eHealth in Manitoba

"The journey continues..."

Roger Girard

CIO, Manitoba eHealth Program

Update to ICTAM and ITAC

October 28, 2009

Manitoba
eHealth
Health. Connected.

Contents

- What is eHealth? A refresher
- eHealth in Canada
- Why is eHealth important?
- Manitoba's eHealth Strategy
- How will we get this done?

WHAT IS eHEALTH?

What is eHealth?

eHealth is about providing the right information at the right time to the right people so that:

- People and their families have access to the information they need to maintain their health and to access the services they require

- Providers are able to provide high quality services

- Health system administrators can ensure the sustainability and accountability of the System

eHealth is about Health

The Manitoba eHealth Program: A Unique Solution

- Created to:
  - Ensure a long-term province-wide approach to eHealth is developed, one that is consistent and sustainable
  - Work with Infoway, other jurisdictions, the RHAs and all Manitoba health providers to deliver and support province-wide solutions
  - Enable and lead to a better health system for all Manitobans

- The Manitoba eHealth Program is accountable:
  - To the Minister of Health through an Oversight Committee composed of key stakeholders
  - To the Deputy Minister of MHHL though a Program Council composed of its key customers
  - To the WRHA CEO, where it is administratively housed

The Manitoba eHealth Program

- Manitoba Health:
  - Provides necessary oversight, funding and support
  - Will transfer key provincial assets to the Program
  - Commits to work on eHealth through the Program

- WRHA and DSM (Diagnostic Services of Manitoba):
  - First Health Authorities to be fully integrated with the Manitoba eHealth Program
  - Have provided the scale to permit further leverage

- Other Health Authorities (RHAs and CancerCare Manitoba):
  - Will implement province-wide services over time
  - Will benefit from leverage where appropriate and as necessary

eHealth in Canada

WHY IS eHEALTH IMPORTANT?

Winnipeg Free Press

October 24, 2008

'Make sure it doesn't happen again': patient safety goal

Paula Beard, director of operations for Canadian Patient Safety Institute, said studies -- particularly the landmark 2004 Baker Norton study -- show Canada's prevalence of harmed patients sits at 7.5 per cent. Other studies show Canada's figure for deaths per hospital admissions is one to one and a half per cent, or between 9,000 and 24,000, she said.

That's about the same, Beard said, as figures in most of the developed world. But the goal is always to reduce that. The symposium is held just days before the first anniversary of the passing of Manitoba's apology legislation, which allows health-care workers and other professionals to apologize to a patient without it constituting an admission of legal liability.

Winnipeg Free Press

Overloaded family doctors pick and choose patients

February 11, 2008

Aside from being overrun with older patients with complex, chronic diseases, Johnson said administrative paperwork and telephone medical advice eat up time a physician could be spending with a patient. Doctors are not reimbursed for dispensing medical advice over the phone, talking to pharmacists about prescription orders or discussing the health of a patient with hospital staff.

"You've got an aging population, people with multiple conditions, an epidemic of diabetes, the issues of patients in hospital, the fact we're so short of family doctors," Johnson said. "The heavy lifters of the health-care system are overwhelmed."

Winnipeg Free Press

Friday, November 14, 2008

Health care to cost $172B

Spending expected to outpace inflation

OTTAWA -- Health care in Canada will cost $172 billion this year, or nearly $5,200 for every single person in the country, according to figures released Thursday by the Canadian Institute for Health Information.

The independent statistical agency says that total health spending is forecast to increase by 3.4 per cent in 2008, up from nearly $162 billion last year. In 2006, the tab for health care ran to about $151 billion.

In all, health spending in Canada is expected to soak up 10.7 per cent of the country's gross domestic product this year, the highest proportion ever recorded by CIHI.

"Health-care spending is expected to grow faster than Canada's economy, outpacing inflation and population growth," Glenda Yeates, the group's president and CEO, said in a news release.

Health Goals

e Quality and Safety
- ➢ Public Health
- ➢ Fewer errors

e Access
- ➢ Wait times reduced
- ➢ Services close to home
- ➢ Primary Care
- ➢ Managing chronic illness

e Efficiency and Sustainability
- ➢ Optimal cost performance
- ➢ Improved ability to manage System
- ➢ Reduced waste
- ➢ Health Human Resources

Why eHealth? It simply makes good business sense:

Automated hospitals have lower mortality, morbidity and operating costs than hospitals that are not automated

Study shows correlation between degree of hospital automation and clinical performance

Methodology:

Researchers conducted a cross sectional study of 41 urban Texas hospitals which examined the association between a hospital's use of automation

- Notes and Records
- Order Entry

- Test Results
- Clinical decision support

And:

- Inpatient mortality
- Costs

- Complications
- Length of stay

Findings:

Hospitals with more automation also had fewer complications and lower costs.

Source: Amarasingham, R. et al. "Clinical Information Technologies and Inpatient Outcomes." Archives of Internal Medicine. 2009; 169(2): 108–114.

COURTYARD GROUP

EMR Adoption Model^{SM} Trends
First Quarter, 2009

		U.S.	Canada
Stage 7	Medical record fully electronic; HCO able to contribute CCD as byproduct of EMR; Data warehousing in use	0.3%	0.0%
Stage 6	Physician documentation (structured templates), full CDSS (variance & compliance), full R-PACS	0.8%	0.2%
Stage 5	Closed loop medication administration*	3.6%	0.0%
Stage 4	CPOE, CDSS (clinical protocols)	2.8%	0.6%
Stage 3	Clinical documentation (flow sheets), CDSS (error checking), PACS available outside Radiology	37.0%	7.1%
Stage 2	Clinical Data Repository, Controlled Medical Vocabulary, Clinical Decision Support, may have Document Imaging	32.1%	42.0%
Stage 1	Ancillaries – Lab, Rad, Pharmacy – All Installed	9.0%	12.2%
Stage 0	All Three Ancillaries Not Installed	14.5%	38.0%

*Stage 5: % may include additional Stage 6 Hospitals not yet validated   N = 5170 US/648 Canada

HIMMS Analytics – National Survey

Mean EMR Adoption Model Score
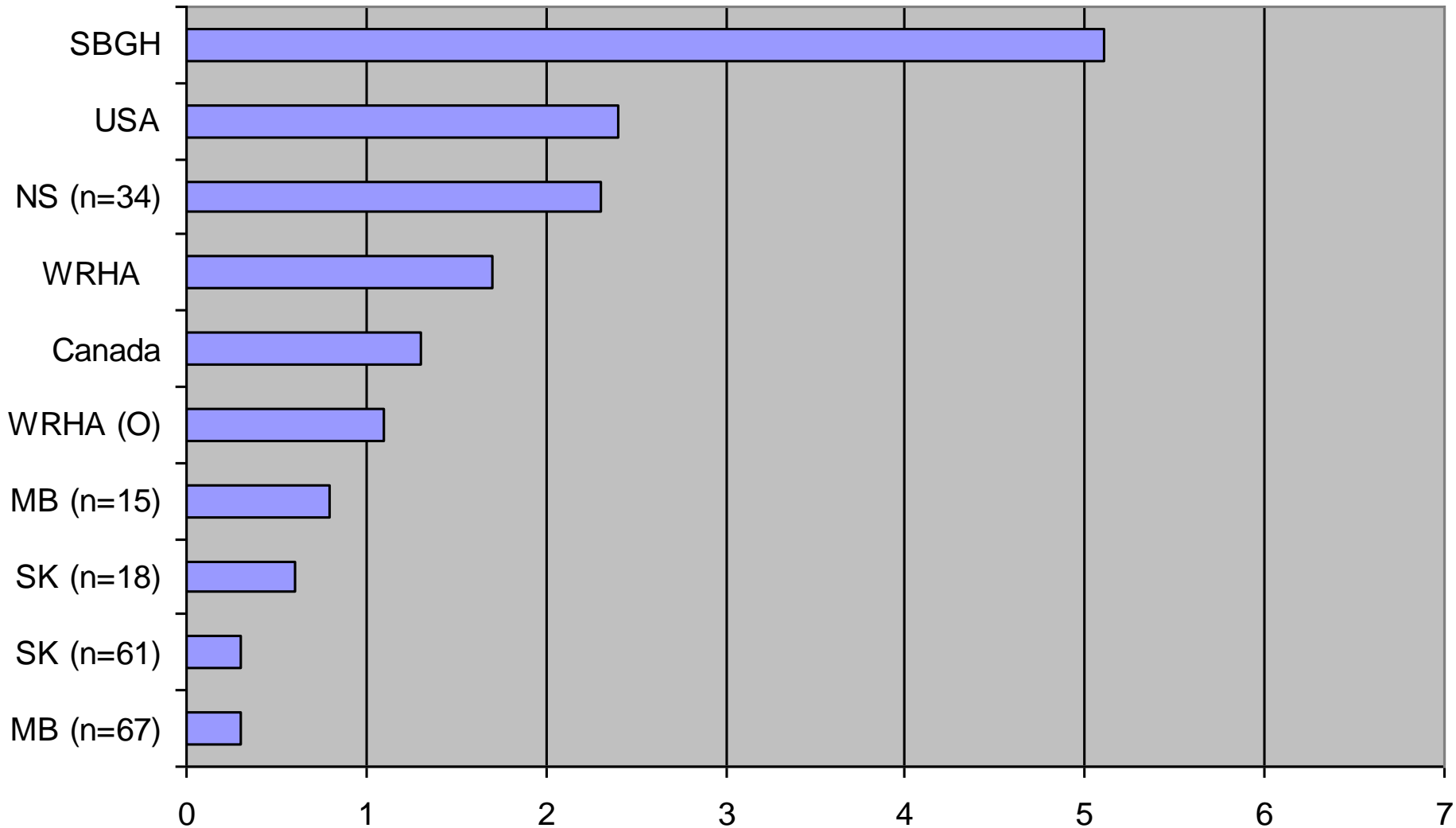
Why eHealth? It simply makes good business sense:

Community-based care has become big business and is the key to ensuring that care is provided close to home

Why eHealth? It simply makes good business sense:

Primary Care Providers are no longer islands... the effectiveness of their care depends upon access to information and specialized services

Expected Impacts of EMRs

- Primary care providers (PCPs) are believed to order 25%-40% unnecessary diagnostic tests (i.e. labs, DI and other)

- 15% of PCPs referrals to specialists are unnecessary due to lack of access to information on specialist practices

- Most chronically ill patients are found to not follow best practices, even when their care is in the hands of a PCP

- We simply do not have any knowledge about the performance of the health system in a community setting

EMRs can help improve compliance with Chronic Disease

Electronic systems changing the face of health care

The imprint of modern technology on health care was apparent this week in three separate news announcements.

On Wednesday, Telus said it has signed an agreement with Microsoft to host and operate its HealthVault system in Canada.

The system, expected to be launched in eight to 12 months, will allow people to manage and store their own personal health records and have access to applications like chronic disease management, pediatric care and wellness products.

Telus will make the service available to organizations such as governments, health regions, hospitals, insurers and employers for them in turn to offer it to their constituents. Telus would operate the infrastructure and securely host all stored health data in Canada to help ensure consumer privacy.

Canada Health Infoway, which is the federal agency behind the development of electronic health records in Canada, sees Health-Vault as complementary to its efforts. But Infoway president Richard Alvarez wants to ensure that patient information stays in this country.

Ontario Information and Privacy Commissioner Dr. Ann Cavoukian is enthused by the development. "As the health care system transitions from paper-based records to electronic health records, it is essential for patients to become an active part of this process," she said. "Let the new era of accessibility begin."

Also on Wednesday, the Ontario government announced it will be tabling legislation to allow the use of dispensing machines to fill prescriptions. The user would be able to speak to a pharmacist through a built-in video connection. A successful pilot test of two dispensing machines has been in operation at Sunnybrook Health Sciences Centre in Toronto since last June.

The legislation will also allow pharmacy technicians to dispense drugs under the supervision of a pharmacist by video link-up, and permit mail-order delivery of prescriptions for chronic conditions to patients.

On Tuesday, a study published in the journal *Circulation* reported on the success of a computer telephone system to remind patients to stay on top of their high blood pressure. The Laval, Quebec study involved 223 hypertension patients who got regular automated calls asking them a series of questions. Information collected was then relayed to attending physicians.

Patients participating in this service were almost twice as likely (46 to 28 per cent) to have their condition under control than those in the study who did not have access to the service. *HE*

Source: Health Edition, Krysgar Communications, May 8, 2009

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WHAT IS THE MANITOBA eHEALTH STRATEGY?

Components of the Provincial e-Health Strategy

Focus on Manitobans and providers

- **A single coherent strategy**

- **Divided into components only to break the work into manageable pieces**

- **Components are really complementary ways of looking at the same thing**

- **Components overlap**

Coordination of Care / Electronic Health Record

Primary Care

Acute Care

Community Care

Long Term Care

Public Health

Self Care

Admin/Corporate

Healthcare System Management

Infrastructure

Focus on health system managers
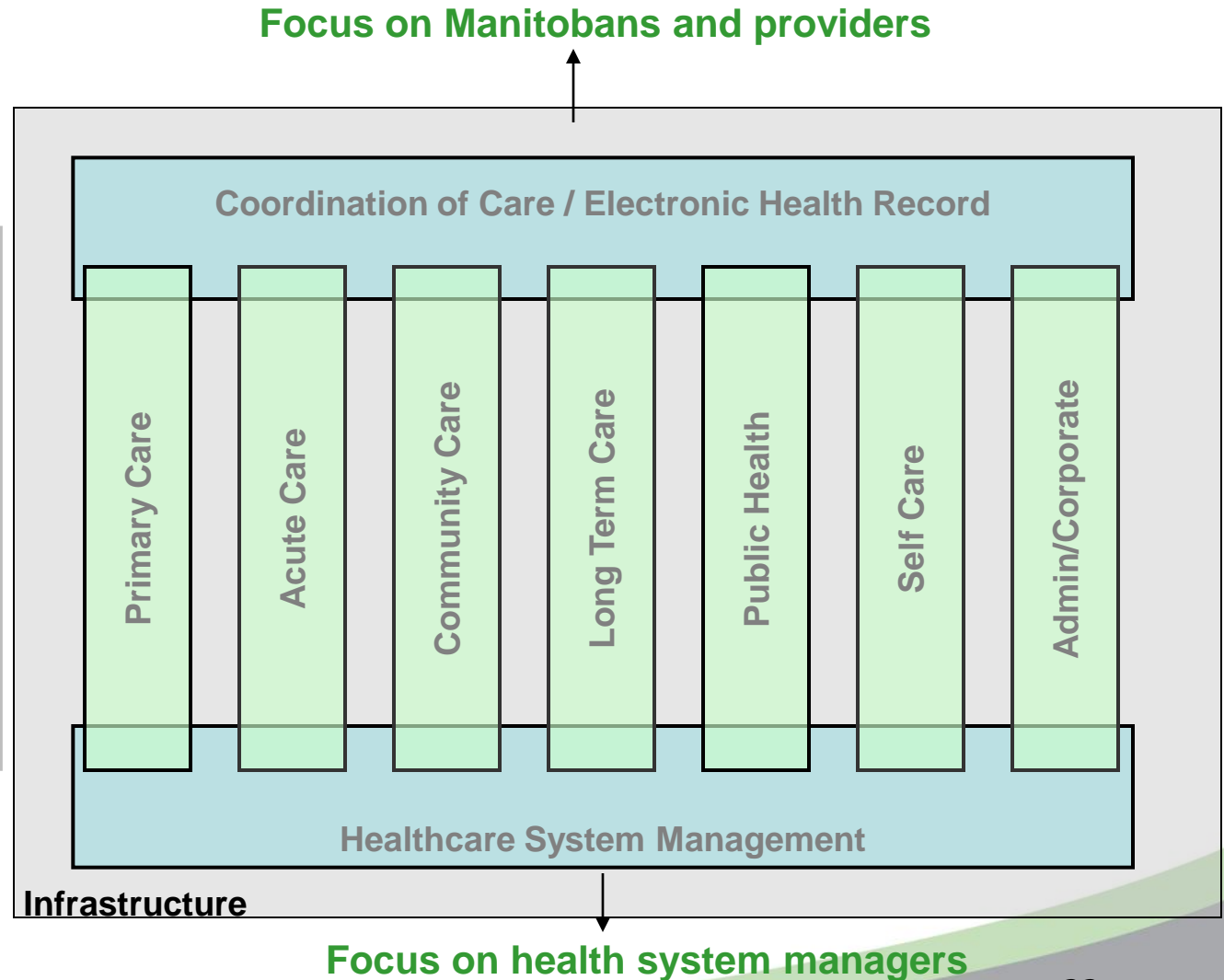
Development of eHealth Strategy Components

Initial Focus

Coordination of Care / EHR

Acute Care

Community Care

Long Term Care

Primary Care

Developing Focus

Public Health

Self Care

Admin/Corporate

Healthcare System Management

Infrastructure

We have been working with Infoway on the implementation of their Blueprint, and creating the Manitoba EHR solution.

PROVINCIAL REPOSITORIES & REGISTRIES

Registries Data & Services
- Client Registry
- Provider Registry
- Location Registry

Ancillary Data & Services
- Outbreak Management
- Immunization Registry

EHR Data & Services
- Shared Health Repository
- Drug Information
- Diagnostic Imaging
- Laboratory

Data Warehouse
- Health Information

EHR SERVICES

- Business Rules
- EHR Index
- Message Structures
- Normalization Rules

Longitudinal Record Services

- Security Mgmt Data
- Privacy Data
- Configuration

Common Services
Communication Bus

HIAL

POINT OF SERVICE

- Telehealth
- Public Health Services — Public Health Provider
- Pharmacy Systems — Pharmacist
- RIS/PACS — Radiologist
- Lab System (LIS) — Lab Clinician
- Hospital, LTC, Community — Physician/Provider
- Physician Office EMRs — Physician/Provider
- EHR Viewer — Physician/Provider

Legend:
- Manitoba approved and Infoway funded for implementation
- Manitoba funding pending, Infoway approved
- Future Manitoba / Infoway projects
- Infoway does not fund

A sample of our Electronic Healthcare Record - patient information from many different systems being displayed to a provider

Screenshot: dbMotion Demo - Windows Internet Explorer

Address: C:\ESA-PT1-v4\ESA-PT1-v4\Demo Files\index1.html

dbMotion Demo | **Dr. Mark Spark** | **Family Physician** | Logout

Manitoba eHealth

Patient Details: Name: **Mabel Lambert** | Age: **67** | Gender: **Female** | Advanced Directive

Encounters | Demographics | Dispensed Medications | Tests | Labs Summary | Summary Views | Immunizations

Summary

Immunizations: [ ] | Lab Observations: [ ] | Show
Dispensed Medications: [ ]

Demographics

Father's Name	Christopher Larsen
Date of Birth	22/04/1942
Next of Kin	Nancy Green
Address	3010 N Alafaya Trail
Home Phone	(204) 232-4441
Primary Clinic	Manitoba Clinic

Labs — *Last 5 Labs Reported

Date	Lab Result	Value
02/16/2009	Glucose	8.3
02/16/2009	WBC	14.2
02/16/2009	Hemoglobin	121
02/16/2009	Hematocrit	33
02/16/2009	Platelets	120

Immunizations — *Last 5 immunizations

Date	Immunization Name
10/23/2008	Pneumovax 23
10/23/2008	Influenza Vaccine
9/28/2007	Influenza Vaccine
5/11/2006	Influenza Vaccine
10/15/2005	Influenza Vaccine

Dispensed Medications — *Last 10 Dispensed Meds

Date	Medicine	Quantity
24/12/2008	Actonel 35 mg oral tab	#90
24/12/2008	Prinivil 10 mg oral tab	#90
24/12/2008	Bayer Children's aspirin	
24/12/2008	Actos 30 mg oral tab	#90
16/08/2008	Lipitor 20 mg oral tab	#90
19/05/2008	Metopralol 50 mg oral tab	#30
04/12/2004	Metformin 1000 mg oral tab	#180

C.V.ID: 3 / 2.1

dbMotion

Coordination of Care - Transition Overview
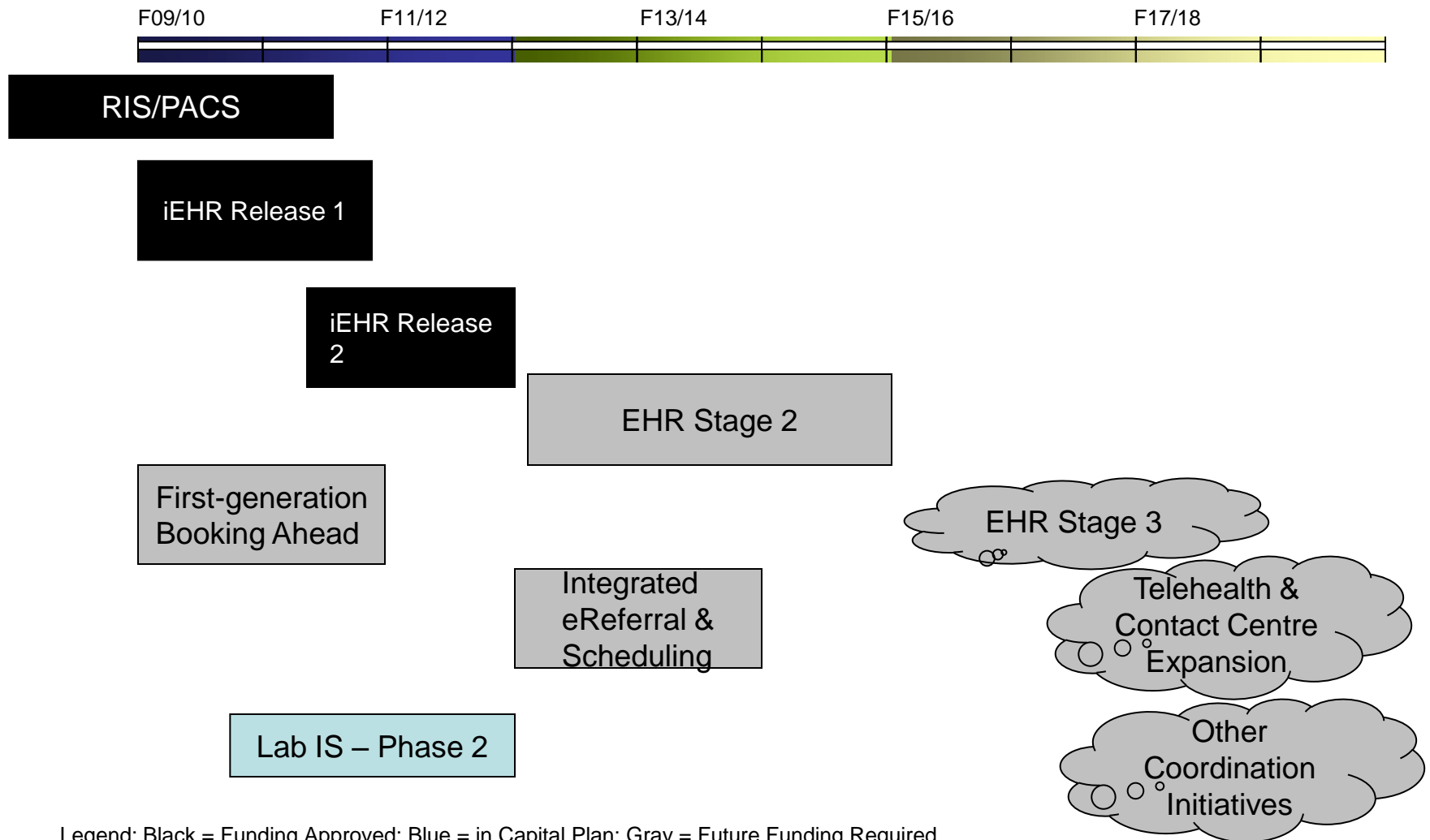
F09/10   F11/12   F13/14   F15/16   F17/18

RIS/PACS

iEHR Release 1

iEHR Release 2

EHR Stage 2

First-generation Booking Ahead

EHR Stage 3

Integrated eReferral & Scheduling

Telehealth & Contact Centre Expansion

Lab IS – Phase 2

Other Coordination Initiatives

Legend: Black = Funding Approved; Blue = in Capital Plan; Gray = Future Funding Required.
Note timing beyond 11/12 is only notional and may not be supported by available funding.

Acute Care - Transition Overview
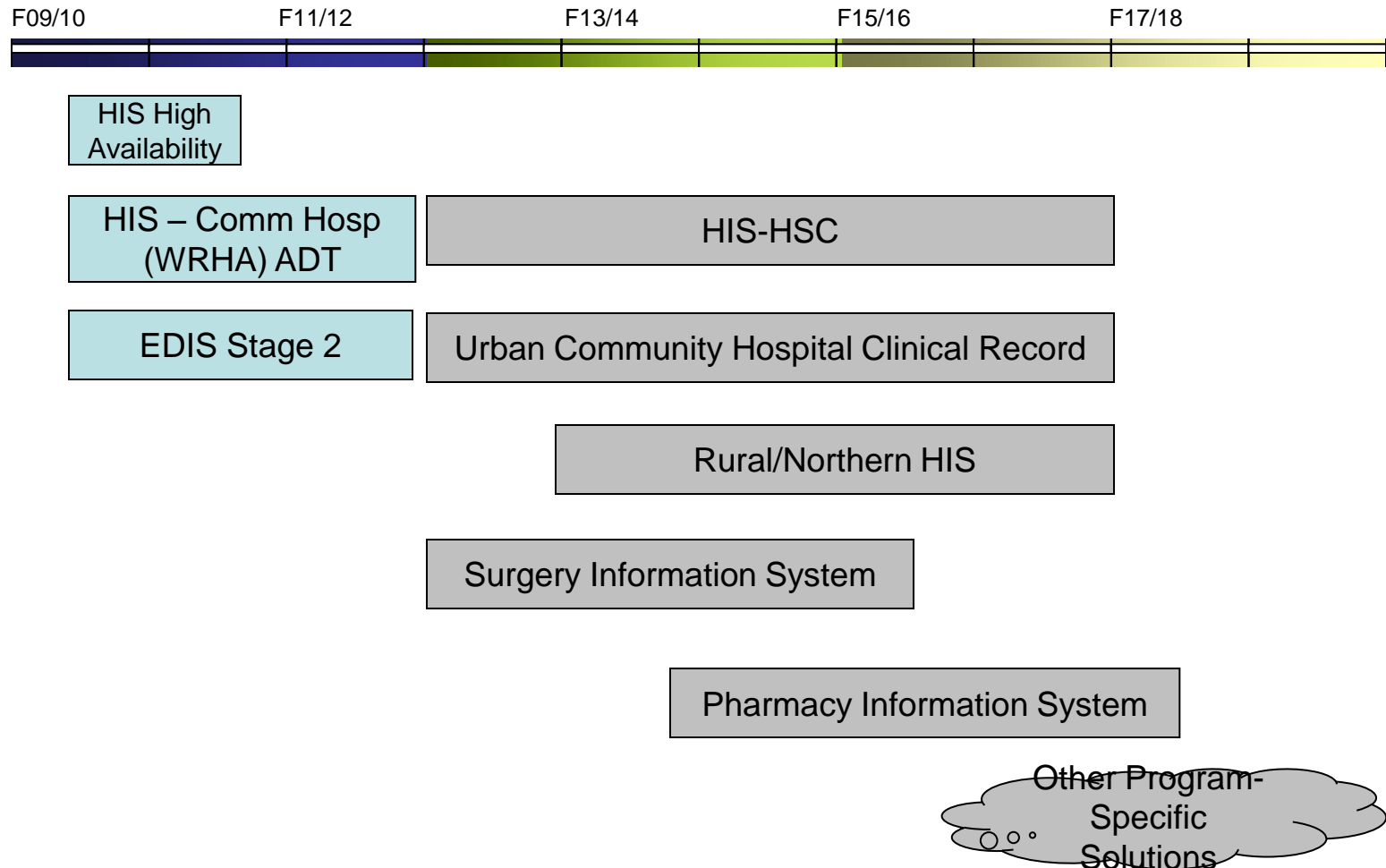
F09/10　　　　F11/12　　　　F13/14　　　　F15/16　　　　F17/18

HIS High Availability

HIS – Comm Hosp (WRHA) ADT

HIS-HSC

EDIS Stage 2

Urban Community Hospital Clinical Record

Rural/Northern HIS

Surgery Information System

Pharmacy Information System

Other Program-Specific Solutions

Legend: Black = Funding Approved; Blue = in Capital Plan; Gray = Future Funding Required.
Note timing beyond 11/12 is only notional and may not be supported by available funding.

Community & Public Health - Transition Overview

F09/10	F11/12	F13/14	F15/16	F17/18

Home Care Scheduling

Panorama Phase 2

Info System for Community - WRHA

Info System for Community

LTC MDS Upgrade - WRHA

LTC MDS Provincial Rollout

LTC Access Mgt Solution

Legend: Black = Funding Approved; Blue = in Capital Plan; Gray = Future Funding Required.
Note timing beyond 11/12 is only notional and may not be supported by available funding.

Primary Care - Transition Overview

F09/10   F11/12   F13/14   F15/16   F17/18

Deploy EMRs to RHA & FFS Primary Care

Support Extended PIN Participation

Establish PC Information Analysis

CareLink (Current Scope)

Carelink Expansion

Primary Care / Client Interaction (with Self Care)

Legend: Black = Funding Approved; Blue = in Capital Plan; Gray = Future Funding Required.
Note timing beyond 11/12 is only notional and may not be supported by available funding.

Infrastructure Initiatives

F09/10   F11/12   F13/14   F15/16   F17/18

Data Center / Server Upgrades

Communicate and Collaborate

Enterprise Site Services

Network Upgrades (WAN / LAN)

Security Services – identity, remote access, network, audit

Data Center Enterprise Services

High Availability Services

IP Telephony

Other Program-Specific Solutions
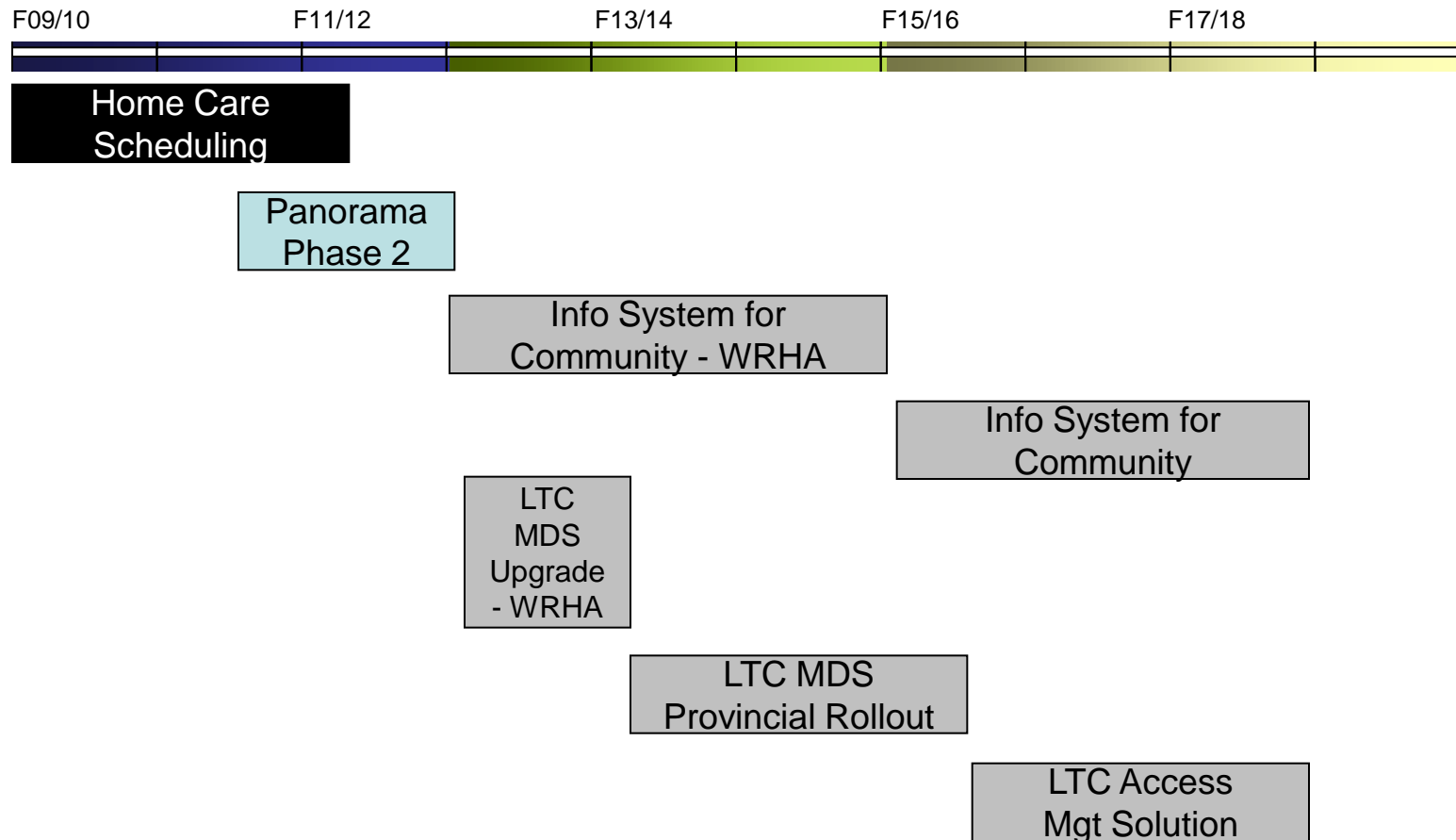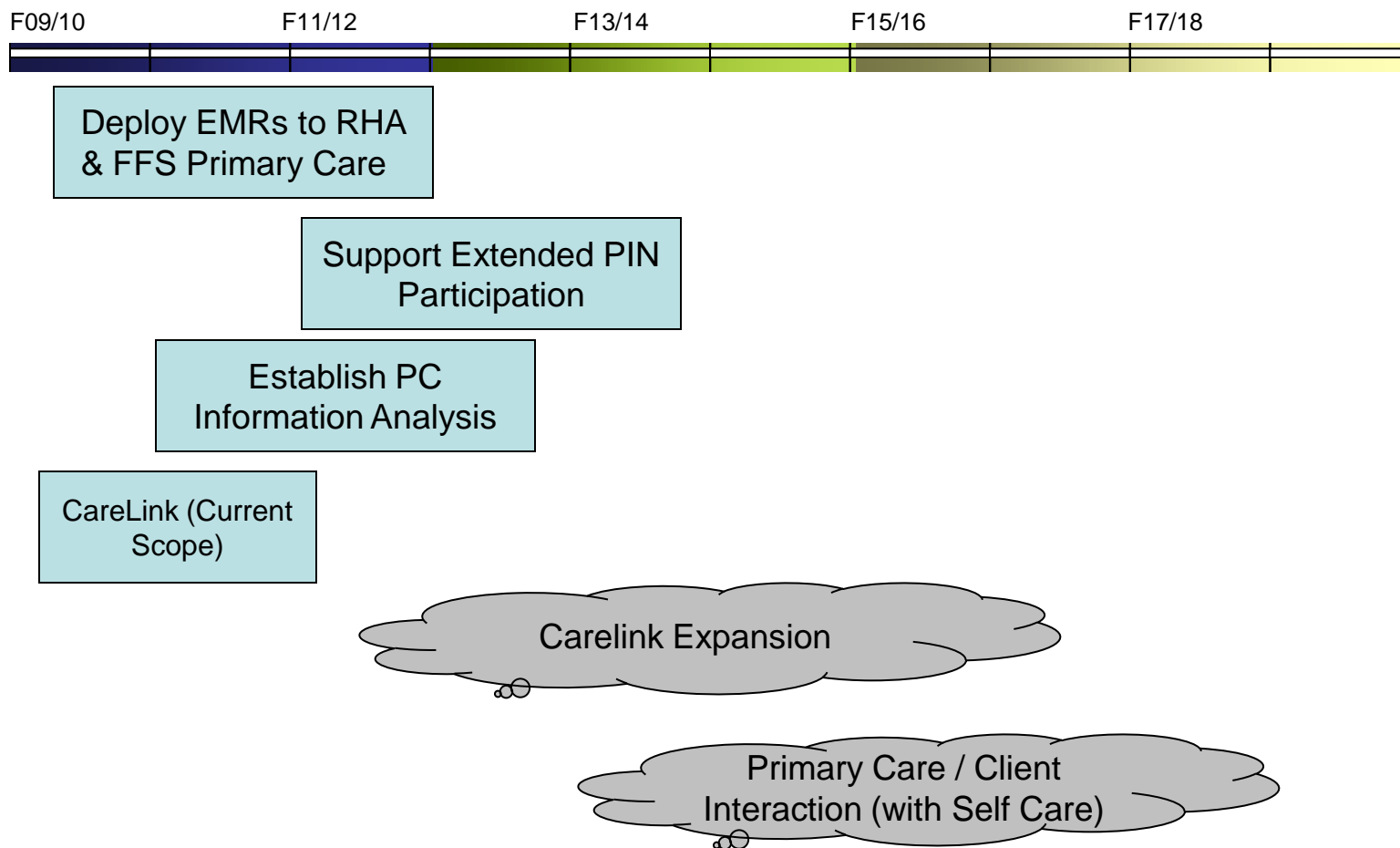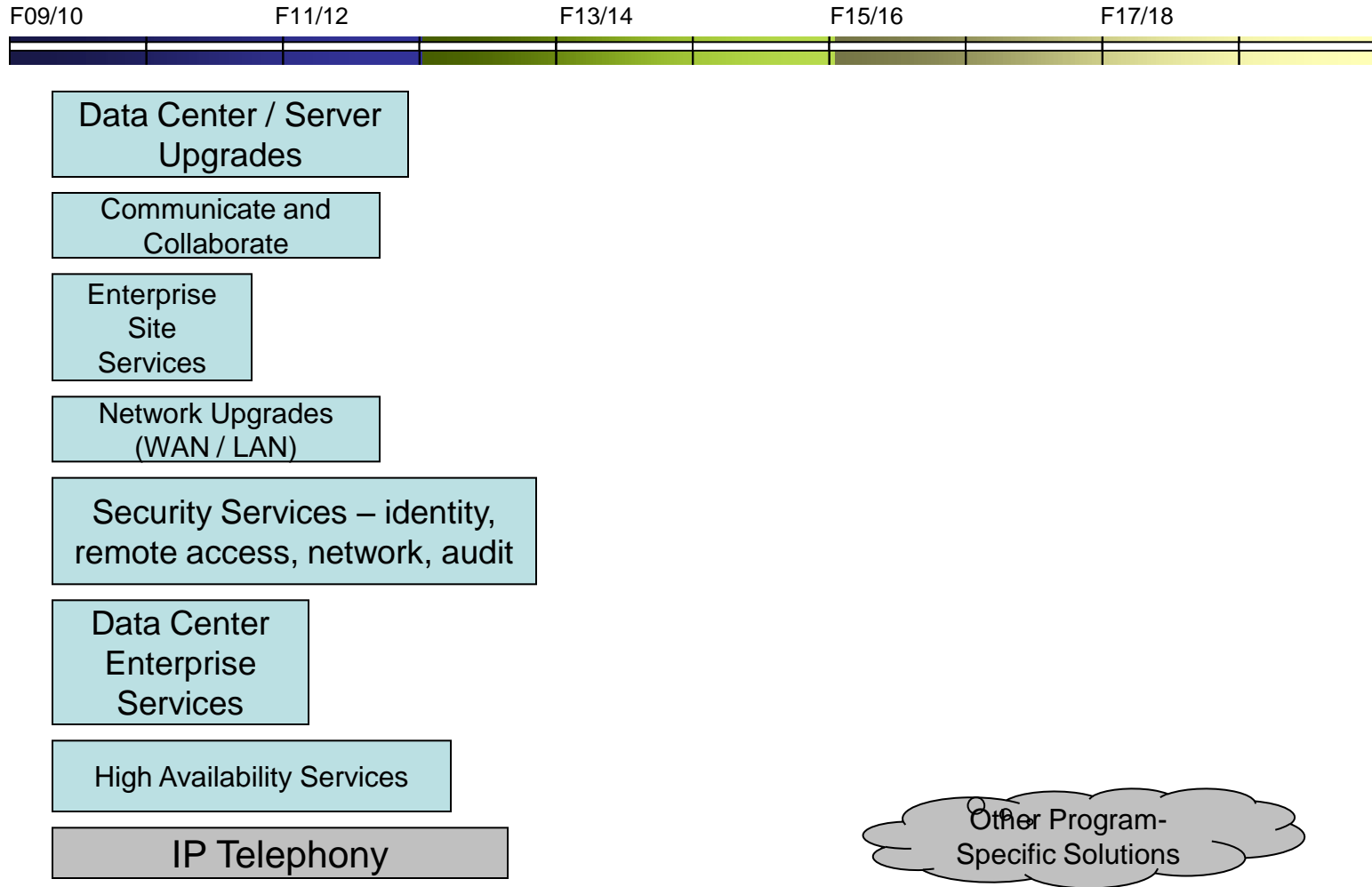
Legend: Black = Funding Approved; Blue = in Capital Plan; Gray = Future Funding Required.
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HOW WILL THE MANITOBA eHEALTH PROGRAM DELIVER THE STRATEGY?

Our Challenges

- Large Projects:
  - Now have a commitment of a capital planning cap but...
  - Operating dollars will be a challenge
  - Need to build a local resource base
- Complexity
  - Focus on long term change through a flexible governance structure
- Timelines
  - This is not a sprint... but a marathon!
- Managing Expectations
  - We are all anxious to be at the finish line!
- Public Engagement

Resource Forecasts

- Anticipated 60% growth in annual capital spending over the next two years, to reach $40M annually;

- Significant number of additional resources are required:

➤ Project Managers	30-35
➤ Business Analysts	45-50
➤ Clinical Informatics	17-20
➤ Technical Specialist	25-28
➤ Architects	18-20
➤ Interface Analysts	18-20
➤ Quality Assurance/Testing	20-25
➤ Change Management	10-13
➤ Communications Specialists	5 - 8
➤ Infrastructure Support Analysts	20-25
➤ Software Developers/Report Writers	19-22

- Additional full-time equivalents (FTE's)   237-256

Resourcing Strategy

- Develop organizational standards and vertically integrate standards & processes into local vendor community:
  - Operations:
    - ITIL
  - Project Management:
    - Prince2
  - Change Management:
    - ProSci
  - Health Care Information Standards:
    - HL7
  - Integration Services
    - Cloverleaf & iEHR HIAL
  - Organization
    - CMMI
- Strategy enhances local resource pool and facilitates outsourcing of project delivery

… the real story is about people

What happens when you live in a remote northern community, and need to travel far away for health care services, far from loved ones?

MBTelehealth

Making a family connection

Last winter, a lady from a remote, isolated northern Manitoban community was expecting twins. Due to the risk of delivering her twins early, it was necessary for her to leave her community at 32 weeks gestation and relocate to Thompson, Manitoba. This meant leaving her family; supports and four children at home in the care of her husband. While in Thompson, pregnant women waiting to deliver are accommodated at a facility which is run somewhat like a hotel, so she spent a number of weeks at the "Inn" prior to her babies being born.

When the babies were born around 36 weeks, they were smaller than a full-term baby so the mom needed to remain in Thompson with the infants until they gained weight and were able to be discharged home. Given the remoteness of her home community, it was imperative that the babies were flourishing well before they were ready to be released. At the time of her delivery she was joined by her mother, who stayed in Thompson with her and helped out with the infants.

While the mom was in Thompson, she grew very lonesome for her family that was at home with her husband. Unfortunately, due to the expense of air travel, neither her husband nor the children were able to visit with her while she was here in Thompson.

A nurse in the nursery suggested that she do a tele-visitation to her family, so she could visit with the children, and see that all was well with them back at home. This visit would also give dad and the children the opportunity to meet the new twins.

Everything was organized included booking a satellite connection and ensuring the equipment was available in Thompson. The staff in the nursery made certain that the babies were fed and happy for their introduction to the rest of their siblings.

Once connected, the contact at the nursing station informed us that the family was not going to make it as dad was unable to get a babysitter! When the mom heard this she said it wasn't him she wanted to visit with in the first place, it was the children she wanted to see!

The contact at the nursing station called the husband to say he was to come anyway, and bring the children as that was the purpose of the visit. The staff from the Nursing Station, sent the driver out to get the family, and they arrived in about 20 minutes or so. In the meantime, mom became anxious that she wasn't going to get to see her kids, and she had so been looking forward to it.

When the whole family finally did arrive, she was quite overwhelmed to actually see them. When everyone was settled, they had a close-up view of the new little siblings and the mom introduced them by their names.

They were able to visit, and answer some of the questions that mom had for them, things that we take for granted, "Are you eating?", "Are you listening to Dad?", "How's school?" These were the day to day things that she hadn't been able to follow for some time already.

The mom and babies had to stay in Thompson for an additional week but the mom readily expressed that seeing her family gave her a boost and was helpful in getting her through the rest of her stay in Thompson.

MB Telehealth: Health at a distance
For more information about MB Telehealth go to:
www.mbtelehealth.ca

For more information about Manitoba eHealth go to:
www.manitoba-ehealth.ca

Manitoba eHealth
Health. Connected.

Questions

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