

# Clinical Knowledge and Content Management (CKCM)

### A Program's Journey

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### Objectives for Session

- 1. Setting the Context
- 2. Clinical Knowledge Vision
- 3. Knowledge Definition and Concepts
- 4. The CKCM Program
- 5. Recommendations & Next Steps





# Setting the Context



# AHS's History

- In 2008 united12 formerly separate health entities into a fully-integrated health system
- Also brought together three provincial programs:
  - o Alberta Alcohol and Drug Abuse Commission (AADAC),
  - Alberta Mental Health Board
  - Alberta Cancer Board

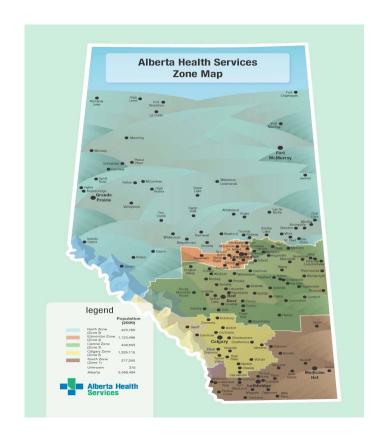


Ground ambulance service were moved from municipalities to AHS in 2009

### Who is AHS now?

- Alberta Health Services (AHS):
  - o delivers health services to over four million people
  - has ~ 108,000 employees (nurses/allied health/support staff)
  - o is supported by almost 9,300 physicians

- Services divided into five Zones.
  - 106 acute care hospitals
  - five psychiatric facilities
  - ~ 23,000 continuing care spaces
  - ~ 2,400 addiction and mental health beds
  - o partnership in 42 primary care networks





# Many Standards

- A "quick" search of the term "assessment", revealed 1285 "hits"
- Thousands of Order Sets!
  - Calgary Zone ~ 2400 order sets in EHR
  - Edmonton Zone ~ 130 ambulatory care order sets in EMR
  - ~ 10,000 paper order sets
- Huge variation in ordering tests and surgical procedures
  - At least 10 different ways to order electrolytes (panels/individual lab tests)
  - ∼24,000 surgical procedures = standardized is about 2000 to 3000
- Early analysis indicates over 6000 Nursing Practice documents (nursing policy/procedures)





### Alberta's Clinical Information Systems (CIS)

Meditech

 Cross continuum electronic health record in South, North and Central zones

Allscripts

Calgary Zone – urban sites

Epic

Edmonton Zone ambulatory

Cerner & Others

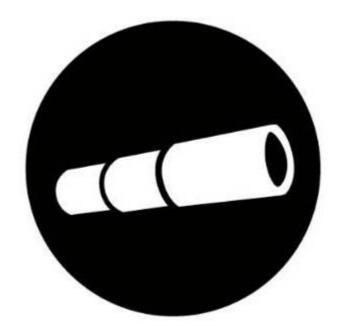
• Lab, Pharmacy, Diagnostic Imaging, etc.

Provincial CIS (TBD)

Cross continuum provincial EHR



# Clinical Knowledge Vision



### What were the Organizational Drivers?

Facilitate

Patient, Family



Zone CIS initiatives

Other Strategic Initiatives

Align with AHS Strategic direction to have best evidence at point of care for decision making

Decrease unsupported practice variation

Assist patients to make informed decisions

Standardize data & meta data

Define positive & negative deviance

Compare practice patterns

Continuous clinical improvement Manage clinical knowledge centrally

Build consensus among clinicians

Adjudicate provincially

## Why build in Alberta?

#### Essential activity of a learning healthcare organization

- Build capacity for evidence-informed practice
- Process engages clinicians, drives curiosity and change



#### Pragmatic adoption – not re-invention

- Use best available provincial, national, international guidance
- Leverage existing AHS content (thousands order sets)

#### Key to CIS adoption

Uptake eased by clinician participation in adaptation of guiding content



# Knowledge Definition and Concepts

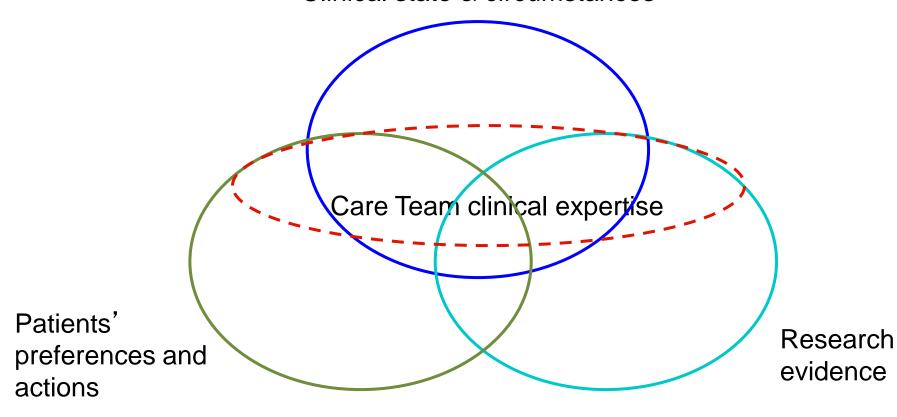




#### 1. Health Information, Knowledge and Content Model CDS design and build (paper) Clinical documentation build Order set design and build Health system encounters Care path (protocol) build Transactional care Data structuring for reporting Patient derived information (support and CDS functions patient care plans) Historical records System **CLINICAL** Content **INFORMATICS HEALTH INFORMATION MANAGEMENT** Clinical SCN's, Clinical Programs, Health Knowledge Consensus Committees, DIMR Information Knowledge development (SCNs) Evidence-informed Reporting and analytics New Knowledge Performance measurement from research publications Variation analysis

### 2. Evidence Based Medicine & More

Clinical state & circumstances



Haynes B. Evid. Based Med. 2002;7;36-38

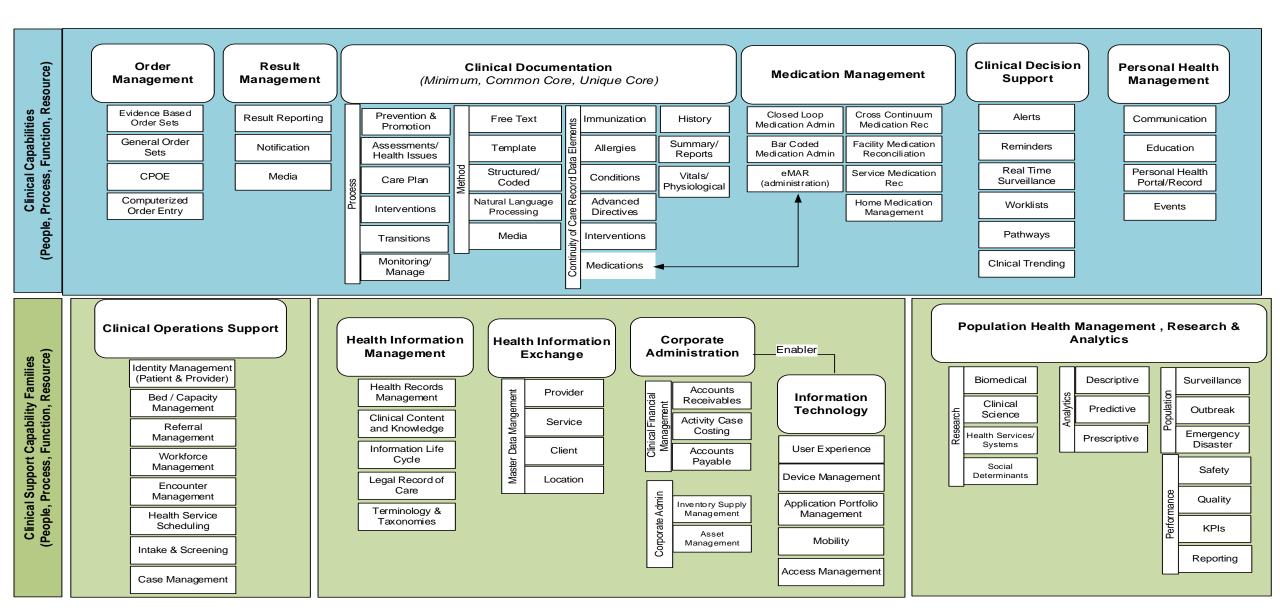


#### **Example:** Patient Journey across the Continuum of Care for Acute Stroke

High-Level Patient Journey Map Primary/Community Care **Emergent/Urgent Care** Primary/Community Care Acute Care Rehabilitation Significant stroke symptom occurs Specialist referral Treated in Subacute &/or in acute care pt rehab needed? Patient or other setting Diagnosis o calls 911 or drives stroke? to Emergency YĖS Patient treated in Patient sub-acute hospital Ready for reated in setting or Patient or other discharge? Emera Admitted to rehabilitation calls Healthlink dept hospital? facility and is advised to present to Emergency Discharged home Allied health NO referrals Patient presents to or calls GP office Patient not on and is directed to Discharged ollow up care Emergency home under provided by care of FP Family Physician Outpatient community rehab as required Specialist Diagnosis to first physio tx Symptom to treatment #/% of in-patient deaths follow-up Hospital admission to discharge from acute care Time in subacute or rehab Hospital admission to discharge home

Please note: this patient journey is completely fictitious and has been developed solely for the purpose of providing an example of a high level patient journey across the continuum

#### 4. Understand the CIS Architecture



# The CKCM Program



# Five CKCM Program Components



### 1. Learning Culture

Engagement
Collaboration
Change
Adoption
Continuous Loop



### 2. Support Services

Skilled Informatics Professionals

Skilled Clinicians in EBM/EBP



### 3. Information Architecture

Knowledge Lifecycle

Development
Approval
Storage
Dissemination

**Publication** 

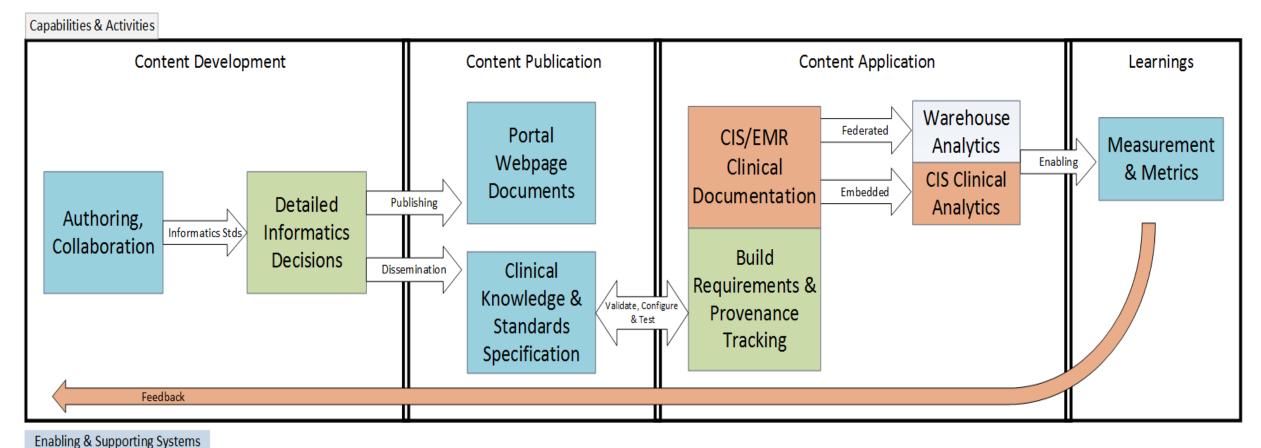


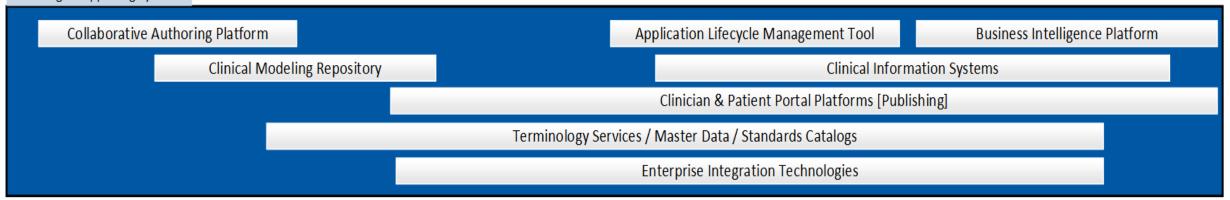
### 4. Health Care Technology

Tools to support the work

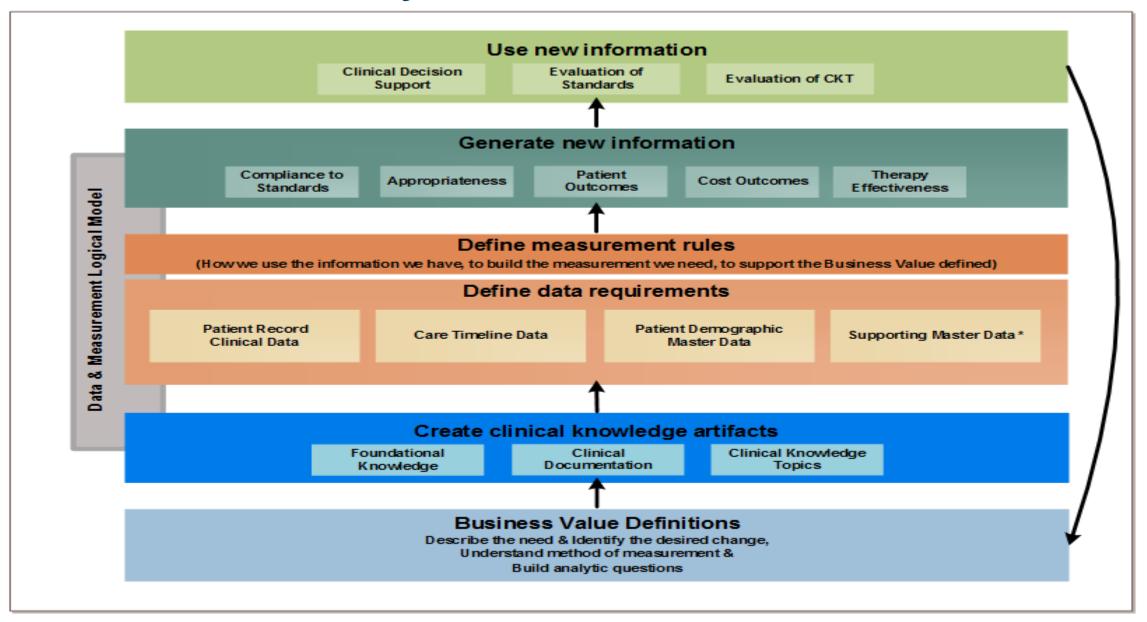
Collaboration
Knowledge Repository
Clinical Portal
Interoperability to CISs

### Information Architecture

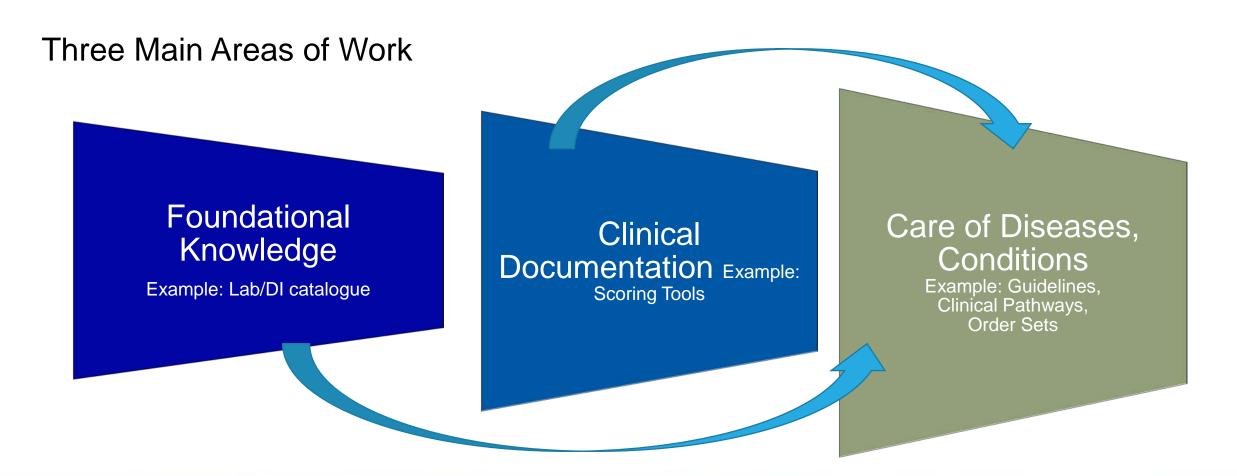




# **Analytics Architecture**



### Deliverables for the CIS/Paper Systems





### Recommendations & Next Steps





# **CKCM Guiding Principles**

**Focus on Patient & Family Centred Care** 

Clinician Driven: by clinicians for clinicians

Based on clinical best practice, evidence, and outcomes

**Develop SAFE system agnostic clinical guidance** 

Leverage work already done across the organization

Learn by doing - a continual improvement process

Provincially developed and governed



# Next Steps for the Program

- Evaluate our success (activity and outcome measures)
  - o participation in the program,
  - o number of times guidance is accessed,
  - o number of clinical guidance objects produced (350 order sets)



- Increase patient Involvement in working groups
- Recruit nurses to the team create awareness and desire
- Revisit definitions / Rebrand the program image
- Maintenance and sustainability processes developed and defined



# Wrap Up

