Engineering a Learning Healthcare System

AHS Strategy for Clinical Health Research, Innovation, and Analytics
What is a Learning Healthcare Organization?
What limits us from integrating innovation and research into care?
Lack of Time

Busy-ness

Lack of skills

Urgent Asks

Shifting priorities
SHOW ME THE EVIDENCE!
Innovation means a ‘new and improved way of doing valued things’.

- An innovation can be a device, a drug, a technique, a method, a system or a service.
- Bringing Albertans together and providing the necessary tools, will help us discover new, efficient, valued, and relevant ways to deliver care.

Research in AHS involves systematic investigation to establish facts, principles or generalizable/transferable knowledge.

- It can include studies approved by a research ethics board, the analysis of data through analytics, systematic approaches to quality improvement and evaluation.
Fostering a **learning culture** where patients, families, staff, physicians and volunteers can **generate, share and apply evidence** to the decisions made every day”
1. Build Strong Partnerships
2. Incent Research and Innovations of Highest Value
3. Liberate Health System Data
4. Apply and Spread Knowledge
5. Innovate to Achieve Service Excellence
Partnership for Innovation & Research in the Health System Grant Program

The Researcher Users of Knowledge

On the same team creating value & impact
SCNs develop clinical pathways for priority areas to help coordinate and standardize care processes, improve efficiency, and achieve positive outcomes.

Strategic Clinical Networks develop significant plans (roadmaps) that will change and improve healthcare delivery.

Clinicians and researchers provide input into the provincial Clinical Information System (CIS).

Increase access and availability of health resources so that clinicians can readily acquire knowledge and apply it to patient care.
## Research ≠ Learning

**Example Problems Identified:**
- Healthcare system’s research needs are not fully met by the current research enterprise
  - Designed for basic science inquiry and drug discovery
  - There is no scalable model for:
    - Clinical Effectiveness Research or research comparing known treatments
    - Biomarker validation (Personalized Medicine) for diagnostics, prognostic or therapeutic indications

**Creation of a Learning Healthcare System creates locally applicable knowledge:**
- Identifies its’ own needs
- Uses its’ own infrastructure
- Adapts available research methodology
- Directly implements research results

The knowledge gained is thus not generalizable (thus not ‘research’) but rather is ‘locally selfish’.
Connect Care

A framework for opportunity, conversation and partnership
Connect Care

- Asking Questions
- Understanding What Changes Are Needed
- Thinking Provincially; Acting Locally
- Promoting Consistency That Matters
- Adopting a Common Language
- Clinical Information System
- Building Capacity
- Advancing Best Practice
Connect Care Guiding Principles

1. Put patients & families first.
3. Integrate across the continuum.
4. Avoid unhelpful variation.
5. Adopt and adapt.
Connect Care Guiding Principles

6. Use tools for transformation.
7. Lead with purpose.
8. Partner to advantage.
9. Transform with intent.
Connect Care Leadership

Executive Sponsors
Dr. Francois Belanger
Vice President, Quality and Chief Medical Officer

Deb Rhodes
Vice President, Corporate Services & Chief Financial Officer

Sean Chilton
Vice President Collaborative Practice, Nursing & Health Professions
Connect Care
AREA COUNCILS

GOVERNENCE STRUCTURE

Executive Leadership Team

Connect Care Executive Committee (CCEC)

CC Council

CC Area Councils

Area Councils will

• Identify clinical priorities for standards and consistent practice across the province.
• Act as ambassadors and change agents to support implementation in local geographies, programs and sites.
• Provide an escalation and decision point for design issues when SMEs cannot reach consensus.
• Offer long term support for the ongoing optimization and use of the CIS in clinical in areas.
• Address professional and practice issues specific to provincial clinical service delivery and support areas.

Leveraging knowledge from

• Multidisciplinary, provincial representation co-chaired by department heads and Dyad (ED or SOO level).
• Physician and Clinical Operations leaders from programs, departments and specialty areas.
• SCNs, HPSP and provincial programs.
• Wholly owned subsidiaries (as applicable).
• IT and Connect Care program support.
• Patient representatives (x2).

Understanding

• Areas may be managed for synergies and to conserve human resources (e.g. continuing care, seniors and primary care).
• Areas may be broken out to sub-areas or new separate areas to address emerging work with different CIS workflows (i.e., medicine).
• Existing committees, where they exist, will be leveraged and, if required, will be supplemented with additional membership.
• Areas may be retired if key work can be managed through other committees.
• Areas may be added if we discover we’ve missed something critical to success.

NOTE: The co-chair of the Area Council will sit on the CC Council.
*These are example Area Councils and are not consistent in size. It is anticipated they will evolve over the duration of design.
Research and inquiry are Clinical Operations.
It’s not the tools you have faith in — tools are just tools — they work, or they don’t work. It’s the people you have faith in or not.

STEVE JOBS, APPLE
Research and Inquiry Workflows and Activities

**ALERT**
- Educate
- Empower
- Opportunities

**APPROACH**
- Consent
- Enroll
- Soliciting Interest
- Randomization

**STUDY**
- Research Protocol / Study Plan
- Intervention/Tx plans
- Research Operations (Di, Imaging, Pharmacy)
- Research Billing/Costing
- Scheduling/Orders

**CAPTURE**
- Research Data
- Secondary Use
- Data Disclosure/ Transfer
- Info requests

Use evidence to drive research and innovation
Engineering a Learning Health Organization: developing clinical workflows to complement Epic research workflows
INQUIRE (WHAT?) & RESEARCH (WHY?)

- HEALTH OUTCOMES
- EXPERIENCE
- CARE DELIVERY
- SERVICES
- EFFECTIVENESS

MEDICAL RECORDS & DATA
- *CHARTS OVER TIME*

PHARMACY
- *EXPERIMENTAL vs. STANDARD THERAPY, DOSING*

IMAGING
- *INNOVATIVE IMAGING, RESEARCH DATA*

LAB SERVICES
- *INNOVATIVE TESTING, RESEARCH SAMPLES*

LEARNING Healthcare

REGISTRATION & SCHEDULING
- *ENROLLMENT or REGISTRY*
- *STUDY VISIT*

VITALS & MEDICAL HISTORY
- *RESEARCH DATA*

HOSPITAL SUPPORT SERVICES
- *EXPERIENCE AND QUALITY*
CONNECT CARE 2018

**TIMELINE**

- **JAN**: Groundwork 1, Groundwork 2, Direction Setting 1
- **MAR**: Direction Setting 2
- **APR**: Direction Setting 3
- **JUN**: Validation 1
- **JUL**: Validation 2
- **AUG**: Validation 3
- **SEP**: Clinical System Design (System Configuration)
- **OCT**: Clinical System Design (Specialty)

**GROUNDWORK**

Through this “getting to know you” phase, Epic and Alberta Health Services exchange information about how teams deliver care across Alberta. Questionnaires, site visits and group consultations help Epic explore the places, facilities and relationships that shape AHS, Covenant Health and our partners. The information gathered is used by Epic to help us configure the Connect Care system.

**DIRECTION SETTING**

Direction setting helps us configure Connect Care to fit how we work. Subject Matter Experts from across the province, representing programs, care settings, and clinical and operations teams, are guided through a series of questions and make decisions on how commonly used workflows and processes are configured into the system.

**CLINICAL SYSTEM DESIGN**

Clinical system design is the process of planning, selecting, designing and building documentation, decision-support, order-sets and other tools into Connect Care to support patient care. Clinicians, clinical and operations experts, and leaders will contribute to the decisions made about Connect Care content.

**VALIDATION**

Validation sessions are where Subject Matter Experts review how the system takes shape to ensure the workflows configured at the direction setting sessions work well across the different applications.

**SUBJECT MATTER EXPERTS**

Across the province, expert physicians, front line staff, individuals from programs and services, and patients provide real-life knowledge of work as it actually occurs in Alberta Health Services. Subject Matter Experts help decide how Connect Care is designed to serve the needs of our patients and families, front line clinicians and staff.
Adoption/Validation #1: Research Track Sessions  
June 19-21, Calgary, AB  
In these sessions, participants will review, validate and adopt the decisions made at Direction Setting sessions earlier this year.

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPICS FOR REVIEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Patient-Study Association</td>
<td>Discuss how patients are indicated as participating in a study, research consent workflows and alerts for principal investigators and study coordinators when study patients present to emerge or are admitted.</td>
</tr>
<tr>
<td>Research Establishing a Study Record</td>
<td>Give a brief overview of research functionality in Epic and discuss study administrative record creation and maintenance</td>
</tr>
</tbody>
</table>
| Research Billing                 | Determine the ConnectCare workflows for;  
• research charge review (determining which charges should fall to the study versus be billed to Alberta Health  
• how many level of charge review AHS will have for research charges  
• who will be responsible for each level of review |
ENABLING HEALTH RESEARCH AND INNOVATION

AHS investments in research and innovation can lead to the introduction of new clinical therapy, drugs, technologies and programs which can transform health care and improve outcomes. Researchers and innovators rely on AHS to provide them with access to our patients, health information, health care activity data, medical tests, drugs and AHS facilities.

Research Study Administration and Approvals provides resources, data access and approvals for the set-up and conduct of clinical research in Alberta.

Health Technology Innovation provides expertise and skills in the areas of health technology assessment and appraisal, innovation, clinical epidemiology and project management.

Health System Evaluation and Evidence provides evidence that improves clinical workforce utilization, professional practice and the provision of quality patient care.

Health Technology Adoption provides expertise to SCNs and supports evidence-informed decision-making through the exchange, synthesis, and application of knowledge to quickly capture the benefits of research.

Knowledge Resource Service provides access to, and support in using, evidence resources to support evidence-informed decision making and quality patient care.

Knowledge for Change provides nationally recognized, evidenced-based knowledge translation (KT) supports to health research and innovation projects.