

PharmaNet Inter-Jurisdictional Collaboration: Connecting Provincial Pharmacy Data in Health Authority Systems



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Ministry of
Health



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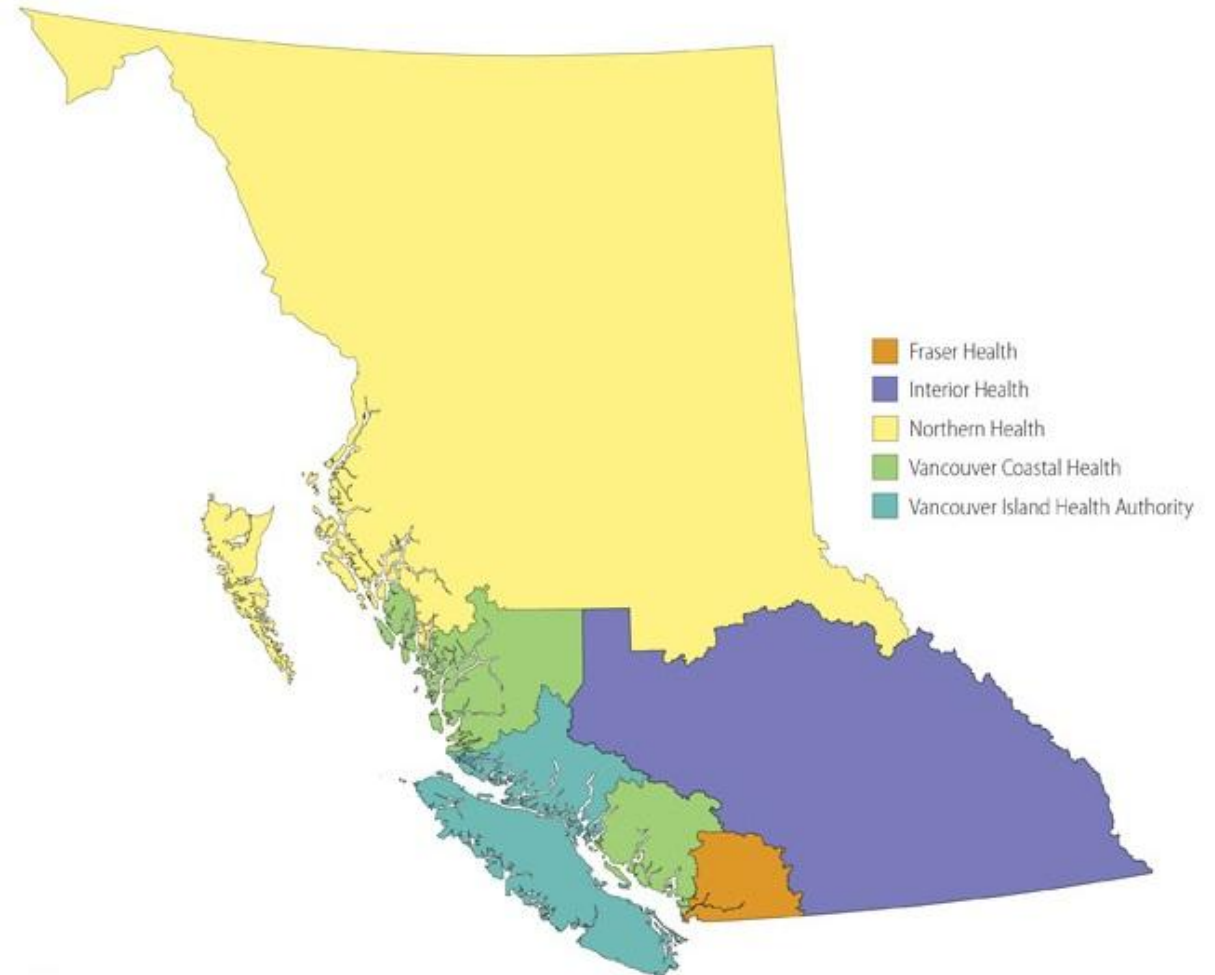
Panel

Paul Squires, BC Ministry of Health
Project Director, Strategic Projects Branch

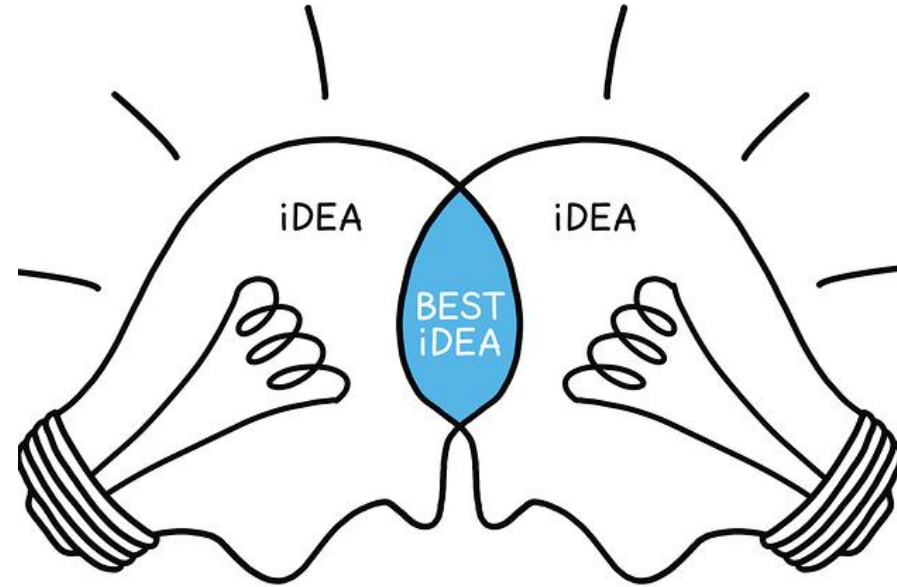
Cindy Convey, Fraser Health
Director, Corporate and eHealth Services

Todd Kinnee, Interior Health
Regional Manager, Health Information
Standards and Exchange

Dr Mary Lyn Fyfe, Island Health
Chief Medical Information Officer



*Coming together is a beginning.
Keeping together is progress.
Working together is success.*
- Henry Ford.



Organization Overview

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Provides funding & oversight.

Administers PharmaNet, the province-wide database that links all B.C. pharmacies to a central set of prescription data.

Snapshot	Interior Health	Fraser Health	Island Health
Population Served	0.75 Million	1.7 Million	0.77 Million
Annual Operating Budget	\$2.0 Billion	\$3.3 Billion	\$2.2 Billion
Hospitals	6 Regional Acute 16 Rural Acute	13 Acute 1 OP Centre	12 Acute
Residential Care Beds	6,584	7,760	6,426
Employees	19,000	25,900	19,600
Physicians	1,500	2,500	2,150
Volunteers	4,800	6,500	6,500
CIS Platform	Meditech v6.14	Meditech v5.66	Cerner Millennium®

Project Background

- The PharmaNet Integration project supports the provincial vision to improve the delivery of patient care in British Columbia by expanding the use of electronic medication information management to facilitate seamless care.
- Accreditation Canada – A Required Organization Practice (ROP).
- It is a multi-year initiative implemented in a phased approach:
 - Phase 1 includes the transmission of the medication profile from PharmaNet to participating Health Authority's clinical information system to support electronic Best Possible Medication History (BPMH).
 - Phase 2 includes the transmission of discharge medication reconciliation profile from Health Authority's clinical information system to PharmaNet.

Project Background

- Electronic medication reconciliation is an identified interoperability priority of Canada Health Infoway and the BC Health Sector
- BC Health Sector IMIT common and shared interest initiative
- BC's province wide PharmaNet system makes it possible
- Fraser Health, Interior Health & Island Health are early adopters
 - Island Health have two pilots in progress at its Oceanside Clinic and Nanaimo Regional General Hospital using Cerner
 - FH & Interior - Meditech CIS is deployed across both organizations
 - FH, Interior & Island Health - Actively integrated with the provincial electronic master patient index
 - NH and VPP have expressed interest in joining the provincial project

Understanding BPMH and Medication Reconciliation

Best Possible Medication History (BPMH)



REVIEW (≥ 1)

- Pill containers
- Patient's list (+ non-Rx)
- Internal record
- External record



VERIFY

- Still taking?
- How much and when?



DOCUMENT

- Relevant items for each medication: name, dose, route, frequency in correct data fields



RECONCILE

- Initiate, modify, discontinue medications



**ACCREDITATION
CANADA**
Better Quality. Better Health.

Medication Reconciliation

A Required Organizational Practice

“Medication reconciliation requires a systematic and comprehensive review of all the medications a patient is taking to ensure that medications being added, changed, or discontinued are carefully evaluated.”

INSTITUTE FOR SAFE MEDICATION PRACTICES CANADA

Why are we doing this?

Medication Use

TWO THIRDS OF SENIORS
AGE 65 AND OLDER TAKE

5+

MEDICATIONS



40% OF CANADIANS AGE 85
AND OLDER TAKE

>10

MEDICATIONS



Medication Reconciliation

50%

OF PATIENTS HAVE ONE OR MORE
MEDICATION DISCREPANCY ON ADMISSION



THE MOST FREQUENT
DISCREPANCIES ARE DRUG
OMISSIONS AND 'UNORDERED'
DRUGS

1 in 200

1 in 1,000

Seniors hospitalized
due to ADEs

Canadians
hospitalized due to
ADEs



Hospitalization Due to Adverse Drug Events (ADEs)

Why are we doing this?



Prescribing 39% of Errors

- 38% Wrong Dose
- 19% Wrong Choice
- 12% Known Allergy
- 6% Wrong Frequency
- 4% Drug-Drug Interaction
- 2% Wrong Drug



Transcribing 12% of Errors

- 78% Illegible Signature
- 58% Time Missing
- 24% Order Incomplete
- 20% Order Illegible



Dispensing 11% of Errors

- 37% Decimal point error
- 23% Calculation error
- 19% Dosage misdivided
- 12% Dosage Not divided



Administering 38% of Errors

- 6,561 combinations of drug compatibilities

How is MedRec Completed Today?

- Electronic and Manual Processes
 - Printed PharmaNet Record
 - Island Health Piloting Electronic process
- BPMH and compliance is done on paper
- Reconciliation is done on paper
 - Stop, modify, continue
- New orders added
- Process is repeated upon discharge

fraserhealth Better health. Best in health care.

Please Affix Facility Patient Label

Medication Reconciliation Orders
 Reported on 20150609 14:54 by Pres: 8186183 (BRIGHT)
 Login ID: 42666 Facility: 0000 Medical Admin Site

9897 430 648
 Patient, Test A
 Dec 25, 1950 - M

Medications Reported by PharmaNet in the Last 6 Months

Medications Dispensed per PharmaNet	Verification	Medication Orders Indicate reason for changes in progress notes
VENLAFAXINE 75MG CAPLET TAKE 1 CAPSULE IN THE MORNING ALONG WITH 150 MG CAPSULE Apo-Venlafaxine Xr Dispensed on 2015 Jun 03 21 at 10day - Filled Prescribed by 8006183 (BRIGHT) Current # of Rites: 1 - APO	<input type="checkbox"/> Taking as per Pharmacist <input type="checkbox"/> Unable to verify <input type="checkbox"/> No longer taking <input type="checkbox"/> Taking differently (specify)	<input type="checkbox"/> Give as per Pharmacist <input type="checkbox"/> Give as verified <input type="checkbox"/> Discontinue <input type="checkbox"/> New Order
ZOPICLONE 75MG TABLET TAKE 1 TABLET ONCE DAILY AT BEDTIME AS NEEDED FOR SLEEP Apo-Zopiclone - Tab 7.5mg Dispensed on 2015 Jun 24 14 at 10day - Filled Prescribed by 8006183 (BRIGHT) Current # of Rites: 1 - APO	<input type="checkbox"/> Taking as per Pharmacist <input type="checkbox"/> Unable to verify <input type="checkbox"/> No longer taking <input type="checkbox"/> Taking differently (specify)	<input type="checkbox"/> Give as per Pharmacist <input type="checkbox"/> Give as verified <input type="checkbox"/> Discontinue <input type="checkbox"/> New Order

Additional Home Medications *** Write all new medication orders on Orders and Directives form ***

Drug, dose, route, frequency and duration <input type="checkbox"/> Not taking additional medications (herbal, nonprescription, alternative, sample, etc.)	Medication Orders Indicate reason for changes in progress notes
	<input type="checkbox"/> Give as verified <input type="checkbox"/> Discontinue <input type="checkbox"/> New Order
	<input type="checkbox"/> Give as verified <input type="checkbox"/> Discontinue <input type="checkbox"/> New Order

Date/Time (dd/mm/yyyy) Prescriber Signature Print name College ID

PLACE ORIGINAL IN ORDERS SECTION OF CHART
 FAX ALL PAGES TO PHARMACY

medinet

Challenges with Manual BPMH and Medication Reconciliation

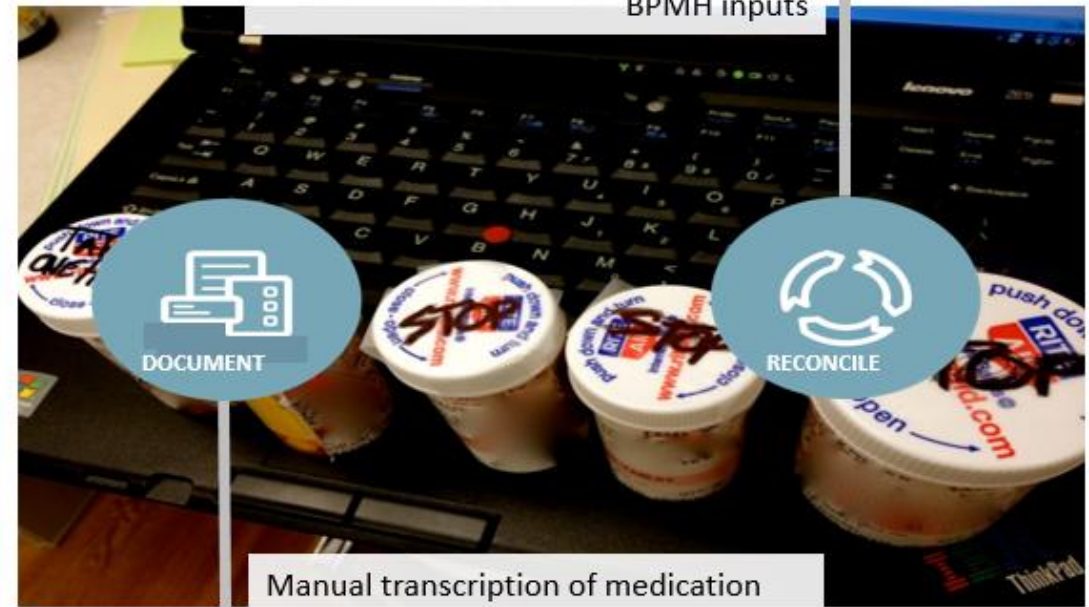
Care providers spend considerable time 'assembling' picture of current medications from multiple sources



Patients and families are asked to provide information that they expect care providers already know

Can be difficult to remember details of medications being taken

Value/quality of medication reconciliation is highly dependent on BPMH inputs



Manual transcription of medication details is time-consuming and error-prone

How Would We Like To Complete It?

- Use PharmaNet dispensed medication information to complete a BPMH screen within the Clinical Information System

Ambulatory Order Management - Symes, Dan MD

Easton, John DOB: 1/21/41 67 M
Ht: 70 in / Wt: 175 lb M000011048 / M001943 / HUB0003383
Allergy/ADR: Peanut 2 West Medical 226-3 ADM IN

Ambulatory Orders

Reported Meds (3)	Details	Qty	Category	Date	Action
Fexofenadine Hcl 60 Mg Cap (Allegra)	60 Mg PO BID PRN #100		Reported	2/24/08	
Zolpidem Tartrate 5 Mg Tab (Ambien)	5 Mg PO HS #100		Reported	2/24/08	
Quinapril Hcl 10 Mg Tablet (Quinapril)	10 Mg PO DAILY #100		Reported	2/24/08	

Payer Medication Claim History [Updated 2/6/08 for last 2 years] Update

Add to Profile	Date Filed	Drug Description	Qty	Days Supply	Prescriber	Pharmacy Name / Phone Number
<input type="checkbox"/>		[Fexofenadine Hcl]	100		Dr. Patricia Trumm MD	Discount Pharmacy 503-555-2101
<input type="checkbox"/>		[Zolpidem Tartrate]	100		Dr. Patricia Trumm MD	Discount Pharmacy 503-555-2101
<input type="checkbox"/>		[Quinapril Hcl]	100		Dr. Patricia Trumm MD	Discount Pharmacy 503-555-2101

Best Possible Medication History

Add External Rx History | Medication History | No Known Home Medications | Unable To Obtain Information | Use Last Compliance | Reconciliation Status: Meds History | Admission | Discharge

External Rx History

Display: Last 12 Months | Show Individual Instances | Disclaimer: [v]

Order Name/Details	Last Fill	Add As
Rx history as of: 21-Sep-2015 09:35		
NEEDLES/SYRINGES-INSULIN USE UNKNOWN <i>To be utilized as demonstrated.</i>	07-Mar-2015	[i] [e]
PRECISION EASY BG TEST STRIP UNKNOWN <i>USE AS REQUIRED</i>	07-Mar-2015	[i] [e]
METHADOSE (METHADONE) 10MG/ML UNKNOWN <i>To be taken as directed.</i>	03-Mar-2015	[i] [e]
(6) OXYCODONE HCL/NALOXONE HCL 10 MG-5 MG TAB ER 12... <i>To be taken twice(2) daily. ...</i>	01-Mar-2015	[i] [e]
(3) FLUPHENAZINE ENANTHATE 25 MG/ML VIAL SQUIBB CAN... <i>Take one every day ..</i>	01-Mar-2015	[i] [e]
ALPRAZOLAM 0.25 MG TABLET PFIZER CANADA <i>Take 1 per day</i>	27-Feb-2015	[i] [e]
CLOPIDOGREL BISULFATE 75 MG TABLET SANOFI-AVENTIS <i>To be taken with meals.</i>	25-Feb-2015	[i] [e]

Document Medication by Hx

Last Documented On 21-Sep-2015 09:35 (Test , P2 AMB PC PROVIDER)

Order Name/Details	Information Sour...	Compliance Status
Home Medications		
ALPRAZolam (Xanax 0.25 mg oral tablet) <i>1 tab, oral, TID, PRN: for anxiety</i>	Patient	Still taking, as prescribed
chlordiazepOXIDE-clidinium (chlordiazepoxide-clidinium... <i>oral, DAILY, Take two every day, discontinue if you</i>	Patient	Still taking, as prescribed
ascorbic acid (Vitamin C) <i>500 mg, oral, BID</i>		
Pending Home Medications		
naloxone-oxyCODONE (Tarqin 5 mg-10 mg oral tablet, ex... <i>To be taken twice(2) daily. ...</i>		
warfarin (warfarin 2.5 mg oral tablet) <i>1 tab, oral, DAILY, 30 tab</i>		

Details for warfarin (warfarin 2.5 mg oral tablet)

Details | Order Comments | Compliance

Dose	Route of Administration	Frequency	Duration	Dispense	Refill
1 tab	oral	DAILY		30 tab	

Requested Start Date/Time: 21-Sep-2015 0942 | Drug Form: Tab
 Special Instructions: [] | Samples: []
 Requested Refill Date: [] | PRN: []
 Performing Location: []

0 Missing Required Details | Leave Med History Incomplete - Finish Later | |



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Electronic Medication Reconciliation

Pathnet, Lawrence E Gender: Male Age: 54 years Loc: UC-OHC
 PHN: BC 9030146411 Encounter Number: 92014277635 MRN: 19760792 DOB: 01-Jan-1961 ** Allergies Not Recorded **

+ Add Reconciliation Status: ✔ Meds History Admission Discharge

Orders Prior to Reconciliation				Orders After Reconciliation			
Order Name/Details	Status			Order Name/Details	Status		
Home Medications							
ALPRAZolam (Xanax 0.25 mg oral tablet) 1 tab, oral, TID, PRN: for anxiety	Documented	<input checked="" type="radio"/>	<input type="radio"/>	ALPRAZolam (Xanax 0.25 mg oral tablet) 1 tab, oral, TID, PRN: for anxiety < Notes for Patient >	Documented	<input checked="" type="radio"/>	<input type="radio"/>
ascorbic acid (Vitamin C) 500 mg, oral, BID	Documented	<input checked="" type="radio"/>	<input type="radio"/>	ascorbic acid (Vitamin C) 500 mg, oral, BID < Notes for Patient >	Documented	<input checked="" type="radio"/>	<input type="radio"/>
chlordiazepOXIDE-clidinium (chlordiazepoxide-clidinium 5 mg-2.5 mg oral ... oral, DAILY, Take two every day, discontinue if you experience side-effects such ...	Discontinue	<input type="radio"/>	<input checked="" type="radio"/>			<input type="radio"/>	<input checked="" type="radio"/>
		<input checked="" type="radio"/>	<input type="radio"/>	ethchlorvynol (Placidyl 200 mg oral capsule) 200 mg, oral, ONCE, 30 tab < Notes for Patient >	Prescribed	<input checked="" type="radio"/>	<input type="radio"/>
		<input checked="" type="radio"/>	<input type="radio"/>	ethchlorvynol (Placidyl 200 mg oral capsule) See Instructions, To be taken once daily(1) at approx. the same time ... < Notes... >	Prescribed	<input checked="" type="radio"/>	<input type="radio"/>
naloxone-oxyCODONE (Targin 5 mg-10 mg oral tablet, extended release) To be taken twice(2) daily. ...	Documented	<input checked="" type="radio"/>	<input type="radio"/>	naloxone-oxyCODONE (Targin 5 mg-10 mg oral tablet, extended release) To be taken twice(2) daily. ... < Notes for Patient >	Documented	<input checked="" type="radio"/>	<input type="radio"/>
Non Formulary (GLYBURIDE 5 MG TABLET HOECHST-ROUSSE)	Discontinue	<input type="radio"/>	<input checked="" type="radio"/>			<input type="radio"/>	<input checked="" type="radio"/>
warfarin (warfarin 2.5 mg oral tablet) 1 tab, oral, DAILY, 30 tab - Still taking, not as prescribed	Documented	<input checked="" type="radio"/>	<input type="radio"/>	warfarin (warfarin 2.5 mg oral tablet) 1 tab, oral, DAILY, 30 tab - < Notes for Patient >	Documented	<input checked="" type="radio"/>	<input type="radio"/>
warfarin (warfarin 2.5 mg oral tablet) 1 tab, oral, DAILY, 30 tab	Discontinue	<input type="radio"/>	<input checked="" type="radio"/>			<input type="radio"/>	<input checked="" type="radio"/>

0 Missing Required Details All Required Orders Reconciled Dx Table Reconcile And Sign Cancel



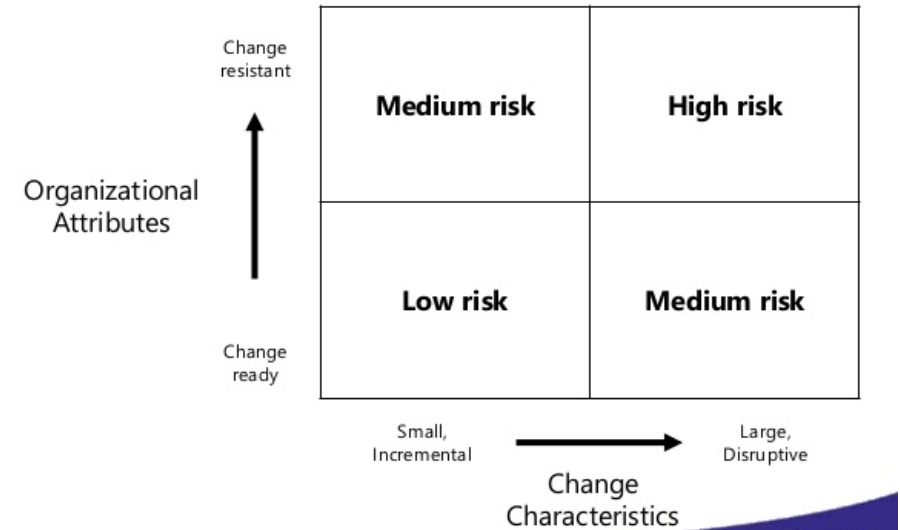
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Change Management

- Multidisciplinary Change Management Team
- Active, visible Clinical Executive Sponsorship
- Physician Participation, Engagement and Leadership
- Clinical workflow Redesign
- Emergency Department Time Pressure
- Coordination and Usability of IT Infrastructure is critical
- Evaluation and Benefit Assessment / Realization

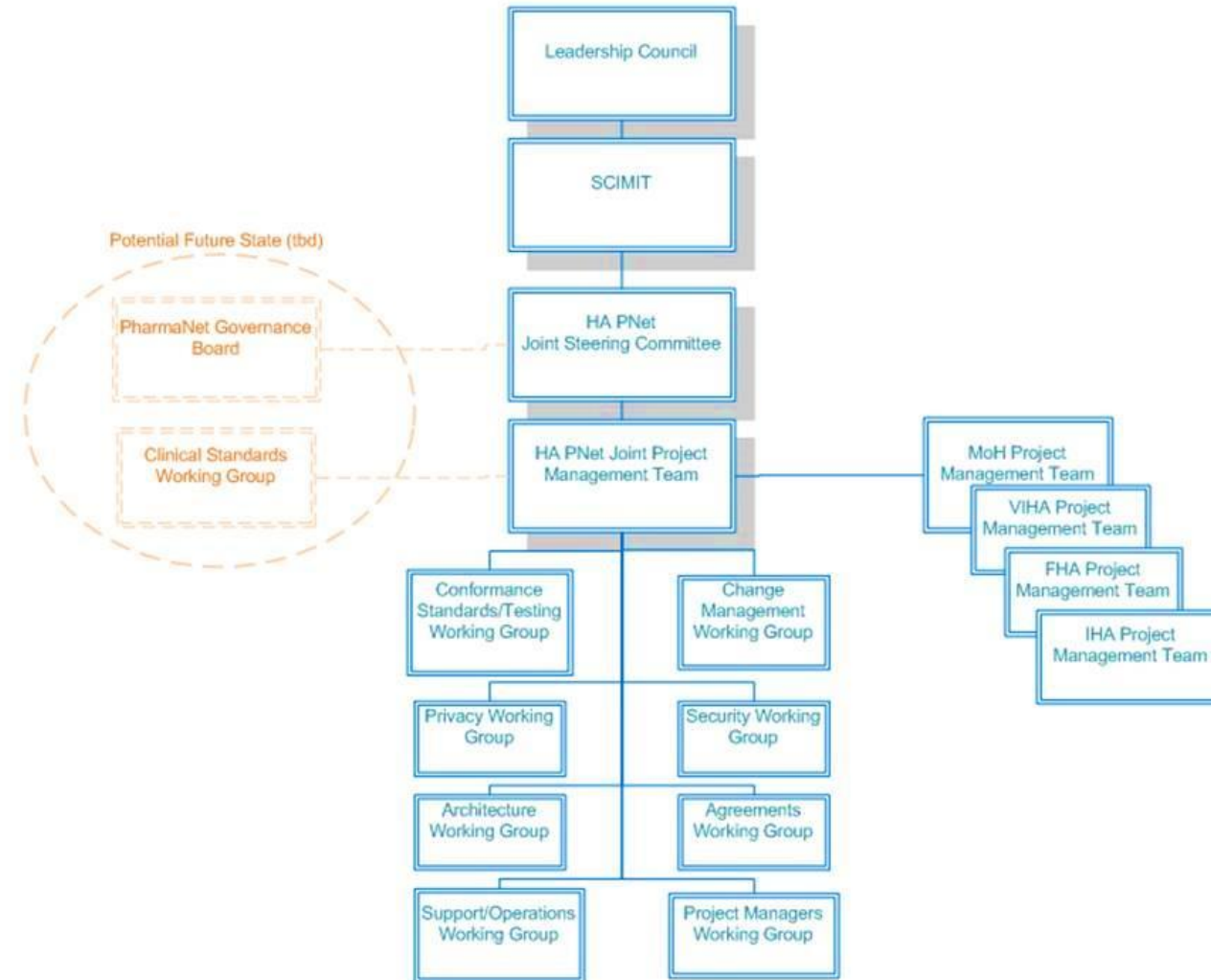
Change Management Risk Assessment



Our Strategy

- “Big 5”
- Standing Committee on IM/IT Action Plan
- Primary Care Home
- Integrated project plan
- Connecting Phase 2 with ePrescribing

Collaborative Governance



Enablers to Working Inter-Jurisdictionally

- Patient wellbeing & clinical need
- Sense of shared goals
- Formal structures
- Subject Matter Experts
- Collaboration technologies
- Executive support in each organization
- Canada Health Infoway support
- Strong vendor relationships

Challenges & Opportunities

- Collaboration technologies
- Perspectives: clinical practice vs. policy
- Decision making ability and formal communication
- Overall project schedule coordination
- Standards
- Different clinical workflows
- Different Health Authority technical approaches

Experience/Learnings to Date

- Importance of pilot implementations (Island Health)
- Periodic face to face meetings
- Clinical demonstrations of current state within the Health Authority to understand workflows
- PharmaNet limitations/ HA proposed resolutions to address clinical workflow
- Complexity of coordinating technical and development changes
- No simple integration projects

Next Steps

- Vendor conformance testing
- Pilot sites Go Live in Interior Health
- Third pilot site Go Live in Island Health
- Pilot sites Go Live in Fraser Health
- Pilots across the continuum of care
- Rollout across acute care facilities
- Reach out to other health authorities
- Canada Health Infoway Checkpoint
- Benefits evaluation & lessons learned

Questions



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Better health. Best in health care.



Interior Health
Every person matters



Canada Health Infoway
Inforoute Santé du Canada