EMR Interoperability
and the
Primary Care Network

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IMITSC, HISSC, IPSSC, COC, JCC IM/IT CAWG,
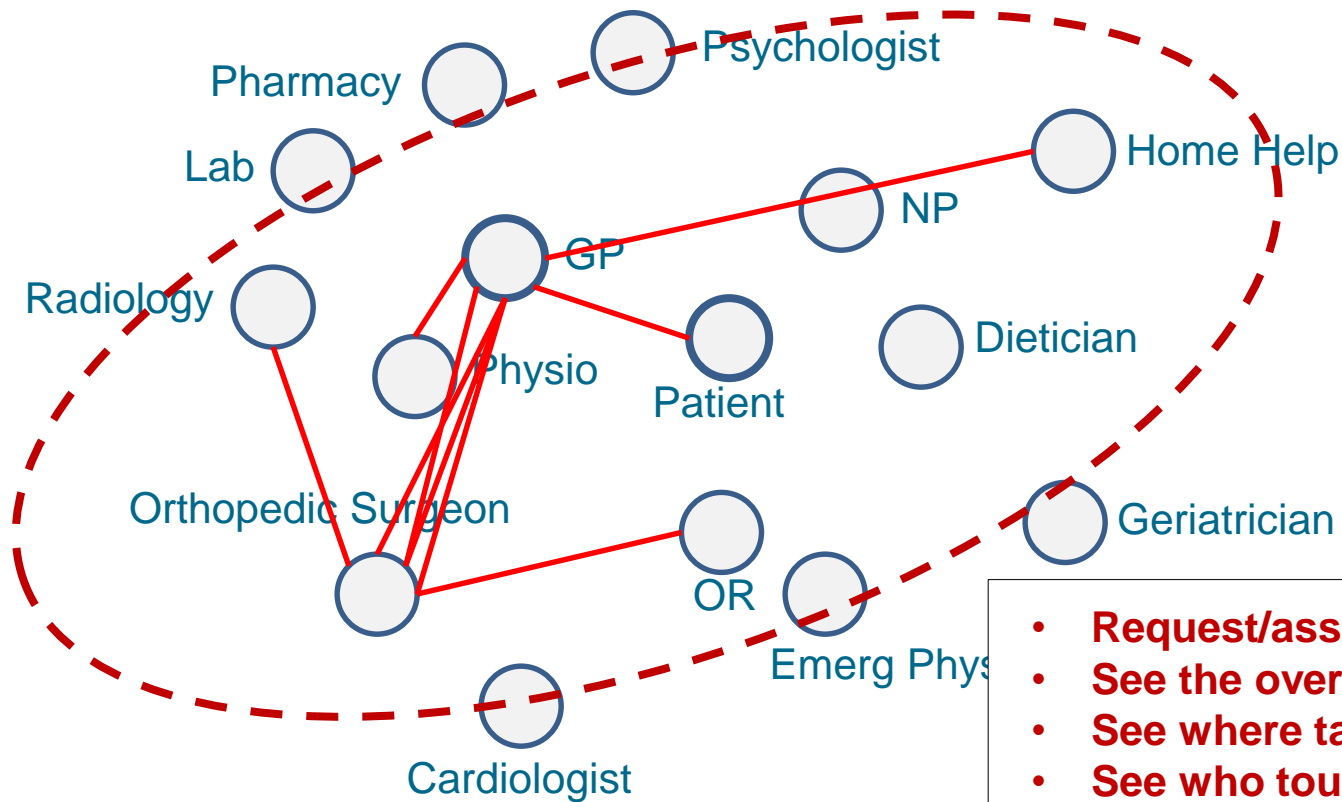Canada Health Infoway DHASC

1. **Longer-term Strategic View**

2. Short-term Tactical View
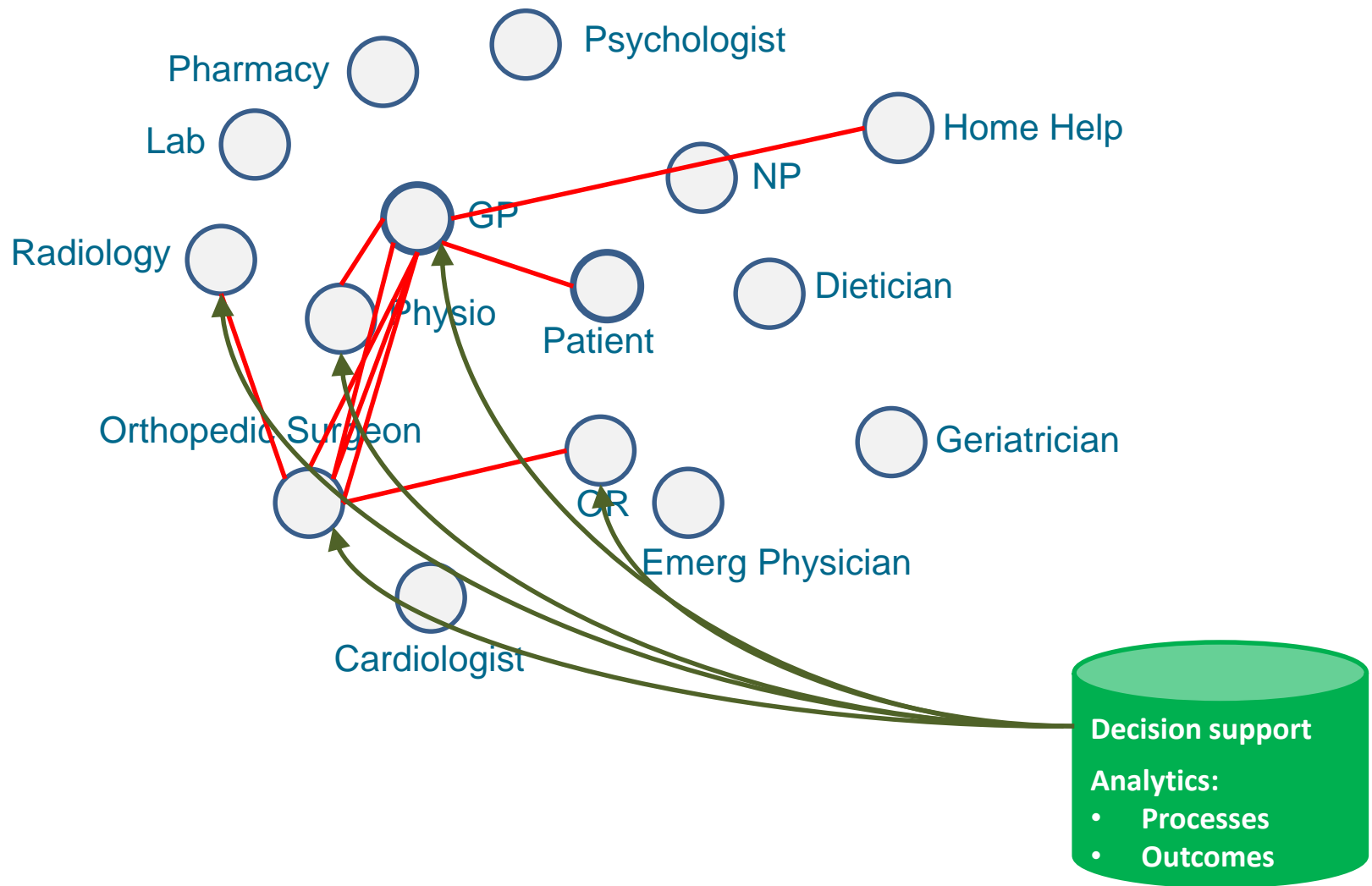
3. Privacy & Security Considerations
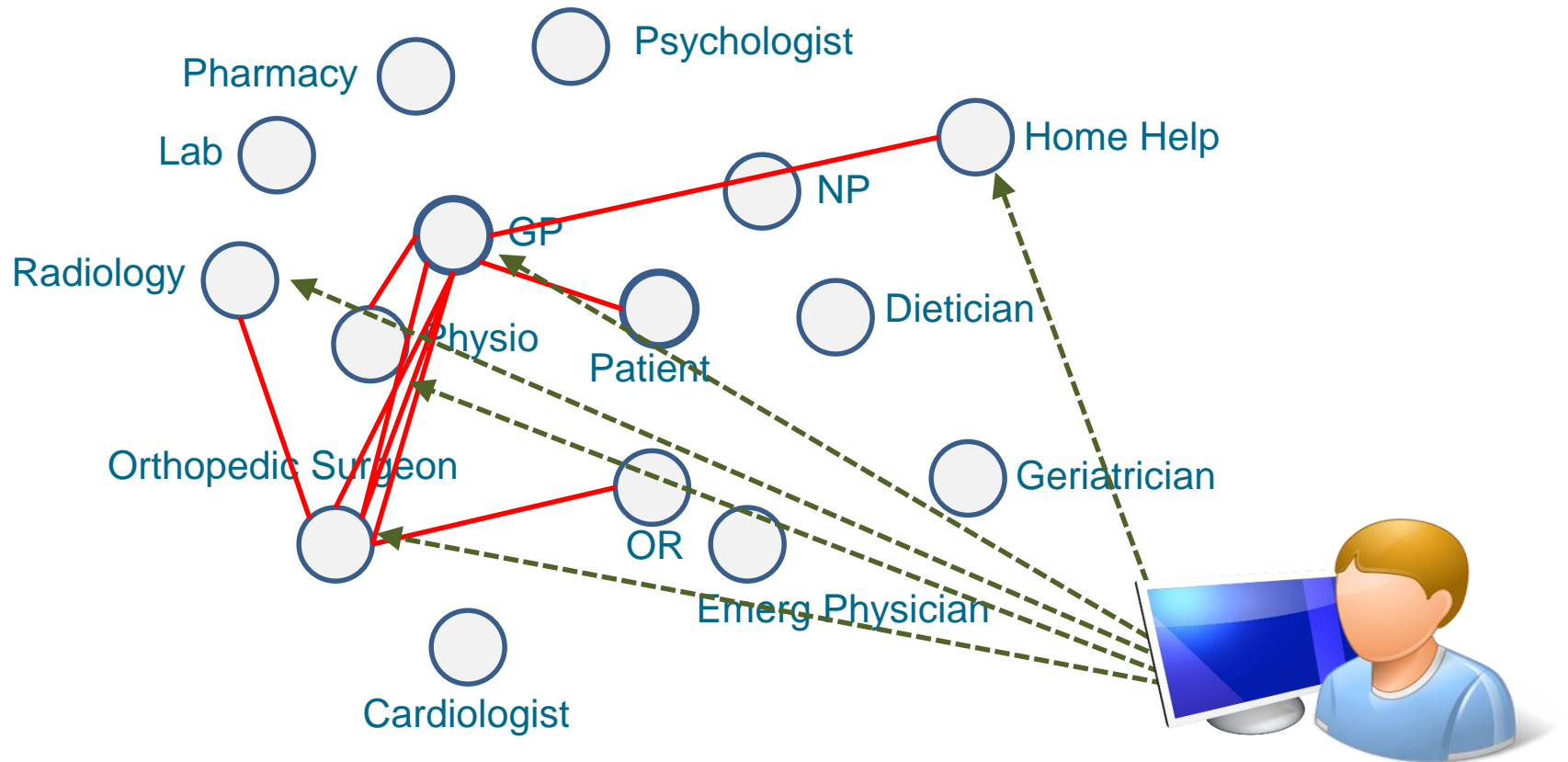
Typical Clinical Scenario

- **Request/assign tasks**
- **See the overall plan**
- **See where tasks are at**
- **See who touched the patient**
- **See what else is being done**
- **Interact with team**
- **Coordinate care**

Typical Clinical Scenario

Typical Clinical Scenario

- **Reading results, reports**
- **Tracking progress**
- **Interacting with team**
- **Participating in care**
- **Controlling access**
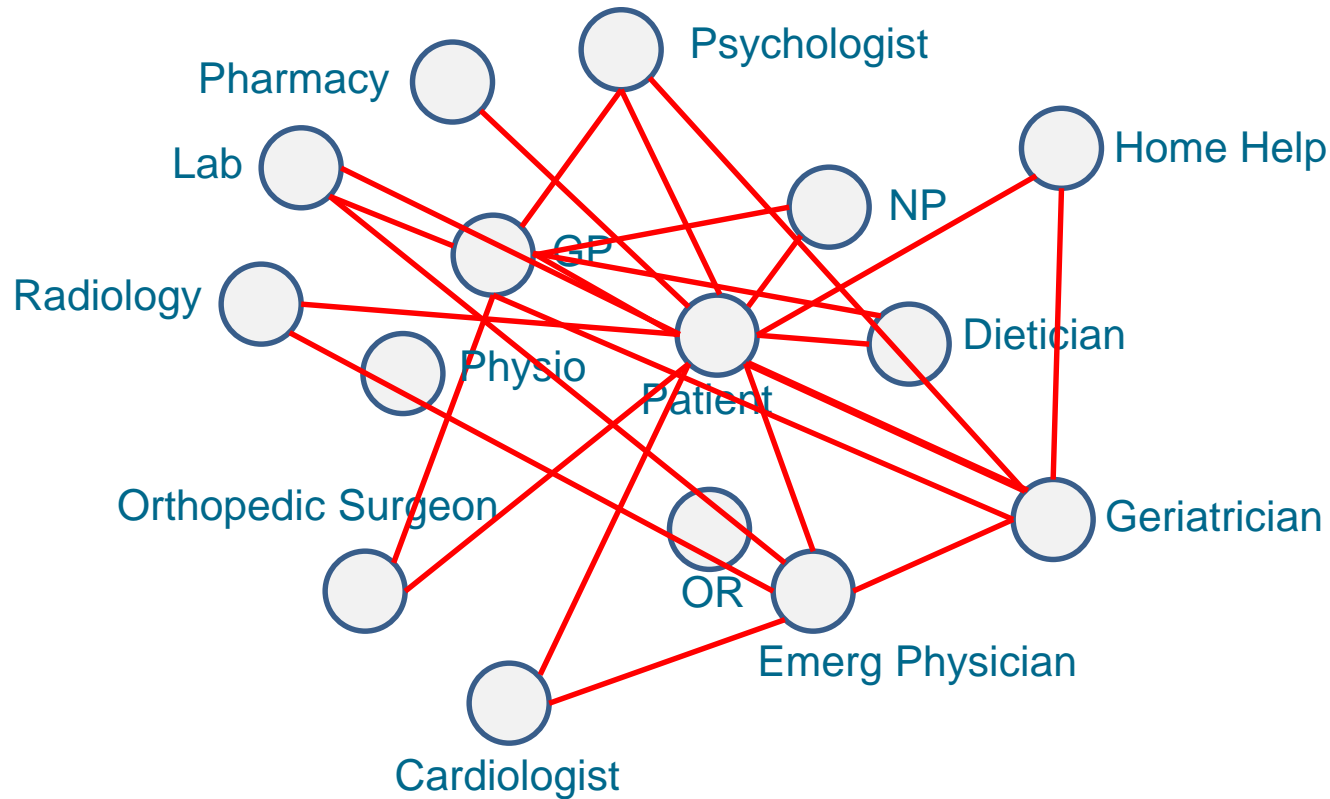- **PHR equivalent to EMR**

Typical Clinical Scenario

Multiple protocols operating transparently across multiple vendor devices, networks

"I make a call and you answer it"

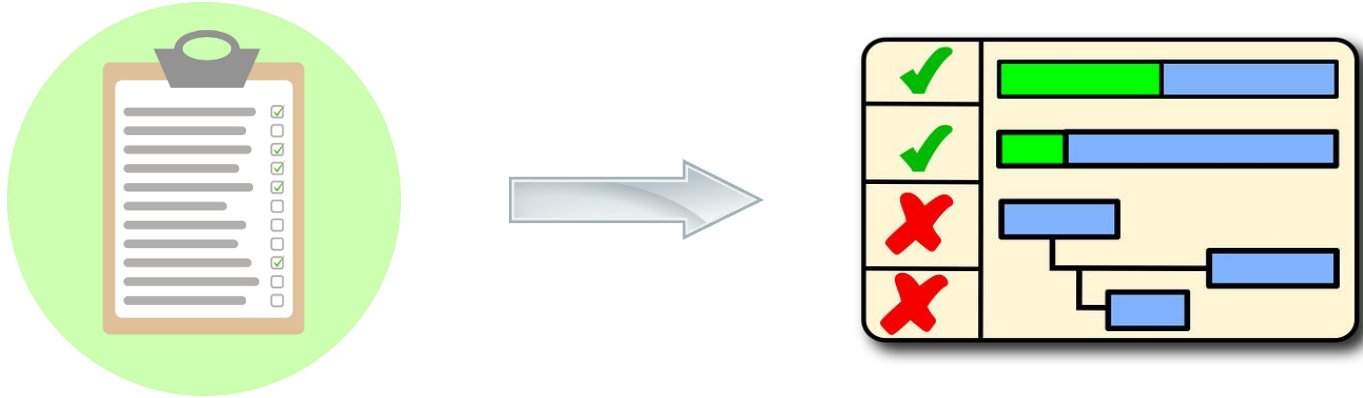# Generalize: Care Planning

Generalize: Care Planning

- Differing perspectives, varying processes

- May be more than one process/plan executing

- Multiple systems involved

- Everybody wants to control their own processes, data

- Info needs, processes often vary with local context

- Distrust of central systems controlling data, workflow
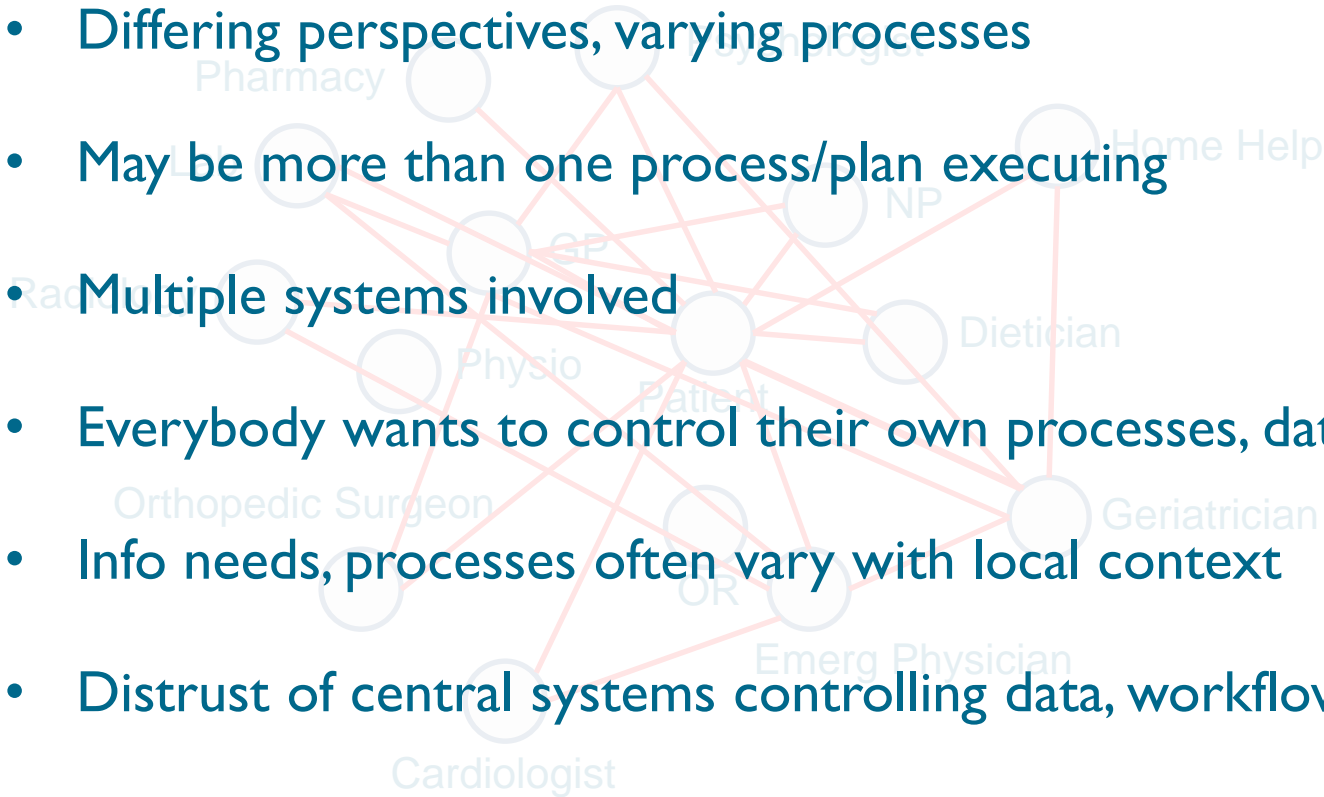
Generalize: Care Planning

Also: Game plan vs Coaching

Program Evaluation, QI, Research

Palatable data stewardship to enable cross-linking

Process, Outcome Analytics

Private providers on own EMR

- *Specialists*
- *Counsellors*
- *Psychologists*
- *Physical therapists*
- *Chiropractors*
- *Dieticians*

PCN with multiple EMRs

PCN on Shared EMR

HA services on HCIS

PHR, Virtual Care

Other agencies with own systems

PHSA

BCCA

Ministry

Other

Distributed Integration of Data, Workflow

Multiple vendors

Technical Standards

Harmonized Privacy Legislation

Nobody holds Entire Record

Supportive Payment Model

Care plans, coordination, workflow

Identity, Relationships

Role-based Access Control

Coding

Security, Authentication
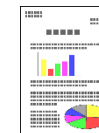
Event Notification

Reporting, Analytics, QI tooling

Software

Integrated with EMR

Bidirectional integration

Meds, Public Health, Other

Web-based apps, decision support, other systems

EMR or PHR:
One interface
One virtual record

BC, national systems

Retrieve records, data ("pull")
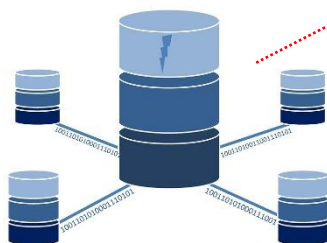
Access info; Interact with care team, EMRs, devices; "patient has an EMR"

Bidirectional exchange ("push")
- eReferral, eConsult, care plans, structured data, workflow, etc

Log into portal/CIS

CDX
Clinical Data eXchange

Regional repositories, ?EMRs

CareConnect
UCI, other portals, CIS

Patient portals, PHRs, virtual care

EMRs, hospital systems

1. Longer-term Strategic View

2. **Short-term Tactical View**

3. Privacy & Security Considerations

Short-term Approach

It turns out that...

Most clinical scenarios supportable by:

- A small set of core interactions

- Basic workflow capabilities

- Associated reporting

- ... across multiple EMRs

- ... if initial focus on human-readability

Short-term Approach
Core Interaction Types

Send	Receive
eReferral	Notifications – accept/reject, triaging, scheduling, etc Clinical report / discharge summary
Advice request / eConsult	Advice Notification – accept/reject
Progress update (unsolicited)	Could be in any direction
Clinical summary or report (response or unsolicited)	Could be in any direction
Care plan	Could be in any direction
Info request – for progress update, clinical summary, care plan	Progress update, clinical summary, care plan
	Admission, discharge notification

- Interaction could involve any pair amongst GP, community specialist, allied health, HA service, residential care facility, acute facility; between EMRs and/or HCIS

Short-term Approach
Shared Care Plans

- One EMR as source of truth for Shared Care Plan and Clinical Summary – probably PMH's EMR.

- When updated, read-only copy of Shared Care Plan or Clinical Summary pushed to HCIS or CareConnect via CDX.

- HCIS or CareConnect to contain most recent version of Shared Care Plan and Clinical Summary, accessible to all.

- … until more sophisticated representation of Care Plans becomes available
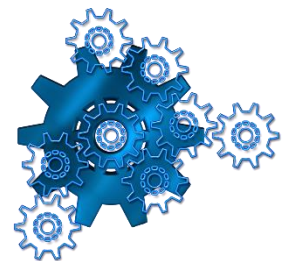
1. Longer-term Strategic View

2. Short-term Tactical View

3. **Privacy & Security Considerations**

Privacy & Security Issues
Evolving Operational Context

Coming soon:

- Primary Care Networks

- Community, HA, FN staff working in one another's clinics, closely collaborating in patient care

- Virtual care interactions with multidisciplinary teams – community and HA providers, distributed data

- Mash-ups: views into data from disparate systems – users are community/FN/HA/PH providers, patients

- Bringing together systems subject to different legislation

- Core provincial infrastructure including identity registries etc

- Need to do QI, program evaluation, research at local, regional and provincial levels; need to link datasets

Privacy & Security Issues
Pressing Issues

- Interactions between HA's/MoH, community providers

- Interactions with FNHA clinics/providers (same issues?)

- Harmonization of authentication & access models

- Consistent role-based security & access model that can evolve to be under patient control

- Network, applications defense in depth

- Data governance model for secondary use

- … and more

Complex Legislative Environment

- FIPPA (Freedom of Information and Protection of Privacy Act)
  - applies to public bodies, professional bodies, etc
  - applies to custody *or control*
  - based on prescribed authorities and notification, not consent
  - concept of "consistent purpose"
  - storage *and access* must be in Canada

- PIPA (Personal Information Protection Act)
  - applies to everyone else (some exclusions apply)
  - based on implied consent, opt-out, limitations of consent

- Access to Information Act, Privacy Act, Personal Information Protection and Electronic Documents Act (PIPEDA)
  - applies to federal institutions and interprovincial information sharing unless other Acts apply

Complex Legislative Environment

- **eHealth (Personal Health Information Access and Protection of Privacy) Act**
  - applies to certain designated "health information banks"
  - PLIS, client registry, provider registry
  - covered by "designation orders" – what is collected, why, who can access, any other conditions
  - notion of "disclosure directive" – patient restricting access

- **Pharmaceutical Services Act**
  - PharmaNet access rules

- **Public Health Act**
  - Panorama
  - addresses Medical Officers of Health reporting communicable diseases, etc

- **Ministry of Health Act, Medicare Protection Act, etc**

Key Issues

- Need legal authority – to collect, use or disclose.

- ISA does not in itself establish legal authorities – it only sets out rules for privacy compliance when the legal authorities already exist.

- Distinction between primary and secondary use.

- Different rules apply to data from different sources.

- Unclear if able to share data between PIPA and FIPPA organizations for QI & planning.

- Regional variation:
  - in privacy & security policies
  - in interpretation on what can and can't be shared with whom, with or without consent
  - in expectations when completing PIAs or STRAs on how certain risks are assessed

- Decentralized, uncoordinated data governance.

Current Instruments

GHISA **(General Health Information Sharing Agreement)**

- Common framework for information sharing between health authorities, Ministry of Health and certain other providers (but not FNHA, which is under PIPA).

- In place since March 2016 – means no need for separate ISAs except for secondary use.

COIPA **(Common or Integrated Program Agreement)**

- Agreement under FIPPA that enables information sharing across a distributed team incorporating public and private providers, particularly with regard to secondary use for planning & evaluation.

- Currently under development to support Primary Care Networks.

PRIME **(PharmaNet Revisions for Information Management Enhancements)**

- Introduces a single, standardized, centralized process for granting, managing, monitoring access to PharmaNet.

- Currently under development.

Future Developments

Sector-wide work on Security & Access models

- Enhanced security, defense in depth.

- Enhanced proactive response to emerging threats.

"GHISA 2" concept proposed

- A proposal to extend GHISA framework to cover PIPA organizations, universities, PCNs, FNHA, public health initiatives, R&D, etc.

- Would harmonize relevant IMIS & privacy policies and standards.

- Complex, many aspects and details to consider.

HIMA (Health Information Management Act)

- Harmonize the various Acts covering health info into one Act.

- Common rules, policies, protocols.

- A longer-term option (likely several years to complete).

Summary

Short-term	Longer-term

Short-term

- 2-way electronic communication across circle of care
- Complementary to existing HCIS systems, projects
- Transitional use of portals
- Mainly human-readable data
- eReferral, eConsult
- Clinical summaries
- Free-text shared care plans

Longer-term

- Distributed data access → virtual single record
- Machine-readable data
- Managed distributed workflow
- Seamless ecosystem of EMRs, portals, virtual care
- Embedded decision support
- Advanced analytics, AI
- Incremental execution, cost