

# 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 united 12 formerly separate health entities into a fully-integrated health system
- Also brought together three provincial programs:
  - Alberta Alcohol and Drug Abuse Commission (AADAC),
  - Alberta Mental Health Board
  - Alberta Cancer Board
- Ground ambulance services were moved from municipalities to AHS in 2009



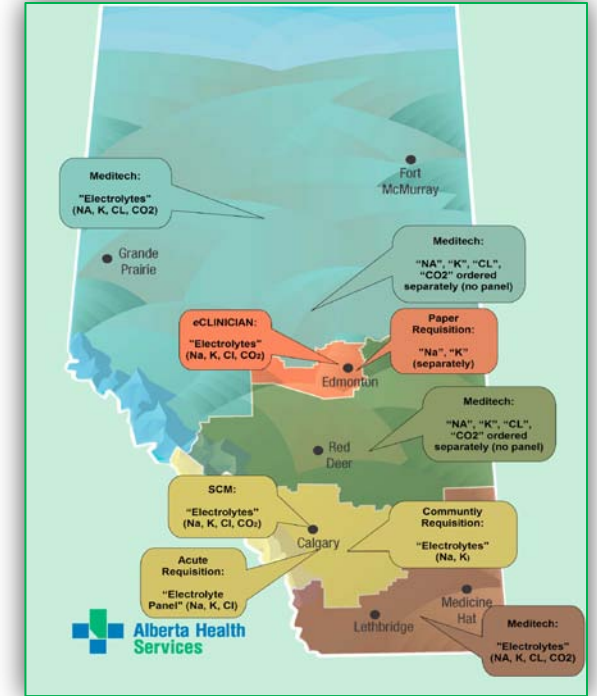
# Who is AHS now?

- Alberta Health Services (AHS):
  - delivers health services to over four million people
  - has ~ 108,000 employees (nurses/allied health/support staff)
  - 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
  - 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

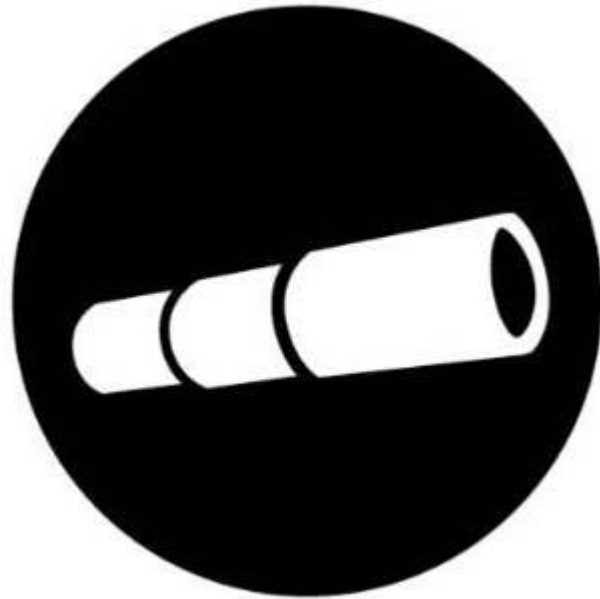
Cerner & Others

- Lab, Pharmacy, Diagnostic Imaging, etc.

Provincial CIS  
(TBD)

- Cross continuum provincial EHR

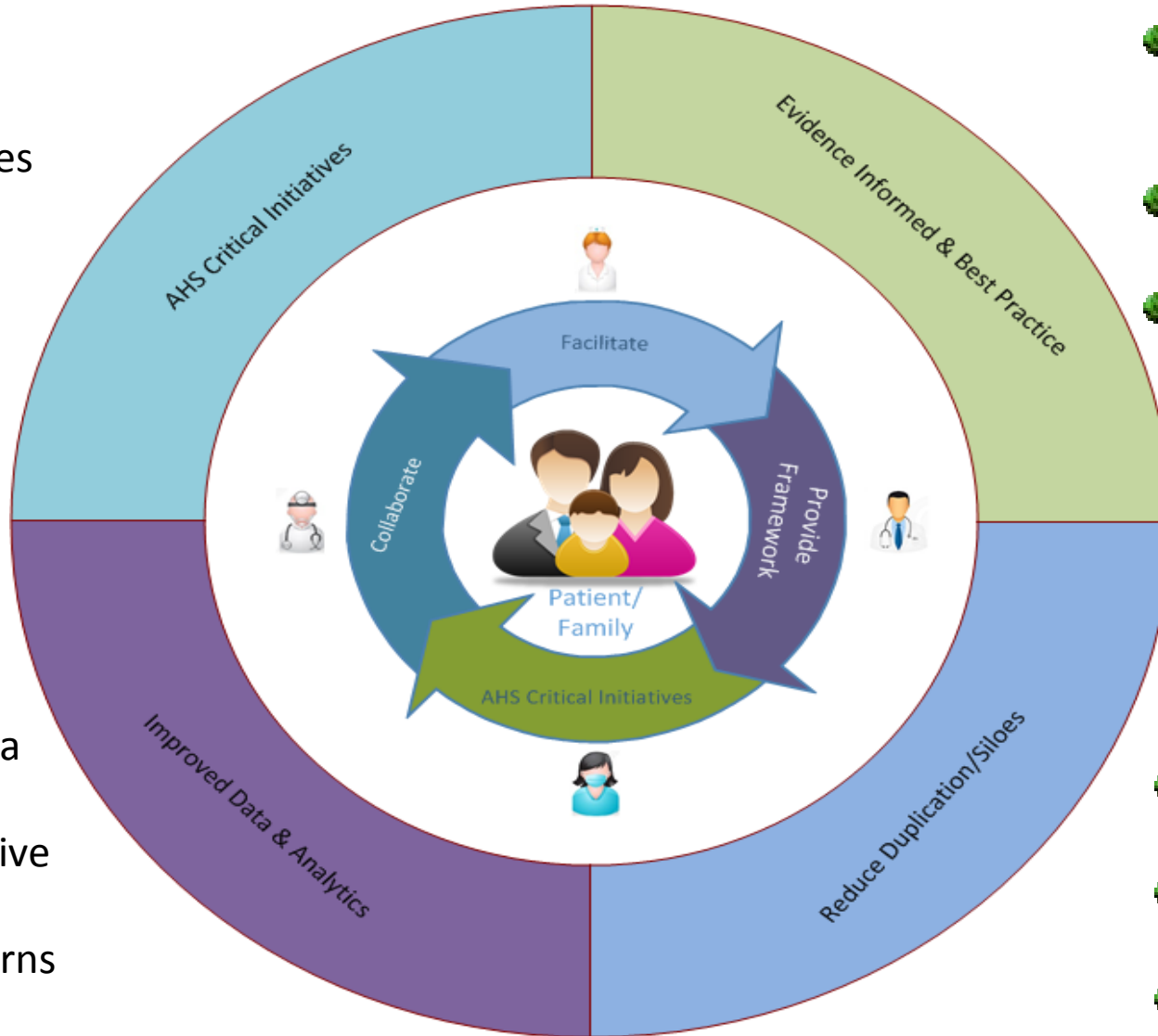
# Clinical Knowledge Vision





# What were the Organizational Drivers?

- Provincial CIS solution
- 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

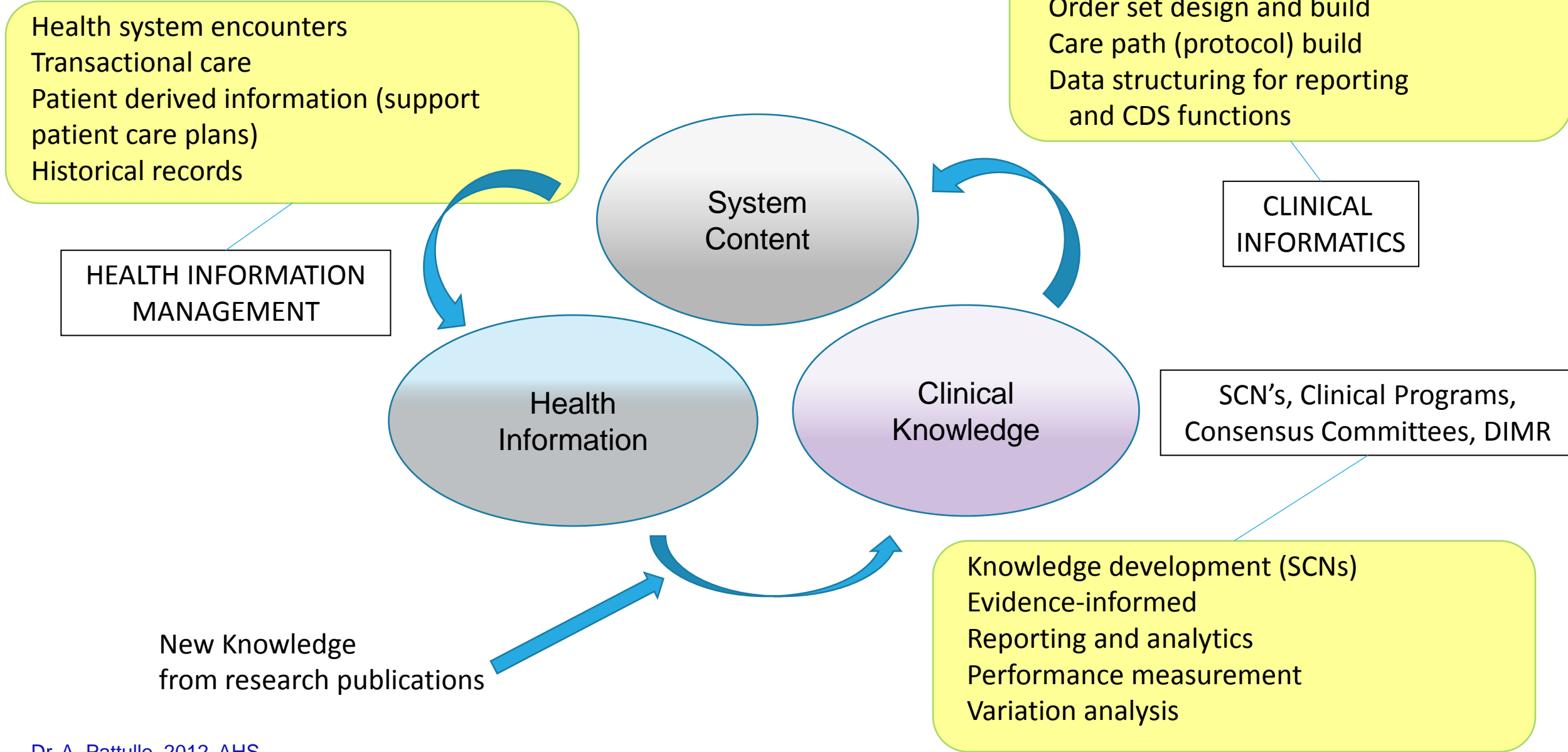
- Uptake eased by clinician participation in adaptation of guiding content



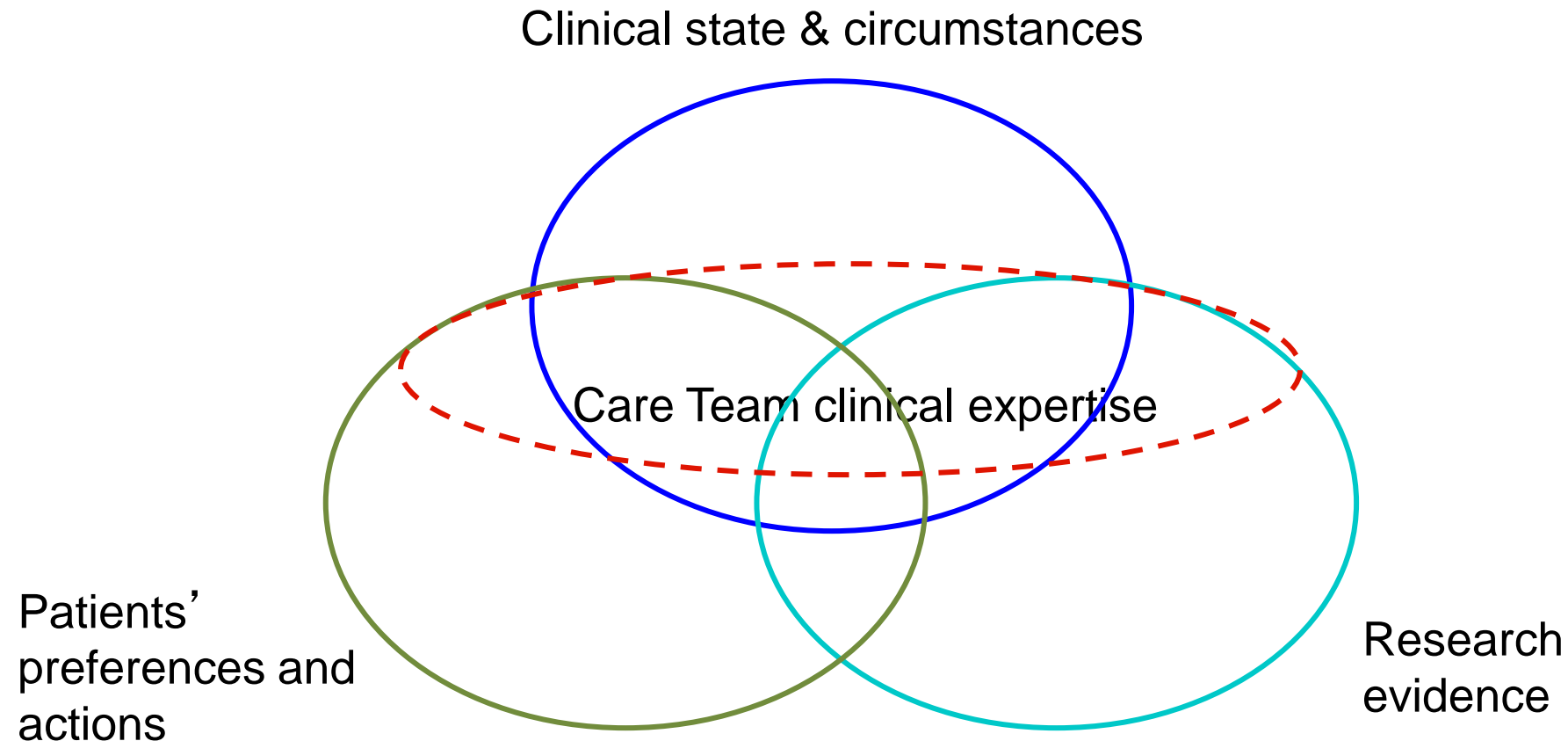
# Knowledge Definition and Concepts



# 1. Health Information, Knowledge and Content Model



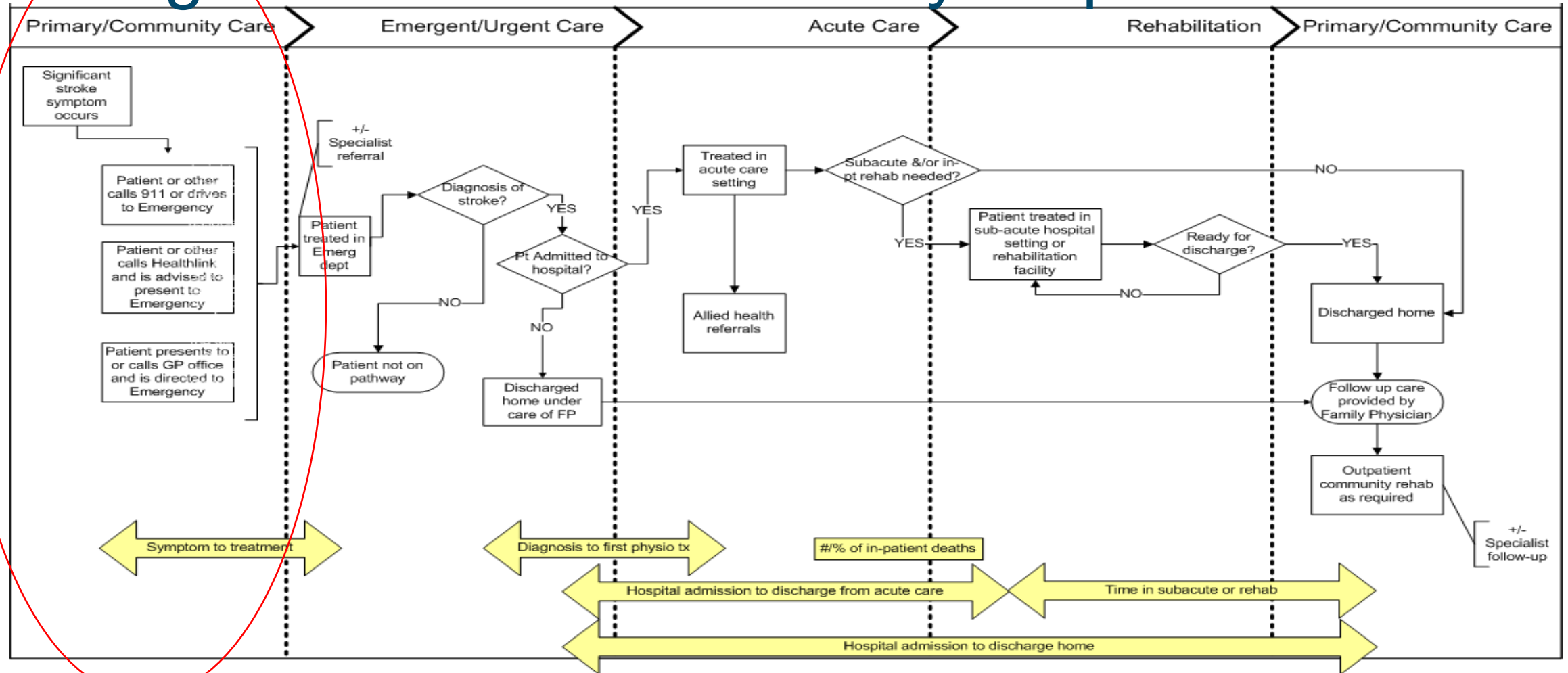
# 2. Evidence Based Medicine & More



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

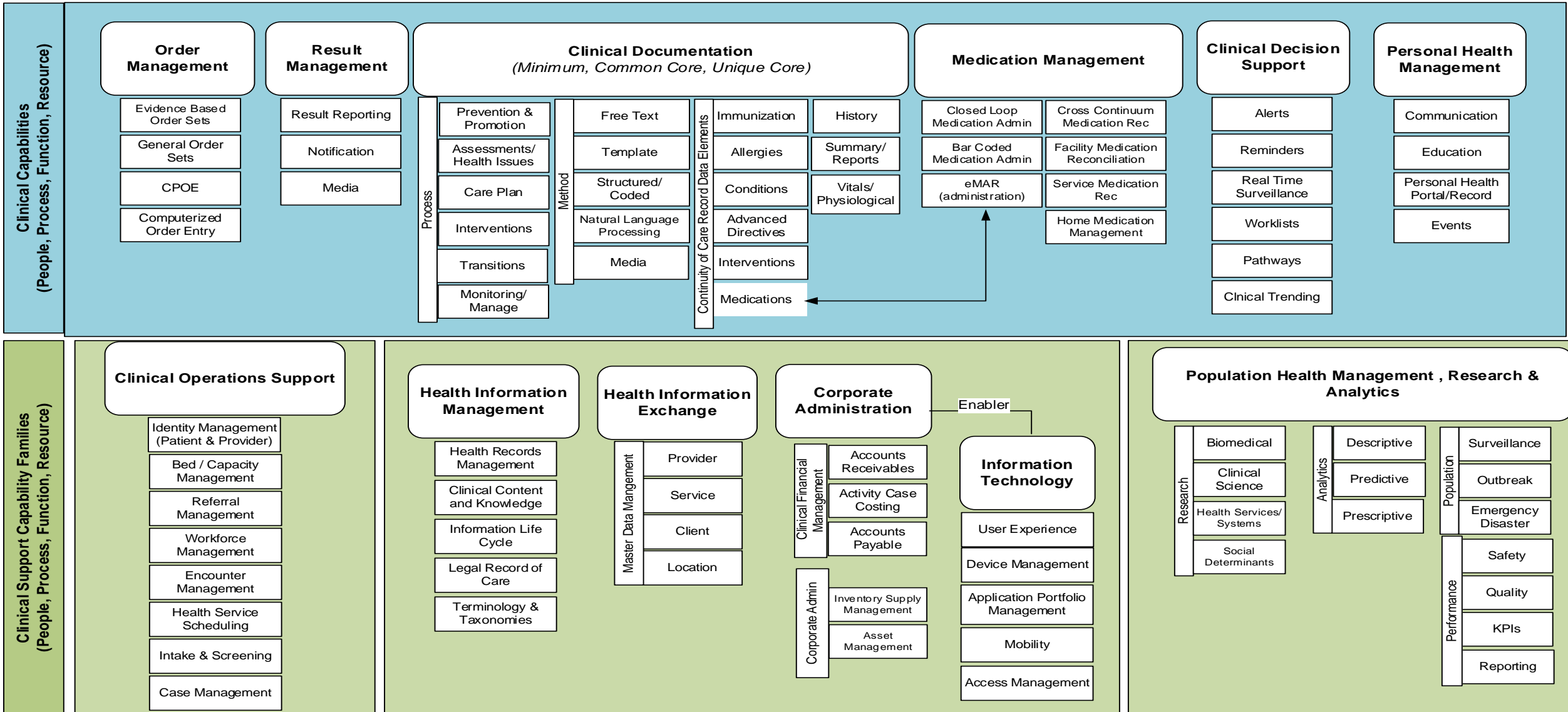
# Example: Patient Journey across the Continuum of Care for Acute Stroke

## 3. High-Level Patient Journey Map



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



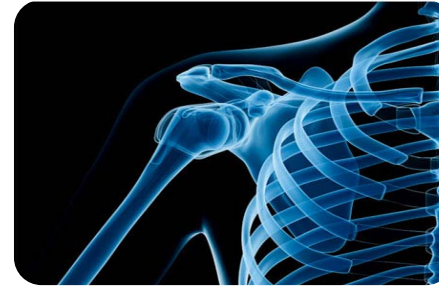
## 1. Learning Culture

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*



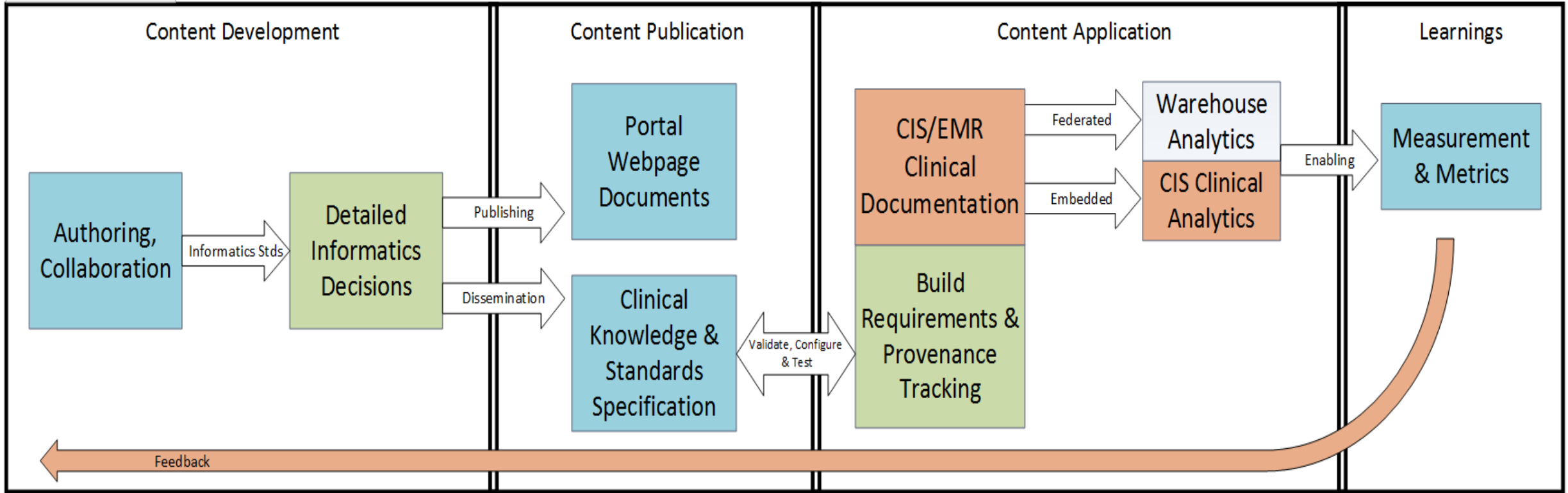
## 4. Health Care Technology

Tools to support the work  
*Collaboration*  
*Knowledge Repository*  
*Clinical Portal*  
*Interoperability to CISs*

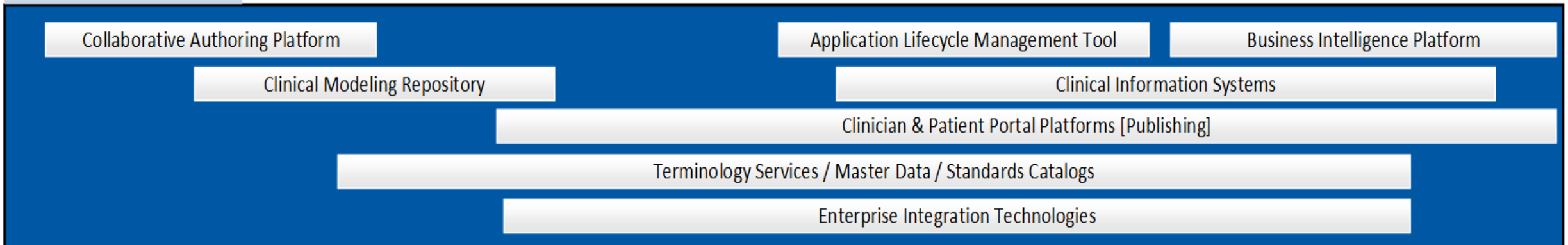
5. Governance - Decision Making Structures

# Information Architecture

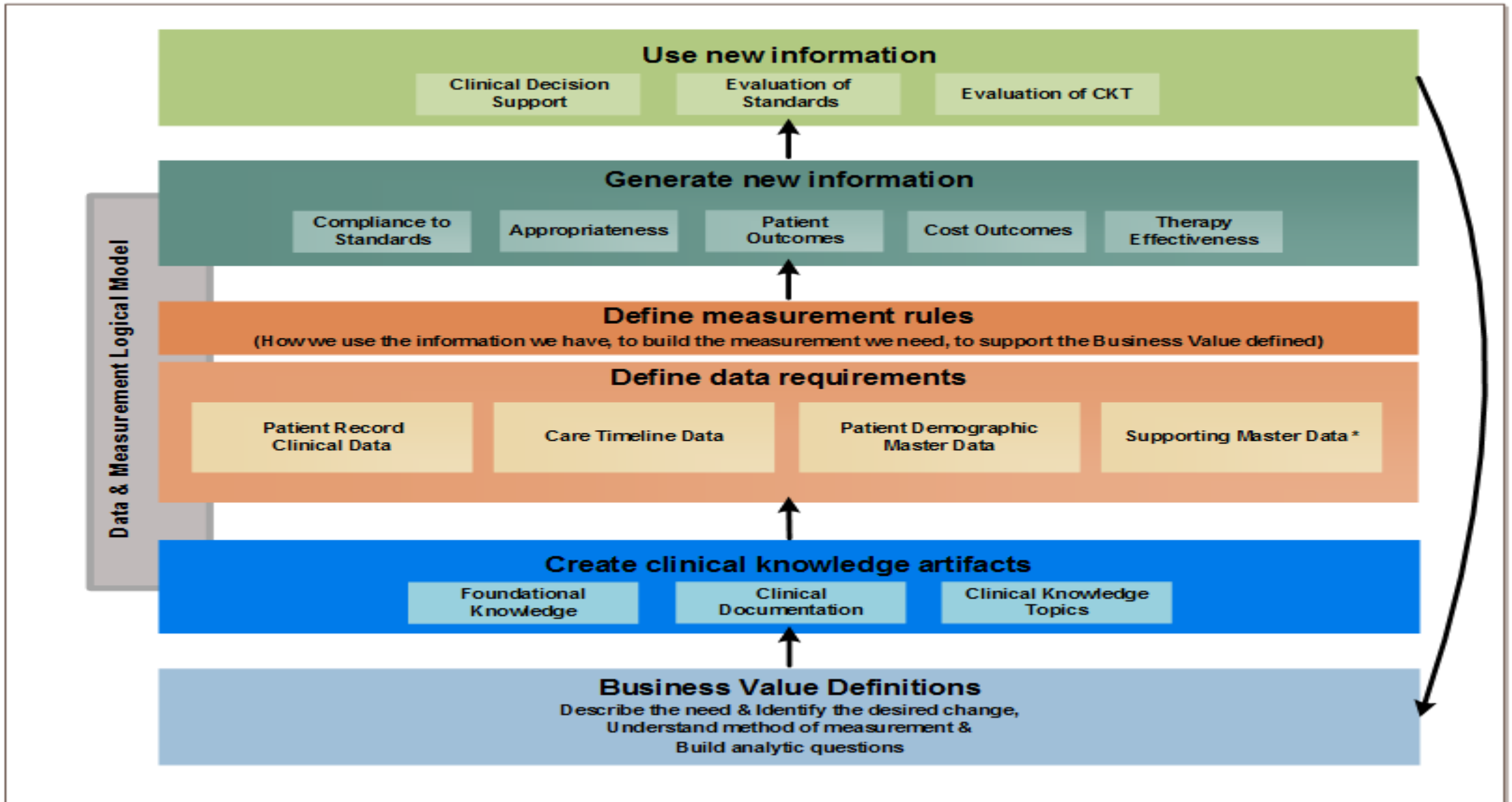
## Capabilities & Activities



## Enabling & Supporting Systems

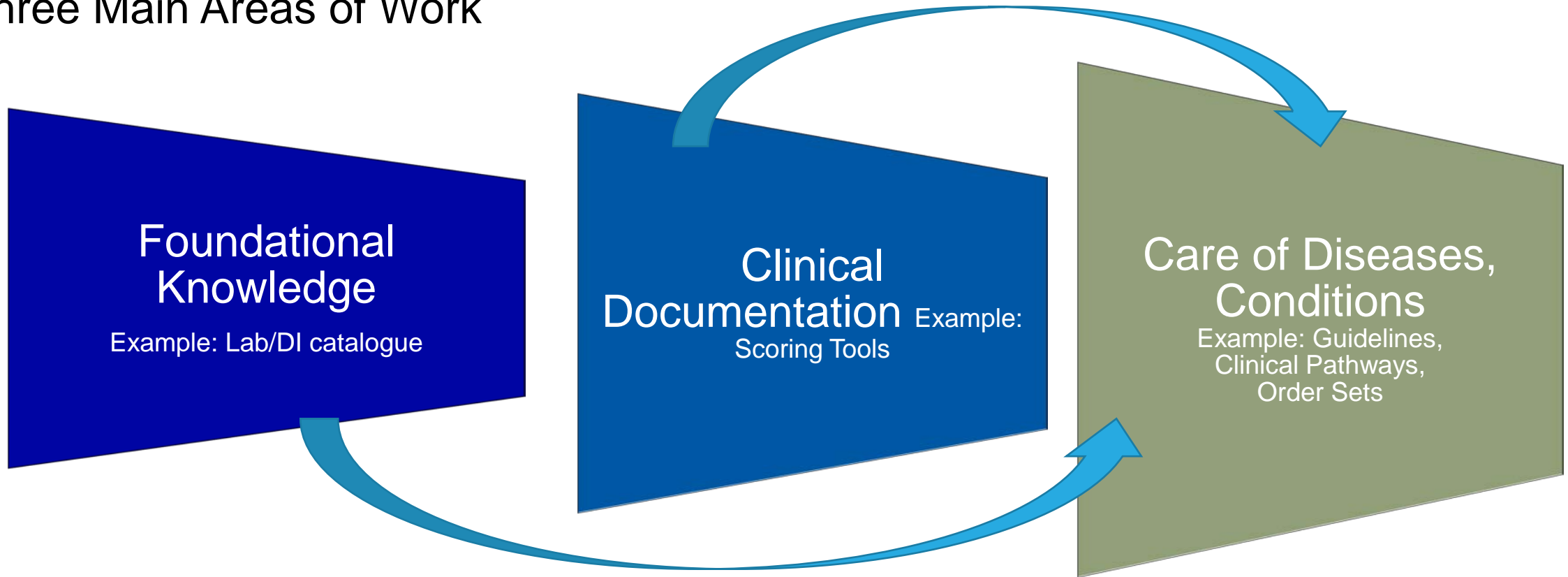


# Analytics Architecture



# Deliverables for the CIS/Paper Systems

Three Main Areas of Work



# 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)
  - participation in the program,
  - number of times guidance is accessed,
  - 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



“A JOURNEY OF A THOUSAND  
MILES BEGINS WITH A  
SINGLE STEP.”

*LAO -TZU*