eHealth | Quarterly Status Report
October - December, 2010

Reporting on the implementation of electronic medical record systems in physician offices, the expansion of telehealth services and the development of a provincial electronic health record solution

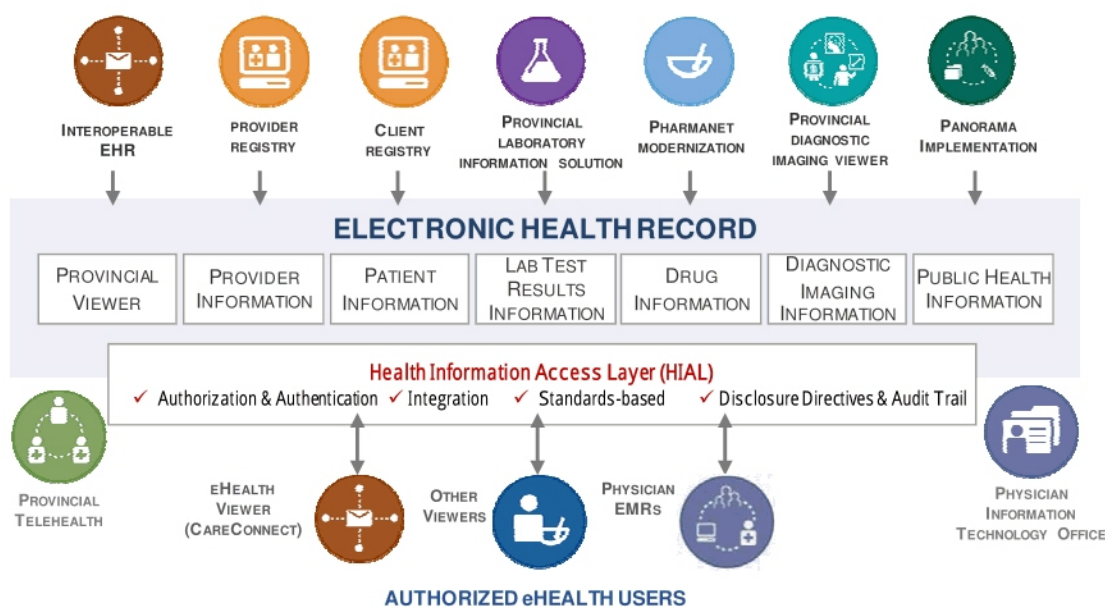**BRITISH COLUMBIA** The Best Place on Earth | **Ministry of Health Services**

eHealth | About the Quarterly Status Report

The eHealth Quarterly Status Report fulfils a Ministry of Health Services leadership commitment to keep eHealth stakeholders apprised of its progress. The program has prepared quarterly status reports since the start of fiscal year 2009/10.

The format of the report continues to evolve to meet stakeholder communications needs. In this version, status bars have been added for the EHR projects and the telehealth and EMR activities have been separated out into their own sections.

The structure of the quarterly report is as follows:

Section	Description and Status
EHR Project Status	For each project, provides a status bar, status by project phase, highlights key activity from the reporting period and outlines current challenges of note.
Telehealth Status	Provides an update of the status for all active telehealth initiatives within eHealth scope.
EMR Status	Provides an update of the status of PITO EMR and related EMR integration activities.
Milestone Status	Indicates progress against the milestones identified in the eHealth Tactical Plan, March 2010 Update, and any formally approved changes.
Budget Status	Outlines the projects' budgets and presents actual expenditures against planned expenditures for the current fiscal year.
Adoption	Provides an indication of progress in achieving adoption targets.
Benefits Evaluation	Describes the work under way to measure progress toward realization of intended eHealth benefits.

eHealth | Project Status

Provincial Laboratory Information Solution (PLIS) Project

Scope/Objectives	Budget	Schedule
■1⇨	■1⇨	■1⇨

See Appendix A for status bar parameters

The PLIS Project is developing a provincial repository of diagnostic laboratory test results, populated from all public and private laboratories, accessible by authorized care givers through the EHR infrastructure.

Status by Phase:

Project Phase		Percent Complete		Status
Planning	〉	100%	〉	Complete
Development	〉	100%	〉	The provincial repository is complete and in full production.
Deployment	〉	40%	〉	Deployment includes integration with source lab systems within each of the six health authorities (15% each) and with public labs (10%). PHSA and IHA integration has been completed. NHA interface development nearing completion and planning underway with FHA and VIHA.

Highlights for Reporting Period:

➢ Work with NHA has progressed and implementation is expected in February 2011.

➢ Planning is underway with FHA and VIHA, with a target date of October 2011 for implementation.

➢ The initiation of on-boarding activities for VCHA is planned for April 2011, to be completed in February 2012.

➢ Plans for PLIS completion, focusing on required health authority involvement, were presented to Health Leadership in November and approved by the eHealth Project Board in December.

Challenges:

➢ The exercise of consolidating services across the lower mainland has resulted in a high demand for lab resources as well as creating challenges related to responsibilities across organizations.

➢ The limited availability of some lab results is resulting in slower than anticipated adoption. A significant number of lab results are not currently available through EHR as a result of legislative confidential and data mismatch errors. Regulation changes intended to address the legislative

confidential issue were introduced and the system will be updated to allow access to these tests at the end January 2011.

➢ The on-boarding of the private labs is dependant on reaching a business arrangement with the labs.

Provincial Diagnostic Imaging Viewer Project

Scope/Objectives	Budget	Schedule
■¹⇨	■¹⇨	■¹⇨

See Appendix A for status bar parameters

The Provincial Diagnostic Imaging Project (PDIV) will enable authorized users to access diagnostic images from throughout the Province via a diagnostic imaging viewer.

Status by Phase:

Project Phase		Percent Complete		Status
Planning	〉	**100%**	〉	Complete
Development	〉	**100%**	〉	The development phase was a procurement exercise, leveraging an existing provincial contract to deploy the diagnostic viewer provincially.
Deployment	〉	**10%**	〉	Deployment includes the rollout of the viewer to each of the six health authorities (10% each), community imaging clinic implementation (10%) and viewer integration with the EHR infrastructure (30%). A limited deployment of the viewer within VCHA and FHA has been completed.

Highlights for Reporting Period:

➢ Plans for the completion of viewer deployment in VCHA and FHA by April 2011 have been developed and are under review by the Ministry.

➢ A plan for the completion of deployment to the remaining HAs by the end of March 2012 continues to be developed.

➢ High level project plans, with an emphasis on HA involvement, were presented to Health Leadership in November.

Challenges:

➢ A consolidated provincial archive is outside the scope of completion for March 2012. Health authorities will continue to manage this individually.

➢ A strategy for community imaging clinics needs to be determined and, depending on the ability of the clinics to implement PACS, may impact adoption.

➢ The current Canada Health Infoway Project Agreement and associated Schedules requires updating to align with evolving BC plans.

BC Panorama Project

Scope/Objectives	Budget	Schedule
🟩1⇨	🟩1⇨	🟩1⇨

See Appendix A for status bar parameters

The BC Panorama Project, also referred to as the Public Health Information Project (PHIP), is implementing a Public Health Surveillance application called Panorama, developed in B.C. for Canada Health Infoway for national deployment. Panorama is an integrated suite of system components consisting of seven major modules:

- Communicable Disease Case Management
- Outbreak Management
- Vaccine and Inventory Management
- Family Health

- Immunization Management
- Notifications Management
- Work Management

Status by Phase:

Project Phase		Percent Complete		Status
Planning	⟩	**100%**	⟩	Complete
Development	⟩	**100%**	⟩	The development phase was the configuration of the Panorama application for BC and the development of the Family Health component.
Deployment	⟩	**5%**	⟩	Deployment of all Panorama modules to the Centre for Disease Control (40%) and all six health authorities (10% each). Technical deployment limited deployment of the inventory module to the BC CDC was completed in October 2010. Phase 1 work to deploy Inventory to all HAs and Yukon underway. Planning for Phase 2 Case and Outbreak Management deployment beginning.

Highlights for Reporting Period:

➤ A draft integrated plan for Panorama deployment was distributed to the Integration Leads Committee for review and high level walkthroughs with business stakeholders were conducted.

➤ A two day integrated planning session with business stakeholders from HA's, BCCDC, and Yukon representation was conducted November 25/26. Additional planning sessions have taken place throughout December to enhance the plan.

➤ The plan for project completion was approved at the eHealth Project Board in December.

➤ A Project Statement document and master project plan for Phase 1, Inventory, were distributed to business stakeholders on December 24, 2010.

➤ Leadership Committee approved membership for an enhanced Governance Steering Committee (Panorama Deployment Task Force) December 17, 2010.

Challenges:

➢ Stakeholder business cycles limit the implementation windows. Deployment during peak immunization season is not optimal due to resourcing constraints within the regional health authorities.

➢ Privacy and security constraints regarding the confidentiality of data present challenges to testing and conversion.

➢ Quick ramp up of project staff at the ministry and HA levels critical in January.

➢ Finalization of enhanced governance model, processes and teams must be operational in late January.

PharmaNet Modernization Project (formerly known as the eHealth Drug)

Scope/Objectives	Budget	Schedule
🟩1⇨	🟩1⇨	🟨1⇨
	There is a risk of not completing Point of Service compliance testing for pilot vendor in the 3rd quarter 2011/12 as it is an aggressive schedule	

See Appendix A for status bar parameters

Will implement a standards-based medication management solution and an e-Prescribing function that will enhance the current PharmaNet system, and support adoption within pharmacy, medical practice, health authority and other settings.

Status by Phase:

Project Phase	Percent Complete	Status
Planning 〉	100% 〉	A re-planning exercise was completed in the first quarter.
Development 〉	15% 〉	Includes the design and development of the medication management and ePrescribing functionality within the PharmaNet application. The development & testing platforms are in place, detailed requirements are completed and conformance standards are under development.
Deployment 〉	0% 〉	Successful early deployment of ePrescribing functionality with one PITO EMR vendor and one Pharmacy vendor.

Highlights for Reporting Period:

➢ Plans for PMP completion, focusing on required health authority involvement, were presented to Health Leadership in November and approved by the eHealth Project Board in December.

➢ Detailed business requirements for the PharmaNet system to support ePrescribing and medication management have been completed.

➢ All five PITO EMR vendors responded positively to a request for expressions of interest for vendors to participate as Early Adopters in the PharmaNet Modernization Project.

➢ Business rules for ePrescribing conformance specifications were developed.

Challenges:

➢ Tight management of the scope and budget of the project is required in order to deliver the functionality for the medication management framework and ePrescribing.

interoperable Electronic Health Record Project

Scope/Objectives	Budget	Schedule
🟨 1 ⇨	🟩 1 ⇨	🟩 1 ⇨

Plans to provide hospital discharge summaries available
via the provincial EHR are under review

See Appendix A for status bar parameters

The Interoperable Electronic Health Record (iEHR) Project provides the core technical infrastructure supporting the provincial EHR, including the following primary components:

- eHealth Viewer - a secure web-based application providing 'view' capability of health information to authorized clinicians,

- Health Information Access Layer (HIAL) - enabling secure information exchange between health professionals, the information repositories of the provincial EHR and the source systems that feed the provincial EHR

- Secure Health Record (SHR) - a repository for miscellaneous care-related reports and patient encounter records and, in particular, hospital discharge summary information.

- Infrastructure to support report distribution (via subscriptions services)

Status by Phase:

Project Phase		Percent Complete		Status
Planning	〉	100%	〉	Complete
Development	〉	100%	〉	The EHR infrastructure has been built and is in operation.
Deployment	〉	20%	〉	Includes the integration of the HIAL with the four clinical EHR systems (40%) and eViewer deployment to all six health authorities (60%). The lab domain has been integrated with the HIAL and viewer deployment within VCHA has been completed.

Highlights for Reporting Period:

➢ Work is underway to decouple the eViewer from VCHA's underlying infrastructure in preparation for eViewer deployment to other HAs.

➢ A proposal to leverage IHA's existing lab results distribution solution for provincial use via the HIAL is being considered/ reviewed.

➢ High level project plans, with an emphasis on HA involvement, were presented to Health Leadership in November.

➢ Plans to make hospital discharge summaries available via the provincial EHR are under review.

Challenges:

- The management of system enhancement releases to ensure timely implementation while controlling the grouping and scheduling of releases to deliver within the allocated budget.

eHealth | Telehealth Status

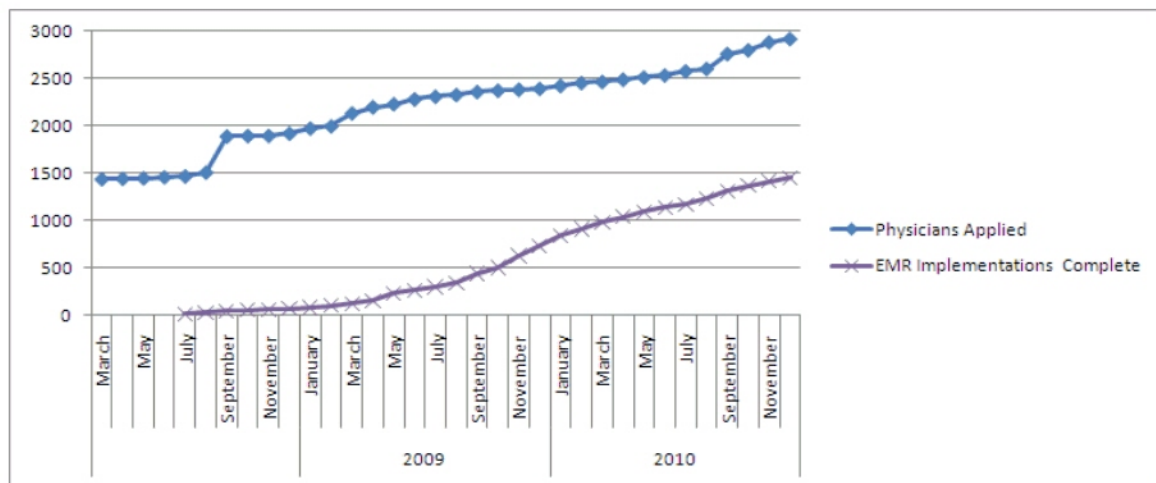| Projects:		% Complete
TeleHomecare	Improves care and reduces hospital readmissions of patients with Congestive Heart Failure through early detection and self monitoring.	**100%**
TeleOpthalmology	Improves retinal screening service access for populations at high risk of retinopathies (i.e. First Nations people and diabetics) living in rural and remote communities.	**100%**
TeleThoracic	Provides access to quality thoracic surgical care to residents of BC and the Yukon through videoconferencing technology.	**100%**
TeleOncology	Improves access for patients and their families in remote and rural areas of the province to specialized oncology services via regional cancer centres.	**100%**
First Nations Telehealth Expansion	Builds and expands Telehealth capacity within First Nations communities. Establishes the technical and human resources in First Nation communities necessary to address health service access inequities within BC.	**0%**
Telepathology	Develop an integrated Telepathology network for consultation, education and quality assurance within the anatomical pathology and clinical laboratories in BC.	**100%**

Highlights for Reporting Period:

➢ All in scope provincial telehealth demonstrations projects undertaken with Infoway have been completed and will no longer be included in this report.

➢ The proposed First Nations Telehealth Expansion Project to build and expand telehealth capacity within First Nations communities has not been approved to go forward and will be revisited at a future date.

Electronic Medical Record Systems Initiative

The British Columbia Medical Association (BCMA) and the Ministry of Health Services (the Ministry) agreed to work collaboratively to coordinate, facilitate and support information technology planning and implementation for physicians as part of the 2006 Physician Master Agreement. The scope of the information technology includes: professionally hosted electronic medical record applications; implementation support; network connectivity; office hardware such as computers and printers; and e-mail. The Electronic Medical Record (EMR) Program in the Ministry manages the relationship with the EMR Service Providers, ensuring contract compliance while maintaining collaborative vendor relationships and coordinating the change and release management cycle associated with client requirements. Health Shared Services BC manages the relationship with s.17   and oversees the deployment of the Private Physician Network (PPN).

The Physician Information Technology Office (PITO) coordinates the implementation of the information technology products and services with EMR service providers and physician practices, and disburses funds to physicians as defined in the Physician Master Agreement.

Highlights for Reporting Period:

➢ Approximately 90% of large (6+ physicians) Full Service Family Practice (FSFP) clinics, 50% of medium (3-5 physician) FSFP clinics and 10% of small/solo (1-2 physician) FSFP clinics had an EMR in place at the end of 2010.

➢ eReferral pilot projects are well underway in leading Communities of Practice with extremely positive physician and clinic staff feedback.

➢ PITO has launched the Alternative Specialist Funding Program to address the distinct needs of some specialists. To date, it has been well received by specialists.

Challenges:

➢ While there are high adoption levels amongst larger full service practice clinics (6+ physicians), achieving similar rates amongst solo and small (2-3 physician) clinics and specialists in complex environments remains a challenge, particularly in urban areas.

➢ Physicians are requesting consistent approaches across the health sector for electronic report delivery (e.g. Discharge summaries) and eReferrals, which EMRs could be integrated with. Some physicians are seeking this level of integration before they adopt an EMR.

➢ The PPN circuits designed for mid-size practices are not meeting physician requirements and need to be upgraded.

EHR/EMR Integration Project

The Electronic Health Record / Electronic Medical Record Integration Project will support EMR vendors in the implementation of the domain, privacy, security and technical specifications created for Points of Service systems to integrate with:

• the Electronic Master Patient Index (EMPI), a component of the provincial client registry system;

• the provincial provider registry systems (the Provider Registry System and the Community Health and Care Resource Database);

• the Provincial Lab Information System;

• the PharmaNet system (to access medication profiles and to ePrescribe)

Highlights for Reporting Period:

➢ The project has been initiated and project planning is underway.

eHealth | Milestone Status

The table below provides the status of the key eHealth project deployment milestones from the Executive Summary of the eHealth Tactical Plan. The "Target Quarter" represents the approved timeframe for the completion of a milestone.

Project	eHealth Milestones	Target Quarter	Status
Fiscal Year 2010/11			
Panorama Implementation	Panorama Technical Deployment in Production	1	Complete - application in operation, ready for deployment to intended users
Telehealth	TeleOphthalmology services Go-Live	1	Complete - services to improve retinal screening services access for populations at high risk of retinopathies living in rural and remote communities went live
Telehealth	TeleOncology, Phase III (NHA and VIHA)	1	Complete - implemented in NHA and VIHA
Telehealth	TeleThoracic services Implementation (PHSA)	1	Complete - there are minor technical problems with the stethoscopes but they are only a small part of the solution and the TeleThoracic services are now being delivered
Panorama Implementation	Panorama Technical Deployment in Production	2	Complete (initial BCCDC users testing system)
EHR	Confirm the approach to be used for user identity management across the health authorities.	3	The approach has been confirmed and the HAs will proceed to determine a plan and schedule for completing the work required to implement the solution.
PLIS	On-board public laboratory data from NHA and for non-discrete (anatomical/pathological) laboratory data	4	
EHR	Deploy eViewer to PHSA	4	Initial deployment to start in February 2011.
Panorama Implementation	Panorama production implementation of Inventory (all HAs except VCHA) (Begin Oct 2010)	4	
EMR	Transition PPN to PHSA Health Shared Services BC (HSSBC) Operations.	4	
PharmaNet Modernization	Draft Point of Service compliance specification complete	4	
PDI	Complete Philips iSite Viewer deployment in VCH and FHA	4	
Fiscal Year 2011/12			
PDI	Philips iSite Viewer deployment in PHSA	1	

Project	eHealth Milestones	Target Quarter	Status
PLIS	Establish laboratory results distribution service (PHSA)	1	
Panorama Implementation	Panorama Production Implementation (all modules)	1	
PharmaNet Modernization	Medication Management Framework and ePrescribing development complete	1	
PLIS	Establish laboratory results distribution service (VCH)	2	
PLIS	On-board public laboratory data from FHA and VIHA	3	
PLIS	Establish laboratory results distribution service (FHA)	3	
PharmaNet Modernization	Point of Service compliance testing for pilot vendor	3	
PLIS	On-board public laboratory data from VCH	4	
PLIS	Establish laboratory results distribution service (VIHA)	4	
EHR	Deploy eViewer to FHA, NHA, VIHA and IHA	4	
PLIS	On-board Private Laboratories	4	
PharmaNet Modernization	PharmaNet implemented in production environment	4	
EMR	EMR/EHR Integration	4	
EMR	One PITO EMR vendor implemented ePrescribing (Ministry conformance services in place to support remaining EMR vendors)	4	
EHR	Determine SHR solution and on-board SHR into iEHR (Encounters only)	4	
PDI	Philips iSite Viewer deployment in NHA, IHA and VIHA	4	
PDI	PDI solution integration with eViewer	4	

Approved Change Request Summary

The table below represents a summary of the approved changes to the eHealth Tactical Plan.

CR	Project/ Work Stream	Title	Impacted			Description
			Budget	Schedule	Scope/ Quality	
1	iEHR/PLIS	EHR Integration Schedule Re-Planning	N	Y	Y	CR included the following changes reflecting the impacts of competing priorities (e.g. Lower Mainland Consolidation) and compressed timeline: • Shift completion of health authority engagement for deploying eViewer out to 2nd quarter 2010/11 • Shift out to 2nd quarter 2010/11 of 'user identity' and 'Determine SHR solution' milestones
2	PDI	Transfer of PDI project delivery responsibilities to PHSA	N	Y	N	Deployment of DI Viewer to NHA, PHSA and VIHA and full deployment to FHA and VCHA shifted out to the 3rd quarter of 2010/11 in recognition of the work required to transition deployment responsibilities to PHSA.
3	eHealth	Tactical Plan Update – Sep 2010	N	Y	Y	A planned 6-month update to eHealth Tactical Plan has been completed. No major scope or budget changes have been made. Updated executive milestones are reflected in the milestone status section.
4	PLIS	Provincial Laboratory Information Solution Lab On-Boarding	Y	Y	Y	Project Board decision (BN 861233) – confirmed scope, timeframe and budget baseline changes as reflected in updated PLIS section
5	Panorama Implementation	BC Panorama Deployment	Y	Y	Y	Project Board decision (BN) – confirmed scope, timeframe and budget baseline changes as reflected in updated Panorama section
6	PharmaNet Modernization	PharmaNet Modernization Project Scope, Timeframe and Budget	Y	Y	Y	Project Board decision (BN 861147) – confirmed scope, timeframe and budget baseline changes as reflected in updated PharmaNet Modernization section

eHealth | Budget Status

Budget Table 1: Actual versus planned[1] capital costs by quarter for the provincial EHR projects in 2010/11.

Provincial EHR Projects	Planned versus Actual Expenditures	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	2010/11 Total
Provincial Lab Information Solution	Planned	150,000	850,000	2,500,000	2,500,000	**6,000,000**
	Actual/ Forecast	26,000	888,000	0	5,256,720	**6,170,720**
Provincial Diagnostic Imaging	Planned	85,250	982,250	265,750	1,666,750	**3,000,000**
	Actual/ Forecast	9,113	0	0	1,746,750	**1,746,750**
BC Panorama Project	Planned	2,200,000	2,200,000	2,200,000	2,200,000	**8,800,000**
	Actual/ Forecast	3,024,153	783,496	3,369,300	3,415,182	**10,592,131**
PharmaNet Modernization	Planned	1,500,000	4,000,000	4,000,000	4,000,000	**13,500,000**
	Actual/ Forecast	1,319,271	1,393,906	2,061,292	6,734,530	**11,508,999**
EHR Infrastructure Systems (iEHR)	Planned	137,000	1,163,000	3,250,000	3,250,000	**7,800,000**
	Actual/ Forecast	25,840	110,122	581,036	5,624,523	**6,341,521**
Electronic Health Record Total	**Planned**	**4,072,250**	**9,195,250**	**12,215,750**	**13,616,750**	**39,100,000**
	Actual/ Forecast	4,404,377	3,175,524	6,011,628	22,777,705	36,369,234

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[1] For the purposes of table 1, planned represents planned costs by quarter as of the start if the fiscal year, totalling $39.1 million, and does not reflect any subsequent approved changes to fiscal year spending by eHealth Project Board, as reflected in table 2 ($38.77 million).

eHealth | Budget Status

Budget Table 2: Indicates the historical capital costs (pre-2010/11) of the provincial EHR projects and the current eHealth Project Board approved capital spending plan through to completion, as a total and as currently allocated to each projects.

Provincial EHR Foundation System ($ millions)	Historic Spend	10/11	11/12	12/13	10/11 - 12/13 Total	Projected System Total
Provincial Lab Information Solution	39.76	**5.87**	2.93	0.00	8.79	48.55
Provincial Diagnostic Imaging	11.98	**2.37**	2.80	0.00	5.17	17.15
BC Panorama Project	24.97	**10.59**	3.49	0.89	14.97	39.93
Registry Systems (Provider & Client)	17.79	**0.00**	0.00	0.00	0.00	17.79
PharmaNet Modernization	32.79	**12.88**	15.90	0.00	28.78	61.57
EHR Infrastructure Systems (iEHR)	59.24	**7.06**	5.50	1.80	14.36	73.60
Electronic Health Record	186.52	38.77	30.62	2.69	**72.07**	258.59

Budget Table 3: Indicates current projected spend through December 2010.

Provincial EHR Foundation System ($ millions)	Historic Spend	10/11	11/12	12/13	10/11 - 12/13 Total	Projected System Total
Provincial Lab Information Solution	39.76	**6.17**	2.93	0.00	9.10	48.86
Provincial Diagnostic Imaging	11.98	**1.76**	2.80	0.00	5.17	17.15
BC Panorama Project	24.97	**10.59**	3.49	0.89	14.97	39.93
Registry Systems (Provider & Client)	17.79	**0.00**	0.00	0.00	0.00	17.79
PharmaNet Modernization	32.79	**11.51**	15.90	0.00	27.41	60.20
EHR Infrastructure Systems (iEHR)	59.24	**6.34**	5.50	1.80	13.64	72.88
Electronic Health Record	186.52	**36.37**	30.62	2.69	70.29	256.81

Note: Changed figures are highlighted in red.

eHealth | User Adoption

Successfully building eHealth project solutions is not enough to ensure the anticipated benefits of eHealth are realized. Adoption, or uptake by system users, is critical to success.

User adoption targets will be determined, and progress towards achieving them monitored, for the following systems:

- eHealth and Diagnostic Imaging Viewers
- PharmaNet
- Electronic Medical Record Systems
- Panorama

Highlights for Reporting Period:

➢ The target users for the eHealth systems vary by health authority. The Ministry is currently working closely with the HAs to identify the target user groups for systems deployment, starting with the lower mainland.

➢ Adoption data for the first three months of PLIS access by the 3,100 VCH users has been provided. The data is being reformatted into a report that will assist with identifying adoption targets.

EHealth Viewer and Provincial Diagnostic Imaging Viewers:

➢ The target number of users has not been confirmed across all health authorities for the viewers. The eViewer has been deployed to approximately 3,100 clinical users in the Vancouver Coastal Health Authority and the Provincial Diagnostic Imaging Viewer had been deployed to a limited number of users in the Vancouver Coastal and Fraser Health Authorities.

PharmaNet:

➢ PharmaNet, which will be upgraded through the PharmaNet Modernization Project, is currently accessed by over 1,500 physicians and around 4,730 pharmacists across BC from hospitals, pharmacies and medical practices.

Panorama:

➢ The target number of Panorama users has not been confirmed but currently the inventory module is deployed to approximately 20 users within the BC Centre for Disease Control. Deployment of the inventory module is expected to be complete by March 31, 2011 providing access to an additional 600 users with the health authorities and the Yukon. By the summer of 2012, Panorama is expected to be deployed to 3700 users.

Electronic Medical Record Systems:

➢ The following EMR targets are published in the ministry's 2010/11-2012/13 Service Plan, Performance Measure 7. The 2009/10 target was successfully achieved and the program is on track to achieve the 2010/11 target.

Performance Measure	2009/10 Forecast	2010/11 Forecast	2011/12 Forecast
Percentage of physicians implementing EMR systems	40%	60%	75%

eHealth | Benefits Evaluations (Outcomes)

The eHealth program is being undertaken in order to realize benefits for British Columbians and the overall health system, both clinical and financial. The purpose of the Benefits Evaluation stream of work is to measure those benefits over the years following the deployment of eHealth solutions and their adoption by intended users.

BC is using an evaluation framework promoted by Canada Health Infoway, which includes dimensions of quality (system, information and service), system usage (use and user satisfaction) and net benefits (quality, access and productivity). As a starting point, baseline and measures for each eHealth component will be determined. The Interoperable Electronic Health Record and Registry systems will not be assessed from a benefits evaluation perspective as they are enabling infrastructure components.

Highlights for Reporting Period:

➤ Early work is underway in all eHealth domains to frame the indicators and establish baselines.

➤ Experts from the University of Victoria have been engaged to conduct a PharmaNet Modernization Benefits Evaluation including the development of PharmaNet Modernization indicators and a Benefit Evaluation baseline. Lessons learned from this work will be leveraged to determine eHealth baseline measures for other eHealth domains.

➤ Funding was approved September 15, 2010 for the eHealth Observatory's PharmaNet Modernization evaluation studies to proceed in 2010-2011. The Baseline Usability Assessment study of PharmaNet 1 will support design improvements to PharmaNet-eRx. Feedback will be provided to the Ministry and can be shared with PharmaNet vendors to improve product safety and usability. Two other studies are the Baseline Evaluation of PharmaNet through comparison with Best-Possible Medication Histories taken during the Medication Reconciliation Process, and Pharmacist and Physician Communication Workflow Modeling. All three studies are progressing as planned, with findings to be reported in the spring, 2011.

➤ The Provincial Laboratory Information Solution (PLIS) Benefits Evaluation mini project charter and work plan have been revised and are currently under discussion by management prior to proceeding with conducting a benefit evaluation survey, two focus group sessions, gathering the data and producing the PLIS Benefits Evaluation report. The PLIS early adopters' survey questionnaire was drafted in December and will be sent to users in late January or early February.

➤ A narrative summary description of the Baseline (current) and Target (future) states has been drafted for the TeleHealth TeleHomecare Congestive Heart Failure program. Next steps include producing the report outline, developing the indicators and determining the results of the analysis of the Vancouver Island Health Authority program. Results of benefits evaluation studies from other jurisdictions, such as the Ontario TeleHealth Network, will also be leveraged as appropriate.

➤ A report outline for the TeleHealth TeleOncology Benefits Evaluation project is being prepared incorporating results from participating health authorities and the Provincial Health Services Authority. The TeleOncology Benefits Evaluation report from Newfoundland and Labrador has been reviewed and leveraged as appropriate.

➢ Narrative summary descriptions of the Baseline (current) and Target (future) states have also been drafted for the Electronic Medical Record project, the Diagnostic Imaging project, the Pharmanet Modernization project and the Provincial Laboratory Information Solution project.

➢ Early discussions have begun with Canada Health Infoway, the University of Victoria ,the Ministry's Pharmaceutical Services Division and Health Sector IM/IT Division on a Benefits Evaluation Strategy and BE projects for the BC ePrescribing solution with Electronic Medical Record systems.

➢ The Benefits Evaluation lead is working with the eHealth project teams, Infoway and the health authorities to develop plans for establishing baselines and indicators.

➢ While work on benefits indicators continues, examples of a few of the early benefits indicators that provide insight into expected benefits are provided below:

Project	Example Indicators
Provincial Laboratory Information Solution	• PLIS access for health care professionals authorized to access recent and historical test results from public laboratories.
Provincial Diagnostic Imaging Project	• Computer-enabled access for all health care professionals authorized to access recent and historical diagnostic imaging information.
TeleHomeCare	• Increased number of communities with access to telehomecare services.

Appendix A | Status Bar Parameters

Color Indicators

	Scope	Budget	Schedule
🟩	On track to complete approved scope	On track to complete project within approved budget [2]	On track to meet approved executive milestones
🟨	A low risk that one or more components of approved scope may not be completed has been identified	The current estimate for project completion exceeds the project's approved 10/11 – 12/13 budget by 5% but may be absorbed within the approved eHealth total budget	A low risk that one or more approved milestones may not be completed within the scheduled quarter
🟧	There is a high risk one or more components of approved scope may not be completed	The current estimate for project completion exceeds the project's approved 10/11 – 12/13 budget by 10% but may be absorbed within the approved eHealth total budget	There is a high risk that one or more approved milestones may not be completed within the scheduled quarter
🟥	One or more components of approved scope cannot be completed	The current estimate for project completion exceeds the project's approved 10/11 – 12/13 budget and the difference cannot be absorbed within the approved eHealth total budget.	One or more approved milestones will not be completed within the scheduled quarter

Number indicators

The numbers indicated next to the arrows indicate how many months the status has been at the reported level (color).

Arrow Indicators

⇨　No change in status from previous month.

⇧　Increase in status level from previous month (e.g. green to yellow)

⇩　Decrease in status level from previous month (e.g. red to yellow)

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[2] Starting point is the project allocations that supported the $72.5 million approved by Treasury Board for eHealth completion over the three year period 2010/11 – 2012/13

eHealth | Quarterly Status Report
April – June, 2010

Reporting on the implementation of electronic medical record systems in physician offices, the expansion of telehealth services and the development of a provincial electronic health record solution

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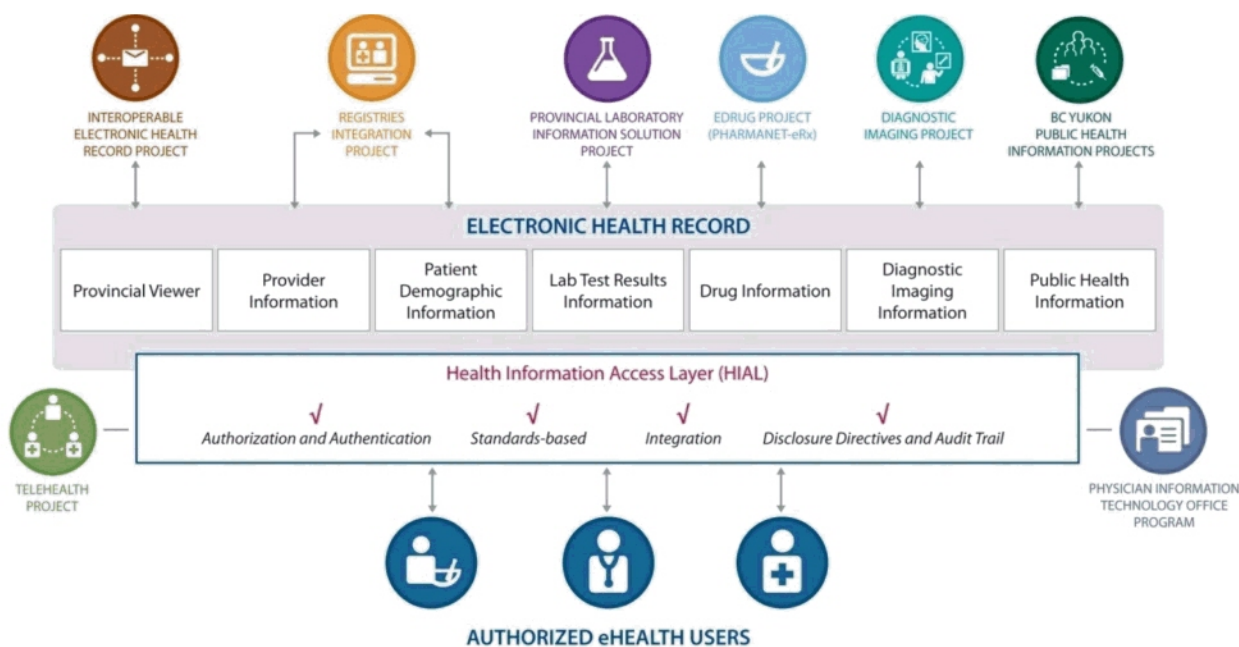Vancouver CoastalHealth
Promoting wellness. Ensuring care.

eHealth | About the Quarterly Status Report

The eHealth Quarterly Status Report fulfils a Ministry of Health Services leadership commitment to keep eHealth stakeholders apprised of its progress. The program has prepared quarterly status reports since the start of fiscal year 2009/10 and they have been well received by program stakeholders. This latest version of the quarterly status report incorporates a number of changes in response to recommendations provided by the BC Office of the Auditor General. The report will continue to evolve in response to those recommendations and to subsequent feedback received from program stakeholders.

The structure of the quarterly report is as follows:

Section		Description and Status
Project Status	〉	For each project, provides the status of the project phases, highlights key activity from the reporting period and outlines current challenges of note.
Milestone Status	〉	Indicates progress against the milestones identified in the eHealth Tactical Plan, March 2010 Update, and any formally approved changes.
Budget Status	〉	Outlines the projects' budgets and presents actual expenditures against planned expenditures for the current fiscal year.
Adoption	〉	Provides an indication of progress in achieving adoption targets.
Benefits Evaluation	〉	Describes the work under way to measure progress toward realization of intended eHealth benefits.

eHealth | Project Status

Provincial Laboratory Information Solution (PLIS) Project

The PLIS Project is developing a provincial repository of diagnostic laboratory test results, populated from all public and private laboratories, accessible by authorized care givers through the EHR infrastructure.

Status by Phase:

Project Phase		Percent Complete		Status
Planning	〉	100%	〉	Complete
Development	〉	100%	〉	The provincial repository is complete and in full production.
Deployment	〉	35%	〉	Deployment includes integration with source lab systems within each of the six health authorities (15% each) and with public labs (10%). As of the end of June, integration with the Provincial Health Services Authority and Interior Health Authority had been completed and work is progressing towards the completion of Northern health Authority in December.

Highlights for Reporting Period:

➢ The lab feed for Interior Health was implemented on May 16 bringing the total number of lab results available within the repository to over 1 million.

➢ Work with Northern Health Authority got underway and progressing towards a December integration date.

Challenges:

➢ A number of options for completing deployment to the remaining three health authorities within two years are being considered. A decision regarding this direction is expected during the 2nd quarter.

➢ Limited availability of lab results may impact adoption. A significant number of lab results are not currently available through EHR as a result of legislative confidential and data mismatch errors. Regulation changes intended to address the legislative confidential issue are expected to be made this Fall.

➢ The exercise of consolidating services across the lower mainland has resulted in a high demand for lab resources as well as creating as yet unresolved questions related to responsibilities.

➢ Tight management of system enhancements within pending releases will be required to deliver within the allocated budget.

Provincial Diagnostic Imaging Project

The Provincial Diagnostic Imaging Project (PDIV) will enable authorized users to access diagnostic images from throughout the Province via a diagnostic imaging viewer.

Status by Phase:

Project Phase	Percent Complete	Status
Planning	100%	Complete
Development	100%	From a diagnostic imaging project perspective, the development phase was a procurement exercise, leveraging an existing provincial contract to employ the diagnostic viewer provincially.
Deployment	10%	Deployment includes the rollout of the viewer to each of the six health authorities (10% each), community imaging clinic implementation (10%) and viewer integration with the EHR infrastructure (30%). As of the end of June, a limited deployment of the viewer within the Vancouver Coastal and Fraser Health Authorities had been completed.

Highlights for Reporting Period:

➢ Now that a limited deployment of the provincial viewer has been completed, the responsibility for moving forward with the full deployment of the viewer throughout the lower mainland and to the remaining health authorities is transitioning from the Ministry to the Provincial Health Services Authority (PHSA).

➢ PHSA's plans for the completion of viewer deployment and integration with the EHR infrastructure are expected to be completed during the 2nd quarter of 2010/11.

Challenges:

➢ Currently PHSA's plans do not contemplate integration with the HIAL within the March 2012 timeframe for the viewer rollout. If the strategy is updated to include HIAL integration, it may impact the scheduled roll-out of the viewer to the HAs outside of the lower mainland.

➢ Viewer roll-out plans do not currently contemplate VIHA. All other HAs will be adopting the DI viewer.

➢ A consolidated provincial archive is outside the scope of completion for March 2012. HAs will continue to manage this individually.

➢ A strategy for community imaging clinics needs to be determined and, depending on the ability of the clinics to implement PACS, may impact adoption.

BC Panorama Project

The BC Panorama Project, also referred to as the Public Health Information Project (PHIP), is implementing a Public Health Surveillance application called Panorama, developed in B.C. for Canada Health Infoway for national deployment. Panorama is an integrated suite of system components consisting of seven major modules:

- Communicable Disease Case Management
- Outbreak Management
- Vaccine and Inventory Management
- Family Health

- Immunization Management
- Notifications Management
- Work Management

Status by Phase:

Project Phase		Percent Complete		Status
Planning	〉	100%	〉	Complete
Development	〉	100%	〉	The development phase was the configuration of the Panorama application for BC and the development of the Family Health component.
Deployment	〉	5%	〉	Deployment includes the deployment of all Panorama modules to the Centre for Disease Control (40%) and all six health authorities (10% each). Technical deployment has been completed with the first limited user deployment on track for the end of the 2nd quarter 2010/11.

Highlights for Reporting Period:

➢ The technical deployment of the Panorama solution into production was completed early in the first quarter. Specifically, Panorama is now technically "in production" with data, interfaces and production code. All activities to support Panorama "in production" have been completed.

➢ Inclusion of Inventory management into the deployment scope. Configuration and deployment planning is well underway, targeting an early September production date. Implementing the Inventory management module will enable the Province to better manage the inventory of publicly funded vaccines in times of a pandemic as well as obtain cost savings due to decreased wastage.

Challenges:

➢ Stakeholder business cycles limit the implementation windows. Deployment during peak immunization season is not optimal due to resourcing constraints within the regional health authorities.

➢ Privacy and security constraints regarding the confidentiality of data present challenges to testing and conversion.

eHealth Drug Project (PharmaNet Modernization)

Will implement a standards-based medication management solution and an e-Prescribing function that will enhance the current PharmaNet system, and support adoption within pharmacy, medical practice, health authority and other settings.

Status by Phase:

Project Phase		Percent Complete		Status
Planning	⟩	100%	⟩	A re-planning exercise was completed in the first quarter and the project has moved forward to implement the revised plan.
Development	⟩	10%	⟩	The development phase for eDrug Project includes the design and development of the medication management and ePrescribing functionality within the PharmaNet application. The solution vendor, MAXIMUS, has commenced design work which will continue into the 3rd quarter of 2010/11.
Deployment	⟩	0%	⟩	Deployment includes the integration of the improved PharmaNet with the EHR infrastructure and deployment to pharmacists and physicians.

Highlights for Reporting Period:

➢ The project has been re-planned in order to deliver clinical value by March 2012. Two options have been reviewed with a final decision pending on HIAL integration.

➢ A project plan will be completed by the end of the second quarter reflecting the new direction.

Challenges:

➢ Tight management of the scope and budget of the project is required in order to deliver the functionality for the medication management framework and ePrescribing.

➢ The platform for the PharmaNet2 application must be upgraded. There are several options being considered and a full analysis of each option will be completed by the end of August. A decision regarding the new platform will need to be confirmed within the next quarter.

Client and Provider Registry Projects

The registry projects developed repositories of BC patient and health care providers. The repositories function each function as a source of truth, linking with other systems to ensure that health system clients and providers are uniquely identified.

Status by Phase:

Project Phase		Percent Complete		Status
Planning	〉	100%	〉	Complete
Development	〉	100%	〉	Complete
Deployment	〉	100%	〉	The client and provider registry systems have both been in operation for a number of years. The original scope of deployment for the client registry included active or passive integration with Northern, Vancouver Coastal and the Provincial Health Services Authorities. While not in scope for the project, Interior has since completed active integration with the client registry and the remaining health authorities are making plans to follow their lead.

Highlights for Reporting Period:

➢ Complete - Not applicable.

Challenges:

➢ While the registry projects were successfully completed, subsequent lessons learned related to the provincial EHR deployment have made the benefits of active integration with the client registry clear. As a result, all health authorities are moving forward with plans to integrate their systems with the client registry.

interoperable Electronic Health Record Project

The Interoperable Electronic Health Record (iEHR) Project provides the core technical infrastructure supporting the provincial EHR, including the following primary components:

- eHealth Viewer - a secure web-based application providing 'view' capability of health information to authorized clinicians,
- Health Information Access Layer (HIAL) - enabling secure information exchange between health professionals, the information repositories of the provincial EHR and the source systems that feed the provincial EHR
- Secure Health Record (SHR) - a repository for miscellaneous care-related reports and patient encounter records and, in particular, hospital discharge summary information.

Status by Phase:

Project Phase	Percent Complete	Status
Planning	100%	Complete
Development	100%	The EHR infrastructure has been built and is in operation.
Deployment	20%	Deployment includes the integration of the HIAL with the four clinical EHR systems (40%) and eViewer deployment to all six health authorities (60%). As of the end of June, the lab domain had been integrated with the HIAL and viewer deployment within the Vancouver Coastal Health Authorities had been completed.

Highlights for Reporting Period:

➢ The eViewer was deployed to early adopters for clinical use on May 26th; to 200 users at the Richmond Hospital on June 22nd; and the balance of Vancouver Coastal's 3,100 users on June 29th.

➢ Network connectivity to support Provide Registry synchronization with Panorama completed early in quarter.

Challenges:

➢ System enhancement requests exceed funding envelope. Tight management within pending releases will be required to deliver within the allocated budget.

➢ The eViewer requires further changes to allow it to be deployed outside of VCH. This pre-requisite work puts pressure on deploying to all Health Authorities by March 2012. Planning underway to mitigate this risk.

Telehealth Status

Projects:		% Complete
TeleHomecare	Improves care and reduces hospital readmissions of patients with Congestive Heart Failure through early detection and self monitoring.	**90%**
TeleOpthalmology	Improves retinal screening service access for populations at high risk of retinopathies (i.e. First Nations people and diabetics) living in rural and remote communities.	**90%**
TeleThoracic	Provides access to quality thoracic surgical care to residents of BC and the Yukon through videoconferencing technology.	**85%**
TeleWoundCare	Implements community-based wound care services throughout NHA with primary focus to support Home Care Nurses and staff in FN communities.	(closed)
TeleOncology	Improves access for patients and their families in remote and rural areas of the province to specialized oncology services via regional cancer centres.	**85%**
First Nations Telehealth Expansion	Builds and expands Telehealth capacity within First Nations communities. Establishes the technical and human resources in First Nation communities necessary to address health service access inequities within BC.	**0%**
Telepathology	Develop an integrated Telepathology network for consultation, education and quality assurance within the anatomical pathology and clinical laboratories in BC.	**98%**

Highlights for Reporting Period:

➢ The TeleHomecare, TeleThoracic and TeleOncology projects have exceeded their anticipated adoption targets.

➢ The official launch ceremony for the TelehOphthalmology service was on April 16, 2010. Initial clinics have been held and several cases of diabetetic retinopathy and other ocular diseases have been diagnosed.

➢ The TeleWoundcare project has been closed and the remaining project funding transferred to the TeleOncology project.

➢ Telepathology:

   o Transition from project to operational status underway in FHA.

   o Phase 2b provincial telepathology standards and architecture requirements draft documents completed.

   o There is now approximately 30% access by lab professionals to some form of telepathology in BC.

Challenges:

➢ The First Nations Telehealth Expansion Project has been put on hold with Canada Health Infoway while First Nations, the Province and Federal governments work on a new governance model for health service delivery for First Nations.

Electronic Medical Record Systems Initiative

The British Columbia Medical Association (BCMA) and the Ministry of Health Services (the Ministry) agreed to work collaboratively to coordinate, facilitate and support information technology planning and implementation for physicians as part of the 2006 Physician Master Agreement. The scope of the information technology includes: professionally hosted electronic medical record applications; implementation support; network connectivity; office hardware such as computers and printers; and e-mail. The Electronic Medical Record (EMR) Program in the Ministry manages the relationship with the EMR Service Providers and s.17 ensuring contract compliance while maintaining collaborative vendor relationships; coordinates the change and release management cycle associated with client requirements; and oversees the early deployment of the Private Physician Network (PPN).

The Physician Information Technology Office (PITO) coordinates the implementation of the information technology products and services with EMR service providers and physician practices, and disburses funds to physicians as defined in the Physician Master Agreement.

Highlights for Reporting Period:

➢ 2100 physicians had either implemented their EMR or were in the process of implementing their EMR as of March 31, 2010.

➢ PITO Communities of Practice and Divisions of Family Practice are strongly aligned to support integrated community care and the attachment initiative.

➢ eReferral pilot projects well underway in leading Communities of Practice with extremely positive physician and clinic staff feedback.

➢ Post Implementation Support (PIS) pilot projects, established to maximize the impact of EMRs, focused primarily on chronic disease management, mental health, prescribing, and workflow optimization.

➢ PITO Peer-2-Peer (Local Physician Champion) program proving in valuable in creating capacity and coordination in the physician community to support uptake and optimization.

➢ An EMR integration strategy has been drafted that outlines the roadmap for information and service integration between EMRs and the provincial electronic health record systems.

➢ A new funding program, entitled the Alternative Specialist Funding Model, has been designed to address the needs of some specialist physicians for flexibility in the selection and adoption of EMRs.

Challenges:

➢ Information technology change management is currently a challenge for many practices.

➢ While there are high adoption levels amongst larger full service practices clinics (6+ physicians), achieving similar rates amongst solo and small (2-3 physician) clinics and specialists in complex environments remains a challenge.

➢ Some practices on the Private Physicians Network have experienced bandwidth issues which are being resolved currently by the network service provider.

eHealth | Milestone Status

The table below provides the status of the key eHealth project deployment milestones from the Executive Summary of the eHealth Tactical Plan. The "Target Quarter" represents the approved timeframe for the completion of a milestone. Footnotes on target quarters refer to approved change requests listed in the subsequent table.

Project	eHealth Milestones	Target Quarter	Status
Fiscal Year 2010/11			
BC Panorama	Panorama Technical Deployment in Production	1	Complete - application in operation, ready for deployment to intended users
Telehealth	TeleOphthalmology services Go-Live	1	Complete - services to improve retinal screening services access for populations at high risk of retinopathies living in rural and remote communities went live
Telehealth	TeleOncology, Phase III (NHA and VIHA)	1	Complete - implemented in NHA and VIHA
Telehealth	TeleThoracic services Implementation (PHSA)	1	Complete - there are minor technical problems with the stethoscopes but they are only a small part of the solution and the TeleThoracic services are now being delivered
EHR/PLIS	Deploy province-wide client identity solution for PLIS in PHSA and IHA	2	
EHR/PLIS	On-board public laboratory data for NHA	2	
PDI	Deploy Philips iSite Viewer in IHA	2	
PDI	Philips iSite Viewer deployment in NHA, PHSA and VIHA	3[2]	
BC Panorama	Production implementation of Panorama Inventory module	4	
EHR/PLIS	On-board remaining public laboratory data	4	
Telehealth	Provincial Scheduling System for clinical and education consults	4	
Telehealth	Establish integrated secure network connectivity between the BC health authorities, First Nations and other Telehealth partners	4	
Telehealth	Provincial Videoconferencing Bridging Services	4	

Project	eHealth Milestones	Target Quarter	Status
Telehealth	Provincial Videoconferencing Support Service (Help Desk)	4	
EHR/PLIS	Establish Laboratory Distribution Services	4	
EHR	Implement User Identity/Federation Solution	4	
EHR	Province-wide Client Identity Management in PHSA and IHA	4	
EHR	Complete SHR deployment	4	
EHR	Establish eHealth Operations	4	
Fiscal Year 2011/12			
BC Panorama	Panorama Production Implementation	1	
EHR/PLIS	On-board private laboratories	2	
EHR/EMR	EMR integration to EHR	2	
EHR/SHR	Immunization repository as a HIAL service	3	
EHR/SHR	Care summaries (acute discharge summaries) and Shared Care Plans	3	
EHR	Deploy eHealth Viewer to remaining health authorities	4	
EHR/PDI	PDI iSite Viewer integration with iEHR and HIAL	4	
EHR	Province-wide Provider Identity full deployment	4	
eDrug	Medication Management Framework implemented in PharmaNet	4	
EHR/SHR	Clinical observations, chronic disease management	4	
Fiscal Year 2012/13			
EHR/SHR	Referrals and consults; spirometry	2	
eDrug	PharmaNet-eRx Go-Live (implemented into production environment	2	
EHR/eDrug	ePrescribing	4	

Approved Change Request Summary

The table below represents a summary of the approved changes to the eHealth Tactical Plan.

CR	Project/ Work Stream	Title	Impacted			Description
			Budget	Schedule	Scope/ Quality	
1	iEHR/PLIS	EHR Integration Schedule Re-Planning	N	Y	Y	CR included the following changes reflecting the impacts of competing priorities (e.g. Lower Mainland Consolidation) and compressed timeline: • Shift completion of health authority engagement for deploying eViewer out to 2nd quarter 2010/11 • Shift out to 2nd quarter 2010/11 of 'user identity' and 'Determine SHR solution' milestones
2	PDI	Transfer of PDI project delivery responsibilities to PHSA	N	Y	N	Deployment of DI Viewer to NHA, PHSA and VIHA and full deployment to FHA and VCHA shifted out to the 3rd quarter of 2010/11 in recognition of the work required to transition deployment responsibilities to PHSA.

eHealth | Budget Status

Budget Table 1: Presents the capital costs of the provincial EHR projects through 2009/10, the approved budget for 2010/11 and planned costs to completion. Infoway recoveries received to date are also provided.

Provincial EHR Foundation System	Capital Expenditures by Fiscal Year ($ millions)										Projected System Total	Maximum Infoway Portion of Costs	Recoveries received as of June 2010/11
	Actual Expenditures							Planned (Estimates)					
	03/04	04/05	05/06	06/07	07/08	08/09	09/10	**10/11**	11/12	12/13			
Provincial Lab Information Solution	0.091	0.042	0.417	13.899	8.645	12.748	3.919	**6.000**	1.500	0.000	47.261	21.385	**9.701**
Provincial Diagnostic Imaging	0.000	0.000	0.000	2.160	1.095	5.758	2.962	**3.000**	2.800	0.000	17.775	13.331	**4.129**
BC Panorama Project	0.000	0.000	0.409	1.534	2.053	6.443	14.526	**8.800**	3.800	0.000	37.565	9.818	**2.901**
Registry Systems (Provider & Client)	1.652	4.286	7.431	1.603	0.199	2.622	0.000	**0.000**	0.000	0.000	17.793	16.935	**16.935**
eHealth Drug	0.000	0.000	0.679	3.298	14.405	7.901	6.504	**13.500**	14.500	3.500	64.287	22.520	**1.365**
EHR Infrastructure Systems (iEHR)	0.000	0.000	0.011	13.912	13.581	22.509	9.225	**7.800**	5.500	1.800	74.338	37.537	**16.473**
Electronic Health Record	1.743	4.328	8.947	36.406	39.978	57.981	37.136	**39.100**	28.100	5.300	259.019	**121.526**	**51.504**

Budget Table 2: Actual versus planned capital costs by quarter for the provincial EHR projects in 2010/11.

Provincial EHR Projects	Planned versus Actual Expenditures	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	2010/11 Total
Provincial Lab Information Solution	Planned	150,000	850,000	2,500,000	2,500,000	6,000,000
	Actual/ Forecast	26,000	888,000	2,532,000	2,532,000	5,978,000
Provincial Diagnostic Imaging	Planned	85,250	982,250	265,750	1,666,750	3,000,000
	Actual/ Forecast	9,113	982,250	265,750	1,666,750	2,923,863
BC Panorama Project	Planned	2,200,000	2,200,000	2,200,000	2,200,000	8,800,000
	Actual/ Forecast	2,358,000	2,222,000	2,163,000	2,092,137	8,835,137
eHealth Drug	Planned	1,500,000	4,000,000	4,000,000	4,000,000	13,500,000
	Actual/ Forecast	1,319,271	4,060,243	4,060,243	4,060,243	13,500,000
EHR Infrastructure Systems (iEHR)	Planned	137,000	1,163,000	3,250,000	3,250,000	7,800,000
	Actual/ Forecast	24,000	1,163,000	3,338,000	3,338,000	7,863,000
Electronic Health Record Total	**Planned**	**4,072,250**	**9,195,250**	**12,215,750**	**13,616,750**	**39,100,000**
	Actual/ Forecast	**3,736,384**	**9,315,493**	**12,358,993**	**13,689,130**	**39,100,000**

eHealth | User Adoption

Successfully building eHealth project solutions is not enough to ensure the anticipated benefits of eHealth are realized. Adoption, or uptake by system users, is critical to success.

User adoption targets will be determined, and progress towards achieving them monitored, for the following systems:

- eHealth and Diagnostic Imaging Viewers
- eDrug (PharmaNet)
- Panorama
- Electronic Medical Record Systems
- Telehealth solutions

Highlights for Reporting Period:

➤ The target users for the eHealth systems vary by health authority. The Ministry is currently working closely with the health authorities to identify the target user groups for systems deployment, starting with the lower mainland.

EHealth Viewer and Provincial Diagnostic Imaging Viewers:

➤ The target number of users has not been confirmed across all health authorities for the viewers. As of the end of the 1st quarter however, the eViewer has been deployed to approximately 3,100 clinical users in the Vancouver Coastal Health Authority and the Provincial Diagnostic Imaging Viewer had been deployed to a limited number of users in the Vancouver Coastal and Fraser Health Authorities.

eDrug (PharmaNet):

➤ PharmaNet, which will be upgraded through the eDrug Project, is currently accessed by over 1,500 physicians and around 4,730 pharmacists across BC from hospitals, pharmacies and medical practices.

Panorama:

➤ The target number of Panorama users has not been confirmed but it is currently estimated that the system will be available to 50 - 75 users (Centre for Disease Control and the Northern Health Authority) in September, 2010, up to 200 users in February, 2011, and to greater than 3,000 users in the Spring of 2011.

Electronic Medical Record Systems:

➤ The following EMR targets are published in the ministry's 2010/11-2012/13 Service Plan, Performance Measure 7. The 2009/10 target was successfully achieved and the program is on track to achieve the 2010/11 target.

Performance Measure	2009/10 Forecast	2010/11 Forecast	2011/12 Forecast
Percentage of physicians implementing EMR systems	40%	60%	75%

Telehealth:

➤ The TeleHomecare, TeleThoracic and TeleOncology projects have exceeded their anticipated adoption targets.

eHealth | Benefits Evaluations (Outcomes)

The eHealth program is being undertaken in order to realize benefits for British Columbians and the overall health system, both clinical and financial. The purpose of the Benefits Evaluation stream of work is to measure those benefits over the years following the deployment of eHealth solutions and their adoption by intended users.

BC is using an evaluation framework promoted by Canada Health Infoway, which includes dimensions of quality (system, information and service), system usage (use and user satisfaction) and net benefits (quality, access and productivity). As a starting point, baseline and measures for each eHealth component will be determined. The Interoperable Electronic Health Record and Registry systems will not be assessed from a benefits evaluation perspective as they are enabling infrastructure components.

Highlights for Reporting Period:

➢ Early work is underway in all eHealth domains to frame the indicators and establish baselines.

    ✎ Experts from the University of Victoria have been engaged to conduct an eDrug Benefits Evaluation including the development of eDrug indicators and a Benefit Evaluation baseline. Lessons learned from this work will be leveraged to determine eHealth baseline measures for other eHealth domains. The University of Victoria developed the Canada Health Infoway Benefits Evaluation framework that is the foundation of the BC Ehealth Benefits Evaluation Methodology.

    ✎ The Benefits Evaluation lead is working with the ehealth project teams, Infoway and the health authorities to develop plans for establishing baselines and indictors.

➢ While work on benefits indicators continues, examples of a few of the early benefits indicators that provide insight into expected benefits are provided below:

Project	Example Indicators
Provincial Laboratory Information Solution	• PLIS access for health care professionals authorized to access recent and historical test results from public laboratories.
Provincial Diagnostic Imaging Project	• Computer-enabled access for all health care professionals authorized to access recent and historical diagnostic imaging information.
TeleHomeCare	• Increased number of communities with access to telehomecare services.

eHealth | Quarterly Executive Report

Reporting Period: January – March 2010
Ministry of Health Services
Health Sector IM/IT Division

Reporting on the status of the Provincial Electronic Health Record (EHR), the Provincial Telehealth Office and the Electronic Medical Record (EMR)
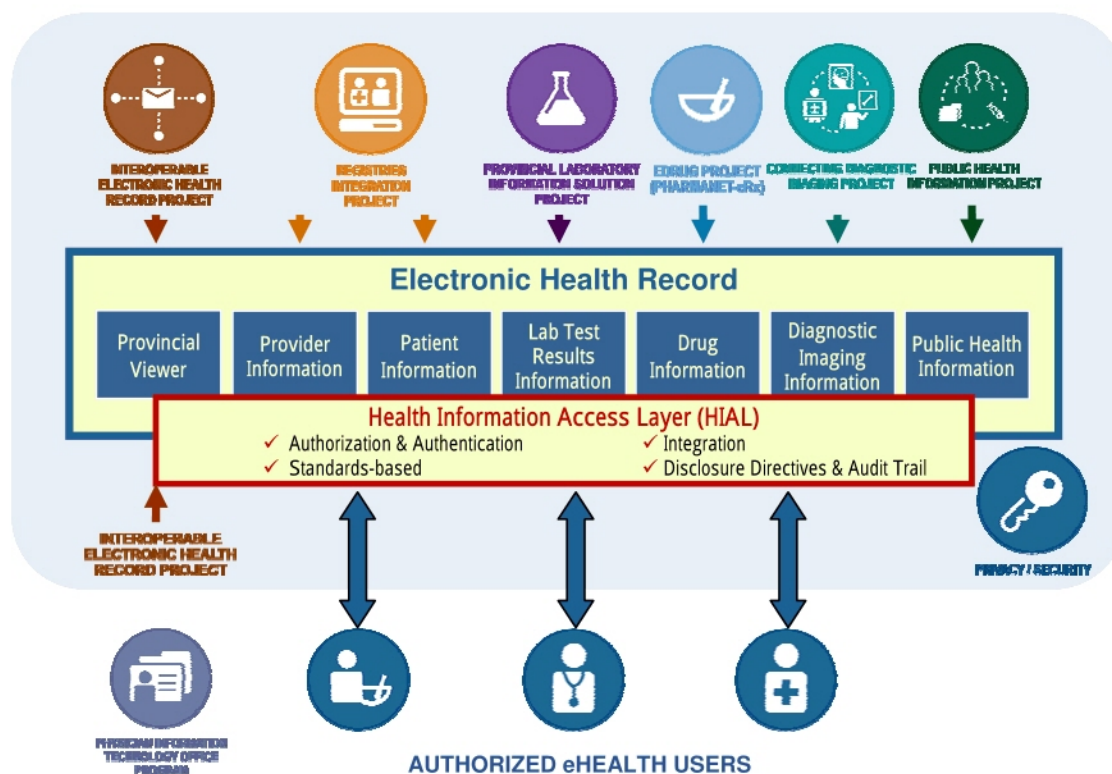
eHealth | Electronic Health Record (EHR) Status

interoperable Electronic Health Record Project

Will deliver the core infrastructure required to deliver eHealth, e.g. the Health Information Access Layer (HIAL) and a web-based viewer for accessing all information stored in the provincial EHR.

Provincial Laboratory Information Solution Project

Will deliver a Provincial Lab Information Solution that provides consolidated diagnostic laboratory test results to authorized care givers.

Successes	Upcoming Milestones	Challenges

Successes

- Pre-requisites for the Vancouver Coastal Health Authority early adopters have been finalized.
- Project privacy activities are ready to be transitioned to PHSA before the end of March 2010.
- Agreement has been reached to transition 12 project team members to the Provincial Health Services Authority until new full-time employees are hired and trained.
- Provincial data quality testing for the Interior Health Authority is underway.

IHA – Laboratory Information System (LIS) Onboarding Project:

- Completed the required Interior Health Authority changes to their production environments.
- Reached agreement on a two-phased LIS feed implementation

Public Health Information Project (PHIP) Integration

- The end to end environment is available for continued PHIP system testing.

Northern Health Authority – LIS Onboarding Project:

- The nomenclature automated mapping assistant work is now 100% complete.
- Discussions are underway to initiate the next phase of on-boarding

Upcoming Milestones

- Provincial Lab Information Solution data will be available to authorized Vancouver Coastal Health Authority early adopters (approximately 20 clinical staff) through the viewer.
- Interior Health Authority data is scheduled to be integrated into the Provincial Lab Information Solution repository.
- The Interoperable Electronic Health Record integrated plan will be drafted and approved.
- The interoperable Electronic Health Record and Provincial Lab Information Solution projects are fully transitioned to PHSA.

eHealth Viewer

- Deployment to Vancouver Coastal Health Authority will follow the Interior Health Authority on-boarding.
  The pre-requisite criteria for deployment have been finalized.

Challenges

- Availability of testing environments to accommodate concurrent lab information solution activity
- The timing of a non-discrete data solution may impact completion of Public Health Service Authority and Interior Health Authority lab data integration
- Identifying an authentication/federation solution to align with current timelines
- Privacy and security remediation work may impact rollout to 3100 users within the Vancouver Coastal Health Authority

eHealth Drug Project

Will implement a standards-based medication management and financial claims solution that will replace the current PharmaNet system, and support adoption within pharmacy, medical practice, health authority and other settings.

Successes	Upcoming Milestones	Challenges
• Drug Information System (DIS) V2 Design • Drug Information System Data Conversion Design • Completion of Test Strategy • Installation of the new Drug Information System in Test and Development • Sign-off and submission over $1.5 Million worth of deliverables to Infoway	• Review and Sign-off of Test Plan • Review and Sign-off of Drug Information System (DIS) V3 Design • Review and Sign-off of Infrastructure Solution Design	• Approved capital budget levels • Validation of the full ePrescribing methodology with stakeholders.

eHealth Diagnostic Imaging Project

Will deliver diagnostic imaging results to end users via the interoperable Electronic Health Record (iEHR) and Electronic Medical Record (EMR) systems.

Successes	Upcoming Milestones	Challenges
• Started initial planning with NHA • Started engagement with VIHA • BC Cancer Agency DI studies being prepared for inclusion in the PDIV	• Full Deployment of the Provincial DI Viewer (PDIV) in VCHA and FHA *(targeted for May 2010)* • PDIV Implementation in NHA *(targeted for June 2010)* • PDIV Implementation in PHSA *(targeted for June 2010)*	• Obtaining Health Authority Executive approval to proceed • Competing Health Authority priorities • Unknown HIAL on-boarding dates

BC Yukon Public Health Information Project (PHIP)

Will enhance the province's/territory's ability to perform public health surveillance and deliver public health services - to meet that need BCYPHIP will implement Panorama. In BC and the Yukon, Panorama must be delivered in conjunction with Family Health functionality in order to meet the needs of public health.

Successes

Panorama Implementation:
- Full implementation schedule approved by all stakeholders
- Transition to Operations at PHSA IMITS underway
- Obtained Executive approval and stakeholder support for addition of the full Inventory module to implementation scope
- Successfully passing messages between Panorama and Provider Registry through the HIAL
- Upgraded Panorama to version 2.0

Environmental Health:
- Project is under review pending Executive decision on strategy.

Family Health:
- Final acceptance and integration to main Panorama code complete.

Upcoming Milestones

Panorama Implementation:
- Production system will be in place (technical deployment) by end of April 2010
- Further the transition to operations at PHSA IMITS
- Complete second conference room pilots, where user validation, change management and preliminary training occur. Sessions are two weeks long and have representatives from all health authorities and First Nations
- Configure Inventory module for implementation in the Fall
- Implementation to BC Centre for Disease Control in Spring 2010. Pilot with no users to validate production system
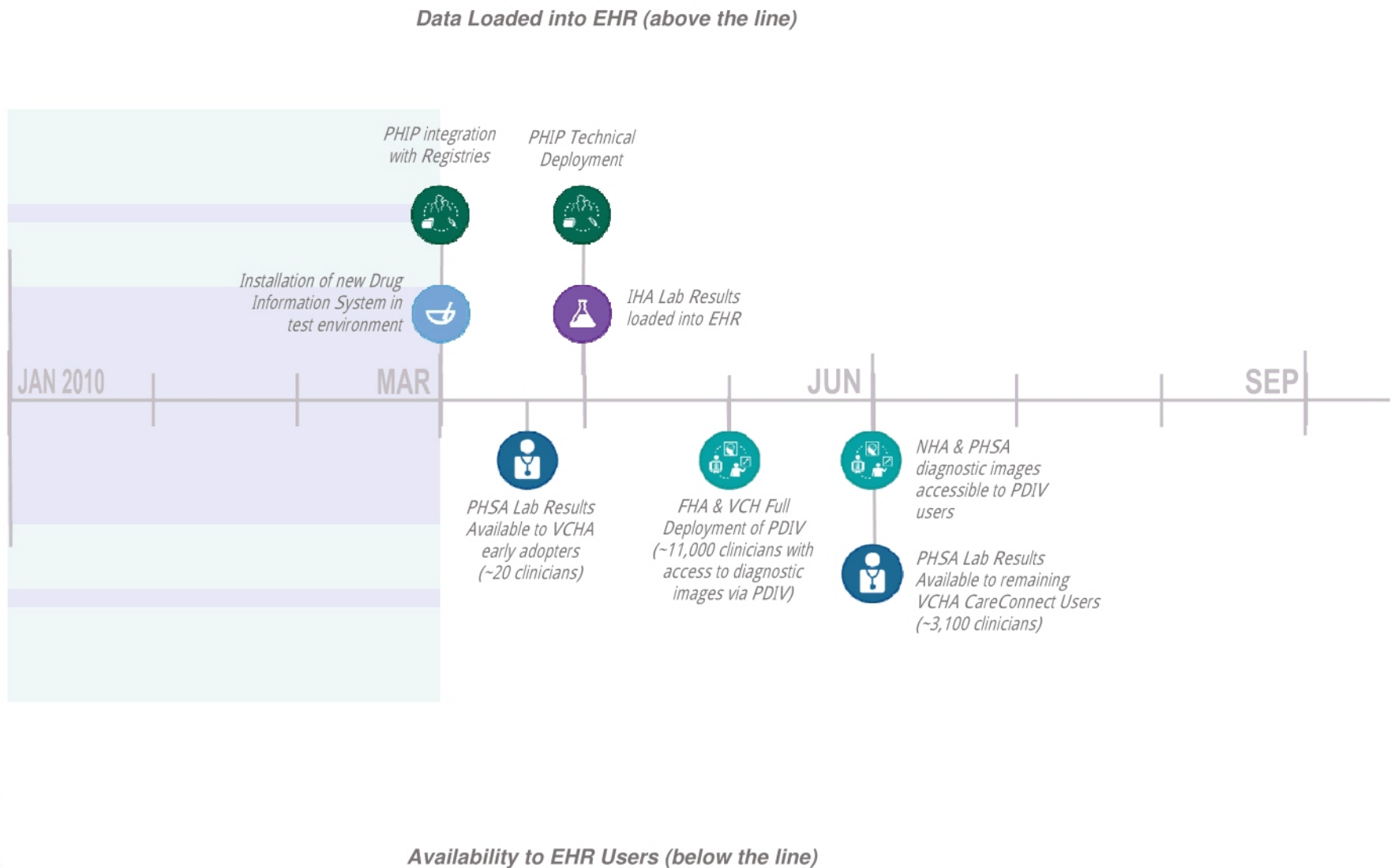
Challenges

Panorama Implementation:
- Ensuring anticipated scope of core national Panorama code is obtained and tested in each release

eHealth | Electronic Health Record (EHR) Deployment Timeline
(Reporting Period and Following two Quarters)

Data Loaded into EHR (above the line)

PHIP integration with Registries

PHIP Technical Deployment

Installation of new Drug Information System in test environment

IHA Lab Results loaded into EHR

JAN 2010   MAR   JUN   SEP

PHSA Lab Results Available to VCHA early adopters (~20 clinicians)

FHA & VCH Full Deployment of PDIV (~11,000 clinicians with access to diagnostic images via PDIV)

NHA & PHSA diagnostic images accessible to PDIV users

PHSA Lab Results Available to remaining VCHA CareConnect Users (~3,100 clinicians)

Availability to EHR Users (below the line)

eHealth Quarterly Executive Report – March 2010

eHealth | Telehealth Status & Timeline

Active Projects

TeleHomecare	Improves care and reduces hospital readmissions of patients with CHF (Congestive Heart Failure) through early detection and self monitoring of patients.
TeleOpthalmology	Improves retinal screening service access for populations at high risk of retinopathies (i.e. First Nations people and diabetics) living in rural and remote communities.
TeleThoracic	Provides access to quality thoracic surgical care to residents of BC and the Yukon through videoconferencing technology.
TeleWoundCare	Implements community-based wound care services throughout NHA with primary focus to support Home Care Nurses and staff in FN communities providing wound care.
TeleOncology	Improves access for patients and their families in remote and rural areas of the province to specialized oncology services provided by regional cancer centres.
First Nations Telehealth Expansion	Builds and expands Telehealth capacity within First Nations communities. Establishes the technical and human resources in First Nation communities necessary to address health service access inequities within BC. Overseen by the First Nations Health Council
Telepathology	Develop an integrated Telepathology network for consultation, education and quality assurance within the anatomical pathology and clinical laboratories in BC. Phases 1 and 2 were completed in March 2007 and March 2008 respectively. FHA and VIHA are fully participating in phase 3, targeted for completion no later than March 2010

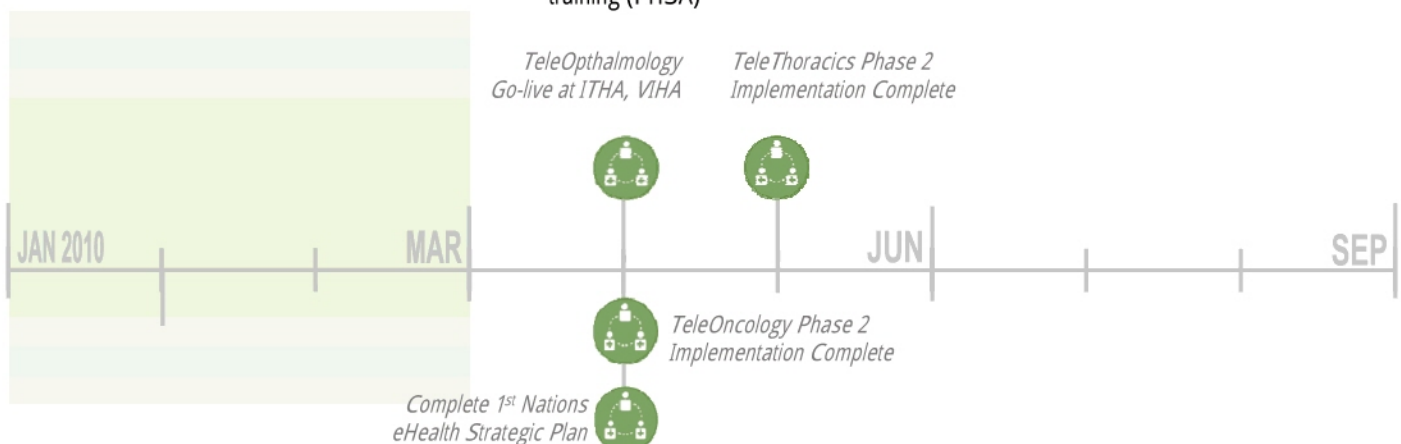| *Successes*	*Upcoming Milestones*	*Challenges*
• Telepathology Project – All Phase 2b HA activities completed. • A draft First Nations eHealth Strategic Plan was delivered to the Tripartite Strategy Council for First Nations eHealth, March 31, 2010.	• A final jointly signed First Nations eHealth Strategic Plan will be published and presented to the Provincial eHealth Strategy Council. • Telepathology – Complete stakeholder review of and revisions to Phase 2b provincial draft deliverable documents for provincial standards, architecture and post project strategy • TeleOncology Phase II Rollout implemented: Equipment installation and training (PHSA, IHA, NH and VIHA). • TeleThoracic Phase II Rollout implemented: Equipment installation and training (PHSA)	• Telepathology – approval of post project funding

TeleOpthalmology Go-live at ITHA, VIHA

TeleThoracics Phase 2 Implementation Complete

JAN 2010   MAR   JUN   SEP

TeleOncology Phase 2 Implementation Complete

Complete 1st Nations eHealth Strategic Plan

eHealth | Electronic Medical Records (EMR)

The British Columbia Medical Association (BCMA) and the Ministry of Health Services (the Ministry) agreed to work collaboratively to coordinate, facilitate and support information technology planning and implementation for physicians as part of the 2006 Physician Master Agreement. The scope of the information technology includes: professionally hosted electronic medical record applications; implementation support; network connectivity; office hardware such as computers and printers; and e-mail. The EMR Program in the Ministry manages the relationship with the EMR Service Providers and s.17   ensuring contract compliance while maintaining collaborative vendor relationships; coordinates the change and release management cycle associated with client requirements; and oversees the early deployment of the Private Physician Network (PPN).

The Physician Information Technology Office (PITO) coordinates the implementation of the information technology products and services with EMR service providers and physician practices, and disburses funds to physicians as defined in the Physician Master Agreement.

Successes

- 2,466 physicians have applied; 993 physicians have implemented.
- 590 practices have ordered (with 366 installed) a Private Physician Network circuit to access their EMRs
- EMR integration strategy drafted and being reviewed by stakeholders prior to finalization
- A transition plan has been developed to move PPN operations from the Ministry to the Shared Services Organization

Upcoming Milestones

- Receive final signoff on EMR integration strategy
- Receive approval of the PPN Transition Plan and begin transfer of operations from the Ministry to the Shared Services Organization
- Develop strategies to encourage specialist participation in the program

Challenges

- Specialist are not entering the program in high numbers

Physician Uptake Status
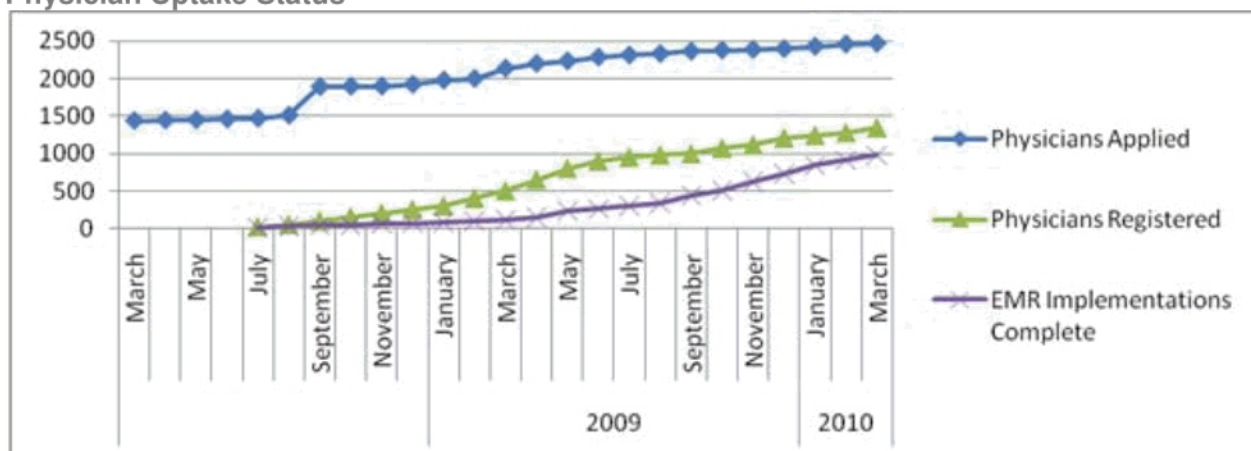
eHealth | Quarterly Status Report

January - March, 2011

Reporting on the implementation of electronic medical record systems in physician offices, the expansion of telehealth services and the development of a provincial electronic health record solution

BRITISH COLUMBIA
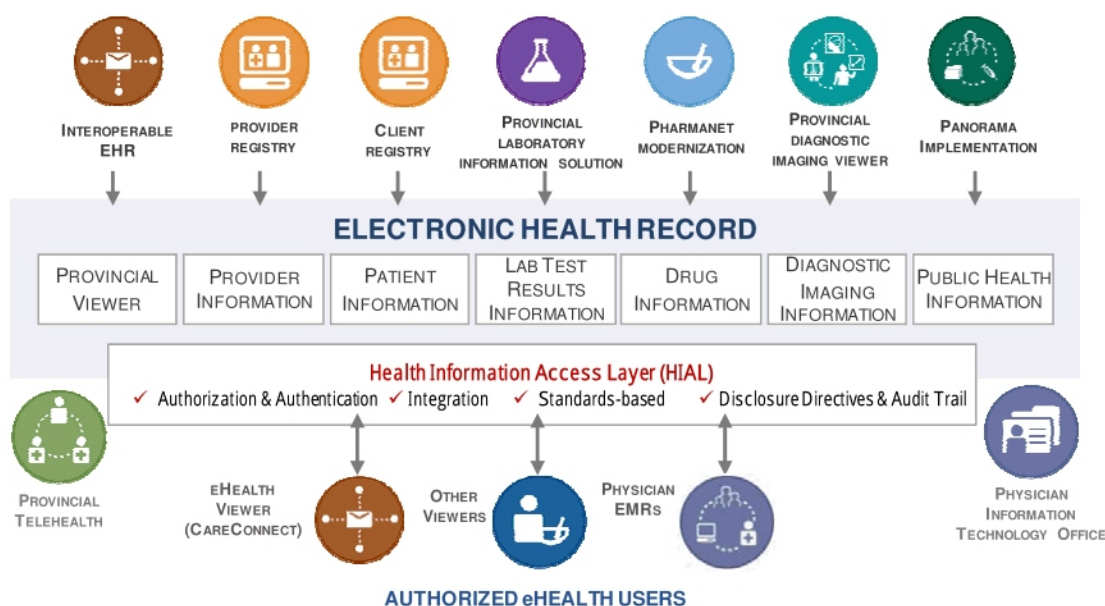The Best Place on Earth

Ministry of Health Services

eHealth | About the Quarterly Status Report

The eHealth Quarterly Status Report fulfils a Ministry of Health Services leadership commitment to keep eHealth stakeholders apprised of its progress. The program has prepared quarterly status reports since the start of fiscal year 2009/10.

No changes to the format of the report have been made since the last quarter.

The structure of the quarterly report is as follows:

Section	Description and Status
EHR Project Status	For each project, provides a status bar, status by project phase, highlights key activity from the reporting period and outlines current challenges of note.
Telehealth Status	This section has been removed following the reporting of the completion of these projects in the last report.
EMR Status	Provides an update of the status of PITO EMR and related EMR integration activities.
Milestone Status	Indicates progress against the milestones identified in the eHealth Tactical Plan, March 2011 Update, and any formally approved changes.
Budget Status	Outlines the projects' budgets and presents actual expenditures against planned expenditures for the current fiscal year.
Adoption	Provides an indication of progress in achieving adoption targets.
Benefits Evaluation	Describes the work under way to measure progress toward realization of intended eHealth benefits.

eHealth | Project Status

Provincial Laboratory Information Solution (PLIS) Project

Scope/Objectives	Budget	Schedule
🟩2⇨	🟩2⇨	🟩2⇨

See Appendix A for status bar parameters

The PLIS Project is developing a provincial repository of diagnostic laboratory test results, populated from all public and private laboratories, accessible by authorized care givers through the EHR infrastructure.

Status by Phase:

Project Phase	Percent Complete	Status
Planning 〉	100% 〉	Complete.
Development 〉	100% 〉	The provincial repository is complete and in full production.
Deployment 〉	40% 〉	Deployment includes source system integration (six health authorities at 15% each) and private labs integration (10%). PHSA, IHA and NHA integration is complete. FHA and VIHA are underway.

Highlights for Reporting Period:

➢ The adoption challenge related to the limited availability of some lab results was addressed in January 2011 when the flag preventing communicable disease lab results from being made available through the EHR was removed following regulation changes.

➢ NHA implementation was completed in March 2011.

➢ Project agreements are in place with FHA and VIHA and conversion of the lab data is underway.

➢ VCHA project charter and agreement drafted. The initiation of on-boarding activities for VCHA is planned for May 2011, to be completed in March 2012.

➢ Planning for on-boarding the private labs has been initiated. Meetings have been held with s.17 s.17   and there is executive agreement to proceed. An initial meeting with s.17   is being scheduled.

Challenges:

➢ The exercise of consolidating services across the lower mainland has resulted in a high demand for lab resources as well as challenges related to defining responsibilities across organizations.

- The on-boarding of the private labs is dependent on reaching a business arrangement with the labs for providing their lab results to PLIS.

- The iEHR-PLIS system is experiencing online data retrieval performance issues. The vendor is actively working the issues. This performance situation is impacting the adoption of the eViewer/PLIS by the user community.

- A provincial approach for providing Results Distribution support (to ordering physicians) across all the Health Authorities has raised concerns about data formatting and multiple EMR interfaces. Work with the CIO Council and Infoway is underway to develop a provincial Results Distribution strategy.

- Need to define a standards-based approach for creating and storing textual reports, such as Anatomical Pathology reports.   Do not have consistency across the Province. This matter is under review by the Clinical Oversight Committee and CIO Council.

Provincial Diagnostic Imaging Viewer Project

Scope/Objectives	Budget	Schedule
🟩 2 ⇨	🟩 2 ⇨	🟩 2 ⇨

See Appendix A for status bar parameters

The Provincial Diagnostic Imaging Project (PDIV) will enable authorized users to access diagnostic images from throughout the Province via a diagnostic imaging viewer.

Status by Phase:

Project Phase		Percent Complete		Status
Planning	⟩	100%	⟩	Complete
Development	⟩	100%	⟩	The development phase was a procurement exercise, leveraging an existing provincial contract to deploy the diagnostic viewer provincially.
Deployment	⟩	25%	⟩	Deployment includes the rollout of the viewer (6 HAs at 10% each), community imaging clinic implementation (10%) and viewer integration with the EHR infrastructure (30%). VCHA and FHA deployment and PHSA viewer installation complete.

Highlights for Reporting Period:

➢ PHSA has completed viewer deployment in VCHA and FHA. Active users are limited to initial adopters until integration with the eHealth Viewer has been addressed.

➢ PDIV installation in PHSA and the purchase of PDIV hardware supporting deployment to the remaining health authorities has been completed.

Challenges:

➢ A plan for the completion of deployment to the remaining HAs by the end of March 2012 continues to be developed.

➢ A strategy for community imaging clinics needs to be determined and, depending on the ability of the clinics to implement PACS, may impact adoption.

➢ The current Canada Health Infoway Project Agreement and associated Schedules requires updating to align with evolving BC plans.

BC Panorama Project

	Scope/Objectives	Budget	Schedule
	🟩2⇨	🟩2⇨	🟩2⇨

See Appendix A for status bar parameters

The BC Panorama Project, also referred to as the Public Health Information Project (PHIP), is implementing a Public Health Surveillance application called Panorama, developed in B.C. for Canada Health Infoway for national deployment. Panorama is an integrated suite of system components consisting of seven major modules:

- Communicable Disease Case Management
- Outbreak Management
- Vaccine and Inventory Management
- Family Health
- Immunization Management
- Notifications Management
- Work Management

Status by Phase:

Project Phase		Percent Complete		Status
Planning	⟩	100%	⟩	Complete
Development	⟩	100%	⟩	The development phase was the configuration of the Panorama application for BC and the development of the Family Health component.
Deployment	⟩	10%	⟩	Deployment of all Panorama modules to the Centre for Disease Control (40%) and all six health authorities (10% each). Technical deployment has been completed and limited deployment of the inventory module to the Centre for Disease Control was completed in for October 2010.

Highlights for Reporting Period:

➤ Panorama's Inventory module has been implemented in all health authorities with the exception of Vancouver Coastal. There are currently twenty active users at the BC Centre for Disease Control and approximately 244 users at 116 sites across all health authorities (except Vancouver Coastal) will have system access in May.

➤ The integrated plan that outlines the implementation of the inventory, immunization, case and family health components by May 2011 is complete. The Yukon, health authorities, BC Centre for Disease Control and the Provincial Health Services Authority are successfully engaged and executing the deployment tasks and activities for a spring implementation of inventory.

➤ The project charter targeting Panorama's full deployment was completed and circulated for sign-off in March.

➤ Ministry and health authority project staffing has been ramped up to meet target levels.

➢ The enhanced governance model, processes and teams have been implemented. The Panorama Executive Steering Committee was operational by the end of January deadline and the Panorama Management Team was launched in mid-February. The Clinical Oversight Committee became operational in March.

Challenges:

➢ Stakeholder business cycles limit the implementation windows. Deployment during peak immunization season is not optimal due to resourcing constraints within the regional health authorities.

➢ Privacy and security constraints regarding the confidentiality of data present challenges to testing and conversion.

PharmaNet Modernization Project (formerly known as the eHealth Drug)

Scope/Objectives	Budget	Schedule
🟩2⇨	🟩2⇨	🟨2⇨
	There is a risk of not completing Point of Service compliance testing for pilot vendor in the 3rd quarter 2011/12 as it is an aggressive schedule	

See Appendix A for status bar parameters

Will implement a standards-based medication management solution and an e-Prescribing function that will enhance the current PharmaNet system, and support adoption within pharmacy, medical practice, health authority and other settings.

Status by Phase:

Project Phase	Percent Complete	Status
Planning 〉	100% 〉	A re-planning exercise was completed in the first quarter.
Development 〉	15% 〉	Includes the design and development of the medication management and ePrescribing functionality within the PharmaNet application. The development & testing platforms are in place, detailed requirements are completed and conformance standards are under development.
Deployment 〉	0% 〉	Successful early deployment of ePrescribing functionality with one PITO EMR vendor and one Pharmacy vendor.

Highlights for Reporting Period:

➢ Planned and executed PharmaNet Modernization project information session for Pharmacy Software Vendors on February 14th, 2011.

➢ Prepared budget and project materials to support the development of a new Infoway agreement for the project.

➢ Clinical Integration Advisory Council EHR Task group convened for review of and input into conformance specification documents.

Challenges:

➢ Tight management of the scope and budget of the project is required in order to deliver the functionality for the medication management framework and ePrescribing.

➢ Need regulatory changes to enable all authorized providers – currently limited to physician and pharmacist providers – supports community integration – not currently in scope

interoperable Electronic Health Record Project

Scope/Objectives	Budget	Schedule
🟨2 ⇨	🟩2 ⇨	🟩2 ⇨

Plans to provide hospital discharge summaries available via the provincial EHR are under review

See Appendix A for status bar parameters

The Interoperable Electronic Health Record (iEHR) Project provides the core technical infrastructure supporting the provincial EHR, including the following primary components:

- eHealth Viewer - a secure web-based application providing 'view' capability of health information to authorized clinicians,
- Health Information Access Layer (HIAL) - enabling secure information exchange between health professionals, the information repositories of the provincial EHR and the source systems that feed the provincial EHR
- Secure Health Record (SHR) - a repository for miscellaneous care-related reports and patient encounter records and, in particular, hospital discharge summary information.
- Infrastructure to support report distribution (via subscriptions services)

Status by Phase:

Project Phase		Percent Complete		Status
Planning	〉	100%	〉	Complete
Development	〉	100%	〉	The EHR infrastructure has been built and is in operation.
Deployment	〉	20%	〉	Includes the integration of the HIAL with the four clinical EHR systems (40%) and eViewer deployment to all six health authorities (60%). The lab domain has been integrated with the HIAL and viewer deployment within VCHA has been completed.

Highlights for Reporting Period:

➢ The eViewer has been decoupled from VCHA's underlying infrastructure in preparation for deployment to other health authorities.

➢ The eViewer has been deployed to 25 pharmacists at PHSA's BC Cancer Agency. Additional deployment at the s.17 is pending.

➢ The health authorities have agreed to a proposal to leverage IHA's existing lab results distribution solution for provincial use.

Challenges:

➢ Plans to make hospital discharge summaries available via the provincial EHR are under review

- The management of system enhancement releases to ensure timely implementation while controlling the grouping and scheduling of releases to deliver within the allocated budget.

Electronic Medical Record Systems Initiative

The British Columbia Medical Association (BCMA) and the Ministry of Health Services (the Ministry) agreed to work collaboratively to coordinate, facilitate and support information technology planning and implementation for physicians as part of the 2006 Physician Master Agreement. The scope of the information technology includes: professionally hosted electronic medical record applications; implementation support; network connectivity; office hardware such as computers and printers; and e-mail. The Electronic Medical Record (EMR) Program in the Ministry manages the relationship with the EMR Service Providers, ensuring contract compliance while maintaining collaborative vendor relationships and coordinating the change and release management cycle associated with client requirements. s.17
s.17

The Physician Information Technology Office (PITO) coordinates the implementation of the information technology products and services with EMR service providers and physician practices, and disburses funds to physicians as defined in the Physician Master Agreement.

Highlights for Reporting Period:

➢ As of March 31, 2011, there were 2867 physicians registered in PITO. Of those, 2462 had implemented an EMR or were in the process of implementing an EMR.

➢ The Physician Information Technology Office (PITO) has completed an assessment of the business and technical requirements for an EMR data transfer specification. The specification is envisioned to support EMR-to-EMR data conversions, patient chart transfers and data transfers for referrals. A project to turn these requirements into a functional data standard is being initiated.

➢ s.17

Challenges:

➢ While there are high adoption levels amongst larger full service practice clinics (6+ physicians), achieving similar rates amongst solo and small (2-3 physician) clinics and specialists in complex environments remains a challenge, particularly in urban areas.

EMR/EHR Integration Project

The Electronic Medical Record / Electronic Health Record Integration Project will support EMR vendors in the implementation of the domain, privacy, security and technical specifications created for Point of Service systems to integrate with:

• the provincial Client Registry System;

• the provincial Provider Registry System;

- the Provincial Lab Information System; and
- the PharmaNet system (to access medication profiles and to ePrescribe).

Highlights for Reporting Period:

➢ An early adopter EMR vendor has been selected ^{s.17}   ;

➢ Workshops with clinicians, several colleges and other stakeholder groups were held from January to March to validate the clinical and business requirements for integrating point of service systems with the EHR systems;

➢ First drafts of the integration specifications including privacy and security volumes were prepared and released to the EMR and pharmacy early adopter vendors in early April for initial review;

➢ A project agreement with Canada Health Infoway was signed with the associated funding supporting general EMR adoption and EMR / EHR integration work efforts.

eHealth | Milestone Status

The table below provides the status of the key eHealth project deployment milestones from the Executive Summary of the eHealth Tactical Plan. The "Target Quarter" represents the approved timeframe for the completion of a milestone.

Project	eHealth Milestones	Target Quarter	Status
Fiscal Year 2010/11			
Panorama Implementation	Panorama Technical Deployment in Production	1	Complete - application in operation, ready for deployment to intended users
Telehealth	TeleOphthalmology services Go-Live	1	Complete - services to improve retinal screening services access for populations at high risk of retinopathies living in rural and remote communities went live
Telehealth	TeleOncology, Phase III (NHA and VIHA)	1	Complete - implemented in NHA and VIHA
Telehealth	TeleThoracic services Implementation (PHSA)	1	Complete - there are minor technical problems with the stethoscopes but they are only a small part of the solution and the TeleThoracic services are now being delivered
Panorama Implementation	Panorama Technical Deployment in Production	2	Complete (initial BCCDC users testing system)
EHR	Confirm the approach to be used for user identity management across the health authorities.	3	Complete.
PLIS	On-board public laboratory data from NHA	4	Complete
Panorama Implementation	Panorama production implementation of Inventory (all HAs except VCHA) (Begin Oct 2010)	4	Complete
EMR	Transition PPN to PHSA Health Shared Services BC (HSSBC) Operations.	4	Complete
PharmaNet Modernization	Draft Point of Service compliance specification complete	4	Complete
PDI	Complete Philips iSite Viewer deployment in VCH and FHA	4	Complete
Fiscal Year 2011/12			
PDI	Philips iSite Viewer deployment in PHSA	1	
PLIS	Establish laboratory results distribution service (PHSA & VCHA)	1	
PharmaNet Modernization	Medication Management Framework and ePrescribing development complete	1	

Project	eHealth Milestones	Target Quarter	Status
BC Panorama	Panorama production implementation of Inventory module in all health authorities/Yukon. (2-YN, 3-VIHA/NHA/IHA/FHA, 4-VCH)	2/3/4	
PLIS	On-board public laboratory data from FHA	3	
PLIS	On-board public laboratory data from VIHA	3	
PLIS	Establish laboratory results distribution service (FHA)	3	
PharmaNet Modernization	Point of Service compliance testing for pilot vendor	3	
EHR	Deploy eViewer to PHSA	4	The eViewer has been deployed to 25 pharmacists at the BC Cancer Agency. Additional deployment at the Fairmont Clinic is pending.
PLIS	On-board public laboratory data from VCH	4	
PLIS	Establish laboratory results distribution service (VIHA)	4	
BC Panorama	Panorama production implementation of Inventory module in all health authorities/Yukon. (VCH)	4	
EHR	Deploy eViewer to FHA, NHA, VIHA and IHA	4	
PharmaNet Modernization	PharmaNet implemented in production environment	4	
EMR	EMR/EHR Integration	4	
EMR	One PITO EMR vendor implemented ePrescribing (Ministry conformance services in place to support remaining EMR vendors)	4	
EHR	Determine SHR solution and on-board SHR into iEHR (Encounters only)	4	
PLIS	On-board private laboratories	4	
PDI	Philips iSite Viewer deployment in NHA, IHA and VIHA	4	
PDI	iSite Viewer deployment to VCHA and FHA (all users)	4	
PDI	PDI solution integration with eViewer	4	
Fiscal Year 2012/13			
BC Panorama	Panorama Production Implementation (all modules)	1	

Approved Change Request Summary

The table below represents a summary of the approved changes to the eHealth Tactical Plan.

CR	Project/ Work Stream	Title	Impacted			Description
			Budget	Schedule	Scope/ Quality	
1	iEHR/PLIS	EHR Integration Schedule Re-Planning	N	Y	Y	CR included the following changes reflecting the impacts of competing priorities (e.g. Lower Mainland Consolidation) and compressed timeline: • Shift completion of health authority engagement for deploying eViewer out to 2nd quarter 2010/11 • Shift out to 2nd quarter 2010/11 of 'user identity' and 'Determine SHR solution' milestones
2	PDI	Transfer of PDI project delivery responsibilities to PHSA	N	Y	N	Deployment of DI Viewer to NHA, PHSA and VIHA and full deployment to FHA and VCHA shifted out to the 3rd quarter of 2010/11 in recognition of the work required to transition deployment responsibilities to PHSA.
3	eHealth	Tactical Plan Update – Sep 2010	N	Y	Y	A planned 6-month update to eHealth Tactical Plan has been completed. No major scope or budget changes have been made. Updated executive milestones are reflected in the milestone status section.
4	PLIS	Provincial Laboratory Information Solution Lab On-Boarding	Y	Y	Y	Project Board decision (BN 861233) – confirmed scope, timeframe and budget baseline changes as reflected in updated PLIS section
5	BC Panorama	BC Panorama Deployment	Y	Y	Y	Project Board decision (BN) – confirmed scope, timeframe and budget baseline changes as reflected in updated Panorama section
6	PharmaNet Modernization	PharmaNet Modernization Project Scope, Timeframe and Budget	Y	Y	Y	Project Board decision (BN 861147) – confirmed scope, timeframe and budget baseline changes as reflected in updated PharmaNet Modernization section
7	eHealth	Tactical Plan Update – Mar 2011	N	Y	Y	A planned 6-month update to eHealth Tactical Plan has been completed. No major scope or budget changes have been made. Updated executive milestones are reflected in the milestone status section.

eHealth | Budget Status

Budget Table 1: Actual versus planned[1] capital costs by quarter for the provincial EHR projects in 2010/11.

Provincial EHR Projects	Planned versus Actual Expenditures	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	2010/11 Total
Provincial Lab Information Solution	Planned	150,000	850,000	2,500,000	2,500,000	**6,000,000**
	Actual/ Forecast	26,000	888,000	0	5,522,738	**6,436,738**
Provincial Diagnostic Imaging	Planned	85,250	982,250	265,750	1,666,750	**3,000,000**
	Actual/ Forecast	9,113	0	0	1,418,009	**1,427,122**
BC Panorama Project	Planned	2,200,000	2,200,000	2,200,000	2,200,000	**8,800,000**
	Actual/ Forecast	3,024,153	783,496	3,369,300	2,403,520	**9,580,469**
PharmaNet Modernization	Planned	1,500,000	4,000,000	4,000,000	4,000,000	**13,500,000**
	Actual/ Forecast	1,319,271	1,393,906	2,061,292	5,665,023	**10,439,492**
EHR Infrastructure Systems (iEHR)	Planned	137,000	1,163,000	3,250,000	3,250,000	**7,800,000**
	Actual/ Forecast	25,840	110,122	581,036	5,331,992	**6,048,990**
Electronic Health Record Total	**Planned**	**4,072,250**	**9,195,250**	**12,215,750**	**13,616,750**	**39,100,000**
	Actual/ Forecast	**4,404,377**	**3,175,524**	**6,011,628**	**20,341,281**	**33,932,810**

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[1] For the purposes of table 1, planned represents planned costs by quarter as of the start if the fiscal year, totalling $39.1 million, as per the March 2010 Treasury Board Submission.

eHealth | Budget Status

Budget Table 2: Includes the actual costs to date (through 2010/11) and the last approved planned costs[2] to completion for each project. $72.5 million was approved by Treasury Board for eHealth completion over the 3-year period 2010/11 – 2012/13.

PLANNED COSTS:

Provincial EHR Foundation System ($ millions)	Pre-10/11	10/11	11/12	12/13	10/11 - 12/13 Total	Projected Total
Provincial Lab Information Solution	40.56	6.44	**3.28**	4.50	14.21	**54.77**
Provincial Diagnostic Imaging	7.40	1.43	**2.80**	0.00	4.23	**11.63**
BC Panorama Project	25.97	9.58	**3.86**	1.89	15.33	**41.30**
Registry Systems (Provider & Client)	17.79	0.00	**0.00**	0.00	0.00	**17.79**
PharmaNet Modernization	33.08	10.44	**15.89**	1.23	27.56	**60.63**
EHR Infrastructure Systems (iEHR)	61.15	6.05	**5.13**	0.00	11.17	**72.33**
Electronic Health Record	185.95	**33.93**	**30.95**	**7.62**	**72.50**	**258.45**

Budget Table 3: Reflects the projected costs to completion (actual costs to date and forecasted remaining costs) as estimated at the end of the current reporting period.

PROJECTED COSTS:

Provincial EHR Foundation System ($ millions)	Pre-10/11	10/11	11/12	12/13	10/11 - 12/13 Total	Projected Total
Provincial Lab Information Solution	40.56	6.44	**3.28**	4.50	14.21	**54.77**
Provincial Diagnostic Imaging	7.40	1.43	**2.80**	0.00	4.23	**11.63**
BC Panorama Project	25.97	9.58	**3.86**	1.89	15.33	**41.30**
Registry Systems (Provider & Client)	17.79	0.00	**0.00**	0.00	0.00	**17.79**
PharmaNet Modernization	33.08	10.44	**15.89**	1.23	27.56	**60.63**
EHR Infrastructure Systems (iEHR)	61.15	6.05	**5.13**	0.00	11.17	**72.33**
Electronic Health Record	185.95	**33.93**	**30.95**	**7.62**	**72.50**	**258.45**

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[2] Latest planned costs across eHealth projects approved March 2011.

eHealth | User Adoption

Successfully building eHealth project solutions is not enough to ensure the anticipated benefits of eHealth are realized. Adoption, or uptake by system users, is critical to success.

User adoption targets will be determined, and progress towards achieving them monitored, for the following systems:

- eHealth and Diagnostic Imaging Viewers
- PharmaNet
- Electronic Medical Record Systems
- Panorama

Highlights for Reporting Period:

➢ The target users for the eHealth systems vary by health authority. The Ministry is currently working closely with the HAs to identify the target user groups for systems deployment, starting with the lower mainland.

➢ Adoption data for the first three months of PLIS access by the 3,100 VCH users has been provided. The data is being reformatted into a report that will assist with identifying adoption targets.

EHealth Viewer and Provincial Diagnostic Imaging Viewers:

➢ The target number of users has not been confirmed across all health authorities for the viewers. The eViewer has been deployed to approximately 3,784 clinical users in the Vancouver Coastal Health Authority and the Provincial Heath Services Authority. The Provincial Diagnostic Imaging Viewer had been deployed to a limited number of users in the Vancouver Coastal and Fraser Health Authorities.

PharmaNet:

➢ PharmaNet, which will be upgraded through the PharmaNet Modernization Project, is currently accessed by over 1,500 physicians and around 4,730 pharmacists across BC from hospitals, pharmacies and medical practices.

Panorama:

➢ The target number of Panorama users has not been confirmed. There are currently 20 active users at the BC Centre for Disease Control and approximately 244 users at 116 sites across all health authorities (except Vancouver Coastal) will have system access in May. By the summer of 2012, Panorama is expected to be deployed to 3700 users.

Electronic Medical Record Systems:

➢ The following EMR targets are published in the ministry's 2010/11-2012/13 Service Plan, Performance Measure 7. The 2009/10 target was successfully achieved and the program is on track to achieve the 2010/11 target.

Performance Measure	2009/10 Forecast	2010/11 Forecast	2011/12 Forecast
Percentage of physicians implementing EMR systems	40%	60%	75%

eHealth | Benefits Evaluations (Outcomes)

The eHealth program is being undertaken in order to realize benefits for British Columbians and the overall health system, both clinical and financial. The purpose of the Benefits Evaluation stream of work is to measure those benefits over the years following the deployment of eHealth solutions and their adoption by intended users.

BC is using an evaluation framework promoted by Canada Health Infoway, which includes dimensions of quality (system, information and service), system usage (use and user satisfaction) and net benefits (quality, access and productivity). As a starting point, baseline and measures for each eHealth component will be determined. The Interoperable Electronic Health Record and Registry systems will not be assessed from a benefits evaluation perspective as they are enabling infrastructure components.

Highlights for Reporting Period:

➢ Early work is underway in all eHealth domains to frame the indicators and establish baselines.

- Experts from the University of Victoria have been engaged to conduct an PharmaNet Modernization Benefits Evaluation including the development of PharmaNet Modernization indicators and a Benefit Evaluation baseline. Lessons learned from this work will be leveraged to determine eHealth baseline measures for other eHealth domains.

- The ministry is actively participating on the BC eHealth eDrug Benefit Evaluation Advisory Committee to develop a BE plan that will support the needs of the Ehealth Observatory, the Collage of Pharmacists, Infoway, the BC Pharmaceutical Services Division, and BC eHealth for the eHealth Observatory's PharmaNet Modernization evaluation studies proceeding in 2010-2011. The Baseline Usability Assessment study of PharmaNet 1 will support design improvements to PharmaNet-eRx. Feedback will be provided to the Ministry and can be shared with PharmaNet vendors to improve product safety and usability. Two other studies are the Baseline Evaluation of PharmaNet through comparison with Best-Possible Medication Histories taken during the Medication Reconciliation Process, and Pharmacist and Physician Communication Workflow Modeling.

- The Provincial Laboratory Information Solution (PLIS) Benefits Evaluation mini project charter and work plan have been revised. A benefit evaluation survey has been developed and distributed to early adopters on the lower mainland. Next steps gathering the data and producing the PLIS Benefits Evaluation report.

- The ministry is planning to initiate a Benefits Evaluation survey and report for the six new users of Panorama (Public Health) at the BC Center for Disease Control.

- A narrative summary description of the Baseline (current) and Target (future) states has been drafted for the TeleHealth TeleHomecare Congestive Heart Failure program. For the TeleHomecare Congestive Heart Failure program, and the TeelOncology program next steps include producing the benefits evaluation report outline, developing the indicators and determining the results of the analysis of the program in the relevant health authority. Tis work is targeted for completion in 8 to 10 weeks.

- Narrative summary descriptions of the Baseline (current) and Target (future) states have also been drafted for the Electronic Medical Record project, the Diagnostic Imaging project, the Pharmanet Modernization project and the Provincial Laboratory Information Solution project.

- The Benefits Evaluation lead is working with the eHealth project teams, Infoway and the health authorities to develop plans for establishing baselines and indicators for other programs, including the TeleOncology program.

➤ While work on benefits indicators continues, examples of a few of the early benefits indicators that provide insight into expected benefits are provided below:

Project	Example Indicators
Provincial Laboratory Information Solution	• PLIS access for health care professionals authorized to access recent and historical test results from public laboratories.
Provincial Diagnostic Imaging Project	• Computer-enabled access for all health care professionals authorized to access recent and historical diagnostic imaging information.
TeleHomeCare	• Increased number of communities with access to telehomecare services.

Appendix A | Status Bar Parameters

	Scope	Budget	Schedule
🟩	On track to complete approved scope	On track to complete project within planned budget [3]	On track to meet approved executive milestones
🟨	A low risk that one or more components of approved scope may not be completed has been identified	Project projected costs exceed approved planned spend over the 10/11 – 12/13 period by 5%, but may be absorbed within the Treasury Board approved eHealth total budget.	A low risk that one or more approved milestones may not be completed within the scheduled quarter
🟧	There is a high risk one or more components of approved scope may not be completed	Project projected costs exceed approved planned spend over the 10/11 – 12/13 period by 10%, but may be absorbed within the Treasury Board approved eHealth total budget.	There is a high risk that one or more approved milestones may not be completed within the scheduled quarter
🟥	One or more components of approved scope cannot be completed	Project projected costs exceed approved planned spend over the 10/11 – 12/13 period and the difference cannot be absorbed within the approved eHealth total budget.	One or more approved milestones will not be completed within the scheduled quarter

Number indicators

The numbers indicated next to the arrows indicate how many quarters the status has been at the reported level (color).

Arrow Indicators

⇨ No change in status from previous quarter.

⇧ Increase in status level from previous quarter (e.g. green to yellow)

⇩ Decrease in status level from previous quarter (e.g. red to yellow)

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[3] For the purpose budget status reporting, the 'planned' capital spend reflects the intended capital spend, by quarter or fiscal year, over the remaining years of the project as last approved by the ADM responsible for eHealth.

eHealth | Quarterly Status Report
July – September, 2010

Reporting on the implementation of electronic medical record systems in physician offices, the expansion of telehealth services and the development of a provincial electronic health record solution

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Provincial Health Services Authority — Province-wide solutions. Better health.

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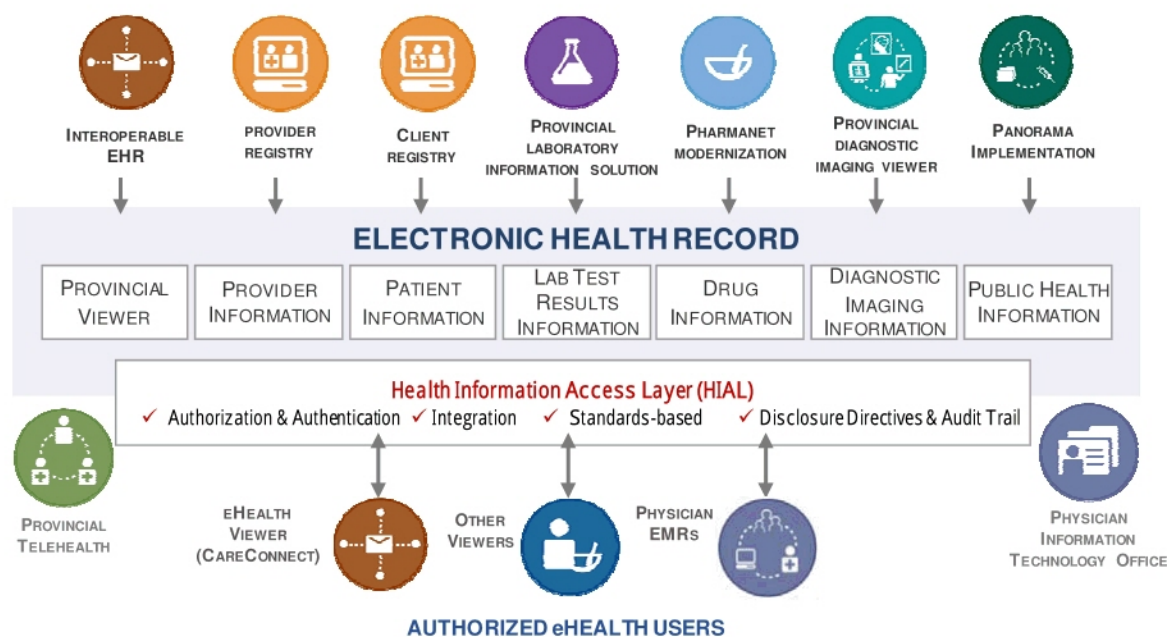Vancouver CoastalHealth — Promoting wellness. Ensuring care.

eHealth | About the Quarterly Status Report

The eHealth Quarterly Status Report fulfils a Ministry of Health Services leadership commitment to keep eHealth stakeholders apprised of its progress. The program has prepared quarterly status reports since the start of fiscal year 2009/10 and they have been well received by program stakeholders.

No significant changes to the format of the report since the last quarter.

The structure of the quarterly report is as follows:

Section	Description and Status
Project Status	For each project, provides the status of the project phases, highlights key activity from the reporting period and outlines current challenges of note.
Milestone Status	Indicates progress against the milestones identified in the eHealth Tactical Plan, March 2010 Update, and any formally approved changes.
Budget Status	Outlines the projects' budgets and presents actual expenditures against planned expenditures for the current fiscal year.
Adoption	Provides an indication of progress in achieving adoption targets.
Benefits Evaluation	Describes the work under way to measure progress toward realization of intended eHealth benefits.

eHealth | Project Status

Provincial Laboratory Information Solution (PLIS) Project

The PLIS Project is developing a provincial repository of diagnostic laboratory test results, populated from all public and private laboratories, accessible by authorized care givers through the Electronic Health Record (EHR) infrastructure.

Status by Phase:

Project Phase	Percent Complete	Status
Planning 〉	100% 〉	Complete
Development 〉	100% 〉	The provincial repository is complete and in full production.
Deployment 〉	40% 〉	Deployment includes integration with source lab systems within each of the six health authorities (15% each) and with public labs (10%). Integration with the Provincial Health Services Authority and Interior Health Authority have been completed. Planning for the Northern and Fraser Health Authorities are underway.

Highlights for Reporting Period:

➢ Work with Northern Health Authority has progressed and implementation is expected in February 2011.

➢ Planning is underway with Fraser Health Authority, targeted for implementation in the 3rd quarter 2011/12.

➢ Completion of the remaining two health authorities, Vancouver Coastal and Vancouver Island, is tentatively scheduled for the 3rd and 4th quarters of 2011/12 respectively.

Challenges:

➢ The limited availability of some lab results is resulting in slower than anticipated adoption. A significant number of lab results are not currently available through EHR as a result of legislative confidential and data mismatch errors. Regulation changes intended to address the legislative confidential issue are expected to be made in the third quarter.

➢ A plan for public lab results onboarding within the March 2012 has not been finalized.

➢ The exercise of consolidating services across the lower mainland has resulted in a high demand for lab resources as well as creating as yet unresolved questions related to responsibilities.

Provincial Diagnostic Imaging Viewer Project

The Provincial Diagnostic Imaging Viewer (PDIV) Project will enable authorized users to access diagnostic images from throughout the Province via a diagnostic imaging viewer.

Status by Phase:

Project Phase		Percent Complete		Status
Planning	〉	100%	〉	Complete
Development	〉	100%	〉	The development phase was a procurement exercise, leveraging an existing provincial contract to deploy the diagnostic viewer provincially.
Deployment	〉	10%	〉	Deployment includes the rollout of the viewer to each of the six health authorities (10% each), community imaging clinic implementation (10%) and viewer integration with the EHR infrastructure (30%). A limited deployment of the viewer within the Vancouver Coastal and Fraser Health Authorities had been completed.

Highlights for Reporting Period:

➢ Project responsibility for the completion of viewer deployment activities has been transitioned from the Ministry of Health Services to the Provincial Health Services Authority (PHSA).

➢ Plans for the completion of viewer deployment in the Vancouver Coastal and Fraser Health Authorities by April 2011 are being finalized.

➢ A plan for the completion of deployment to PHSA by the end of March 2012 is being developed.

Challenges:

➢ Plans to complete PDIV integration with the eViewer and deployment to the Interior, Northern and Vancouver Island Health Authorities have yet to be developed.

➢ A consolidated provincial archive is outside the scope of completion for March 2012. Health authorities will continue to manage this individually.

➢ A strategy for community imaging clinics needs to be determined and, depending on the ability of the clinics to implement PACS, may impact adoption.

BC Panorama Project

The BC Panorama Project, also referred to as the Public Health Information Project (PHIP), is implementing a Public Health Surveillance application called Panorama, developed in BC for Canada Health Infoway for national deployment. Panorama is an integrated suite of system components consisting of seven major modules:

- Communicable Disease Case Management
- Outbreak Management
- Vaccine and Inventory Management
- Family Health

- Immunization Management
- Notifications Management
- Work Management

Status by Phase:

Project Phase		Percent Complete		Status
Planning	〉	100%	〉	Complete
Development	〉	100%	〉	The development phase was the configuration of the Panorama application for BC and the development of the Family Health component.
Deployment	〉	5%	〉	Deployment includes the deployment of all Panorama modules to the Centre for Disease Control (40%) and all six health authorities (10% each). Technical deployment has been completed and limited deployment of the inventory module to the BC Centre for Disease Control was completed in for October 2010.

Highlights for Reporting Period:

➢ The Panorama solution is operational in a production environment and is fully integrated with BC's client and provider registries.

➢ Key stakeholder engagement with the BC Centre for Disease control is underway and a limited deployment of the inventory module was completed on October 15, 2010. Implementing the Inventory management module will enable the Province to better manage the inventory of publicly funded vaccines in times of a pandemic as well as obtain cost savings due to decreased vaccine wastage.

➢ An Implementation Leads Committee has been established to plan the deployment of the remaining Panorama modules. The target date for the implementation of all modules is June 30, 2011.

Challenges:

➢ Stakeholder business cycles limit the implementation windows. Deployment during peak immunization season is not optimal due to resourcing constraints within the regional health authorities at that time.

➢ Privacy and security constraints regarding the confidentiality of data present challenges to testing and conversion.

PharmaNet Modernization Project (formerly known as the eHealth Drug or eDrug)

Will implement a standards-based medication management solution and an e-Prescribing function that will enhance the current PharmaNet system, and support adoption within pharmacy, medical practice, health authority and other settings.

Status by Phase:

Project Phase		Percent Complete		Status
Planning	〉	100%	〉	A re-planning exercise was completed in the first quarter.
Development	〉	10%	〉	The development phase for the PharmaNet Modernization Project includes the design and development of the medication management and ePrescribing functionality within the PharmaNet application. The development and testing platforms are in place and detailed requirements are under development.
Deployment	〉	0%	〉	Deployment includes the integration of the improved PharmaNet with the EHR infrastructure and deployment to pharmacists and physicians.

Highlights for Reporting Period:

➢ The project has been re-planned in order to deliver clinical value by March 2012.

➢ Along with the medication management and ePrescribing functionalities, project scope has been confirmed to include:

  o Integration with the Health Information Access Layer;

  o Draft compliance specifications for point of service vendors will completed by the end of fiscal 2010/11; and

  o Pre-production conformance testing of an EMR software vendor and a pharmacy software vendor.

➢ The high level ePrescribing requirements have been signed off by the Pharmaceutical Services Division and the detailed requirements are under development.

➢ The medication management framework workflow has been finalized.

Challenges:

➢ Tight management of the scope and budget of the project is required in order to deliver the functionality for the medication management framework and ePrescribing.

Client and Provider Registry Projects

The registry projects developed repositories for BC patient and health care provider information. The repositories each function as a source of truth, linking with other health systems to ensure that health system clients and providers are uniquely identified.   Both projects are complete

Status by Phase:

Project Phase		Percent Complete		Status
Planning	〉	100%	〉	Complete
Development	〉	100%	〉	Complete
Deployment	〉	100%	〉	The client and provider registry systems have both been in operation for a number of years. The original scope of deployment for the client registry included active or passive integration with Northern, Vancouver Coastal and the Provincial Health Services Authorities.

Highlights for Reporting Period:

➢ Complete - Not applicable.

Related Activities:

➢ While the registry projects were successfully completed, subsequent lessons learned related to provincial EHR deployment have made the benefits of active integration with the client registry clear. As a result, all health authorities are moving forward with plans to integrate their systems with the client registry. Interior Health has already completed this work.

➢ A plan for the integration of health authority systems to both the provincial client and provider registry systems is in the initial stages of development and is under consideration for Canada Health Infoway investment.

interoperable Electronic Health Record Project

The Interoperable Electronic Health Record (iEHR) Project provides the core technical infrastructure supporting the provincial EHR, including the following primary components:

- eHealth Viewer - a secure web-based application providing 'view' capability of health information to authorized clinicians,
- Health Information Access Layer (HIAL) - enabling secure information exchange between health professionals, the information repositories of the provincial EHR and the source systems that feed the provincial EHR
- Secure Health Record (SHR) - a repository for miscellaneous care-related reports and patient encounter records and, in particular, hospital discharge summary information.

Status by Phase:

Project Phase		Percent Complete		Status
Planning	⟩	100%	⟩	Complete
Development	⟩	100%	⟩	The EHR infrastructure has been built and is in operation.
Deployment	⟩	20%	⟩	Deployment includes the integration of the HIAL with the four clinical EHR systems (40%) and eViewer deployment to all six health authorities (60%). As of the end of June, the lab domain had been integrated with the HIAL and viewer deployment within the Vancouver Coastal Health Authorities had been completed.

Highlights for Reporting Period:

➢ The eViewer has been fully deployed to the balance of Vancouver Coastal Health Authority's 3,100 clinical users.

➢ Work is underway to decouple the eViewer from Vancouver Coastal's underlying infrastructure in preparation for eViewer deployment to other health authorities.

➢ A proposal to leverage Interior Health Authority's existing lab results distribution solution for provincial use via the HIAL is being considered/reviewed.

Challenges:

➢ The management of system enhancement releases to ensure timely implementation while controlling the grouping and scheduling of releases to deliver within the allocated budget.

➢ A final decision regarding the solution design for HIAL integration with PharmaNet is required.

➢ Plans for the deployment of the eViewer to the Northern and Vancouver Island Health Authorities have yet to be developed.

Telehealth Status

Projects:		% Complete
TeleHomecare	Improves care and reduces hospital readmissions of patients with Congestive Heart Failure through early detection and self monitoring.	**100%**
TeleOpthalmology	Improves retinal screening service access for populations at high risk of retinopathies (i.e. First Nations people and diabetics) living in rural and remote communities.	**100%**
TeleThoracic	Provides access to quality thoracic surgical care to residents of BC and the Yukon through videoconferencing technology.	**85%**
TeleOncology	Improves access for patients and their families in remote and rural areas of the province to specialized oncology services via regional cancer centres.	**100%**
First Nations Telehealth Expansion	Builds and expands Telehealth capacity within First Nations communities. Establishes the technical and human resources in First Nation communities necessary to address health service access inequities within BC.	**0%**
Telepathology	Develop an integrated Telepathology network for consultation, education and quality assurance within the anatomical pathology and clinical laboratories in BC.	**98%**

Highlights for Reporting Period:

➢ TeleHomecare and TeleOncology are fully implemented.

➢ TeleThoracic services are being delivered despite minor technical problems with stethoscopes.

➢ Final Adoption and Benefit Evaluation reports are underway for all clinical expansion projects and expect to be complete by May 2011.

➢ Telepathology:

    o Transition from project to operational status underway in VIHA

    o Phase 2b provincial telepathology standards, architecture requirements and Post Project Outcomes and Strategy draft documents completed, and

    o Approximately 30% of the laboratory sites within BC have access to some form of telepathology in BC.

Challenges:

➢ The First Nations Telehealth Expansion Project remains on hold with Canada Health Infoway while First Nations, the Province and Federal governments work on a new governance model for health service delivery for First Nations.

Electronic Medical Record Systems Initiative

The British Columbia Medical Association (BCMA) and the Ministry of Health Services (the Ministry) agreed to work collaboratively to coordinate, facilitate and support information technology planning and implementation for physicians as part of the 2006 Physician Master Agreement. The scope of the information technology includes: professionally hosted electronic medical record applications; implementation support; network connectivity; office hardware such as computers and printers; and e-mail. The Electronic Medical Record (EMR) Program in the Ministry manages the relationship with the EMR Service Providers, ensuring contract compliance while maintaining collaborative vendor relationships and coordinating the change and release management cycle associated with client requirements. Health Shared Services BC manages the relationship with s.17 and oversees the deployment of the Private Physician Network (PPN).

The Physician Information Technology Office (PITO) coordinates the implementation of the information technology products and services with EMR service providers and physician practices, and disburses funds to physicians as defined in the Physician Master Agreement.

Highlights for Reporting Period:

➢ Approximately 90% of large practices, 50% of medium practices and 10% of small/solo practices had either implemented their EMR or were in the process of implementing their EMR as of September 2010.

➢ eReferral pilot projects are well underway in leading Communities of Practice with extremely positive physician and clinic staff feedback.

➢ Planning for Post Implementation Support (PIS) pilot projects is being finalized. These have been established to maximize the impact of EMRs, and are focused primarily on chronic disease management, mental health, prescribing, and workflow optimization. General Practitioners have been very receptive to the introduction of PIS, with demand exceeding capacity in the pilots.

➢ PITO has launched the Alternative Specialist Funding Program to address the distinct needs of some specialists. To date, it has been well received by specialists.

➢ A project to define EMR-2-EMR data transfer specifications has been initiated to capture the business and technical requirements, perform an options analysis, and make recommendations on how best to support physicians' transfer of data between EMRs.

➢ Consistent with the EMR integration strategy, an EMR Integration project (stage one) has been initiated that includes EMR integration with the provincial client and provider registries, the Provincial Laboratory Information Solution, the PharmaNet systems and the addition of ePrescribng functionality.

➢ Bandwidth improvements have been achieved for small practices using the copper-based circuits on the Private Physician Network (PPN).

Challenges:

- While there are high adoption levels amongst larger full service practice clinics (6+ physicians), achieving similar rates amongst solo and small (2-3 physician) clinics and specialists in complex environments remains a challenge, particularly in urban areas.

- Many clinics are reluctant to move forward without firm ongoing EMR funding post-2012.

- Physicians are requesting consistent approaches across the health sector for electronic report delivery (e.g. Discharge summaries) and eReferrals, which EMRs could be integrated with. Some physicians are seeking this level of integration before they adopt an EMR.

- The PPN circuits designed for mid-size practices are not meeting physician requirements and need to be upgraded.

eHealth | Milestone Status

The table below provides the status of the key eHealth project deployment milestones from the Executive Summary of the eHealth Tactical Plan. The "Target Quarter" represents the approved timeframe for the completion of a milestone.

Project	eHealth Milestones	Target Quarter	Status
Fiscal Year 2010/11			
Panorama Implementation	Panorama Technical Deployment in Production	1	Complete - application in operation, ready for deployment to intended users
Telehealth	TeleOphthalmology services Go-Live	1	Complete - services to improve retinal screening services access for populations at high risk of retinopathies living in rural and remote communities went live
Telehealth	TeleOncology, Phase III (NHA and VIHA)	1	Complete - implemented in NHA and VIHA
Telehealth	TeleThoracic services Implementation (PHSA)	1	Complete - there are minor technical problems with the stethoscopes but they are only a small part of the solution and the TeleThoracic services are now being delivered
Panorama Implementation	Panorama Technical Deployment in Production	2	Complete (initial BCCDC users testing system)
EHR	Confirm the approach to be used for user identity management across the health authorities.	3	
PLIS	On-board public laboratory data from NHA and for non-discrete (anatomical/pathological) laboratory data	4	
EHR	Deploy eViewer to PHSA	4	
Panorama Implementation	Panorama production implementation of Inventory (all HAs except VCHA) (Begin Oct 2010)	4	
EMR	Transition PPN to PHSA Health Shared Services BC (HSSBC) Operations.	4	
PharmaNet Modernization	Draft Point of Service compliance specification complete	4	
PDI	Complete Philips iSite Viewer deployment in VCH and FHA	4	
Fiscal Year 2011/12			
PDI	Philips iSite Viewer deployment in PHSA	1	
PLIS	Establish laboratory results distribution service (PHSA)	1	

Project	eHealth Milestones	Target Quarter	Status
Panorama Implementation	Panorama Production Implementation (all modules)	1	
PharmaNet Modernization	Medication Management Framework and ePrescribing development complete	1	
PLIS	Establish laboratory results distribution service (VCH)	2	
PLIS	On-board public laboratory data from FHA and VIHA	3	
PLIS	Establish laboratory results distribution service (FHA)	3	
PharmaNet Modernization	Point of Service compliance testing for pilot vendor	3	
PLIS	On-board public laboratory data from VCH	4	
PLIS	Establish laboratory results distribution service (VIHA)	4	
EHR	Deploy eViewer to FHA, NHA, VIHA and IHA	4	
PLIS	On-board Private Laboratories	4	
PharmaNet Modernization	PharmaNet implemented in production environment	4	
EMR	EMR/EHR Integration	4	
EMR	One PITO EMR vendor implemented ePrescribing (Ministry conformance services in place to support remaining EMR vendors)	4	
EHR	Determine SHR solution and on-board SHR into iEHR (Encounters only)	4	
PDI	Philips iSite Viewer deployment in NHA, IHA and VIHA	4	
PDI	PDI solution integration with eViewer	4	

Approved Change Request Summary

The table below represents a summary of the approved changes to the eHealth Tactical Plan.

CR	Project/ Work Stream	Title	Impacted Budget	Impacted Schedule	Impacted Scope/ Quality	Description
1	iEHR/PLIS	EHR Integration Schedule Re-Planning	N	Y	Y	CR included the following changes reflecting the impacts of competing priorities (e.g. Lower Mainland Consolidation) and compressed timeline: • Shift completion of health authority engagement for deploying eViewer out to 2nd quarter 2010/11 • Shift out to 2nd quarter 2010/11 of 'user identity' and 'Determine SHR solution' milestones
2	PDI	Transfer of PDI project delivery responsibilities to PHSA	N	Y	N	Deployment of DI Viewer to NHA, PHSA and VIHA and full deployment to FHA and VCHA shifted out to the 3rd quarter of 2010/11 in recognition of the work required to transition deployment responsibilities to PHSA.
3	eHealth	Tactical Plan Update – Sep 2010	N	Y	Y	A planned 6-month update to eHealth Tactical Plan has been completed. No major scope or budget changes have been made. Updated executive milestones are reflected in the milestone status section.

eHealth | Budget Status

Budget Table 1: Presents the capital costs of the provincial EHR projects through 2009/10, the approved budget for 2010/11 and planned costs to completion. Infoway recoveries received to date are also provided.

| Provincial EHR Foundation System | Capital Expenditures by Fiscal Year ($ millions) | | | | | | | | | | Projected System Total | Maximum Infoway Portion of Costs | Recoveries received as of June 2010/11 |
| | Actual Expenditures | | | | | | | Planned (Estimates) | | | | | |
	03/04	04/05	05/06	06/07	07/08	08/09	09/10	**10/11**	11/12	12/13			
Provincial Lab Information Solution	0.091	0.042	0.417	13.899	8.645	12.748	3.919	**6.000**	1.500	0.000	47.261	21.385	**9.701**
Provincial Diagnostic Imaging	0.000	0.000	0.000	2.160	1.095	5.758	2.962	**3.000**	2.800	0.000	17.775	13.331	**4.129**
BC Panorama Project	0.000	0.000	0.409	1.534	2.053	6.443	14.526	**8.800**	3.800	0.000	37.565	9.818	**2.901**
Registry Systems (Provider & Client)	1.652	4.286	7.431	1.603	0.199	2.622	0.000	**0.000**	0.000	0.000	17.793	16.935	**16.935**
PharmaNet Modernization	0.000	0.000	0.679	3.298	14.405	7.901	6.504	**13.500**	14.500	3.500	64.287	22.520	**1.365**
EHR Infrastructure Systems (iEHR)	0.000	0.000	0.011	13.912	13.581	22.509	9.225	**7.800**	5.500	1.800	74.338	37.537	**16.473**
Electronic Health Record	1.743	4.328	8.947	36.406	39.978	57.981	37.136	**39.100**	28.100	5.300	259.019	**121.526**	**51.504**

Budget Table 2: Actual versus planned capital costs by quarter for the provincial EHR projects in 2010/11.

Provincial EHR Projects	Planned versus Actual Expenditures	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	2010/11 Total
Provincial Lab Information Solution	Planned	150,000	850,000	2,500,000	2,500,000	**6,000,000**
	Actual/ Forecast	26,000	888,000	2,517,967	2,517,967	**5,949,933**
Provincial Diagnostic Imaging	Planned	85,250	982,250	265,750	1,666,750	**3,000,000**
	Actual/ Forecast	9,113	0	1,295,178	1,746,750	**3,051,041**
BC Panorama Project	Planned	2,200,000	2,200,000	2,200,000	2,200,000	**8,800,000**
	Actual/ Forecast	3,024,153	783,496	3,119,801	1,871,881	**8,799,331**
PharmaNet Modernization	Planned	1,500,000	4,000,000	4,000,000	4,000,000	**13,500,000**
	Actual/ Forecast	1,319,271	1,393,906	5,393,412	5,393,411	**13,500,000**
EHR Infrastructure Systems (iEHR)	Planned	137,000	1,163,000	3,250,000	3,250,000	**7,800,000**
	Actual/ Forecast	25,840	110,122	3,831,741	3,831,741	**7,799,443**
Electronic Health Record Total	**Planned**	**4,072,250**	**9,195,250**	**12,215,750**	**13,616,750**	**39,100,000**
	Actual/ Forecast	4,404,377	3,175,524	16,158,098	15,361,749	39,099,748

eHealth | User Adoption

Successfully building eHealth project solutions is not enough to ensure the anticipated benefits of eHealth are realized. Adoption, or uptake by system users, is critical to success.

User adoption targets will be determined, and progress towards achieving them monitored, for the following systems:

- eHealth and Diagnostic Imaging Viewers
- PharmaNet
- Electronic Medical Record Systems
- Panorama

Highlights for Reporting Period:

➤ The target users for the eHealth systems vary by health authority. The Ministry is currently working closely with the health authorities to identify the target user groups for systems deployment, starting with the lower mainland.

➤ Adoption data for the first three months of PLIS access by the 3100 VCH users has been provided. The data is being reformatted into a report that will assist with identifying adoption targets.

EHealth Viewer and Provincial Diagnostic Imaging Viewers:

➤ The target number of users has not been confirmed across all health authorities for the viewers. As of the end of the 1st quarter however, the eViewer has been deployed to approximately 3,100 clinical users in the Vancouver Coastal Health Authority and the Provincial Diagnostic Imaging Viewer had been deployed to a limited number of users in the Vancouver Coastal and Fraser Health Authorities.

PharmaNet:

➤ PharmaNet, which will be upgraded through the PharmaNet Modernization Project, is currently accessed by over 1,500 physicians and around 4,730 pharmacists across BC from hospitals, pharmacies and medical practices.

Panorama:

➤ The target number of Panorama users has not been confirmed but it is currently estimated that the system will be available to 50 - 75 users (Centre for Disease Control and the Northern Health Authority) in September, 2010, up to 200 users in February, 2011, and to greater than 3,000 users in the Spring of 2011.

Electronic Medical Record Systems:

➤ The following EMR targets are published in the ministry's 2010/11-2012/13 Service Plan, Performance Measure 7. The 2009/10 target was successfully achieved and the program is on track to achieve the 2010/11 target.

Performance Measure	2009/10 Forecast	2010/11 Forecast	2011/12 Forecast
Percentage of physicians implementing EMR systems	40%	60%	75%

eHealth | Benefits Evaluations (Outcomes)

The eHealth program is being undertaken in order to realize benefits for British Columbians and the overall health system, both clinical and financial. The purpose of the Benefits Evaluation stream of work is to measure those benefits over the years following the deployment of eHealth solutions and their adoption by intended users.

BC is using an evaluation framework promoted by Canada Health Infoway, which includes dimensions of quality (system, information and service), system usage (use and user satisfaction) and net benefits (quality, access and productivity). As a starting point, baseline and measures for each eHealth component will be determined. The Interoperable Electronic Health Record and Registry systems will not be assessed from a benefits evaluation perspective as they are enabling infrastructure components.

Highlights for Reporting Period:

➢ Early work is underway in all eHealth domains to frame the indicators and establish baselines.

> Experts from the University of Victoria have been engaged to conduct an PharmaNet Modernization Benefits Evaluation including the development of PharmaNet Modernization indicators and a Benefit Evaluation baseline. Lessons learned from this work will be leveraged to determine eHealth baseline measures for other eHealth domains.

> Funding has been made available (September 15, 2010) for the eHealth Observatory's PharmaNet Modernization evaluation studies to proceed in 2010-2011. The Baseline Usability Assessment study of PharmaNet 1 will support design improvements to PharmaNet-eRx. Feedback will be provided to the Ministry and can be shared with PharmaNet vendors to improve product safety and usability. Two other studies are the Baseline Evaluation of PharmaNet through comparison with Best-Possible Medication Histories taken during the Medication Reconciliation Process, and Pharmacist and Physician Communication Workflow Modeling.

> The Provincial Laboratory Information Solution (PLIS) Benefits Evaluation mini project charter and work plan have been revised and are currently under discussion by management prior to proceeding with conducting a benefit evaluation survey, gathering the data and producing the PLIS Benefits Evaluation report.

> A narrative summary description of the Baseline (current) and Target (future) states has been drafted for the TeleHealth TeleHomecare Congestive Heart Failure program. Next steps include producing the report outline, developing the indicators and determining the results of the analysis of the Vancouver Island Health Authority program. Results of benefits evaluation studies from other jurisdictions, such as the Ontario TeleHealth Network, will also be leveraged as appropriate.

➥ Narrative summary descriptions of the Baseline (current) and Target (future) states have also been drafted for the Electronic Medical Record project, the Diagnostic Imaging project, the Pharmanet Modernization project and the Provincial Laboratory Information Solution project.

➥ The Benefits Evaluation lead is working with the eHealth project teams, Infoway and the health authorities to develop plans for establishing baselines and indicators.

➢ While work on benefits indicators continues, examples of a few of the early benefits indicators that provide insight into expected benefits are provided below:

Project	Example Indicators
Provincial Laboratory Information Solution	• PLIS access for health care professionals authorized to access recent and historical test results from public laboratories.
Provincial Diagnostic Imaging Project	• Computer-enabled access for all health care professionals authorized to access recent and historical diagnostic imaging information.
TeleHomeCare	• Increased number of communities with access to telehomecare services.