

Better Health. Powered by Information.

Connecting Care in a Learning Healthcare Organization

Surgery Research Retreat

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September 11, 2018



Asks

- Think about how you can align your inquiry needs with Connect Care opportunities.
- Consider how best to participate in Connect Care inquiry support oversight, design and build.

Objectives

1. Understand how the Clinical Information Sharing Approach (CISA) promotes CIS-enabled inquiry.
2. Recognize how clinical improvement is supported by the Connect Care CIS.
3. Consider how clinical inquiry supports can complement clinical research initiatives.
4. Promote participation in CIS design & customization.

Questions

What is Connect Care?

Why should I care?

How is the system built?

How is clinical inquiry supported?

How can I get involved?

Staying Informed:

- Website connect-care.ca
- Resources ahs-cis.ca/mdresources
- Blog bytesblog.ca

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Connect Care Consultation

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connect-care.ca



What is Connect Care?

Connect Care ← Initiative

Clinical Information System ← Technology

Epic Systems ← Core dataset & codeset

Vision:

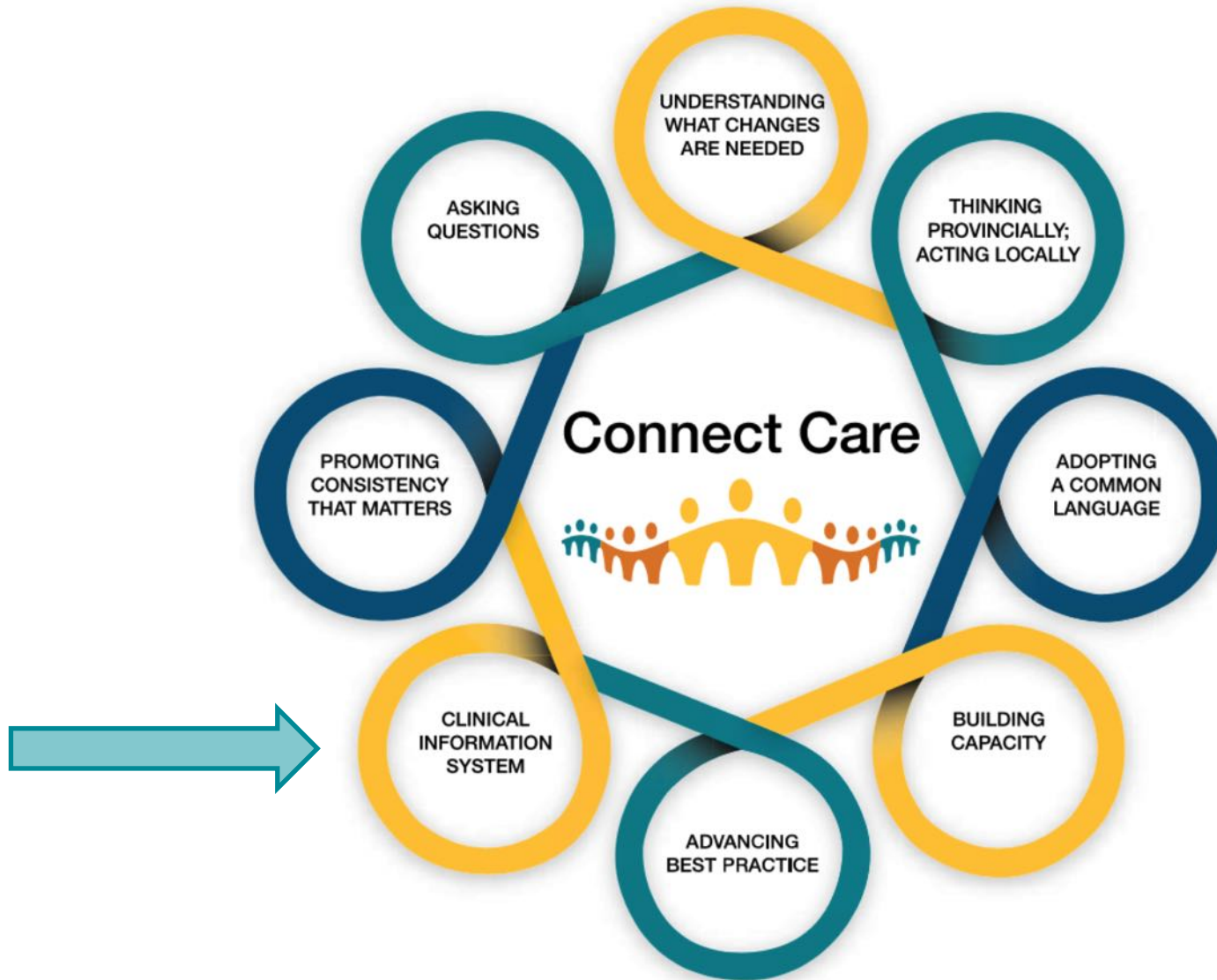
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Mission:

To deliver best care and improve health outcomes for and with Albertans through an accessible, integrated, comprehensive and standardized clinical information system.



Connect Care >> AHS Provincial CIS



AHS Provincial CIS

Integrated information management platform supporting the collection, access, use and sharing of information supporting the delivery of health services to persons and populations in multiple settings across the continuum of care.

Connect Care Continuity – Systems

Electronic Health Record (EHR)

Longitudinal collection of personal health data supporting multiple providers across the continuum of care with appropriate information securely delivered to authorized individuals...
[patient-centric]



Electronic Medical Record (EMR)

Record of clinical services and related data maintained by a caregiver in an electronic system for reference and updating by the caregiver...
[provider-centric]



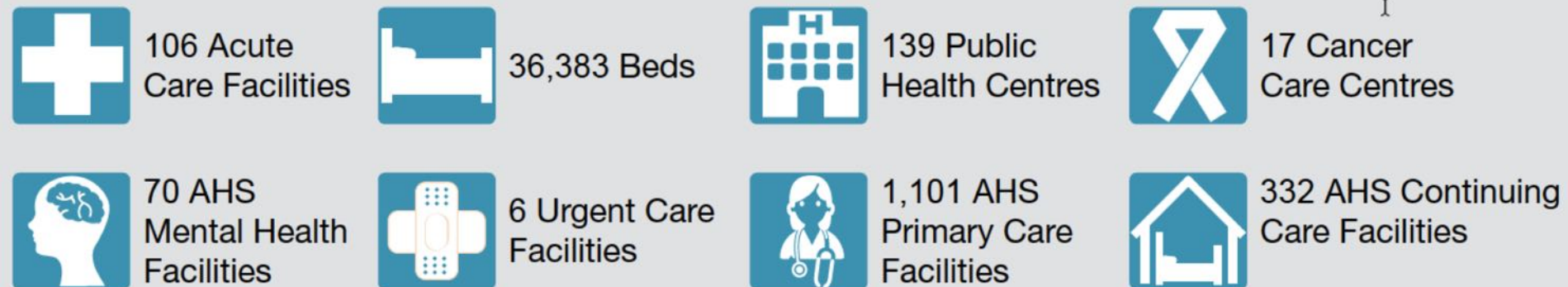
Clinical Information System (CIS)

... additionally, comprehensive integration of all information supporting the delivery of care, services and programs to patients & populations...
[system-wide]



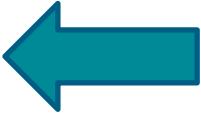
Scope

The impact of the AHS Provincial CIS will be felt everywhere that AHS operates, serves and collaborates.

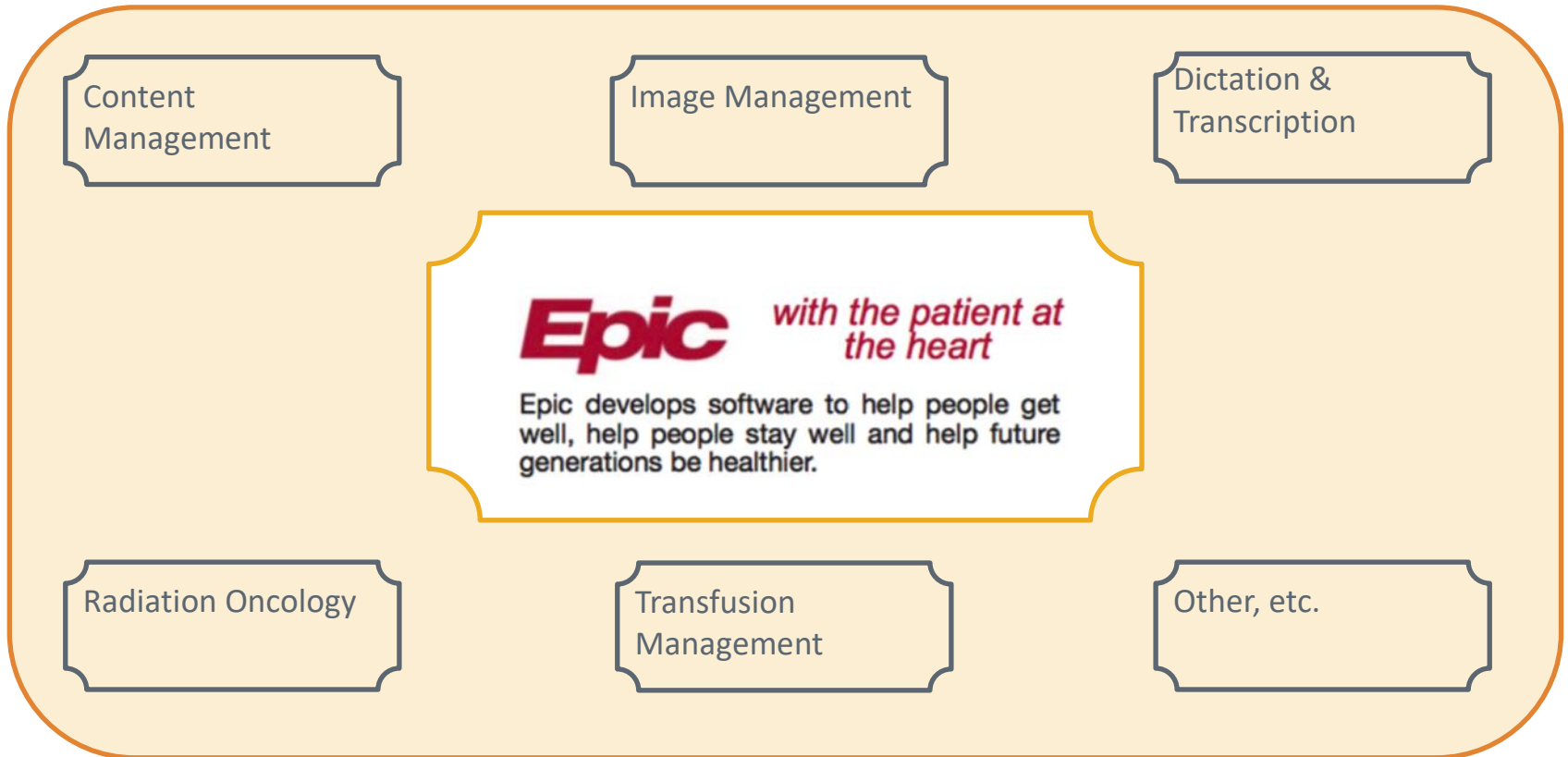


Functions

The CIS will improve upon the functionality we have today, plus what has been missing

- Order management
 - Results management
 - Clinical assessment & documentation
 - Clinical decision support
 - Health information management
 - Research management
- 
- Medication management
 - Personal health
 - Embedded inquiry & analytics
 - Population health management
 - Clinical operations support
 - Corporate administration
 - Virtual Health Services

Epic – CIS Integration Engine



Epic Community

International

- Australia, Canada, Denmark, Finland, Lebanon, Netherlands, Saudi Arabia, Singapore, UAE, United Kingdom



Contract Principles

All modules in scope

- All Specialties, all support (Lab, DI, Pharmacy, Scheduling, Billing, etc.)

Enterprise provincial licensing

Canadian foundation build, Alberta configuration

- Migrate eCLINICIAN content & data (8 years) plus all provincial data feeds

Leverage vendor success & experience

- Attend to recommendations, follow Good Install Program
-

Why should I care?

Goals

Value

Alternative

Connect Care Goals

- Integration across generations, geography, and the health care continuum.
- Comprehensive and accessible for every Albertan
- Albertans contribute to, access, and own their data
- Standardization of clinical knowledge and practices



Connect Care Value



Value for Albertans



Value for Clinicians



Value for AHS



Value for Health Care System



Total Value

- Information Access

- Seamless experience

- Common story connecting care

- Agency

- Convenience

- Connection

- Adaptation

- Integration

- Improvement

- Consistency

- Integration of information, inquiry & service

- Insights about what works, for how much

- Sustainable infrastructure & infostructure



- Population, Precision, Predictive, & Personalized & health care

- Connections across the care continuum

- Surveillance of health costs & determinants

- Better information

- Better care

- Better health



Connect Care Intent

Alberta Health Service will transform how patient care is delivered and experienced in Alberta, using a CIS to **fully integrate standards-informed healthcare services** – bridging **technology with transformation**, **knowledge with action**, and **information with understanding** to continuously improve healthcare for Albertans.



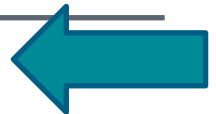
Connect Information with Understanding

Build and support governance structures for agile, interdisciplinary decision-making that stands the test of time.


Communicate in a transparent and collaborative way that focuses on problem solving.

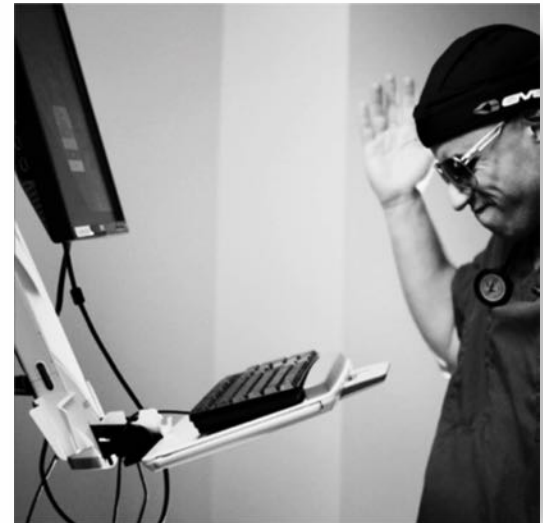
Design for evolution, allowing flexibility to adapt to the changing needs of a rapidly evolving healthcare sector.

Provide an integrated data environment for clinical inquiry, research, and quality improvement; all as means to organizational learning.



What if we reject Connect Care?

- **Expensive Burning Platforms**
 - Vax/Tandem beyond end-of-life
 - Cost of growing fragmentation (>1300 systems) greatly exceeds cost of integration
- **Hitting the improvement wall** 
 - Quality, safety, optimization, inquiry, care transformation all increasingly hobbled by lack of credible performance information
- **Loss of agency**
 - Public support cost of increasing fragmentation of patient & family healthcare experience



How is the system built?

Scope

Structure

Workflow

Content

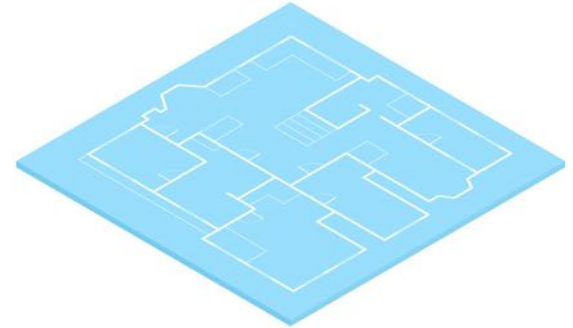


“Building” Connect Care



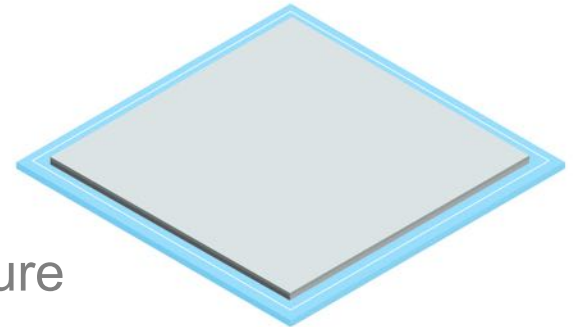
“Building” Connect Care - Plan

- **Planning** ← scope & architecture
 - Mapping purpose to program



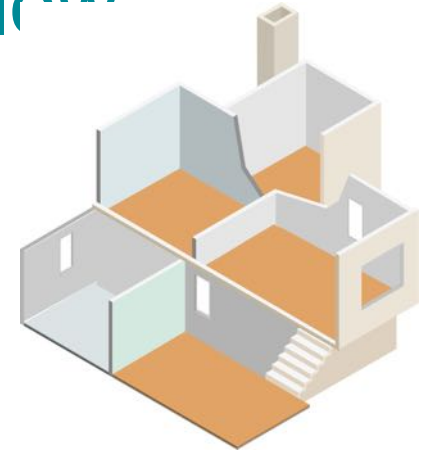
“Building” Connect Care - Structure

- **Planning** ← scope & architecture
 - Mapping purpose to program
- **Structure** ← foundation & infrastructure
 - Mapping product to program



“Building” Connect Care - Workflow

- **Planning** ← scope & architecture
 - Mapping purpose to program
- **Structure** ← foundation & infrastructure
 - Mapping product to program
- **Workflow** ← layout, passages, framing, lock-up
 - Mapping product to process



“Building” Connect Care - Conter⁺

- **Planning** ← scope & architecture
 - Mapping purpose to program
- **Structure** ← foundation & infrastructure
 - Mapping product to program
- **Workflow** ← layout, passages, framing, lock-up
 - Mapping product to process
- **Content** ← furniture, functions, decorations
 - Mapping product to purpose

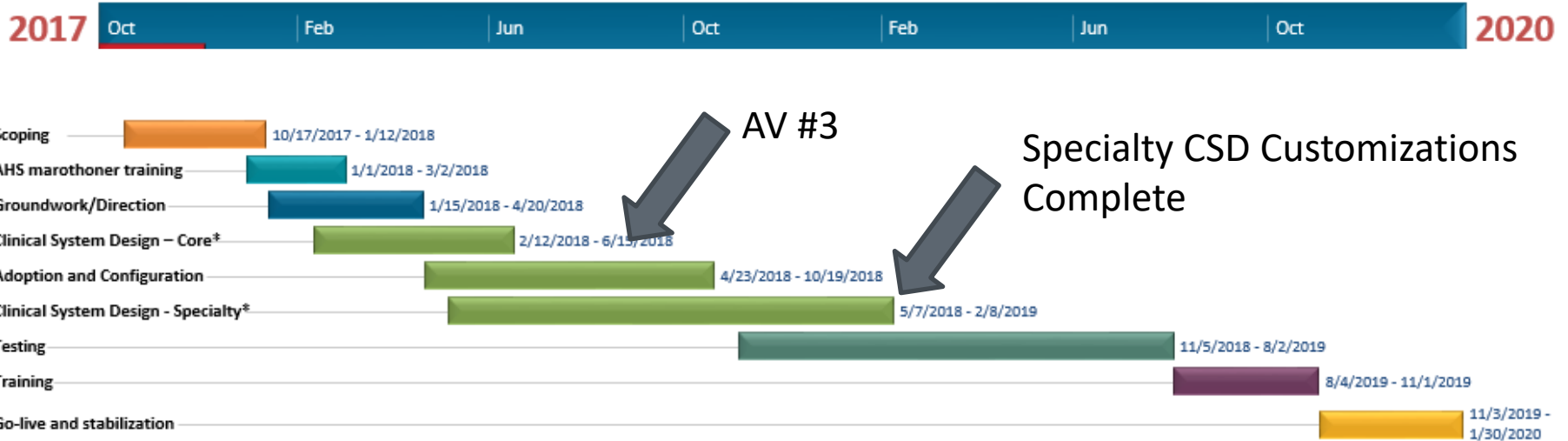


“Building” Connect Care - Activities

- **Planning** ← scope & architecture
 - Scoping
- **Structure** ← foundation & infrastructure
 - Groundwork
- **Workflow** ← layout, passages, framing, lock-up
 - Direction-setting
- **Content** ← furniture, functions, decorations
 - Clinical System Design



Build Sequencing



What is Clinical System Design (CSD)?

“Process for planning, selecting, designing and building **clinical content** into the CIS to support patient care.”

What types of clinical Content?

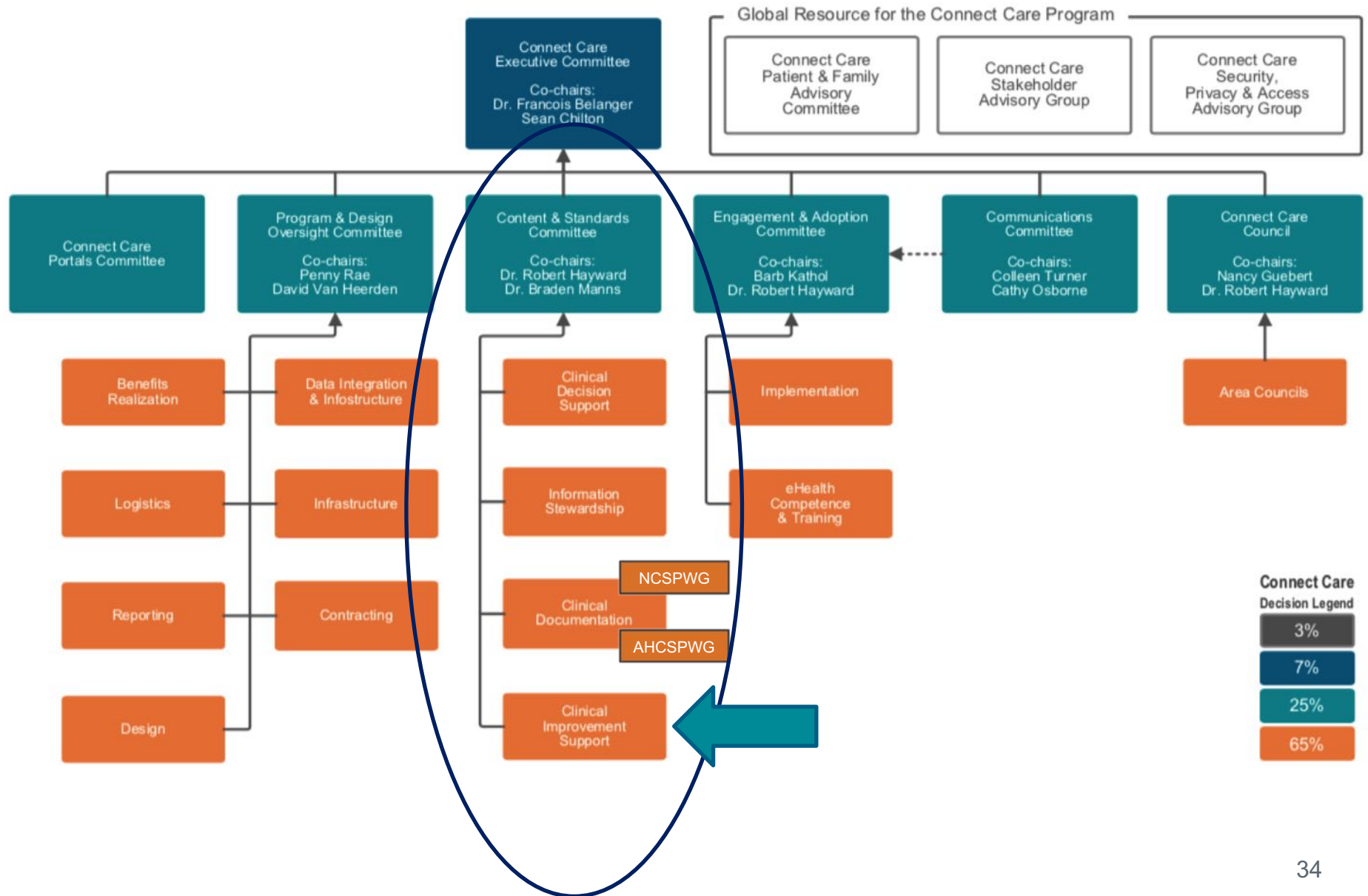
- **Documentation Support**
 - Templates, flowsheets, forms, questionnaires, note-builders, etc.
- **Decision Support**
 - References, alerts, reminders, assists, guides
 - Including: best practice advisories, care plans, order sets, calculators, etc.
- **Inquiry Support**
 - Registries, key performance indicators, measures, reports

CSD Levels of Decisions

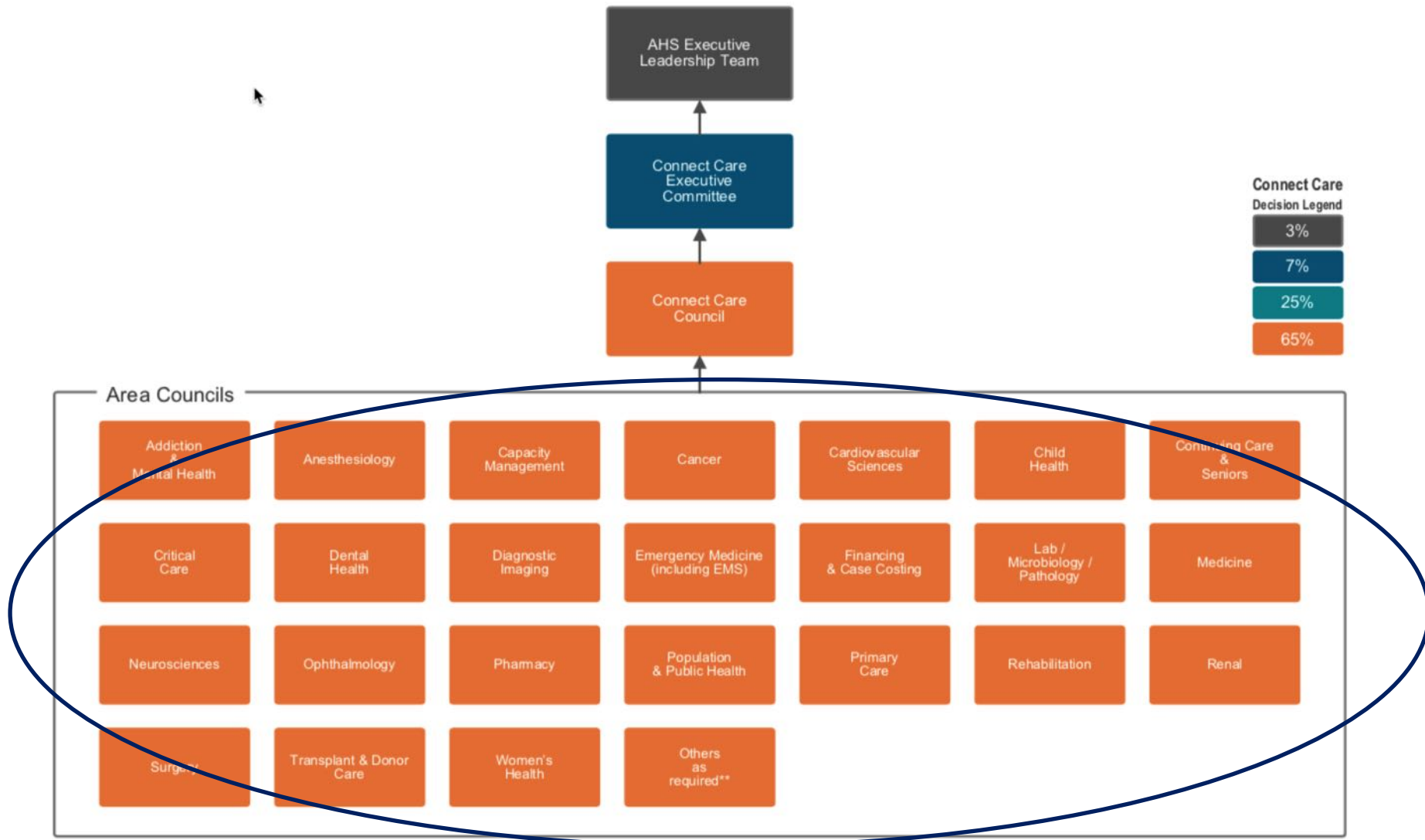
- Components
 - Medication & non-medication terms & orders
- Core
 - Order, documentation, analytics frameworks, blocks, templates & styles; cross-continuum
- Specialty
 - Custom order sets, documentation automations, key performance indicators, etc.



Committees → Core CSD Decisions



Councils → Specialty CSD Decisions



CSD Work Streams

Group	Description	Examples
Customization	Closed (“how should this look?”) and Open (“how many of which tools are adapted or developed?”) essential customizations needed pre-go-live.	Closed: Navigator sections, History additions, Summary Chart Review, etc. Open: Flowsheets, Smart Tools, Procedure Documentation, Express Lanes, etc.
Order Sets	Selection, adaptation and development of condition-specific order combinations that are evidence-informed to improve care and reduce unhelpful practice variation.	Definition and use of standardized building blocks that appear in multiple order sets, design of template to extend for more specific needs, selection of starter order sets for go-live, etc.
Flowsheets	Selection, adaptation and development of nursing and allied health flowsheets, scores and forms.	Falls risk, symptom scores, delirium risk, alcohol withdrawal (CIWA) symptom tracking, etc.
Metrics	Specialty markers of CIS use, processes, outcomes and other measurables.	Meaningful use: order-entry, allergy review, etc. Processes: wait times, readmission rates, etc. Outcomes: BP control, infection rates, etc.
Reports	Specialty report templates for convenience (e.g. patient panels), monitoring (e.g. risk surveillance), safety (e.g. device recalls).	Reporting workbench templates for specialty interests and needs. Slicer/Dicer population definitions. Chronic disease management reports.
Dashboards	Integrative views of key resources, metrics, sub-reports assembled to support specialty goals.	Dashboard layouts. Information resource shortcuts. Embedded AHS analytics infographics.
Inquiry	Specialty-specific processes for asking and answering questions about care.	Research eligibility, recruitment, consent. Quality improvement protocol support. Patient safety event tracking and reporting.



How is Inquiry Supported?

Clinical Inquiry

Inquiry Support Strategy

Inquiry Support Tools

Clinical Inquiry

Domains

- Quality improvement, Quality assurance, Patient safety
- Clinical informatics, Human Factors
- Health technology assessment
- Clinical innovation assessment
- Clinical investigation

Methods

- Curiosity stimulation
 - Hypothesis generation
 - Hypothesis testing
-

Inquiry Support Strategy

Clinical Information Sharing Approach (CISA)

- Continuum-of-care framework emphasizing inquiry as a core clinical service, with explicit support for use of in-system inquiry tools

Streamlined Research Access

- Provincially harmonized ethics board, research information agreement, study staff access, etc.

Clinician Innovator Career Pathway

- Broad clinical inquiry tracking and reporting for participating innovators

Clinical Inquiry Support Unit

- Multi-skilled team assisting with registries, study management, analytics

Clinical Improvement Support Committee

- Oversight of Connect Care in-system inquiry supports and services
-

Inquiry Support Tools

Hypothesis Generation (curiosity)

- Performance metric definition and surveillance
- Data integrity surveillance
- Dashboards, Reports (Workbench, Crystal Reports, Tableau), Interactive Visualizations (Slicer-Dicer)
- Chronic disease registries, populations, subpopulations, cohorts
- Embedded inquiry, self-help model, training-contingent

Hypothesis Testing (investigation)

- Feasibility: population identification
 - Recruitment: alerts, eligibility, study status, notification, accrual
 - Consent: willingness, invitation, education, confirmation, validation
 - Management: study registration, investigator/coordinator/staff registration, scheduling, billing, tracking, compliance, trial management system links
-

Inquiry Support Approach

Inquiry Integration → Clinical Improvement

- Patient Portal:
integrated study promotion, study willingness registration, learning, consent, health status assessment, data capture, etc.
 - Provider Portal:
circle-of-care awareness, external study monitor support
 - Digital Health Record:
high-fidelity data capture, data maps, data integrity checks, access to standard clinical data, order-entry awareness, decision-supports
 - In-system Analytics:
study dashboards (accrual, monitoring), population definition, dataset export
 - → Study Management integrated with patient management
-

Inquiry Support Progress

Oversight

- Research Working Group formed under Clinical Improvement Support Committee (Universities participate; open processes; contributing and observing members welcome)

Information Sharing

- CISA provincially approved; PIA strategy on track; Information Stewardship Committee endorses training-contingent study staff & monitor access

Process

- University, Community & AHS research management processes harmonized across province and CIS-aware

Build

- Deep integration of research processes with clinical processes: messaging, recruitment, consent, scheduling, orders
-

How can I get involved?

Formal Roles – ahs-cmio.ca/mdroles

- Dedicated roles, protected time
- Contractually defined, largely resourced
- Executive, Provincial, Zone levels

Informal Contributions – ahs-cmio.ca/mdcontributions

- Embedded, front-line, peer-support, etc.
- CC-supported training/development, locally protected time
- Builders, PowerUsers, Superusers
- Change agents, peer supports, subject matter experts, champions

Connect Care Physician Roles

- Leadership Development
 - CMIO, Zone Associate CMIOs
 - Physician Design Leads
 - Medical Informatics Leads
 - Clinical Knowledge Leads, Clinical Topic Leads
 - Physician Builders
 - Physician Trainers
- Leadership liaises between physicians, clinicians, Connect Care and provincial stakeholders.



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