



Information Resource Management Plan 2006/07

Knowledge Management and Technology Division

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Message from the Assistant Deputy Minister

In accordance with the *Budget Transparency and Accountability Act* and the *Government Core Policy*, I am pleased to present the 2006/07 Information Resource Management Plan for the Ministry of Health.

The Ministry of Health is committed to improving the availability of timely and integrated health information to aid clinical and management decision making across BC's health system and to enhancing electronic health service delivery. Consistent with the shift in its mandate to health care system stewardship, the ministry continues to build a culture in which both clinical and management decisions are made on the basis of reliable evidence. Substantial progress has been made towards improving the quality of health data and information. Recognizing this, the ministry is intent on increasing the health system's analytical capacity to support effective decision making.

Accordingly, the ministry's Knowledge Management and Technology Division has the mandate to ensure a unified approach to the provision of accurate, relevant and timely health information, and to help build an effective health information infrastructure through provincial and national partnerships.

The past year has been challenging, but has seen notable achievements. We have succeeded in strengthening our organizational operations within the ministry, and have continued the enhancement of internal operating processes, in addition to strengthening our external relationships with partners and stakeholders. We have made progress in improving data quality in our existing systems and in the integration of those systems; in improving the input of ministry program areas into systems development planning; and in increasing the access of decision makers to relevant and timely information. These achievements have bolstered the ministry's ability to analyze and use reliable data as a foundation for its decisions. We have also significantly expanded our efforts to lead and facilitate the delivery of the ministry's eHealth vision across the province.

The eHealth Steering Committee continues to provide impetus and strategic direction to the development of eHealth in British Columbia. This committee ensures the coordination and integration of initiatives across the province aimed at improving clinician and patient access to critical personal health data, including the electronic health record and telehealth initiatives.

...committed to improving the availability of timely and integrated health information...

The year ahead will be one of continued effort on eHealth...

We have continued to work closely with the health authorities and the health care provider communities to identify our evolving eHealth needs. The ministry has concluded a number of joint funding agreements with Canada Health Infoway. We have also continued to work with the Western Health Information Collaborative to advance our common information technology objectives.

The year ahead will be one of continued effort on eHealth, while ensuring that the broad underlying gains of past years are maintained, extended and embedded within the ministry's culture.

The rapidly growing demand for high quality, timely, relevant data, and the information derived from it, is increasingly recognized as fundamental to the efficient delivery of modern health services. Our challenge is to increase the capacity of the ministry and the wider health system to generate, assimilate and efficiently utilize the vast amount of health data and information available to us.

We must be able to assess and report on the capacity of the health care system to accommodate new medical interventions and new drugs, its ability to meet underlying accountability requirements, and the impact of growing demographic pressures, as well as the system's capacity to properly manage the impact of uncertain or largely unforeseen future events. Wide-reaching potential crises, such as the sudden arrival of a major pandemic, could severely strain the health system's ability to mount a timely and effective response.

The tasks ahead are truly challenging. However, I remain confident that with clear goals and strategies, careful planning, and the support of our senior leadership, ministry staff and stakeholders, we will not only persevere, but ultimately be entirely successful in meeting our fundamental goals and objectives. We will continue to make significant improvements in the delivery of health information together with the supporting services and technology to meet the business priorities of the ministry and the needs of the overall health system in British Columbia.

Original signed by,

Ron Danderfer
Assistant Deputy Minister
Knowledge Management and Technology Division

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Executive Summary

The ministry's 2006/07 Information Resource Management Plan (IRMP) accommodates provincial and health system redesign priorities in the context of an increasing interest in and demand for the electronic health record (EHR) and electronic health delivery solutions in general (eHealth), as well as global information security concerns. For 2006/07, and likely the next decade, eHealth will be a major focus for much of the ministry's Information Management/ Information Technology (IM/IT) efforts. Many of the associated initiatives are very complex and will require several years to fully develop and implement on a province-wide basis.

...an increasing interest in and demand for the electronic health record (EHR) and electronic health delivery solutions...

The ministry's four key IM/IT strategies reflect its information resource management priorities, and support the ministry's core business drivers and fundamental health goals. These strategies are to:

- Enable province-wide integration of clinically required person specific data (electronic health record)
- Expand telehealth to improve access to health services for rural and remote areas
- Improve data availability and quality for management
- Expand public access through web applications

The health information and technology management environment is complex, but its central principle is straight-forward and clear - business needs determine information processing requirements, which in turn determine the appropriate technology infrastructure.

In developing the IRMP, ministry program areas were engaged in identifying their information management and technology requirements. In addition, a Capital Planning Executive Committee, composed of senior ministry program representatives, reviews and ranks proposed ministry initiatives in terms of their strategic value, urgency, cost saving, cost sharing and risk. Their assessment is critical to the approval and funding for the various candidate projects.

...ensure physicians and health professionals are engaged...

Major initiatives planned for 2006/07 include:

Aggregated Health Information Project (AHIP) – AHIP will create an integrated provincial health information management infrastructure, capable of quickly supporting new types of analyses, as the need arises.

BC Public Health Information Project (BC PHIP) - BC Implementation of Pan-Canadian Solution – includes the implementation of an improved environmental health/health protection system, providing improved access, delivery and integration of health care services for managing communicable diseases in BC, as well as improved systems to support public health field operations, and health-related research and surveillance activities.

Interoperable Electronic Health Record (iEHR) – is a series of computer applications that will link care providers with electronically held health information at the point-of-care. The iEHR viewer will provide clinicians, working in most care settings, with access to a range of clinical information including lab results, medication histories and diagnostic images.

Provider Engagement – ensure physicians and health professionals are engaged in the design of process changes, and the selection and implementation of new supporting technology for eHealth.

Provincial Diagnostic Imaging - Archive and Viewer – provides for the storage and exchange of diagnostic digital images and reports across the province.

Provincial Client Identity Management - EMPI – the Enterprise Master Person Index (EMPI) will enable EHR capability by providing the ability to effectively identify the health records (laboratory results, medications, diagnostic reports, discharge summaries, etc.) that belong to the same patient.

Provincial eDrug Project – will improve clinical access to patient medication profiles, expanding the content of the profiles, and introduce the ability for a physician to electronically generate prescriptions (ePrescribing) and link them to PharmaNet.

Provincial Laboratory Information Solution – is a system designed to support laboratory test result sharing, which can provide medical test information to care providers province-wide.

Other initiatives planned for 2006/07 include:

Data Stewardship and Access Management Project – development of a comprehensive solution to the management of access to personal information banks maintained within the ministry. Once implemented, the solution will allow the ministry to more effectively manage its workload as data steward by providing a centralized repository of data access and sharing information. It will also assist the ministry in responding to enquiries from the Office of the Information and Privacy Commissioner, related to the status of requests for access and data sharing agreements.

Population Health and Wellness Data Strategy Implementation – definition of requirements and a common data format for health authority (HA) reporting with respect to public health core functions. Such data will support the development of robust performance indicators and support development of the Provincial Health Officer's annual report on population health.

BC Clinical Practice Guidelines and Protocols Web Enhancement – a better organized, inviting and interactive website that is targeted at physicians will replace the existing site and will improve access to and utilization of the Clinical Guidelines.

The Knowledge Management and Technology (KMT) Division is the information and technology management arm of the Ministry of Health. It is also responsible for the operation of the BC Vital Statistics Agency. KMT provides leadership and ensures that IM/IT strategies, policies, standards and technology initiatives support the integrated delivery of sound, system-wide health information management. The division is responsible for the overall strategic development, implementation and evaluation of the ministry's information resource management plans, and fostering an evidence-based, decision-making culture in the ministry.

In 2006/07, the KMT Division, including the Vital Statistics Agency, has an estimated operating budget of \$42.805 million, an estimated capital budget of \$53.479 million, and a projected staff complement of 263 full-time equivalents.

...fostering an evidence-based, decision-making culture in the ministry.

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Introduction

*Better use of
information and
communications
technology is vital...*

Provincial, national and even global developments continue to influence this year's Information Resource Management Plan (IRMP). Provincially, the ministry's 2006/07 – 2008/09 service plan articulates the goals, objectives and strategies on which the ministry and our partners will be focusing as we continue the redesign and reform of the health system. In February 2006, the Government released its 2006/07 – 2008/09 Strategic Plan, which described Five Great Goals for the province. They are congruent with current ministry Information Management/ Information Technology (IM/IT) plans, and the Great Goals can be expected to have significant ongoing ramifications for the overall health system.

The overarching ministry goal is to build a sustainable, publicly funded health system that will meet the needs of today's and future generations. To do this, the system is being redesigned to address the needs of the population in more effective, efficient and innovative ways. Adopting cost effective technology and information system solutions is a key component of the ministry's strategic approach.

Globally, security issues have resulted in an increased emphasis on protection for the integrity of British Columbia's vital records and personal medical histories. In addition, the recent growing outbreak of avian flu centred largely in Asia as well as the Canadian experience with SARS in 2003 have heightened the awareness of the need for a pan-Canadian mechanism to collect, share, and analyze the public health information that is critical for managing communicable diseases.

Despite increasing concern, indicators of population health and medical outcomes from BC Stats and the Vital Statistics Agency suggest that British Columbia's health system continues to meet its primary challenges. Life expectancy is rising every year, while mortality rates for conditions like cancer and chronic heart disease tend to be falling¹. However, pressure on the system is growing. Individual demand for medical services rises steadily with age, and the first of the "baby boomers" are now entering their early sixties. British Columbians are living longer, and they expect good health along with the medical support required to remain physically active well into their senior years.

Better use of information and communications technology is vital if we are to continue to meet the health and medical needs of British Columbians in the coming decades. Development of an Electronic Health Record

1. Vital Statistics Agency; Annual Report 2004 and quarterly updates July-September 2005
(<http://www.vs.gov.bc.ca/stats/annual/index.html>)

Improved information collection and management has been widely recognized as a priority area to assist health reform.

(EHR) capability has been identified as a key to health system renewal. In British Columbia, the April 2005 report by the Premier's Technology Council reiterated its direction, first stated in 2002, for the development of a provincial Electronic Health Record. This priority has also been stated in a number of other directional documents, including the ministry's service plans.

Improved information collection and management has been widely recognized as a priority area to assist health reform. The Auditor General's 2004 follow-up to his 2002 report, *Information Use by the Ministry of Health in Resource Allocation Decisions for the Regional Health Care System*, gave top marks to the ministry's efforts in the area of information management. The ministry will continue to build on this foundation over the coming years.

The health information and technology management environment is complex, but its underlying principle is simple and clear - business needs determine information processing requirements, which in turn, determine the appropriate technology infrastructure.

As shown in Figure 1, there are three broad levels in the basic business model: business needs, information processing, and underlying technology. The business needs determine the nature of the information required, and the technology makes the data from various sources available for the provision of this information. The model shows the planning and process flows - two key areas under direct management control. Clear goals, appropriate strategies, adequate resource allocations and specific performance measures underpin the plans at both the strategic and operational levels, and provide the basis for the Knowledge Management and Technology (KMT) Division to stay properly focused on its mission.

The basic IM/IT business model is designed to support both the decision-making needs of the health system and the day-to-day operations of the Ministry of Health. Information resource planning is an ongoing process, with the Information Resource Management Plan published annually. Well-defined and integrated processes, along with effective tools and project management methodologies, facilitate the disciplined execution of the ministry's IM/IT plans.

Information resource planning is an ongoing process...

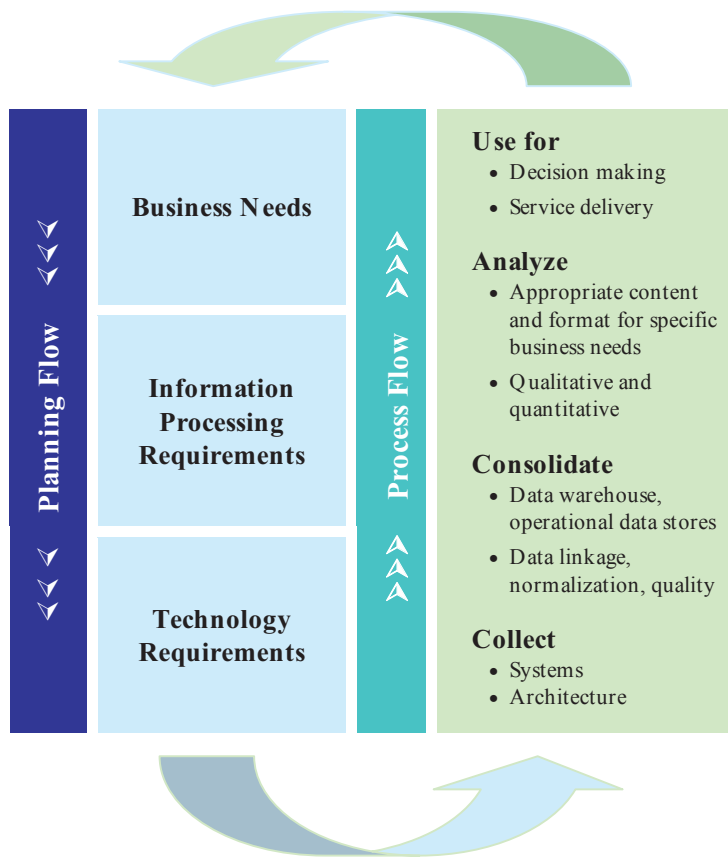


Figure 1 – Basic KMT Business Model

A more detailed depiction of the business environment, including stakeholders and specific KMT enabling features (as shown in pull-out boxes), is illustrated by means of Figure 6 in Appendix 1.

*...the integration
of data into daily
ministry operations
and policy
development...*

The Knowledge Management and Technology Division

The Knowledge Management and Technology Division was created in November 2003 to consolidate the ministry's IM/IT systems into one portfolio in order to ensure a coordinated approach to this critical component of the ministry's overall service delivery and business management environment.

The mandate of KMT is to build capacity for the integration of data into daily ministry operations and policy development, and to support the ministry's stewardship role. The division provides leadership to ensure that IM/IT strategies, policies, standards and technology initiatives support the integrated delivery of effective and efficient system-wide health information management. The division is responsible for the overall strategic development, implementation and evaluation of the information resource management plans of the Ministry of Health.

The Assistant Deputy Minister (ADM), KMT, is the chief advisor to the Minister and Deputy Minister of Health on knowledge management and technology. The ADM bears the ultimate management responsibility for the KMT Division. The Assistant Deputy Minister is supported in this role by the KMT Executive Committee, which includes the KMT Executive Directors, and is chaired by the ADM. The division's organization structure is shown as Figure 5 in Appendix 1.

Ministry Core Businesses

The Ministry of Health has three core business areas:

- *Stewardship and Corporate Management*
- *Services Delivered by the Ministry*
- *Services Delivered by Partners*

The ministry sets the overall strategic direction for the health system...

Stewardship and Corporate Management

As steward of the health system, the ministry provides leadership and support to its health system partners, including health authorities, physicians and other care providers.

The ministry sets the overall strategic direction for the health system, provides the appropriate legislative and regulatory frameworks to allow it to function smoothly, and plans for the future supply and utilization of health professionals, technology and facilities. The ministry also monitors the health of the population, and plans for and coordinates responses to major public health risks and emergencies.

As part of its stewardship role, the ministry evaluates health system performance against clearly articulated expectations, and takes corrective action, when necessary, to ensure the population's health needs are being met. This core business area includes the Office of the Provincial Health Officer. Under the Health Act, the Provincial Health Officer is the senior medical health officer for British Columbia and provides independent advice to the Minister of Health, the ministry and the public on public health issues and population health. Each year, the Provincial Health Officer must report publicly, through the Minister of Health, to the legislature on the health of the BC population.

The ministry monitors and evaluates system performance and the overall health of the population of the province by collecting and analyzing health system data. By monitoring and evaluating the health system, the ministry is able to take evidence-based corrective action when necessary, and stay well informed concerning evolving requirements for the development of effective service plans and performance agreements.

Under the ministry's corporate management role, it manages ministry budgets, as well as its human resources and ongoing information needs. In order to properly fulfill the stewardship role, it is essential for the ministry to manage its underlying corporate functions in the most efficient and cost effective manner possible.

Our partners deliver, by far, the majority of health services to the public.

Services Delivered by the Ministry

This core business area encompasses two important public services: the BC Ambulance Service (BCAS), which is delivered through the Emergency Health Services Commission, and the Vital Statistics Agency.

The BC Ambulance Service is responsible for providing effective, efficient and equitable emergency health services for the province. Approximately 1,100 full-time and 2,200 part-time paramedics and dispatchers provide emergency and medical transport services. BCAS is a provincial service with 190 stations and 450 ambulances across the province, providing more than 460,000 ground calls and 6,700 air evacuations annually.

The Vital Statistics Agency is a special operating agency that is responsible for documenting important events for BC citizens such as births, marriages, and deaths. It maintains registries and records of those events back to 1872. There are two primary outputs of the Agency's vital event registration activities: the production of accurate, timely and relevant health statistics and information, and the issuance of certified documents pertaining to individual vital events (e.g. birth certificates). The Agency also has a key responsibility to secure and protect personal identity records by taking appropriate measures to prevent identity theft and any associated frauds that relate to British Columbia vital event records and documents.

Services Delivered by Partners

Our partners deliver, by far, the majority of health services to the public. These services span the continuum of health care, from population health programs to end-of-life care. Accordingly, this core business area accounts for the great majority of health expenditures, and is an important aspect of the system redesign efforts reflected in this plan. The key areas included in this core business are:

Regional Health Sector

BC's six health authorities are the ministry's primary organizational partners in delivering services to British Columbians. More than 90 per cent of the Regional Health Sector funding is provided to the six health authorities for the delivery of most local health services, including health promotion and protection services, primary care, hospital services, home and community care, mental health and addiction services, and end-of-life care. The remaining funds are provided to other health agencies for related health services such as the delivery of blood services, out-of-province hospital services, post-graduate medical education, health care risk management, and some palliative care services.

Medical Services Plan

The Medical Services Plan funds medically necessary services provided by physicians, surgeons, midwives and other practitioners, as well as diagnostic services. Services are funded in a variety of ways: through fee-for-service, contracts (including contracts with health authorities), and salaried positions or sessions. Medical Services Plan funding also provides supplementary benefits to low-income British Columbians for a range of services, including physical therapy, naturopathy and chiropractic care.

PharmaCare

PharmaCare is BC's prescription drug insurance program and includes several benefit plans. The main plan is Fair PharmaCare, which provides insurance to BC families for prescription drug costs. Several other plans exist to address the health needs of individuals, including seniors in long-term care facilities, severely disabled children who are cared for at home, enzyme treatment for people with cystic fibrosis, and clients on provincial income assistance.

Health Benefit Operations

Health Benefit Operations provides administrative services for BC's PharmaCare Program and Medical Services Plan. These services do not involve direct health care delivery, but include registering beneficiaries, processing medical and pharmaceutical claims from health professionals, and responding to inquiries from the public. Since April 1, 2005 these administrative services have been delivered by Health Insurance BC through an operating agreement.

BC's health authorities, health agencies and the various direct care providers are the ministry's key partners, and deliver the majority of health services to the public. Although the ministry does not directly deliver many of the services that influence health outcomes, it bears ultimate responsibility for the overall health system.

Collaboration and sharing with partners is a fundamental priority for the Ministry of Health. With the demand for services increasing, collaboration is not only an effective strategy to facilitate the broad adoption of standards and best practices, it is essential to maximizing the value obtained from the use of public funds. Appendix 2 briefly describes the ministry's major partners and stakeholders, and also indicates the basic nature of their collaboration with the KMT Division.

Collaboration and sharing with partners is a fundamental priority for the Ministry of Health.

*...investments
in information
management and
technology to improve
patient care and
system integration.*

Strategic Context

Vision

The ministry's vision is:

"A health system that supports people to stay healthy, and when they are sick provides high quality publicly funded health care services that meet their needs where they live and when they need them."

Goals

The ministry's three goals are:

Goal 1: Improved Health and Wellness for British Columbians

"British Columbians are supported in their pursuit of better health through health protection and promotion and disease prevention activities."

Goal 2: High Quality Patient Care

"Patients receive appropriate, effective, quality care at the right time in the right setting. Health services are planned, managed and delivered in concert with patient needs."

Goal 3: A Sustainable, Affordable Publicly Funded Health System

"The public health system is affordable, efficient and accountable, with governors, providers and patients taking responsibility for the provision and use of services."

In support of Goal 3, (*A Sustainable, Affordable Publicly Funded Health System*), the ministry has determined that its IM/IT objective is to make:

"Strategic investments in information management and technology to improve patient care and system integration."

The ministry's performance measure for Goal 3 is "Physician uptake of eHealth technology." This measure has been selected because of the underlying importance of eHealth in transforming the health care system and in recognition that such fundamental transformation can only take place if physicians actively and enthusiastically adopt the related technology.

IM/IT Strategies

The ministry has adopted four key strategies that relate to the above IM/IT objective and support the ministry goals:

1. Enable province-wide integration of, and access to, clinically required, person specific data (electronic health record)
2. Expand telehealth to improve access to health services for rural and remote areas
3. Improve data availability and quality for management
4. Expand public access through web applications

Enable province-wide integration of, and access to, clinically required, person specific data...

Figure 2 below, illustrates the basic linkages between the ministry vision, ministry goals, the ministry's basic IM/IT objective, and its four associated IM/IT strategies, along with the related performance measure.

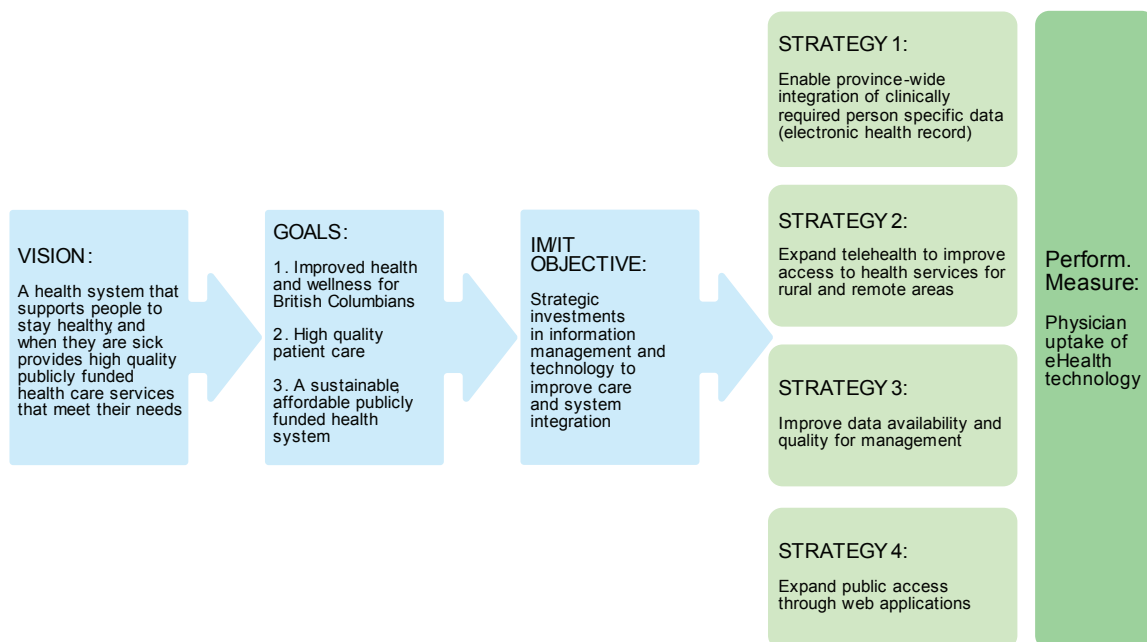


Figure 2 – Strategic Linkages

...health care information is accessible, when and where it is needed...

Applying the four key IM/IT strategies to support the cost effective provision of health services gives rise to the use of an integrated Electronic Health Record and a broad system of electronic health service delivery (eHealth). In British Columbia, eHealth is defined as:

“An integrated set of information and communication technologies, together with related health delivery process enhancements, that:

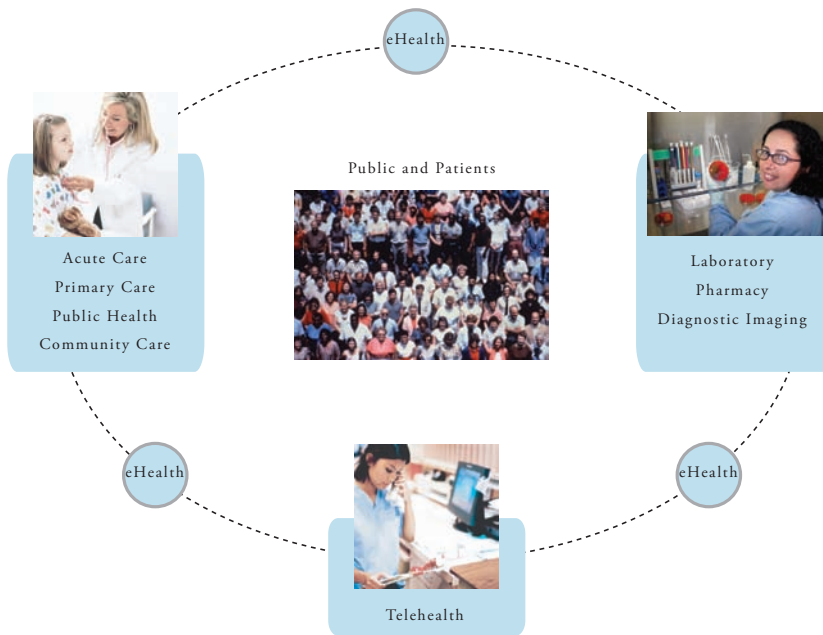
- Enables the efficient delivery of health care services over the full continuum of care through the provision of integrated, interoperable health information systems, tools and processes;
- Transforms the health sector decision-making culture into one that is firmly supported by accurate, timely and relevant information in a manner that protects individual privacy, respects clinical practice requirements and sustains the long-term viability of the health care system; and
- Encompasses the interoperable Electronic Health Record and telehealth.”

The underlying vision for eHealth in British Columbia can be summarized as:

“An integrated, interoperable eHealth system in which health care information is accessible, when and where it is needed, to support personal health, health care decision making and health system sustainability.”

Figure 3 shows the key components of health care that will be interconnected through eHealth, and which will lead to the transformation of health service delivery across the continuum of care in British Columbia. Reliance on an interoperable Electronic Health Record will be one of the most critical features of eHealth, facilitating the timely communication of reliable patient health information throughout the entire spectrum of health service delivery.

In this eHealth vision, citizens (i.e. the public) and patients are the focal point of health care delivery. Health information needs to be centered on and organized around citizens and individual patients, rather than the places where the services are delivered (hospitals, clinics, individual medical practices, etc.).



The resulting efficiencies generated throughout the system will only be fully realized over a longer period of time.

Figure 3 – The eHealth Vision

Implementing eHealth across the province requires an immediate as well as an extended investment of substantial human and financial resources. The resulting efficiencies generated throughout the system will only be fully realized over a longer period of time.

In a 2005 document setting out Canada Health Infoway's 10-year investment strategy, Booz Allen Hamilton estimated that the acquisition cost for a Pan-Canadian EHR delivered over a 10-year period would be approximately \$10 billion. This is made up of: \$1.4 billion for Physician Practice Systems, \$3.9 billion for Inpatient Systems, \$1.8 billion for a Long-term Care System, \$0.05 billion for a Home Health extension, and \$2.9 billion for the Infrastructure costs.

Booz Allen Hamilton also estimated that as a result of implementing a Pan-Canadian EHR, the following savings would be achieved over a 20-year period:

- \$3.6 billion from the reduction of duplicate and unnecessary radiological tests;
- \$10.4 billion from the reduction of duplicate and unnecessary laboratory tests; and
- \$48.3 billion from reduced ambulatory, hospital and long-term care adverse drug reactions.

The EHR has the potential to provide patients with safer, higher quality care...

Canada Health Infoway makes strategic investments in the provinces and territories to implement interoperable Electronic Health Record and telehealth solutions across the country. Over 5 years, BC is expected to acquire in the order of \$120 million in funding from Infoway.

In November 2005, British Columbia completed an eHealth Strategic Framework. It outlined how eHealth initiatives will improve patient care, and help health professionals to deliver faster, better and safer care, as well as provide a number of benefits for the entire health system. As indicated in the framework, the six basic steps designed to implement and realize British Columbia's vision for eHealth are to: establish strong governance and leadership; foster collaboration and joint procurement; leverage available financial resources; fully safeguard privacy and security; build on British Columbia's existing health information technology foundation; and implement eHealth in incremental phases.

The ministry's four key IM/IT strategies are also fully congruent with its efforts to realize eHealth. In addition, these strategies support the four Government IM/IT goals: to enhance service and access for clients; to contain and reduce IM/IT costs across government; to improve internal operational efficiency and decision making; and to create an environment that supports provincial economic development.

The following section of the IRMP examines the four ministry IM/IT strategies in terms of the basic nature of those strategies, and also provides some examples of the projects being undertaken as a direct result of each.

Strategy 1: Enable province-wide integration of clinically required person specific data (electronic health record)

There is general agreement among governments in Canada that an electronic health record system, offering secure access to a patient's health history and care events, would provide a substantial improvement to the effectiveness of patient care and enable system-wide efficiencies in health delivery. The EHR has the potential to provide patients with safer, higher quality care; reduce duplication of tests and information collection; and improve access to authoritative general health information and to an individual's personal health record details.

For many years, governments, health organizations and health service providers have been collecting information about the operation of the health system. While much of this information is general in nature (for example, the total numbers of orthopaedic surgeries performed in a region or in a specific hospital), some of it can also be patient specific. However, even when it is patient specific, it is typically provider or facility centric (for example, patient records held in a particular physician's office or a list of prescriptions provided from a local pharmacy for a specific patient).

The Electronic Health Record is ultimately more about changing business practices...

Much of the current patient-specific information is associated with a number of different medical offices or locations, and scattered across multiple data systems. As a result, critical information is not always readily available to individual physicians or other service providers at the time when health care decisions are being made. An interoperable Electronic Health Record system offers the ability to electronically link together health information to directly support clinical and management decision making, and help move the health care system towards a more seamless, integrated continuum of care.

British Columbia is actively developing an Electronic Health Record capability. It is a cornerstone of government's comprehensive strategy to deliver safer, faster and more effective treatment to patients. Enabling care providers to access clinical information, such as patient medication profiles, lab test and other diagnostic results using web-based technology is a high priority. British Columbia's approach to implementing an interoperable EHR system is to build on, and adapt over time, our existing technology infrastructure, systems and data repositories.

Both the provincial and federal governments have committed to the development of an EHR, and a substantial part of new federal health funding is targeted at improving health data, including the development of a pan-Canadian EHR capability. The province recently formed an executive-level eHealth Steering Committee to accelerate the development and implementation of electronic health systems for British Columbia. The committee is a partnership involving the ministry, the health authorities and the health care service provider community.

The Electronic Health Record is ultimately more about changing business practices in health care service delivery than it is about adopting information technology. Building an EHR represents a major business challenge to health administrators. It involves change management for service delivery processes and related information flows, as well as participation from a wide array of business managers and clinical experts. It also requires innovative new systems development, and integrated linkages between previously isolated systems and geographically separated communities.

The projects supporting this strategic initiative tend to involve two broad areas:

- Updating existing clinical and data systems to enable and facilitate their linkage into a broad, fully interoperable, province-wide EHR system. This may include adjusting existing systems to improve their security controls, expanding the functions of existing systems to make them more useful to practitioners, or converting previous paper and film-based systems to a digital format for easier sharing and integration. Areas currently involved or being considered include: drug prescribing and dispensing, diagnostic digital imaging, as well as laboratory test ordering and results delivery.

...link care providers to electronically held health information at the point-of-care.

- Developing new integrated standards and infrastructure. Areas currently involved or being considered include: user authentication, patient and provider registries and identity management, as well as improved security for data storage and transmission.

A complete listing of IM/IT business initiatives and requirements is contained in Appendices 3 and 4. The following briefly highlights some of the major projects planned for 2006/07 in support of this EHR strategy:

Interoperable Electronic Health Record (iEHR)

The iEHR is a series of computer applications that will link care providers to electronically held health information at the point-of-care. An iEHR viewer will provide clinicians, working in most care settings, with access to a range of clinical information including lab results, medication histories and diagnostic images. It will also act as a jumping point to other clinical information systems providing more detailed patient information (e.g. hospital information systems).

Provincial Diagnostic Imaging - Archive and Viewer

BC has developed a provincial Diagnostic Imaging (DI) strategy to use information technology to increase the value of imaging services provided for health care delivery. The key project within the strategy will deploy a provincial DI archive, which will function as the long term storage facility for most diagnostic images, replacing the need for health authority and local image archives. It will also provide the mechanism for clinicians to access images regardless of the institution or region in which the DI study was originally undertaken. In addition to the archive, British Columbia is introducing a provincial DI viewer.

Provincial eDrug Project

British Columbia will leverage the existing capability of PharmaNet and further enhance it to improve clinician access to patient medication history, and increase the scope of medications recorded to include drugs dispensed in physician offices and acute care settings. This project will also set the foundation for and introduce ePrescribing, which will permit a physician to electronically generate prescriptions, and then transmit them directly to the patient's pharmacy of choice. The system will be designed so as to minimize the possibility of preventable adverse drug reactions as a result of allergies or inappropriate prescription combinations.

Provider Registry – Health Authority Uptake

The Provider Registry System was designed by, and implemented in, the four western provinces. This project will develop and implement the required registry interfaces to health authority business and clinical information systems.

Telehealth can be especially useful in remote or under-serviced areas...

Provincial Client Identity Management - EMPI

The Enterprise Master Person Index (EMPI) will help enable EHR capability by providing the means to effectively identify the health records (lab results, medication histories, diagnostic reports, discharge summaries, etc.) that all belong to the same patient. To address the problem of identifying what records belong to a single patient, British Columbia is implementing a new technology to enhance the existing client registry system. It will enable the linkage of patient demographic information contained in the province's and health authorities' key client registry/clinical systems.

Provincial Laboratory Information Solution

This project will support health care providers with a standardized view and timely access to laboratory information at the point-of-care, anywhere in the province. It will provide physicians and other health care providers with more complete, timely and relevant information to support medical decision making.

Strategy 2: Expand telehealth to improve access to health services for rural and remote areas

Telehealth is the use of communications and information technology to enable clinical consultation, health care management, general health promotion, and continuing professional education, when the participants are in separate locations. It can be used to collect, organize and share information for patient assessment, diagnosis, and treatment, by remotely linking medical practitioners to patients and their information. Telehealth can help overcome barriers of geography and transportation infrastructure, as well as socioeconomic disparity. Telehealth can be especially useful in remote or under-serviced areas by helping to improve patient access to a number of required medical services.

There are many telehealth activities currently taking place in British Columbia, including:

- planned consultations that allow the patients of rural primary care providers who live in remote locations to receive medical assessment and care planning from medical specialists over a secure videoconferencing network, rather than having to travel long distances to receive these specialist services;

*...follow-up care
between the
community hospital
and the home of a
recovering patient...*

- follow-up care between the community hospital and the home of a recovering patient;
- specialist rounds between sites across the province for patient case review and planning of treatment options;
- continuing medical and nursing education sessions delivered from tertiary centres or teaching hospitals both within and outside of BC;
- digital image transfer between hospitals throughout BC; and
- virtual family visits for patients who are hospitalized far from home.

The province established a Telehealth Steering Committee that reports to the eHealth Steering Committee. The Telehealth Steering Committee is responsible for providing leadership and support that will result in appropriate standards, policies and infrastructure so as to enable interoperable telehealth activity across the province, as well as coordinated development and execution of a comprehensive provincial telehealth strategy. It works in consultation with the health authorities, the eLearning community, and the UBC medical school.

Major areas of current focus in addressing the provincial telehealth strategy, include:

- Securing funding to ensure the sustainability of existing telehealth capacity as it relates to any eHealth initiatives and projects. This involves fast-tracking the identification of priorities and outlining a plan for the province, which aligns with Canada Health Infoway requirements, and supports both identified First Nation and health authority needs.
- Expansion of virtual thoracic (chest) surgery clinics, telepharmacy solutions, wound care management, and mental health services are examples of the activity planned for several regions. A number of health authorities have implemented, or are in the process of implementing picture archiving and communication systems (PACS), which facilitate the movement and storage of digital diagnostic images. Work processes within health authorities are being adapted so as to tap into the potential that digital storage and access has to offer for the provision of telehealth services.
- Changes to the Fee Schedule Preamble and for new fee codes to compensate physicians for provision of consultation services via telehealth continue to be put forward. Codes for general practice; psychiatry; rheumatology; plastic surgery; pediatrics; dermatology; ophthalmology; and thoracic surgery received approval from the Medical Services Commission in 2005.

A complete listing of IM/IT initiatives and business requirements is contained in Appendices 3 and 4. The following briefly highlights two of the major initiatives in support of this strategy:

Much of the data currently collected has been maintained at local sites for use in managing the local operation...

Telehealth 811 Initiative

BC's vision for eHealth is to support a citizen/patient-centric health environment with integrated services to efficiently deliver high-quality and coordinated health care. A key vehicle for implementing this vision is telehealth, which includes 811 services. The objective of the 811 project is to work in conjunction with the Yukon to utilize communication and information technology to deliver health services and help the public navigate the health system.

Telepathology Project

The purpose of the telepathology project is to provide leadership for the development and implementation of an integrated, cost effective, sustainable, provincial telepathology network, within and across health authorities/regions. It will improve patient care and safety through better access to pathology expertise, timeliness of results and quality of service within the province.

Strategy 3: Improve data availability and quality for management

Much of the data currently collected has been maintained at local sites for use in managing the local operation, whether it is personal patient information to assist with the management of care delivery, or organization, finance and staffing records to assist with the management of the institution.

The collection of data at the regional, provincial or national level has primarily been related to epidemiological studies (incidence of disease in a large population) or life events (births, deaths, and cause of death). Much of this data has been used for long-term studies of health status, and whether that status is improving or declining in various areas and as a result of specific causes. The collection of this data has often been performed on an annual or even less frequent basis, where the timeliness of the data was not a major issue.

There continues to be an increasing expectation that management decisions in the field of health service delivery are to be made in a transparent manner, and should be based on clear and credible data. The emergence of major service demand and access issues, coupled with the recognition that funding for the health care system would not grow at the same rate as service demands have heightened the recognition of the need for faster, more responsive management of the underlying system.

...demand for improved and more timely data continues to drive the review of existing data and clinical systems.

The resultant demand for improved and more timely data continues to drive the review of existing data and clinical systems. The overall objective is to meet a heightened management requirement for data and information to support sound, timely, evidence-based decisions.

As in previous years, the initiatives, in support of this strategy, tend to involve two areas:

- Modifying existing management information systems or developing new systems to accommodate the transition of the ministry from program delivery to health system stewardship. The intent is to improve the health system's human resource planning and monitoring, improve access to and reporting from health databases, while ensuring appropriate security for organizational and personal information.
- Enhancing existing systems or developing new systems to provide authoritative clinical health information to service providers and patients for care areas such as chronic disease management, emergency services and patient safety, especially in more remote locations.

A complete listing of IM/IT initiatives and business requirements is contained in Appendices 3 and 4. The following highlights some of the major projects planned for 2006/07 in support of this strategy:

Aggregated Health Information Project (AHIP)

The purpose of the Aggregated Health Information Project is to create an integrated, provincial health information management infrastructure capable of quickly supporting new types of analyses, as the need arises. Through a staged and iterative process, AHIP will provide a strategic information management framework for the Ministry of Health and the health authorities.

AHIP will integrate currently separated health data sources and systems into a more accessible, knowledge-based, corporate decision support framework.

BC Public Health Information Project (BC PHIP) - BC Implementation of Pan-Canadian Solution

British Columbia leads a national project that involves the development of a client and population-centred information system to improve access, delivery and integration of health care services for managing communicable diseases.

The second phase of this project will be the implementation of the system in British Columbia. The BC Public Health Information Project will enhance the province's ability to perform public health surveillance and deliver public health services by implementing the Pan-Canadian solution in BC,

developing an IT Strategic Plan which will guide the ministry and the health authorities in their efforts to coordinate support to BC's public health community, and delivering systems to support environmental health and health protection in the province.

...a patient surgical registry based on patient needs...

Data Stewardship and Access Management Project

This project is intended to develop a comprehensive solution to the management of access to personal information banks maintained within the ministry. Once implemented, the solution will allow the ministry to more effectively manage its workload as data steward by providing a centralized repository of data access and sharing information. It will also assist the ministry in responding to enquiries from the Office of the Information and Privacy Commissioner related to the status of requests for access and data sharing agreements.

Population Health and Wellness Data Strategy Implementation

This project is intended to define requirements and a common data format for health authority reporting with respect to public health core functions. Such data will support the development of robust performance indicators and support development of the Provincial Health Officer's annual report on population health. This will include ongoing data refreshes from common sources, such as Home and Community Care, Vital Statistics Agency, BC Centre for Disease Control, etc.

Provincial Surgical Services Project (PSSP) - Registry

PSSP is a collaborative, province-wide project aimed at:

- developing provincial standards, as well as quality and performance measures for surgical services;
- creating processes for the ongoing collection of consistent data to support better planning and decision making;
- ensuring existing resources are allocated and applied appropriately to areas of greatest need; and
- developing province-wide resources for health authorities to help them improve their surgical services.

The overarching purpose of the PSSP is to build a patient surgical registry based on patient needs, with a focus on transparency, consistency and supporting evidence.

...electronic access to basic health related information...

Strategy 4: Expanding public access to health services and health information through web-based applications

The advent of the Internet has contributed to greatly expanded familiarity of citizens with the use of computers. Increasingly, people rely on the Internet to gather information, conduct day-to-day business, and to help handle their personal affairs.

Many commercial organizations in the service sector have recognized and taken advantage of major opportunities to improve the quality of client service by using the Internet, while at the same time, achieving substantial operating efficiencies. There is an ongoing need for the health care system to achieve similar benefits.

The IM/IT initiatives, in support of this strategy, continue to focus on two distinct service aspects:

- Improving the delivery of specific health services by providing electronic access to health support through the ongoing redesign of the ministry web site and the chronic disease management web site, as well as improved delivery of the BC NurseLine system, along with possible related alternative service delivery options for ministry programs.
- Improving general information delivery through electronic access to basic health related information aided by the ongoing redesign of the ministry web site, as well as seeking new electronic delivery systems for BC HealthGuide and surgical wait list information.

A complete listing of IM/IT initiatives and business requirements is contained in Appendices 3 and 4. The following briefly highlights two of the major projects planned for 2006/07 in support of this strategy:

BC Clinical Practice Guidelines and Protocols Web Enhancement

A better organized, inviting and interactive website targeted at physicians will replace the existing site and support improved access to and utilization of the Clinical Guidelines.

Public Health Web Site Redesign

This project is intended to develop an overall web redesign strategy and plan for the ministry's Public Health Web Site that is theme based, and designed to ensure ease of access and navigation for the public, while maintaining underlying consistency with the ministry's service plan and broader government communications requirements.

In Closing

An earlier section highlighted how key, proposed initiatives are aligned with the four ministry IM/IT strategies. In addition, the ministry IM/IT strategies support the four key government IM/IT goals: to enhance service and access for clients; to contain and reduce IM/IT costs across government; to improve internal operational efficiency and decision making; and to create an environment that supports provincial economic development.

Many of the projects represent continuations from the 2005/06 IRMP. These projects will continue to be shown until they are completed and fully implemented. New projects will be introduced as and when they receive the appropriate ministry approvals.

In developing the 2006/07 IRMP, an extensive consultation and planning process was undertaken with ministry program areas to identify their information management and technology requirements. In addition, a Capital Planning Executive Committee, composed of senior ministry program representatives, was established to review those requirements and proposed initiatives in terms of their strategic value, urgency, cost saving, cost sharing and risk.

The Ministry of Health evaluates the critical aspects of each IM/IT initiative along with its partners, before making the decision to invest its limited resources. Each potential project will be thoroughly scrutinized for the strategic value it offers to the ministry, its partners and stakeholders; its urgency; its cost and return on investment; how it supports the ministry Service Plan; and how much potential risk is inherently associated with the project.

Once fully reviewed by the ministry's Capital Planning Executive Committee, a well-founded IM/IT investment decision can be properly justified, and the work funded and undertaken with confidence.

The Ministry of Health evaluates the critical aspects of each IM/IT initiative...

Appendix 1: Knowledge Management and Technology Division

Resource Summary

Financial and Human Resource Estimates		
	2005/06 Budget (Restated)	2006/07 Budget
KMT Division (excluding Vital Statistics)		
Operating Expenditures	\$ 32,690,000	\$ 36,066,000
FTEs	165	184
Capital Expenditures		
Information Systems	\$ 7,700,000	\$ 7,700,000
Electronic Health Record		
Ministry	9,330,000	11,307,000
Canada Health InfoWay	14,480,000	33,922,000
Total Capital	\$31,510,000	\$52,929,000
Vital Statistics Agency		
Operating Expenditures	\$ 6,786,000	\$ 6,739,000
FTEs	85	79
Capital Expenditures		
Information Systems	\$ 525,000	\$ 525,000
Furniture/Equipment	25,000	25,000
Total Capital	\$ 550,000	\$ 550,000
Revenue	\$ 9,249,000	\$ 9,249,000
KMT Division - Total		
Operating Expenditures	\$ 39,476,000	\$ 42,805,000
FTEs	250	263
Capital Expenditures	\$ 32,060,000	\$ 53,479,000
Revenue	\$ 9,249,000	\$ 9,249,000

Figure 4 – Resource Summary

Notes:

1. This chart summarizes the financial and human resources within the ministry allocated to Knowledge Management and Information Technology Division operations for 2005/06 and 2006/07.
2. 2005/06 figures have been restated for comparative purposes to reflect inter-ministry and intra-ministry transfers.
3. In addition to the above estimates for capital expenditures, BC Ambulance Services and the Provincial Lab Coordinating Office are allocated capital budget for information systems capital expenditures.
4. In addition to the above estimates for capital expenditures, the six health authorities are allocated capital budget for information systems capital expenditures.

KMT Organization Structure

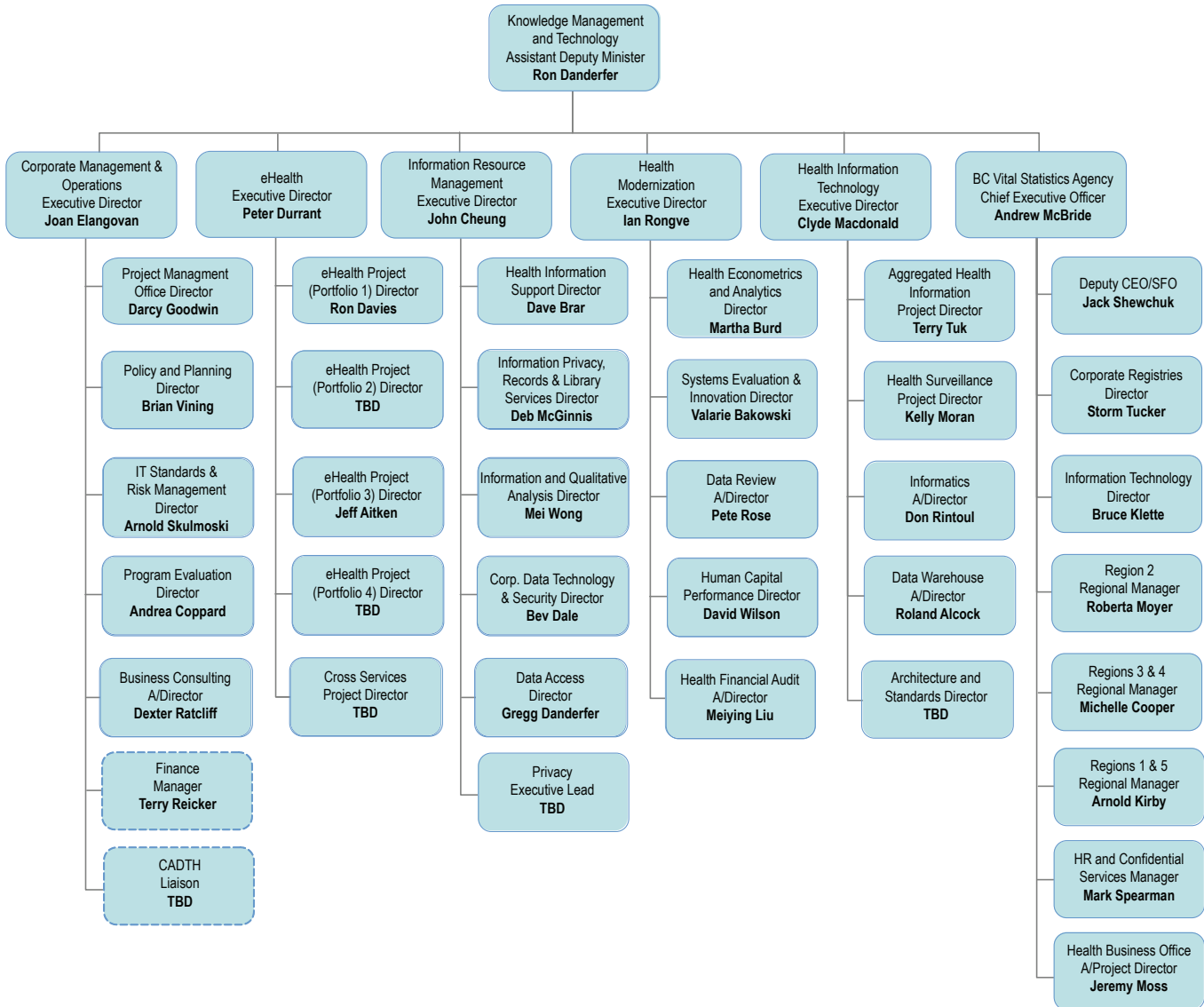


Figure 5 – KMT Organization Structure

Accountability Statements

I am the Assistant Deputy Minister of the Knowledge Management and Technology Division. I am accountable for the following results:

- Enable the consolidation and transformation of information technology and information management systems into one portfolio to ensure a coordinated approach in this critical area;
- Build the capacity for the integration of data into our daily operations and policy, and support our stewardship role;
- Provide leadership for the eHealth and all other ministry IM/IT initiatives, ensuring that the IM/IT strategies, policies, standards and technology initiatives support the integrated delivery of system-wide health information management; and
- Ensure the overall strategic development, implementation and evaluation of the Ministry of Health information resource management plans.

Original signed by,

Ron Danderfer

I am the Executive Director of the Corporate Management and Operations Branch (CMO) in the KMT Division. I am responsible for strategic and business planning and policy, provision of business solutions to the ministry including outsourced services, the project management office, system capital budget management, financial oversight, and integrated informatics services. In addition to my overall responsibilities, I am accountable for the following specific deliverables in 2006/07:

- Develop sector-wide strategies for a heightened awareness of and commitment to provincial eHealth priorities in BC;
- Develop a framework for managing health technology assessment, and establish a liaison capacity with the Canadian Agency for Drugs and Technologies in Health (CADTH);
- Streamline the management of system capital funds, including Canada Health Infoway investments;
- Develop an IM/IT risk management framework; and
- Develop and implement a streamlined business consulting and resource allocation model.

Original signed by,

Joan Elangovan

I am the Executive Director of the eHealth program in the KMT Division. I am responsible for the effective development and implementation of eHealth projects across the province by working closely with the CIOs of the health authorities. In particular, I am responsible for ensuring development of the Electronic Health Record, and ensuring interoperability across BC, while protecting privacy and security, as well as its compliance with provincial standards. I also work with other jurisdictions to advance national eHealth strategies.

For eHealth projects, as identified and approved by the eHealth Steering Committee, the Health Leadership Council, and the ministry, I am accountable for the following specific deliverables in 2006/07:

- Develop and coordinate project charters and comprehensive project business plans;
- Provide project management support and coordination;
- Ensure that eHealth projects comply with the provincial eHealth architecture and standards;
- Ensure the execution of projects within timeline and budget, resolving or escalating any related issues where necessary;
- Monitor and report progress;
- Negotiate with Canada Health Infoway regarding project funding; and
- Identify and promote joint procurement and shared services within the health sector.

Original signed by,

Peter Durrant

I am the Executive Director of the Information Resource Management Branch (IRM) in the KMT Division. I am the ministry data steward for all programs excluding BC Vital Statistics and BC Ambulance Services. I am responsible for the ministry's freedom of information and protection of privacy program, information support, data access, library services and records management. I am accountable for the overall management of IRM and support the Corporate Management and Operations Branch in ensuring the integrity and cost-effective operation of the data capture and storage systems for health information used by the ministry and the health authorities. I am accountable for the following specific deliverables in 2006/07:

- Develop and deliver an eHealth privacy framework that will enable establishment of eHealth systems in BC, and liaise with Canada Health Infoway on privacy issues relating to their funded eHealth projects;

- Develop and implement improved processes and an updated data access agreement, incorporating current legislation, privacy requirements and linkages with external databases, for researchers requesting health data from the Ministry of Health;
- Work with the Ministry of Labour and Citizens' Services to develop new processes for managing changes to freedom of information and protection of privacy legislation affecting the Ministry of Health and health authorities;
- Update the PURRFECT suite of application tools used to analyze utilization patterns of health care resources in communities;
- Implement new financial and statistical indicators for the HAMIS web-based management information tool for health authorities;
- Improve quality of acute care, financial and statistical data through the efforts of joint ministry/health authority/CIHI data quality working groups for the MIS and DAD;
- Develop policies and procedures for auditing and compliance monitoring to ensure information security and protection of privacy, and implement security audits;
- Provide health care partners with province-wide access to an expanded collection of high quality electronic health resources through the new electronic health library initiative of the Electronic Health Library Consortium of BC;
- In collaboration with the Health Modernization Branch of KMT and the Performance Management and Improvement Division, develop a new Surgical Wait List website incorporating benchmarks for medically accepted wait times for priority areas, as directed by the federal/provincial/territorial Ministers of Health; and
- Work with the Provincial Lab Coordinating Office and other agencies to determine and implement appropriate information systems with secure views of data for analytical requirements to support enhancement of the health care system.

Original signed by,

John Cheung

I am the Executive Director of the Health Modernization Branch in the KMT Division. I am responsible for building a modeling and analytical capacity in the Ministry of Health and the BC health system, and for integrated informatics services. In addition to my overall responsibilities, I am accountable for the following specific deliverables in 2006/07:

- Oversee the development of provincial models addressing long-term or critical issues facing the BC health care system;

- Timely analysis of current and ongoing issues facing the health care system in BC;
- Support for workforce transformation in the Ministry of Health and the BC health system;
- Conduct analyses, reviews and assessments, and develop strategies that improve the return on provincial investment of financial, human and capital resources; and
- Verify data quality and the interpretation of material submitted through the Data Quality and Assurance Program.

Original signed by,

Ian Rongve

I am the Chief Executive Officer of the Vital Statistics Agency (VSA) in the KMT Division. I am accountable for the overall management of the VSA, and to ensure the integrity and cost-effective operation of the related data registries. I am accountable for the following specific results in 2006/07:

- Continued effort to reduce the time delays in the birth reporting process with a target of 45 days for 90% of births in March 2007, from a level of 50 days in March 2006 (time from the date of birth to receipt of the Registration of Live Birth form from the parents);
- Work with the Perinatal Database group of the BC Reproductive Care Society to streamline birth reporting systems, reduce duplication, and enhance timeliness of reporting;
- Continue to work with federal government departments and other provinces in setting up a federal / provincial / territorial network that will allow vital event data to be delivered from “producing” organizations (the VSA) to authorized “subscribing” organizations (federal departments and the vital statistics organizations of other provinces and territories), including verification of key information;
- Implement a system for electronically registering newborns with the Social Insurance Register (federal) for assignment of social insurance numbers and enrollment with the Medical Service Plan as part of the birth registration process;
- Enhance vital event registration and services through increased use of public sector partnerships and through the development and implementation of electronic death registration and marriage licence issuance systems;
- Implementation of the data sharing agreement with Simon Fraser University to enhance health research based on vital event data;
- Develop new data sharing agreements with users of vital statistics data to ensure compliance with recent legislative changes;
- Develop, design and prepare an implementation plan for reliable client identity management in the provincial health system;

- Resolution of legislative and data access issues related to key ministry registries, including the Client Registry, the Enterprise Master Patient Index and the Provider Registry;
- Completion of development and commencement of implementation of the Enterprise Master Patient Index in three health authorities, as well as development of plans for implementation in the three remaining health authorities and the Medical Services Plan;
- Facilitate uptake by health authorities in accessing and using the ministry Provider Registry; and
- Assume responsibility for the ministry's management of Workplace Technology Services (WTS) utilized by the ministry, including management of the 2006/07 workstation refresh program.

Original signed by,

Andrew K. McBride

I am the Executive Director of the Health Information Technology Branch in the KMT Division. I am accountable for the overall direction and management of the Pan-Canadian Health Surveillance Project, the Aggregated Health Decision Support Information Initiative, and the BC Public Health Information Project. In addition to these general responsibilities, I am accountable for delivery of the following results in 2006/07:

- Provide leadership and advice for implementation of the Pan-Canadian system;
- Develop and implement the British Columbia Communicable Disease Surveillance system;
- Develop a strategic plan to coordinate support to BC's public health community;
- Provide leadership for the development of systems to support environmental health and health protection in the province;
- Coordinate with health authorities and service providers, physicians, etc., in the development of alert and tracking systems;
- Provide leadership for the development of the Aggregated Health Information Project; and
- Promote and manage knowledge transfer, and facilitate the better use of data through improved technology.

Original signed by,

Clyde Macdonald

Business Environment

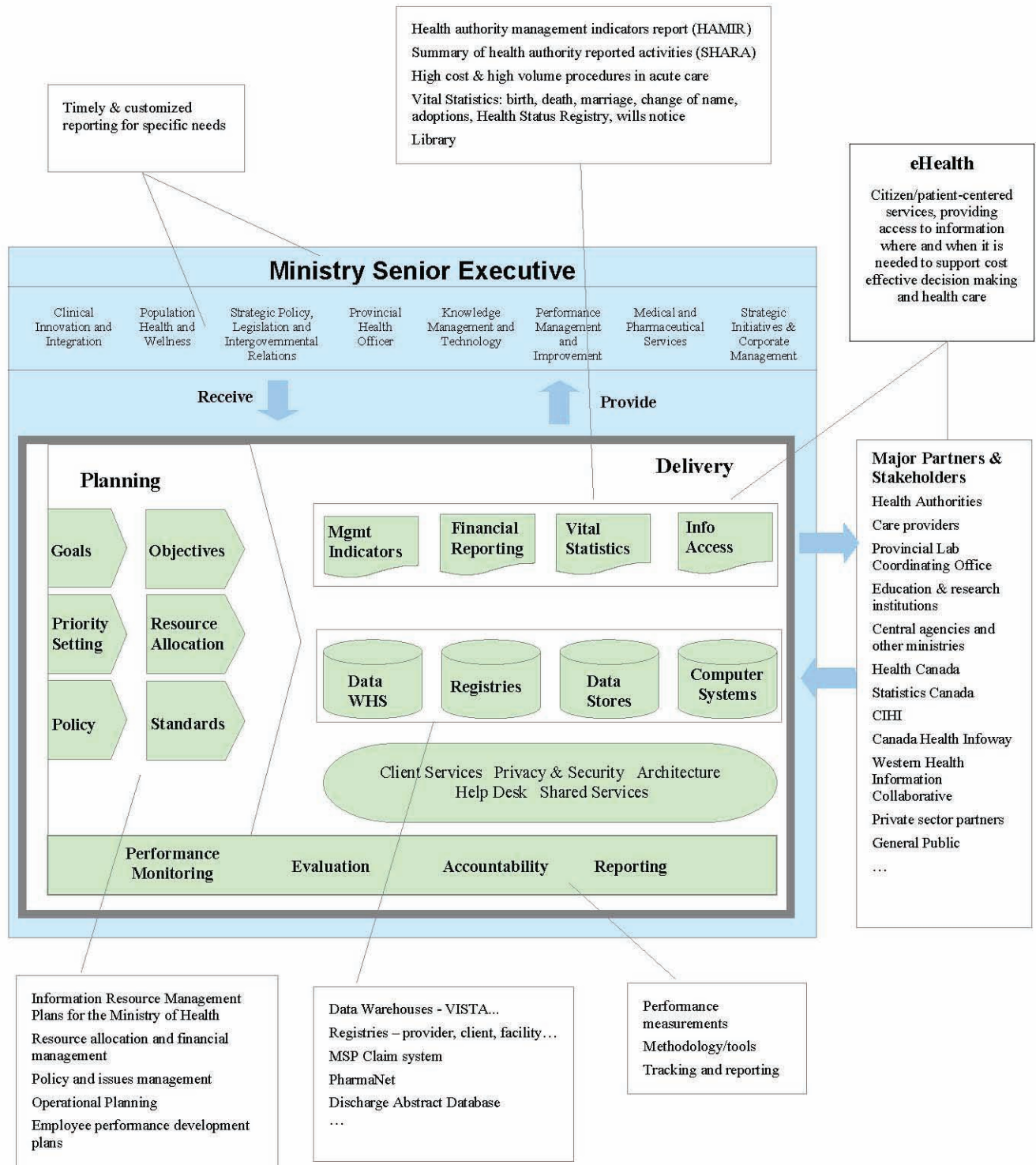


Figure 6 – Business Environment

Appendix 2: Key Stakeholders and Partners

The ministry's information resource management activities involve a broad range of public and private partners – both national and provincial (in addition to the British Columbia government). Key stakeholders and partners include:

National

Canada Health Infoway (Infoway)

Infoway's mandate is to accelerate the development and adoption of electronic health information systems within Canada. An independent, not-for-profit corporation, Infoway is a partnership of federal, provincial, and territorial governments. It has \$1.1 billion in capital to invest with partners to develop and deploy robust, reusable, interoperable Electronic Health Record solutions, and replicate them throughout Canada's health care system.

As of September 2005, Infoway had notionally allocated approximately \$120 million towards the development and deployment of EHR solutions in BC. In addition, Infoway has invested approximately \$5 million in the multi-jurisdiction Provider Registry project led by BC, and has committed over \$30 million towards the development of a Pan-Canadian Health Surveillance solution by BC.

Infoway has committed the investment dollars indicated below towards the following BC initiatives:

- Provider Registry BC Implementation - \$1.7 million
- BC Healthcare Client Identity Management - \$9.1 million
- Provincial Laboratory Information Solution - \$21.4 million
- Interoperable EHR - \$2 million
- Provincial Diagnostic Imaging Solution - \$1 million
- eDrug Solution (PharmaNet upgrade) - \$1.5 million
- Interior HA Regional Picture Archive and Communications System - \$8.8 million
- Fraser HA Regional Picture Archive and Communications System - \$14.9 million
- BC Telehealth Strategic Plan - \$384,000
- Telehealth Business Terminology Project - \$22,000
- Telepathology Solution - \$313,000
- Incident Management and Reporting Information System - \$2.7 million
- Decision Support Tools supporting Mental Health and Addictions Services - \$1.8 million

The ministry, in conjunction with the health authorities, continues to work collaboratively with Infoway and to explore other opportunities for Infoway investment in the province.

Canadian Agency for Drugs and Technologies in Health (CADTH)

The Canadian Agency for Drugs and Technologies in Health is a national body that provides Canada's federal, provincial and territorial health care decision makers with credible, impartial advice and evidence-based information about the effectiveness and efficiency of drugs and other health technologies.

The ministry is in the process of strengthening its ongoing working relationship with CADTH, which will allow the ministry to make more effective use of its information and advice in developing and managing drug and health system technology strategies in British Columbia. KMT has the lead responsibility for developing the BC framework for managing health technology adoption. KMT does so by working collaboratively with provincial stakeholders, CADTH, and other jurisdictions. The ADM of KMT is a board member of CADTH.

Canadian Institute for Health Information (CIHI)

The CIHI is an independent, pan-Canadian, not-for-profit organization working to improve the health of Canadians and support the health care system by providing high-quality, reliable and timely health information.

The ministry works with CIHI, and makes extensive use of its health information functions to develop and manage health databases and registries; conduct research and analysis; develop national health indicators; coordinate and promote the development of national health information standards; and disseminate health information.

Health Canada

Health Canada is the federal government's internal focal point for eHealth, and multi-channel government service delivery.

The ministry works with Health Canada in a number of areas, including eHealth.

Identity Council for Canada

The Identity Council provides support for the Vital Statistics Council Committee for Standards Development, oversight of the National Routing System Pilot project, and is responsible for adoption of a national identity framework at the federal level.

Statistics Canada

Statistics Canada has two main objectives: to provide statistical information and analysis concerning Canada's economic and social structure, and to promote sound statistical standards and practices. The registration of all live births, stillbirths, deaths, and marriages that occur in the Province of British Columbia are submitted to Statistics Canada for the compilation of national statistics for these vital events. The ministry, through the Vital Statistics Agency, identifies and reports problems and errors using automated coding systems for generating International Classification of Disease (ICD) codes.

Vital Statistics Council for Canada

The Vital Statistics Council for Canada is an advisory group composed of the heads of the vital statistics divisions/agencies from the provincial and territorial governments and the Health Statistics Division of Statistics Canada. The council provides a forum for developing common approaches for collecting vital statistics, sharing information with external parties (e.g. social services departments, law enforcement agencies, individuals), and for facilitating problem solving by sharing experiences, research findings and expertise among the jurisdictions. BC currently chairs the council.

Western Health Information Collaborative (WHIC)

A process initiated in 1999 by the Western Premiers and Deputy Ministers of Health; WHIC explores collaborative opportunities with respect to health infrastructure initiatives.

One of the major successes of WHIC has been the joint development of the Provider Registry, led by BC. Additional functionality for the registry is currently being added through funding by Canada Health Infoway. The ministry has ongoing engagement with WHIC, through the WHIC Leaders Forum.

Provincial

BC Health Information Standards Council (BCHISC)

The BCHISC advises the Ministry of Health on health information standards and guidelines that should be adopted across the province, in alignment with national and international standards, to promote effective and efficient information sharing in the health system. It brings together an informed and experienced group of health system representatives, including physicians, nurses, pharmacists, and other technical specialists.

British Columbia Medical Association (BCMA)

BCMA is a voluntary association which represents more than 95% of the doctors practicing in British Columbia. The role of the BCMA is to advance the practice and science of medicine and the health of British Columbians by working for the improvement of medical education, health care legislation, hospital and other health services.

The Information Technology Advisory Committee is a forum for communication between the Ministry of Health and the BCMA on the strategic direction and application of information management and information technology. This committee is also an advisory body on IM/IT issues that may impact physicians and the rest of the health system.

Office of the Chief Information Officer

The office provides government-wide leadership and strategic direction in the management of IM/IT resources. It establishes and manages the IM/IT governance framework. The office leads the transformation of government operations to electronic service delivery, and

develops strategies to help position British Columbia's citizens and businesses to better participate in the global economy.

The ministry commits significant resources to cross-government IM/IT activities, including sharing methodologies (e.g. project management) and information (via advisory committees).

College of Pharmacists

The College of Pharmacists of British Columbia is the licensing and regulatory authority for the profession of pharmacy and its practice environment. The college obtains its authority from the Pharmacists, Pharmacy Operations and Drug Scheduling Act, and is accountable to the public.

College of Physicians and Surgeons

The College of Physicians and Surgeons of British Columbia is a statutory body established by the Provincial Legislature in 1886. It is composed of physicians registered in the province to practice medicine and surgery.

The functions of the college are to: protect the public, maintain the standards and honour of the profession, establish rules for the proper professional conduct of its members, determine qualifications for registration and licensure, and to evaluate the competence and conduct necessary to maintain registration and licensure.

eHealth Steering Committee

The eHealth Steering Committee is a partnership between the ministry, the health authorities, and service provider representatives (e.g. physicians). The committee provides leadership in matters ranging from strategy, governance structure, project priorities, initiative leadership and financial arrangements to implementation approaches designed to ensure an effective electronic health system for British Columbia.

The BC Health Information Standards Council, the Health CIO Council, the Provincial Lab Information Solution Executive Steering Committee, the eDrug Project Steering Committee, the Special Physician Engagement Expert Delegate (SPEED) Committee, and the Telehealth Steering Committee all report to the eHealth Steering Committee. The eHealth Steering Committee reports to the BC Health Leadership Council, which is comprised of the six health authority CEOs and members of the ministry's senior executive. The Leadership Council is chaired by the Deputy Minister of Health.

Health Authorities

The health authorities have the main responsibility for delivering health services for the province. The six health authorities are: the Northern Health Authority, Interior Health Authority, Fraser Health Authority, Vancouver Coastal Health Authority, Vancouver Island Health Authority, and the Provincial Health Services Authority.

The ministry receives data from and provides information to BC's health authorities. It also works with the health authorities at the IM/IT planning and project level, largely through the leadership of the eHealth Steering Committee.

Health CIO Council

The Health CIO Council consists of the Executive Director of the ministry's eHealth Program and the chief information officers of the six health authorities. The purpose of the council is to establish and implement a unified provincial IM/IT vision and plan for the provincial health care system, and to ensure that collaboration mechanisms and common IM/IT approaches, where practical, are in place to foster business success.

Office of the Information and Privacy Commissioner (OIPC)

The Office of the Information and Privacy Commissioner for BC is independent from government. It monitors and enforces British Columbia's Freedom of Information and Protection of Privacy Act (FIPPA) and the Personal Information Protection Act (PIPA). FIPPA allows access to information held by public bodies (such as ministries, universities and hospitals) and determines how public bodies may collect, use and disclose personal information. PIPA also sets out how private organizations (including businesses, charities, associations and labour organizations) may collect, use and disclose personal information.

In addition to ongoing communication between KMT and the OIPC, the Provincial eHealth Privacy and Security Initiative is actively liaising and consulting with the OIPC on privacy issues pertaining to implementation of eHealth projects.

Provincial Lab Coordinating Office (PLCO)

The PLCO is charged with developing a patient-centred lab service system for British Columbians that can provide for high quality, affordable, and accessible service. The PLCO is part of a comprehensive initiative to renew lab service delivery in the province, and ensure better coordination of lab test results for patients.

The ministry works with the PLCO to develop a provincial lab information solution that will be more efficient (in its use of people, processes, and technology), prevent the needless duplication of testing, and provide for better patient care.

Provincial Lab Information Solution Executive Steering Committee

Reporting to the eHealth Steering Committee, the Provincial Lab Information Solution (PLIS) Executive Steering Committee is charged with guiding and directing the development of a patient-centred lab service information system for British Columbians. PLIS is a comprehensive initiative to renew and streamline lab service delivery in the province, integrate lab information with BC's electronic health systems, and ensure better coordination of lab test results for patients.

The KMT Division works with the PLCO to develop a provincial lab information system that will be more efficient (in its use of people, processes, and technology), prevent the needless duplication of testing, and provide for better patient care.

SPEED Committee

Reporting to the eHealth Steering Committee, the Special Physician Engagement Expert Delegate (SPEED) committee helps ensure that physicians and other health professionals are properly informed of and engaged in the design and implementation of the electronic health systems in British Columbia.

SPEED is a partnership of the Ministry of Health, the health authorities and key stakeholders from the health care provider community.

Telehealth Steering Committee

Reporting to the eHealth Steering Committee, the Telehealth Steering Committee has representation from the health authorities, the Health CIO Council, medical schools, the ministry, and the Premier's Technology Council.

The committee identifies and defines provincial priorities for telehealth that respect health authority and provincially identified health care needs, and aligns them with strategies identified by Infoway for potential funding.

Universities

The ministry works with a number of colleges and universities on a variety of health information issues. They include: the BC Academic Health Council to explore collaboration opportunities between health and education sectors; the School of Health Information Science at the University of Victoria to develop curriculum on health information management and physician education; the BC Institute of Technology to examine health care technology issues; and Simon Fraser University to establish a partnership whereby the Vital Statistics Agency will share its existing warehouse technology with the university, and in turn, the university will assist with ongoing development and will be the clearinghouse for academic users requesting access to the warehouse for research or teaching purposes.

Workplace Technology Services (WTS)

Services provided by WTS (formerly CITS) include integrated, common IT services, finance and administration services, payroll services, as well as procurement and supply services.

The ministry works with WTS to clarify its outsourcing strategy and information technology decision-making process, service levels, costing models, the government migration strategy for mainframe/legacy systems, and the cost implications for remaining legacy users.

Appendix 3: eHealth Projects

The ministry's information resource management activities involve a broad range of projects and initiatives, with the greatest present effort focused on eHealth. The eHealth clinical and foundational projects that are targeted for implementation within the next two to three years include:

Aggregated Health Information Project (AHIP)

AHIP is intended to create an integrated, provincial health information management infrastructure, capable of quickly supporting new types of analyses, as the need arises. Through a staged and iterative process, AHIP will provide a strategic information management framework for the Ministry of Health and the health authorities. AHIP will integrate currently separated health data sources and systems into a more accessible, knowledge-based, corporate decision support framework.

BC Public Health Information Project (BC PHIP) - BC Implementation of Pan-Canadian Solution

The BC PHIP and the BC Implementation of the Pan-Canadian Solution, including implementation of an improved environmental health/health protection system will deliver improved access, delivery and integration of health care services for managing communicable diseases in BC. It will also provide improved systems to support public health field operations as well as health-related research and surveillance activities.

British Columbia is leading a national project that involves the development of a client and population-centred information system to improve access, delivery and integration of health care services for managing communicable diseases. The second phase will be the implementation of this system in British Columbia as the BC Public Health Information System, which will also include some enhanced features tailored to specific BC requirements. The BC Public Health Information Project will enhance the province's ability to perform public health surveillance and deliver public health services by implementing the Pan-Canadian solution in BC, developing an IT Strategic Plan which will guide the ministry and the health authorities in their efforts to coordinate support to BC's public health community, and delivering systems to support environmental health and health protection in the province.

Chronic Disease Management - Integration

The Chronic Disease Management Toolkit, EMR (electronic medical record) and eMS (electronic medical summary) all represent separate applications. This project will develop a strategy to promote the integration of the CDM functionality and eMS messaging standard within the evolving EMR standards.

Electronic Medical Record (EMR)

There are currently numerous EMR vendor products that use different standards and have differing functionality. Physicians will in the future use an electronic medical record as one way to access the patient's health information such as lab test results, medication profiles, hospital reports and diagnostic images that will be held in domain repositories and clinical information systems.

This project will facilitate the establishment of common standards for the EMR so that vendors will know what is required to interface with the domain repositories. Physicians will have increased confidence that the EMR they are investing in will be compatible with the province's EHR system.

Through this project, BC will actively participate in and contribute to the creation of national EMR standards, along with the other provinces and Canada Health Infoway. The project will also support underlying physician connectivity by providing secure, efficient access to the Health Wide Area Network for service providers.

In addition, this project will also support Ministry of Health connectivity to a Private Network Gateway (PNG). This gateway interconnects the networks of all health authorities. The PNG will allow health care communications and data to travel securely between all health care facilities in the province. The services using the PNG include e-mail, dictations, diagnostic reports, diagnostic images and telehealth.

Immunization Data and Physician Office Strategy

Currently only immunizations given by public health nurses are captured electronically and stored in the Public Health Information System. Immunizations given in physician offices are not captured or entered into the system. This project will develop a strategy to capture the majority of immunizations in the Public Health Information System and make them electronically available to care providers.

Incident Management and Reporting Information System - IRIS

The primary goal of the IRIS project is to make health care safer, while also improving the quality of care. This goal will be accomplished through the implementation of a province-wide, web-based safety incident reporting and management information system that will:

- support identification, investigation, and analysis of all safety and risk-related incidents (including safety hazards and near misses);
- capture and facilitate responses to client feedback (including complaints, compliments and requests for information); and
- enable claims management.

Such reporting and related functions are fundamental to improving patient safety, as they provide a means through which learning from actual experience can occur. The results of

data analysis and investigation can be used to formulate and disseminate recommendations for change in order to prevent future problems and promote a safer health care system. IRIS will support reporting and learning from events occurring across the continuum of care, in hospitals, care facilities and the community.

Interoperable Electronic Health Record (iEHR)

The iEHR is a series of computer applications that will link care providers with electronically held health information at the point-of-care. An iEHR viewer will provide clinicians, working in most care settings, with access to a range of clinical information including lab results, medication histories and diagnostic images. It will also act as a jumping point to other clinical information systems offering more detailed patient information (e.g. hospital information systems).

An iEHR index component will define and implement the capability to identify the encounters a patient has had with the health system and the clinically relevant information from each encounter. At the same time, integration services will facilitate/enable the interoperability and sharing of information between disparate clinical systems.

The Interoperable Electronic Health Record requires authentication and access control. One component of the iEHR project is clinician authentication. Access to personal health information over unsecured networks such as the internet requires strong security. Physician and other care providers work in multiple locations that often require access to patient information from outside of the secure Health Network. A common approach will be used for authentication, which includes the use of two factor authentication for unsecured networks. The project will involve the deployment of the common authentication process / technology (including two-factor technology) on a province-wide basis.

InterRAI Implementation - Residential Care

Implement InterRAI (Residential Assessment Instruments) to guide consistent community-based service delivery.

Patient Access and Flow: Mental Health and Addictions

This project supports the timely discharge and placement for the high risk mental health and addictions patient population. Through the development of patient risk assessment/dependency profiles, providers can match real-time client needs against an inventory of the community-based capacity. Concurrently, accurate new data will be captured that will offer valuable insights into the strategic direction that future resource and program planning will need to take to deal with the growing challenge to ensure that mental health care is delivered in both an efficient and compassionate manner.

Provider Engagement

eHealth is about more than just information technology. It is about changing clinical and business practices in health care. It involves change management for service delivery processes and information flows, and involves participation from both clinical experts and business managers. It also requires new and innovative systems development as well as integrated linkages between previously isolated systems, data islands, and geographically separated communities.

This project will ensure that physicians and health professionals are engaged in the design of the process changes and the selection and implementation of new supporting technology.

Provider Registry - Health Authority Uptake

The Provider Registry System was designed by, and implemented in, the four western provinces. Following some BC enhancements, this project will develop and implement the required interfaces to the BC health authority business and clinical information systems.

Provincial Client Identity Management - EMPI

This will enable electronic health record capability by providing the ability to effectively identify the health records (lab result, medications, diagnostic reports, discharge summaries, etc.) that all belong to the same patient. Today, patient records exist in numerous care settings, residing in a variety of different information systems that each holds patient demographic information. To address the problem of identifying what records belong to a single patient, British Columbia is implementing a new technology to enhance the existing client registry system that will enable the linkage of patient demographic information contained in the province's and health authorities' key client registry/clinical systems. This approach will provide support for a comprehensive Health Care Information Management (HCIM) system.

Provincial Diagnostic Imaging - Archive and Viewer

Diagnostic imaging (DI) serves a critical role in the delivery of high quality health care in British Columbia. Diagnostic images and their interpretation are of significant clinical value, but their supply is constrained by the high capital and operational cost of the imaging modalities and by the limited availability of the skilled health professionals that support imaging services. In response, BC has developed a provincial DI Electronic Health Record strategy to use information technology to increase the value of imaging services for health care delivery.

The key project within the strategy will be deployment of a provincial DI archive, which will function as the long term storage for most diagnostic images. This will replace the need for local and health authority image archives. It will also provide the mechanism for clinicians to access images regardless of the facility or region within which the DI study was originally undertaken. In addition to the archive, British Columbia will introduce a provincial DI viewer.

Provincial eDrug Project

There are three main objectives for the provincial eDrug project:

- increase and improve authorized access to patient medication profiles;
- enhance the content and scope of patient medication profiles (e.g. by adding in-hospital drugs); and
- introduce electronic prescribing (ePrescribing or eRx).

British Columbia will leverage the existing capability of PharmaNet and further enhance it to improve clinician access to patient medication histories. It will also increase the scope of the medications recorded to include drugs dispensed in acute settings.

In addition, this project will set the foundation for ePrescribing. ePrescribing involves automating a physician's ability to electronically generate a medication prescription and have the prescription go automatically to the PharmaNet system, where it can be accessed by a pharmacist for dispensing.

Provincial eHealth Privacy and Security Initiative (PePSI)

The Provincial eHealth Privacy and Security Initiative is intended to provide leadership and direction to eHealth projects regarding the implementation of the privacy and security requirements of Canada Health Infoway and BC legislation. PePSI will develop an eHealth privacy and security framework which will be used as the basis for strategies to protect privacy and ensure security across all eHealth projects.

Provincial Laboratory Information Solution

This project will support care providers with a standardized view and timely access to laboratory information at the point-of-care anywhere in the province. It will provide physicians and other health care providers with more complete, timely and relevant information to support medical decision making. The project will be phased, with the end-state solution delivering web enabled laboratory test order entry and results reporting capability across BC.

Provincial Surgical Services Project (PSSP) - Registry

The overarching purpose of the Provincial Surgical Services Project is to build a patient surgical registry based on patients' needs with a focus on transparency, consistency and reliable evidence. PSSP is a collaborative, province-wide project aimed at:

- developing provincial standards, as well as quality and performance measures for surgical services;
- creating processes for the ongoing collection of consistent data to support better surgical planning and decision making;

- ensuring existing resources are allocated and applied appropriately to areas of greatest need; and
- developing province-wide resources for health authorities to help them improve their local surgical services.

Telehealth 811 Initiative

BC's vision for eHealth is that it should support a citizen/patient-centric health environment with integrated services to efficiently deliver high-quality and coordinated health care. A key vehicle for implementing this vision is telehealth, which includes 811 services. The objective of the 811 project is to work with the Yukon to utilize communication and information technology to deliver particular health services and help the public navigate the health system.

Telehealth Videoconference Scheduling System

The Telehealth Videoconference Scheduling System project is meant to help ensure that associated personnel and equipment are used to their maximum efficiency. One of the keys to the success of telehealth videoconferencing is the utilization of a common scheduling application. The Alberta Electronic Scheduling Application will be piloted to determine its suitability for use in BC.

Telepathology Project

The purpose of the telepathology project is to provide leadership for the development and implementation of an integrated, cost effective, sustainable, provincial telepathology network, within and across health authorities/regions. It will improve patient care and safety through better access to pathology expertise, timeliness of results and quality of service within the province.

The eHealth Gantt Chart

In 2005/06, the ministry released British Columbia's eHealth Strategic Framework, which outlined how the eHealth vision and initiatives would improve overall patient care; help health professionals deliver better, faster and safer services; and improve the underlying efficiency of the health system. That document also contained a Gantt chart showing the eHealth 10-year Implementation Plan. The eHealth Strategic Framework can be found at www.health.gov.bc.ca/cpa/publications/ehealth_framework.pdf.

Figure 7 shows an updated version of the original eHealth 10-year Implementation Plan. This chart is similar to the original one found in the Strategic Framework. It essentially presents the same type of information, but it reflects current eHealth projects and timeframes. Accordingly, its time scale covers only the nine years that presently remain out of the original ten.

This chart illustrates the relationship between individual project timelines for the planning and initiation or resourcing phase (e.g. arranging project contracts); the project assessment and solution design stage; the solution build, prototype (if applicable), and testing portion; and the implementation or rollout and evaluation phase.

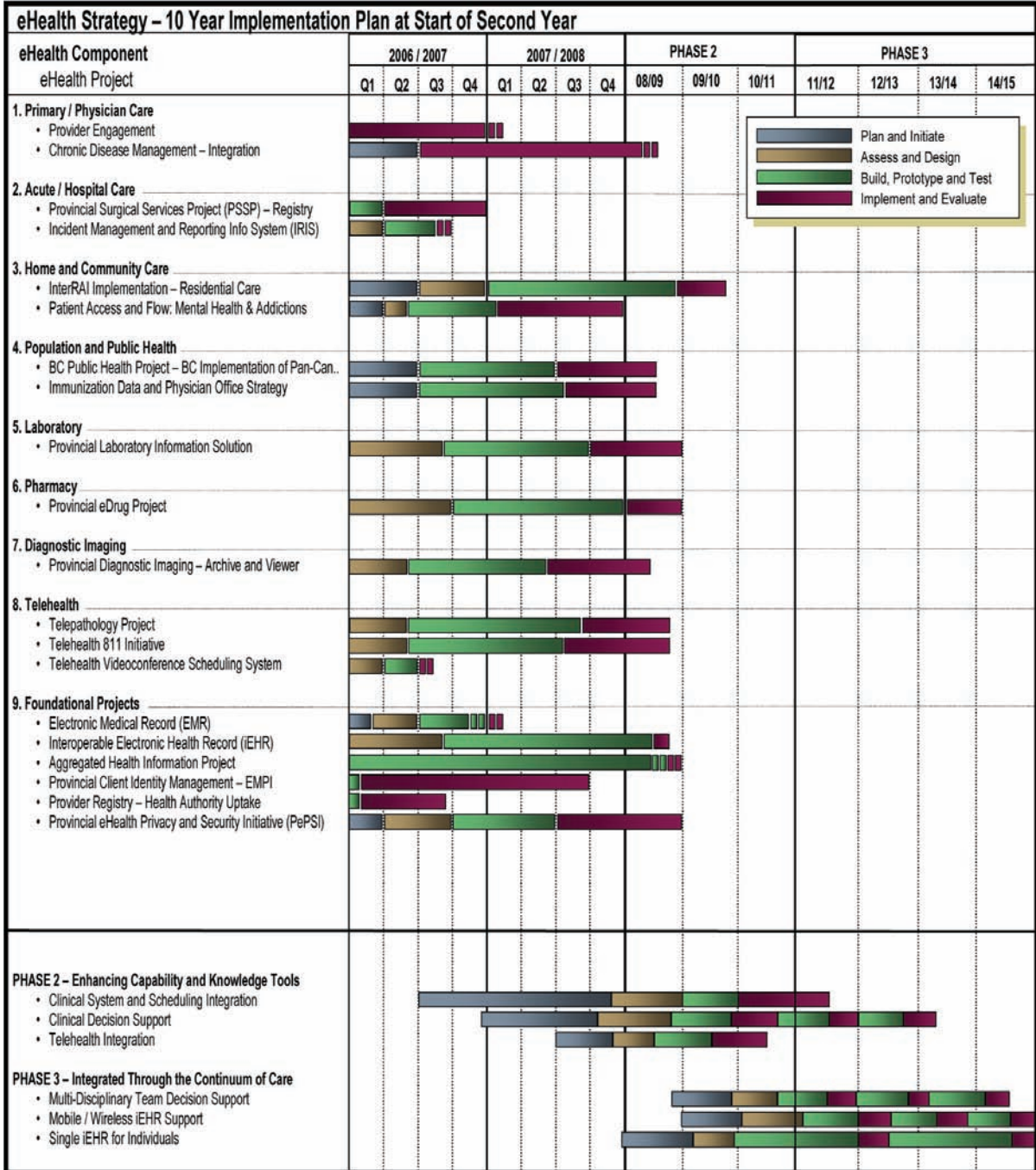


Figure 7 – eHealth Gantt Chart

Appendix 4: Other Business Requirements and Initiatives

The following is an alphabetical listing that briefly highlights the business requirements and initiatives not specifically aimed at eHealth. They were identified through an extensive consultation and planning process with the health authorities and ministry program areas.

Since information resource planning is an ongoing process, additional business requirements and initiatives may be identified throughout the year and added to this list. The Information Resource Management Plan is published annually.

ActNow BC Information Management

Information management activities to properly facilitate and support ActNow BC, including - development of a public web site, presentation of available data, acquisition/analysis of required data not currently collected, and an overall evaluation of its utilization.

Addictions Minimum Reporting Requirements (ADD-MRR)

Identify the minimum reporting requirements, definitions and processes required to enable the ministry to accept, validate, store and report on data from the growing number of mental health and addictions systems in the regional health authorities.

AIMS Feasibility Study

Investigate whether or not the Addictions Info Management System (AIMS) data can be used to populate the new addictions Minimum Reporting Requirements (MRR), and if so proceed.

Alternative Payments Program Contract Management System (APPCMS) Project

This project implements required adjustments to the mainframe APPCMS. It will as well generate a business analysis and options document that examines whether to custom build or buy a required replacement system.

Alternative Service Delivery (ASD) Governance Support and Interfaces

The government has selected MAXIMUS Inc. to work with the province on developing an alternative service delivery model for the Medical Services Plan (MSP) and PharmaCare. This initiative focuses on carefully defining the complex business processes required to facilitate change management and knowledge transfer in support of the ASD agreement.

Annual PROFILES

Produce the annual PROFILES report, which describes patterns of practice for licensed medical and health care practitioners within the province.

Annual PURRFECT Update

Update to the PURRFECT suite of application tools used to analyze the utilization patterns of health care resources in communities.

Automated Vehicle Location (AVL) - Flight

Develop and implement an interface to the air ambulance dispatch system (RightCad) in the British Columbia Ambulance Service to provide real time location of aircraft.

BC Bedline Call Management System

Replacement of the current system with a more scalable system capable of handling the increasing call volume, while also enhancing basic functionality.

BC Clinical Practice Guidelines and Protocols Web Enhancement

A better organized, inviting and interactive website targeted at physicians will replace the existing site, and improve access to, and utilization of, the Clinical Guidelines.

BC HealthGuide Program (BCHG) - BC Nurseline (BCNL)

Assist the BCHG in information technology activities related to the joint solutions request for proposal with respect to a new BCNL contract.

Birth Registration

Significantly reduce the number of days between the date of birth and receipt of the Registration of Live Birth form.

British Columbia Ambulance Services Patient Care Information System Project

Enhance the quality, timeliness and completeness of patient care information available to the BC Ambulance Service for operational, business intelligence and medical research purposes.

Cardiac Arrest and Major Trauma Initiative

Provide British Columbia Ambulance Service (BCAS) with the ability to manage cardiac arrest and major trauma data for the purposes of quality improvement and medical research.

Community Care Licensing Data Project

Use HAMIS and its supporting processes for the Community Care Licensing Branch to collect and report on Community Care Licensing Data from health authorities.

CodeStat (Cardiac Arrest Informatics Software) Upgrade

Upgrade and provide access to the current cardiac arrest informatics software (CodeStat Suite) used by the BCAS Medical Program to collect and report on defibrillator data and other patient care information related to cardiac arrest cases.

Core Image Migration

This project will ensure all ministry line-of-business applications are compatible with the standard operating system for all government workstations.

Data Stewardship and Access Management Project

This project is intended to develop a comprehensive solution to the management of access to personal information banks maintained within the ministry. Once implemented, the solution will allow the ministry to more effectively manage its workload as data steward by providing a centralized repository of data access and sharing information. It will also assist the ministry in responding to enquiries from the Office of the Information and Privacy Commissioner related to the status of requests for access and data sharing agreements.

Dial-a-Dietician Call Management System

Replacement of the current outdated MS Access-based system with a comprehensive call management system which is integrated with the Practice-based Evidence in Nutrition (PEN) knowledgebase.

EMA Licensing Registry and ID Cards

Enhance or replace the current Emergency Medical Assistant (EMA) License Registry system with photo ID software for multi-user network installation, high grade PVC license ID card printing, and robust data management and reporting.

Employee Development Centre

A comprehensive system designed to identify training and career development needs among the KMT staff, and help ensure appropriate action is taken to rectify any present or projected deficiencies. This will support the development of required skills, and help ensure the continued viability and effectiveness of the KMT Division.

Employee Development and Learning Program (EDLP)

Implement the EDLP application, as developed by the Ministry of Provincial Revenue, for use by the Knowledge Management and Technology Division.

E-Team Deployment

The current phase of the project is to deploy the E-Team software based on the approach and recommendation resulting from the previous evaluation phase for at least three areas i.e. the Emergency Management Branch, BCAS, and one health authority. The objective is to finalize the system and administration support requirements, business continuity plan, risk assessment, and the plan for continued deployments.

FOI e-Severing

By automating the current manual processes, this project will help make the Freedom of Information (FOI) severing (concealment of specific document segments to protect privacy) operation and overall information delivery process more efficient, and improve turnaround times.

Guaranteed Income Supplement (GIS) Alternative Distribution Method

Provide an alternative method of delivering Guaranteed Income Supplement lookup capabilities to those health authorities no longer using CCIMS as their Home and Community Care client database.

HAMIS - Indicators

Enhance the Health Authority Management Information Systems (HAMIS) by incorporating online indicators. The indicators will provide a management perspective on the organizational performance of the health authorities and health service providers using financial and statistical data.

Health Authority Community Care Licensing Data Amalgamation into HAMIS

Utilize the Health Authority Management Information Systems and its supporting processes for the Ministry of Health Community Care Licensing Branch to collect and report on community care licensing data from health authorities.

Health Authority Health Human Resource Planning (HHRP) Report Requirements

Conduct an assessment of what health authorities are tracking within their physician reimbursement systems, and the process of reporting to the ministry. Deliverables will include a strategy for health authority HHRP reporting, a business systems options document, and a proposal for a solution to be implemented in fiscal 2006-07.

Health Authority Physician Reimbursement (HAPR) Integration with Ministry Database

Create linkages with other data sources to provide an overall picture of physician reimbursement from all sources.

Health Authority Physician Reimbursement (HAPR) User Query Tools

Create user query tools for use by ministry staff to analyze and report on the physician compensation data collected from health authorities and other stakeholders and entered into the Health Authority Physician Reimbursement (HAPR) Oracle repository.

Health Status Registry Rejuvenation

Increase the number of reporting sources, quality of the data, and accessibility to the Health Status Registry.

Improved Financial Tracking and Reporting Systems and Business Processes

Define, design, build and implement replacements for the current MS Access and MS Excel based ministry financial management tracking and reporting systems. Replacement systems will involve modern database and web architecture.

Managed Operations Contract

Determine the scope of application maintenance and facilities management that will be included in a managed operations contract (previously with IBM), document and publish the RFP document, provide a “clean room” for proponents, negotiate a contract, and manage the transition to a new vendor.

Mental Health Review Board Tribunal Website

Provide a technology venue for public access to reliable, relevant and timely information about the Mental Health Review Board, with content to include policy, processes and ongoing activities.

Mental Health Review Case Management Application

Replace the Review Panel Database (MS Access 97) with a more secure database platform.

MSP Influenza Early Warning

Establish and evaluate a prototype for ongoing monitoring of influenza like illness (ILI) activity by extracting and summarizing daily MSP data, using a software approach to automation in order to provide early warning of increased influenza activity beyond historical norms for BC and the regions.

National Ambulatory Care Reporting System (NACRS)

The National Ambulatory Care Reporting System pilot project was initiated by the ministry to implement NACRS into three new British Columbia sites (currently not using NACRS). It is intended to carefully measure the costs and build an understanding of the issues

and impacts associated with system implementation and ongoing data submission to the Canadian Institute for Health Information.

National Routing Pilot

Demonstrate the feasibility of setting-up a federal/provincial/territorial network that will allow vital event data to be delivered from producing organizations (e.g. the BC Vital Statistics Agency) to authorized subscribing organizations (federal government departments and the vital statistics organizations of other provinces and territories). This will include verification by federal government departments (the Passport Office) of vital event information from vital event certificates issued by provincial and territorial vital statistics organizations.

NETCAD Computer Aided Dispatch

Acquire and implement a single computer aided dispatch system to be used by all functional dispatch areas within the BC Ambulance Service.

NHI Upgrade

This project will modernize the existing HN Secure, HNI Message Broker and ACL functions.

Nursing Professional Development Database

Develop a database and reporting functions designed to integrate data on Nursing Directorate funded professional nurse development programs from across the province, integrating the funding data in order to improve underlying access, allow timelier reporting, and reduce associated analytical effort.

Patient Safety Project

Conduct a business solution options review that will lay out the current situation, the alternatives to consider, and recommend a solution to improve patient safety.

PharmaCare LANFAX Upgrade

The purchase and implementation of new hardware and software to upgrade the LANFAX configuration from a Windows NT 4.0 environment to Windows Server 2003; and to ensure PharmaCare Special Authorities client-based fax software integrates with Windows XP (Core Refresh Project). Develop a Privacy Impact Assessment for Special Authorities LANFAX operations.

PharmaCare LANFAX Replacement

Review the current LANFAX system to determine alternatives and a recommended approach.

Population Health and Wellness Data Strategy Implementation

Define requirements and a common data format for health authority reporting with respect to public health core functions. Such data will support the development of robust performance indicators and support development of the Provincial Health Officer's annual report on population health. This will include ongoing data refreshes from common sources, such as Home and Community Care, the Vital Statistics Agency, BC Centre for Disease Control, etc.

Project Management Methodology Lifecycle Upgrade

Revise the existing project management methodology presentation on the Ministry of Health Intranet to allow for a graphical front-end and scalable process description.

Public Health and Wellness Core Services Data

A business requirements analysis to determine the minimum dataset required for program management, evaluation and planning, followed by an implementation phase.

Public Health Website Redesign

Development of an overall web redesign strategy and plan for the ministry that is theme based, to ensure ease of access and navigation for the public, while maintaining consistency with the ministry's service plan and Public Affairs Bureau requirements.

Rural Health Travel Program - Reporting System

A reporting system for the Rural Health Travel Program, which in turn provides rural residents of BC access to non-emergency services that are not available in their own community.

Social Insurance Number (SIN) Registry Interface

Assist the federal government, in a cost-neutral manner, in its effort to improve the integrity of the Social Insurance Register, and provide seamless registration services for British Columbia newborns by combining the birth registration and SIN number application processes. Where possible, this initiative will also increase the security associated with the issue of SIN numbers and birth certificates, through the mutual confirmation of client information.

Special PROFILES

Compare a physician's profile data with the group average values of a peer group other than the one in which the practitioner was originally classified.

VISTA Enhancement

Enhance the utility of the BC Vital Statistics Agency's VISTA warehouse by increasing functionality and information provided to users of vital event information.

WIMS - BCAS Staff Scheduling

This project is designed to:

1. Define and implement an integrated set of processes and a central computer system that will allow the management of employee scheduling and seniority, qualifications, leave, and on-call tracking services.
2. Implement an electronic link to the payroll system to streamline the process of determining, distributing and auditing payroll.

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