

Kingston Health Sciences Centre

Centre des sciences de
la santé de Kingston



Transforming care, together™

Kingston Health
Sciences Centre

Centre des sciences de
la santé de Kingston



Hôpital
Hotel Dieu
Hospital



Hôpital Général de
Kingston General
Hospital



The new HIS at KHSC and its potential for impact

Troy Jones
Chief Operating Officer
KHSC

February 3, 2020



Hôpital
Hotel Dieu
Hospital

KGHI Hôpital Général de
Kingston General
Hospital

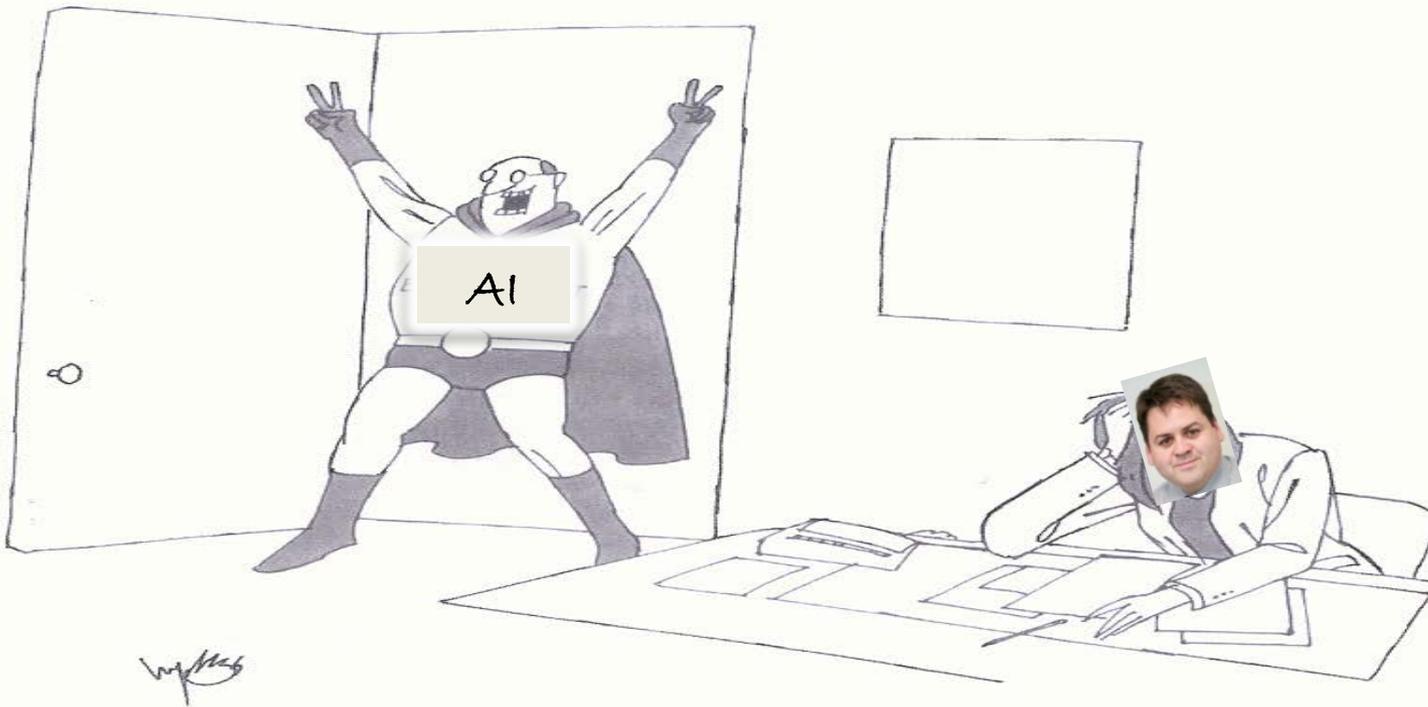
Kingston Health
Sciences Centre

Centre des sciences de
la santé de Kingston

Observations of a COO

- *Artificial Intelligence*
- *Current State of our Data*
- *Health Information System at KHSC*
- *Success along the way*

Warning





EMERGENCY | URGENCE

AMBULANCE

PARAMEDIC 4181

PARAMEDIC 4176

PARAMEDIC 4120

AMBULANCE

PARAMEDIC 911

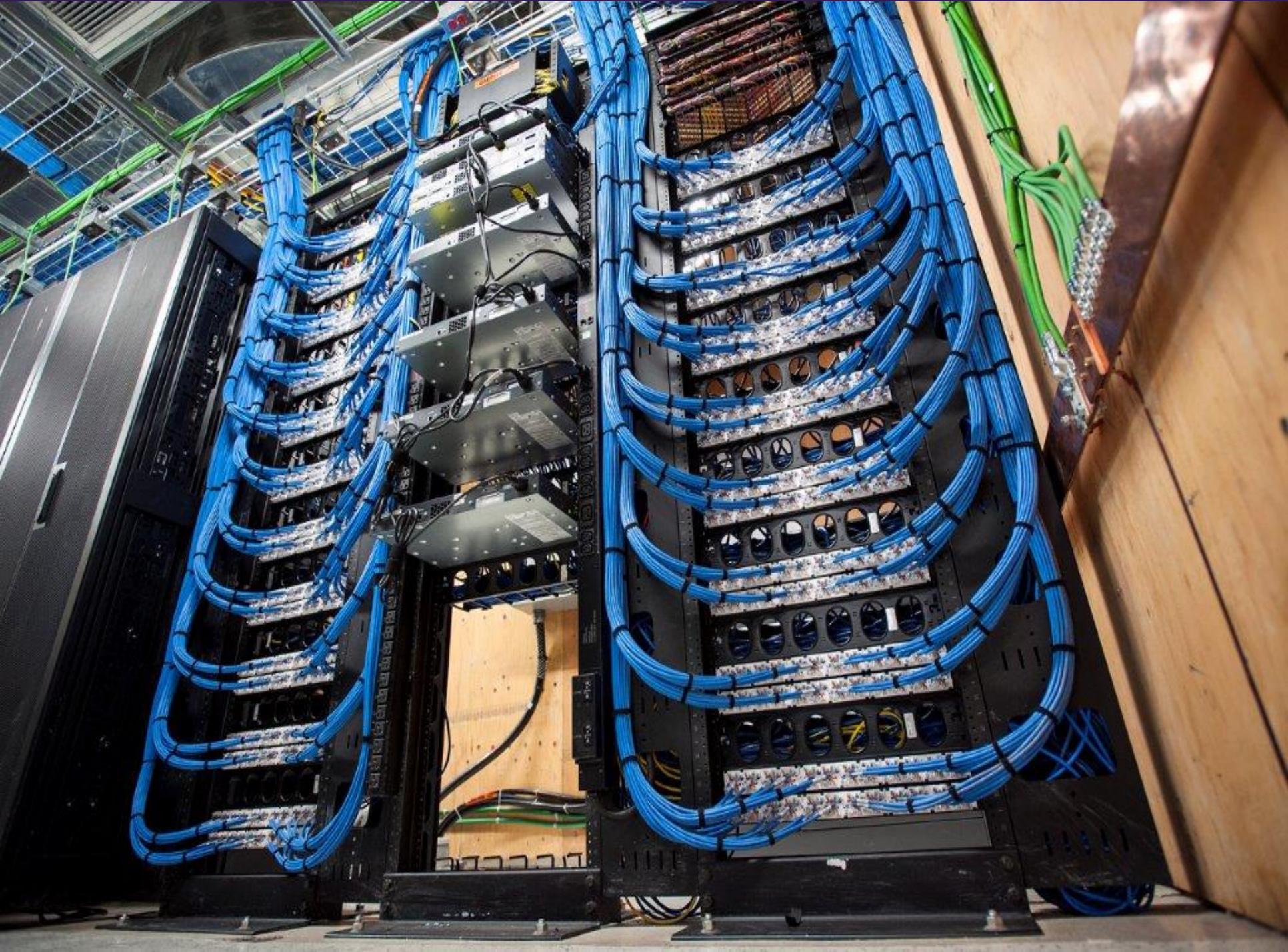
AMBULANCE

683-5XJ











Disclosure



Patients

Respectful, Compassionate, High Quality Care

People

Working in a Collaborative Interprofessional Team with Clear, Consistent, Appropriate Roles

Collaboration & Coordination
Across the Continuum



Effective Communication

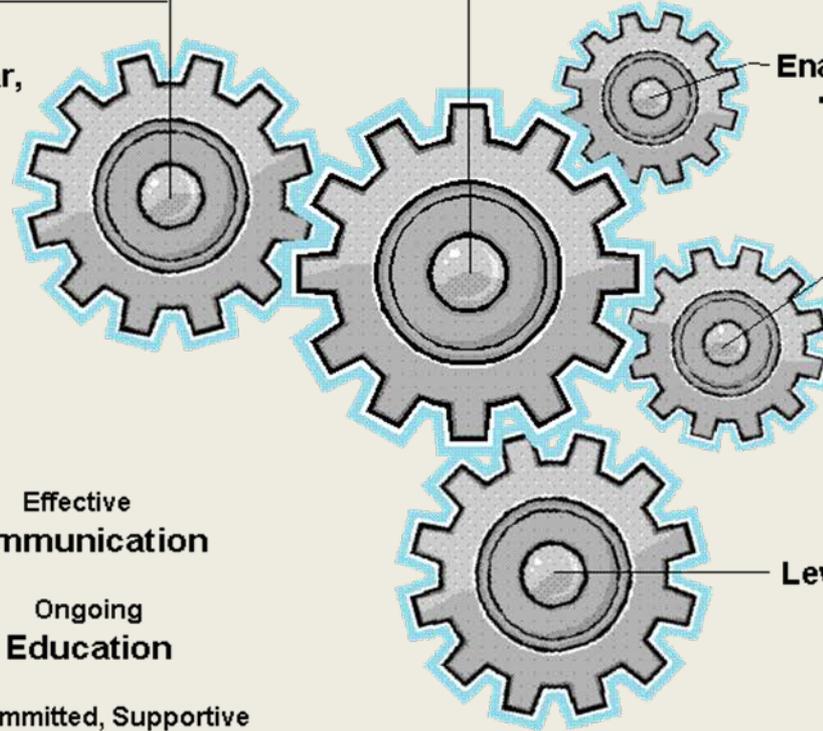
Ongoing Education

Committed, Supportive Leadership

Enabled by Accessible Technology

Accessing Timely, Accurate Information to Support Decision Making

Leveraging Efficient, Effective Processes



We've entered a period of upheaval, driven by connectivity, artificial intelligence and automation.

The changes affect the world of business so profoundly that every company is now a tech company.

Christopher Mims, WSJ

Wall Street Journal

Every Company Is Now a Tech Company

December 4, 2018



Kingston Health
Sciences Centre

Centre des sciences de
la santé de Kingston

AI in health care is of huge value.

The potential is high.

AI has taken longer to be applied in health care than most other industries.

Paper Based Collection & Storage



Hôpital
Hotel Dieu
Hospital



Hôpital Général de
Kingston General
Hospital

Kingston Health
Sciences Centre

Centre des sciences de
la santé de Kingston

Digital Health Collection & Storage



Hôpital
Hotel Dieu
Hospital

KGH Hôpital Général de
Kingston General
Hospital

Kingston Health
Sciences Centre

Centre des sciences de
la santé de Kingston

Disparate Systems - Integrated Care?



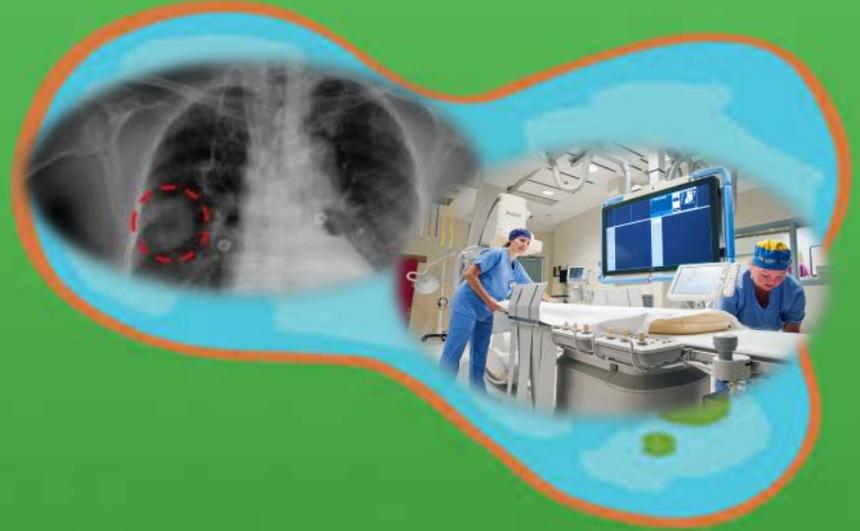
Integrated System?



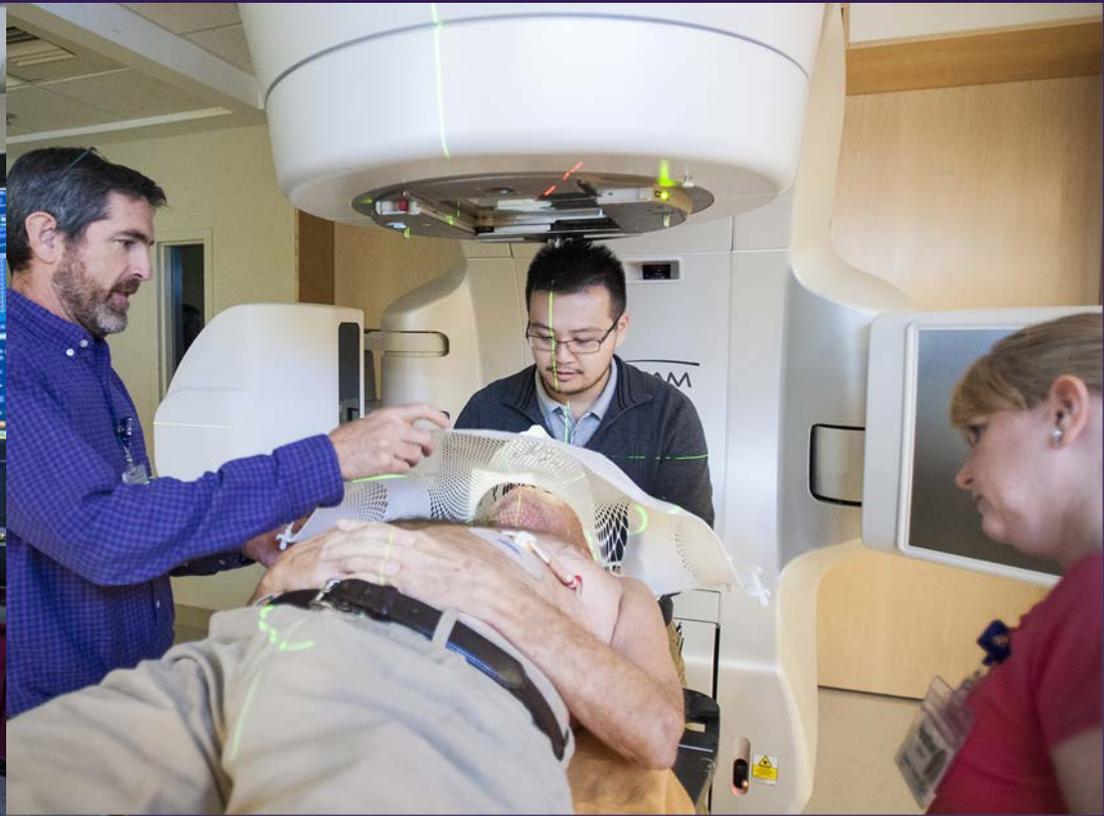
Kingston Health
Sciences Centre

Centre des sciences de
la santé de Kingston

Fragmented clinical care/data ponds...



Today's AI is based on algorithms that parse gigantic data sets



Data sources must be automated to enable deep learning that allows clinicians, researchers and administrators to draw conclusions from huge amounts of data



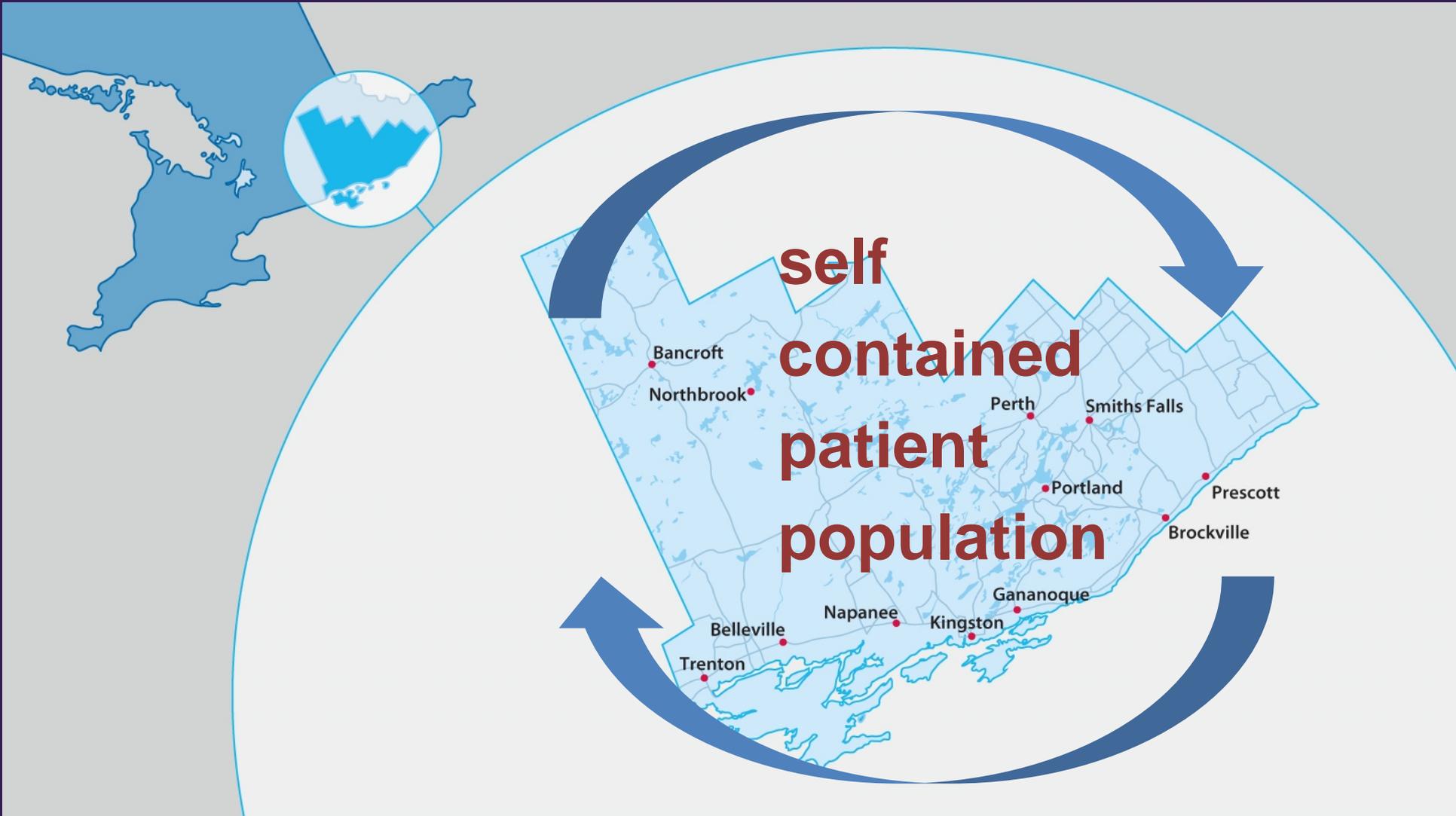
The new HIS will:

- standardize clinical workflows
- Increase digital health delivery
- Integrated care
- improve data quality & visibility

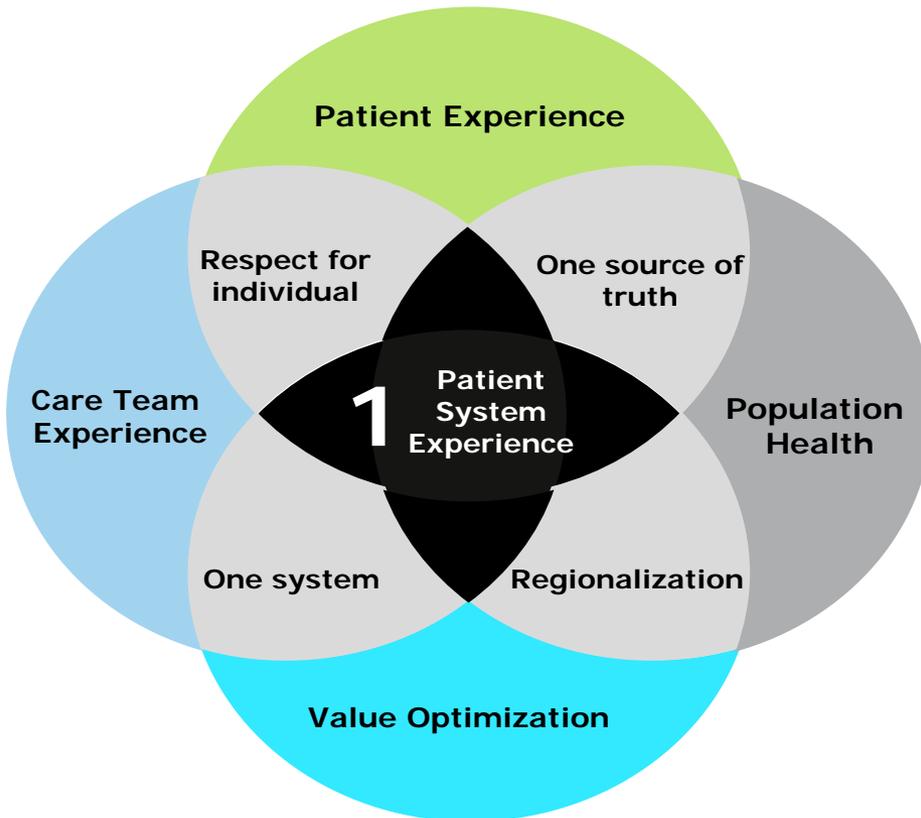
Kingston Health
Sciences Centre

Centre des sciences de
la santé de Kingston

South East Strengths



Future: Health Information System



Patient Experience

- Enhance transitions and decrease variations in care resulting in safer, more accessible services

Care Team Experience

- Access to clinical care pathways and leading practices, standard processes, and tools to enable improved care delivery across sites seamlessly

Population Health

- Effectively evaluate and track health outcomes with the use of advanced analytics

Value Optimization

- Achieve improved cost management through reduction in duplicate spend on systems, paper management processes, and resources

Regional HIS Benefits

- ✓ Better care coordination from primary care through long-term care
- ✓ Better quality & safety, ↓ med errors, ↑ standard documentation, ↓ duplication
- ✓ Better patient outcomes
- ✓ Better care, better cost
- ✓ Improved data availability and support for academic research



What's the HIS impact on AI?

- ✓ Better data collection at source
- ✓ Better management and storing of data
- ✓ Better means of consuming data with analytical insights
- ✓ Gigantic clinical data sets for AI & ML
- ✓ Better care, better cost



HIS Journey

2017

2018

2019

2020



Business Case



TCO



Board Approval



Gather Requirements



Scoring Criteria



Request for Proposal



MOU Document



Strategic Questions & Key Patient Journeys



Financial Strategy



Functional Demonstrations



Preferred Proponent



Board Approval



Readiness & Preparedness



Negotiations



Partnership Agreement



Implementation Begins

Computers in Health Care ... Why bother??



Hôpital
Hotel Dieu
Hospital



Hôpital Général de
Kingston General
Hospital

Kingston Health
Sciences Centre

Centre des sciences de
la santé de Kingston



Lessons from the KHSC Lab Automation

- ✓ Clean & Complete Data
- ✓ Providers supported to focus on clinical practice
- ✓ Consistent Performance for Providers, Patients & the system



Hôpital
Hotel Dieu
Hospital



Hôpital Général de
Kingston General
Hospital

Acute ALC risk prediction algorithm



Dr. Siddhartha Srivastava
Assistant Professor
General Internal Medicine
KHSC / Queen's University

Using outputs from CIHI's Population Grouping Methodology:

- ✓ *Identify patient risk factors for ALC*
- ✓ *Combine CIHI's data with additional health service use data*
- ✓ *Develop ALC risk prediction algorithm for acute care hospital use*
- ✓ *Use patient risk status to drive early discharge planning*



National CIHI Data Sources



Image the possibilities ...





Thank you

Troy Jones
Chief Operating Officer
Kingston Health Sciences Centre

Email: troy.jones@kingstonhsc.ca



Kingston Health
Sciences Centre

Centre des sciences de
la santé de Kingston