. To build on this, it is necessary to increase the health system's 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	• 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.

Goal Planned for 2008-201	Goal Actual for 2008-2011
Developed a data quality framework.	• Data quality framework completed.
Reported regularly to the Board of Directors on the quality of data in the Centre for Health Information's databases.	• Issues related to the quality of data are reported to the Board five times a year through the lines of business report.

Year Three Objective
By March 31, 2011, the Centre for Health Information has implemented the Data Quality Framework.

Measure 2010-2011
Implemented the Data Quality Framework.

Objective Planned for 2010-2011	Objective Actual for 2010-2011
Completed implementation of the Data Quality Assessment Tool on the Clinical Database Management System.	Implementation of the Data Quality Assessment Tool was delayed due to a staff vacancy.
Completed development of the Data Quality Assessment Tool for the Client and Provider Registries.	Completed the Client Registry. Due to competing priorities and unexpected time delays in completing the Client Registry, preliminary work began on the Provider Registry.

Discussion of results: The Data Quality Framework was completed, however the development and implementation of the various components of the Framework will take time. Components including the implementation of the Data Quality Assessment Tool were delayed because of staff vacancies and unexpected time delays in completing the Client Registry. This work will be completed in 2011-2012.

Issue 3: Health Research Plan

The Centre played an increasingly important role in applied health research in the province, and through this work contributed to evidenced-based planning in the health system. The Centre's research supported Government's strategic directions of *improved population health and strengthened public health capacity.* To strengthen its role, the Centre needs to develop and implement a strategy, particularly in light of new data that will become available through the implementation of the electronic health record.

Opportunities for undertaking innovative population/applied health research through secondary uses of administrative health data grew significantly over the last decade. External research grants awarded to the Centre were $1.36 million in 2010-2011. This increased research capacity 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. Newfoundland and Labrador will have one of the first fully functional, population-based electronic health records encompassing a founder population in the world.

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.

Goal Planned for 2008-2011	Goal Actual for 2008-2011
Developed a research plan with input from key stakeholders.	• A research plan with input from key stakeholders was developed. Some of the Centre's key stakeholders are found under Shared Commitments on page 9.
Approved research plan.	• Research plan approved. The plan addressed key issues in the health system.
Implemented research activities in line with the plan.	• Research activities implemented. A list of research activities are in found Appendix A.

Year Three Objective
By March 31, 2011, the Centre for Health Information has implemented approved elements of the health research plan.

Measure 2010-2011
Implemented approved elements of the health research plan.

Objective Planned for 2010-2011	Objective Actual for 2010-2011
Established a process with the DHCS to determine the Department's health research priorities.	Research priorities are discussed regularly through the Centre and Department Evidence to Policy Liaison Committee jointly chaired by the DHCS and the Centre.
Implemented the health research plan.	The health research plan was implemented with all four goals operationalized, particularly with respect to fostering a close working relationship with the Department and RHAs and establishing further partnerships across the academic and private sectors.

Issue 4: Organizational Planning

The Board recognized that strong planning and monitoring is necessary to achieve its mission statement. The Centre's organizational planning supported Government's strategic direction of *accountability and stability of health and community services.*

The Centre underwent significant growth over the past three years. Total revenues increased from $19,444,183 in 2010 to $24,575,171 in 2011 and the number of employees has grown from 133 to 136 in that same time period. The Centre anticipates another year or two of change before it stabilizes. The organization put in place strategies and structures to monitor its effectiveness that included: strengthening the reporting system to better align strategic objectives throughout the organization, and strengthening its planning at the financial, human resource and operational levels. The result was a more focused and accountable organization that supported the management of provincial health information systems.

The Centre reviewed options for revenue generation within the Research and Evaluation Department. Research grants generated revenue to cover operational costs related to the delivery of the research.

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.

Goal Planned for 2008-201	Goal Actual for 2008-2011
Determined the appropriate reporting mechanism.	• An enterprise-wide reporting system aligned with the strategic objectives was developed and implemented throughout the Centre.
Approved a three-year financial plan.	• Three-year financial plan approved.
Approved a three-year human resources plan.	• Three-year human resource plan approved.
Approved the electronic health record operational plan.	• Electronic health record operational plan approved.
Approved a revenue-generating strategy for the Centre for Health Information.	• A revenue-generating strategy was developed and approved in the Research and Evaluation plan.

Year Three Objective
By March 31, 2011, the Centre for Health Information has implemented and reported on the effectiveness of its organization plan.

Measure 2010-2011
Implemented and reported on the effectiveness of the organizational plan.

Issue 5: Communications

The Newfoundland and Labrador Centre for Health Information provided significant health, economic and financial benefits to the province and supported health professionals, which the Centre communicated to its clients and stakeholders. The Centre's accountability to the public included making reasonable efforts to increase awareness of the value of its work. The Centre's communications activities supported Government's strategic direction of *improved population health.*

The Centre's annual surveys reported a greater awareness and knowledge of the Centre, the electronic health record and the Pharmacy Network. Surveys conducted by an external agency showed respondents who had heard of the Centre increased from 24% to 29%. EHR awareness increased from 43% to 64%, and almost half of those surveyed (47%) had heard about the Pharmacy Network. The Centre continued to monitor stakeholder awareness and used these results to adapt communications activities to support any necessary changes.

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	• 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.

Goal Planned for 2008-2011	Goal Actual for 2008-2011
Annual monitoring of stakeholders' awareness and understanding of the Centre for Health Information's mission and activities.	• Annual stakeholder surveys conducted.
Appropriate changes made to the Centre's strategies and plan based on this monitoring.	• Appropriate changes made based on monitoring.

Year Three Objective
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.

Measure 2010-2011
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.

Objective Planned for 2010-2011	Objective Actual for 2010-2011
Conducted and reported results of a survey of stakeholder awareness of the Centre and its role.	• A public survey was conducted to assess stakeholder awareness of the Centre. Those results were reported to the Centre's Board of Directors. • The results found that awareness of the Centre had increased from the previous year, as did awareness of EHRs. • The results also found continued support for EHRs and positive recognition of the benefits it provides.

Objective Planned for 2010-2011	Objective Actual for 2010-2011

Reported on effectiveness of an awareness strategy to increase public understanding and demand for eHealth information systems as part of the Pharmacy Network.	• The Centre conducted a public awareness campaign related to the Pharmacy Network in 2010. Evaluation of that strategy demonstrated an increase in public understanding of eHealth systems through the Pharmacy Network. Specifically:
	  • There was a 53% growth in agreement that EHRs will help reduce errors in prescriptions and treatments.
	  • Significant positive agreement that the Pharmacy Network will provide better medication care, help identify possible adverse interactions and ensure patients get the most from their medications.
	• The Centre also partnered with Canada Health Infoway on a national EHR awareness campaign that resulted in increased awareness of and support for EHRs.

Developed and implemented a communications plan for the approved Data Quality Framework.	• A communications plan was developed and implemented for the approved Data Quality Framework. Initiatives underway as part of the plan include:
	  • Newsletter articles highlighting work from the Data Quality & Standards division.
	  • Regular reporting to Board of Directors on progress.
	  • Participation and discussion at various committee meetings.

Objective Planned for 2010-2011	Objective Actual for 2010-2011
Developed and implemented a communications plan for the health research activities of the Centre for Health Information.	• A communications plan was developed and implemented to support health research activities of the Centre.
Updated and implemented an internal communications plan.	• The internal communications plan was updated and implemented.

Oportunities and Challenges

The coming 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

- As the Centre continues to implement various components of the EHR, the benefits being realized for the people of our province are tangible and increasing. The Centre will leverage these experiences to increase stakeholder adoption and expectation.
- Provincial structures and processes have been developed to govern the EHR which will provide support, maximize opportunities and mitigate risk.
- The Centre continues to be recognized throughout the country and remains a national leader in EHR development and implementation.
- The Centre will continue to leverage external funding in support of research that contributes to improved population health.
- The benefits of the Pharmacy Network through the integration of community pharmacies with the provincial drug information system have provided many instances of improved patient safety.

Challenges

- As governors of the EHR, the complex and technical nature of its development presents ongoing challenges for the Centre. Managing the many complex stakeholder relationships, expectations and requirements in order to meet our mandate are ongoing priorities.
- While the Centre anticipates additional employee growth in the coming years, it also has to consider the organizational capacity to manage its expanding role. The Centre will be challenged with managing growth and ensuring the required skill sets are in place to fulfill our mandate.
- In order to maintain its reputation as a trusted and secure third-party holder of personal information, data management and the linkage of information with its stakeholders, the Centre is acutely aware of its role and understands the need to maintain and fulfill its status with stakeholders.

Financial
Statements
March 31, 2011

Contents

Independent Auditors' Report

To the Directors of Newfoundland and Labrador Centre for Health Information

We have audited the accompanying financial statements of the Newfoundland and Labrador Centre for Health Information, which comprise the statement of changes in net assets as at March 31, 2011, and the statements of operations and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's responsibility for the financial statements
Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian generally accepted accounting principles, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility
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 comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion
In our opinion, the financial statements present fairly, in all material respects, the financial position of the Newfoundland and Labrador Centre for Health Information, as at March 31, 2011, and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

Grant Thornton LLP   Chartered Accountants

St. John's, Newfoundland and Labrador
June 15, 2011

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

Year Ended March 31	2011	2010
Revenue		
Government operating grants	$ 17,249,960	$ 13,137,780
Canada Health Infoway	4,678,692	2,163,586
Research funding	782,946	970,075
Government project grants	1,833,092	3,151,482
Interest income	30,481	21,260
	24,575,171	19,444,183
Expenditure		
Advertising	23,349	23,979
Data communications	1,204,521	708,707
Insurance	50,580	42,508
Minor equipment	376,953	1,575,464
Miscellaneous	7,231	9,295
Office supplies	295,018	297,093
Professional fees	62,523	72,639
Project consulting fees	7,107,924	4,023,438
Rent	980,097	911,744
Salaries and benefits	10,502,702	8,666,200
Software maintenance	3,374,176	1,883,629
Telephone	173,444	159,766
Training	182,278	161,017
Travel	234,375	230,667
	24,575,171	18,766,146
Surplus on operations before non-cash items	-	678,037
Amortization of deferred capital contributions	(2,274,295)	(874,055)
Depreciation	2,706,646	1,347,185
Accrued severance pay	75,566	319,362
	507,917	792,492
Excess of expenditure over revenue	$ (507,917)	$ (114,455)
Net assets, beginning of year	$ 1,030,716	$ 1,145,171
Excess of expenditure over revenue	(507,917)	(114,455)
Net assets, end of year	$ 522,799	$ 1,030,716

See accompanying notes to the financial statements.
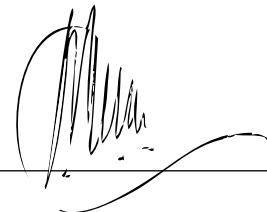
Statements of Financial Position

March 31	2011	2010
Assets		
Current		
Cash and cash equivalents	$ 3,148,014	$ 816,558
Receivables	7,405,071	7,049,484
Prepaids	1,097,143	1,132,323
Deferred project costs	3,204,500	4,610,316
	14,854,728	13,608,681
Property and equipment (Note 6)	18,206,369	17,168,205
	$ 33,061,097	$ 30,776,886
Liabilities		
Current		
Payables and accruals (Note 7)	$ 5,057,788	$ 5,380,319
Deferred revenue	7,655,406	9,833,950
	12,713,194	15,214,269
Deferred capital contributions (Note 8)	18,983,930	13,719,541
Accrued severance pay	841,174	812,360
	32,538,298	29,746,170
Net Assets	522,799	1,030,716
Net assets	$ 33,061,097	$ 30,776,886

Commitments (Note 10)

On behalf of the Board

_____ Director   _____ Director

See accompanying notes to the financial statements.

Statements of Cash Flows

Year Ended March 31	2011	2010
Increase (decrease) in cash and cash equivalents		
Operating		
Excess of expenditure over revenue	$ (507,917)	$ (114,455)
Items not requiring a cash outlay		
Depreciation	2,706,646	1,347,185
Amortization of deferred capital contributions	(2,274,295)	(874,055)
Increase in severance pay accrual (net)	28,814	232,284
	(46,752)	590,959
Change in non-cash operating		
working capital (Note 9)	(1,415,666)	(5,422,058)
	(1,462,418)	(4,831,099)
Financing		
Capital contributions	7,538,683	5,286,614
Investing		
Purchase of capital assets	(3,744,809)	(4,103,150)
Proceeds on sale of capital assets	-	7,000
	(3,744,809)	(4,096,150)
Increase (decrease) in cash and cash equivalents	2,331,456	(3,640,635)
Cash and cash equivalents		
Beginning of year	816,558	4,457,193
End of year	$ 3,148,014	$ 816,558

See accompanying notes to the financial statements.

Notes to the Financial Statements

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.

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.

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 $652,837 (2010 – $546,242).

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.

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. 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.

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.

Notes to the Financial Statements

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

	2011	2010
Government of Newfoundland and Labrador	$ 1,473,878	$ 4,562,211
Canada Health Infoway	5,449,280	1,243,517
Harmonized sales tax	-	520,391
Other	481,913	723,365
	$ 7,405,071	$ 7,049,484

6. Property and equipment

	Cost	Accumulated Depreciation	2011 Net Book Value	2010 Net Book Value
Computer equipment	$ 7,928,466	$ 2,427,434	$ 5,501,032	$ 4,110,290
Office furniture	342,845	152,104	190,741	182,256
Computer software	3,007,835	2,133,244	874,591	743,374
Leasehold improvements	223,821	40,203	183,618	197,804
Pharmacy Network	13,276,629	1,820,242	11,456,387	11,934,481
	$ 24,779,596	$ 6,573,227	$ 18,206,369	$ 17,168,205

During the year, the Centre purchased $3,744,809 of capital assets. As of year end $479,559 (2010 -$4,273,260) of unfunded additions remain from prior years.

7. Payables and accruals

	2011	2010
Trade and sundry	$ 3,514,816	$ 4,415,461
Harmonized sales tax	461,618	-
Vacation and compensatory pay	1,081,354	964,858
	$ 5,057,788	$ 5,380,319

8. Deferred capital contributions

	2011	2010
Opening balance	$ 13,719,541	$ 9,306,981
Capital contributions from Government	2,936,350	3,512,447
Capital contribution from Canada Health Infoway	4,602,334	1,774,168
Amortization of deferred capital contribution	(2,274,295)	(874,055)
	$ 18,983,930	$ 13,719,541

9. Supplemental cash flow information

	2011	2010
Change in non-cash operating working capital		
Receivables	$ (355,587)	$ 334,453
Prepaids	35,180	(310,779)
Deferred project costs	1,405,816	(1,645,754)
Payables and accruals	(322,531)	664,648
Deferred revenue	(2,178,544)	(4,464,626)
	$ (1,415,666)	$ (5,422,058)

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:

2012	$ 4,360,585
2013	$ 4,432,595
2014	$ 4,246,071
2015	$ 3,119,901
2016	$ 3,174,276

11. Comparative figures

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

**Newfoundland
and Labrador
Electronic Health Record**
1. Client Registry
2. Provider Registry
3. Drug Information System
(Pharmacy Network)

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
23. Suicide Database
24. Longitudinal Paediatric
Research Database
25. Cancer and
Chronic Disease
Research Database
26. Longitudinal in-patient
ADE database

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

**Research Studies or
Special Projects**
30. First Nation

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

44. Emergency Room Triage Dataset
45. Adolescent Health Survey
46. Impact of Out-of-Pocket Prescription
Costs Survey Dataset.
47. Type 1 Diabetes Mellitus Dataset
48. Baie Verte Miners' Registry
49. Cardiac Events Dataset
50. Diabetes Outcomes Dataset
51. Breast Cancer and Diabetes Dataset
52. Colorectal Cancer and Diabetes Dataset
53. HealthLine Call Dataset

Appendix B: The Centre's Mandate

The mandate of the Centre is stated in its enabling legislation and a Memorandum of Understanding with the Department of Health and Community Services.

In accordance with the *Centre for Health Information Act*, Section 4, Subsection 1, the object of the Centre is to:

Assist individuals, communities, health service providers and policy makers at federal, provincial and regional levels in making informed decisions to enhance the health and well-being of persons in the province by providing a comprehensive province-wide information system that:

a. Protects the confidentiality and security of personal information that is collected, used, disclosed, stored or disposed of by the Centre;
b. Provides accurate and current information to users of the health and community services system;

c. Integrates data from all components of the health and community services system;
d. Is efficient and cost-effective; and
e. Is flexible and responsive to the changing requirements of users of the system.

The complete Centre for Health Information Act is available online at:
www.assembly.nl.ca/legislation/sr/statutes/c05-1.htm

The Centre is enabled to meet its mandate through the Memorandum of Understanding set out in June 2002. The *Working Together…For Better Health Information – A Memorandum of Understanding between the Department of Health and Community Services and the Newfoundland and Labrador Centre for Health Information* states that:

• The Memorandum of Understanding is intended to promote effective and efficient working relationships between the Department of Health and Community Services and the Centre.
• The Memorandum assigns primary and shared responsibility to the Centre for several databases of personal information.
• The Centre is granted full authority on behalf of the province to access databases held by the Department of Health and Community Services and the Centre for purposes of research and report production.
• Reports will be provincial in scope with regional reports done as required.
• The Centre will assist stakeholders, through its consultation services, to utilize and generate reports using data held by stakeholders.
• The Privacy, Confidentiality and Access Principles and Guidelines for the Health Information Network, federal and provincial legislation, policy and standards will govern all data access, use and release from these databases.
• Public and private partnerships are endorsed to support common goals.
• The Centre is responsible for providing provincial coordination and leadership regarding technical and data standards for health information systems, working closely with all stakeholders and partners.
• The Centre will collaborate closely with the Department of Health and Community Services to protect the privacy of personal information.

Appendix C:
Provincial Government's
Strategic Directions

Strategic Direction	Focus Areas of Strategic Direction	Addressed in Business Plan
Improve accountability and stability in the delivery of health & community services within available resources	Identify & monitor outcomes for selected programs	X
	Stabilize human resources	X
	Achievement of balanced budgets	X
	Quality Management & Patient Safety	X

To be addressed in the operational and work plans.

Government's Strategic Direction	Focus Area of the Strategic Direction 2008 - 2011	This direction is/was addressed in the:		
		Business Plan	Operational Plan	Branch/ Division Work Plan
Improve Population Health	Obesity			X
	Smoking Rates And Protection from Environmental Smoke			X
	Dental health of children			X
	Uptake of cervical screening			X
	Support for healthy aging			X
	Injury prevention			X
	Aboriginal health needs			X
Strengthen Public Health Capacity	Resource for public health including fiscal & human resources			X
	Surveillance for communicable disease		X	
	Immunization management including vaccine inventory control & immunization registry			X
Priority Services	Access to appropriate primary health services		X	
	Home care services in the areas of end of life care, acute short term community mental health case managements, short term post discharge IV medications & wound management			X
	Access to quality early learning and child care			X
	Access to appropriate medications		X	

Newfoundland & Labrador
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