ONE STEP AT A TIME

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The System Awakens
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OVERVIEW

Moving from Learning Projects to Learning Programs to Learning Health System

I will use an example from Ontario in implementing Bundled Care / Integrated Funding to assess how we can use elements from learning health systems to make system change:

- Using data to identify issues
- Evidence-informed transformation
- Implementation informed by Implementation Science
- Data-driven monitoring and adaptation informed by Quality Improvement Science
- Realist-informed health system evaluation
- Scale and spread

That's a lot of jargon … what does it mean?

ELEMENTS OF A LEARNING HEALTH SYSTEM IN PRACTICE

Using data to identify issues

- There is a high concentration of users of health care in Ontario : So what ?
- What kinds of care are high users using ?

Evidence-informed transformation

- What can we do about such high users ?
- Care Pathways, Bundled Care and Integrated Funding

Implementation-science informed implementation

- What is the context for implementation : capabilities, barriers, facilitators?
- What are the essential mechanisms/approaches required to integrate care

Data-driven monitoring and evaluation

- Using timely data to monitor & pivot/adjust; robust data for evaluation

Scale and spread

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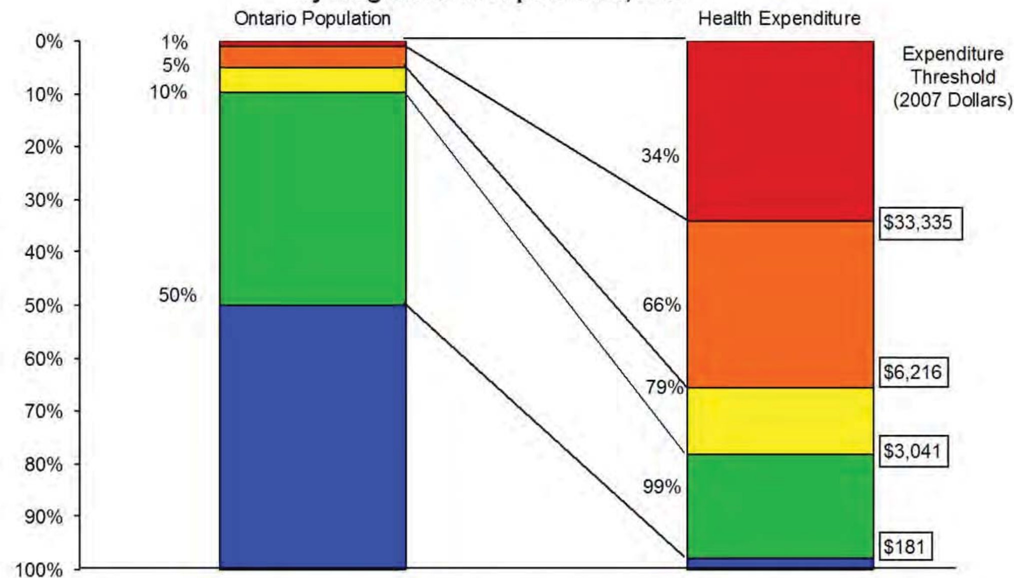
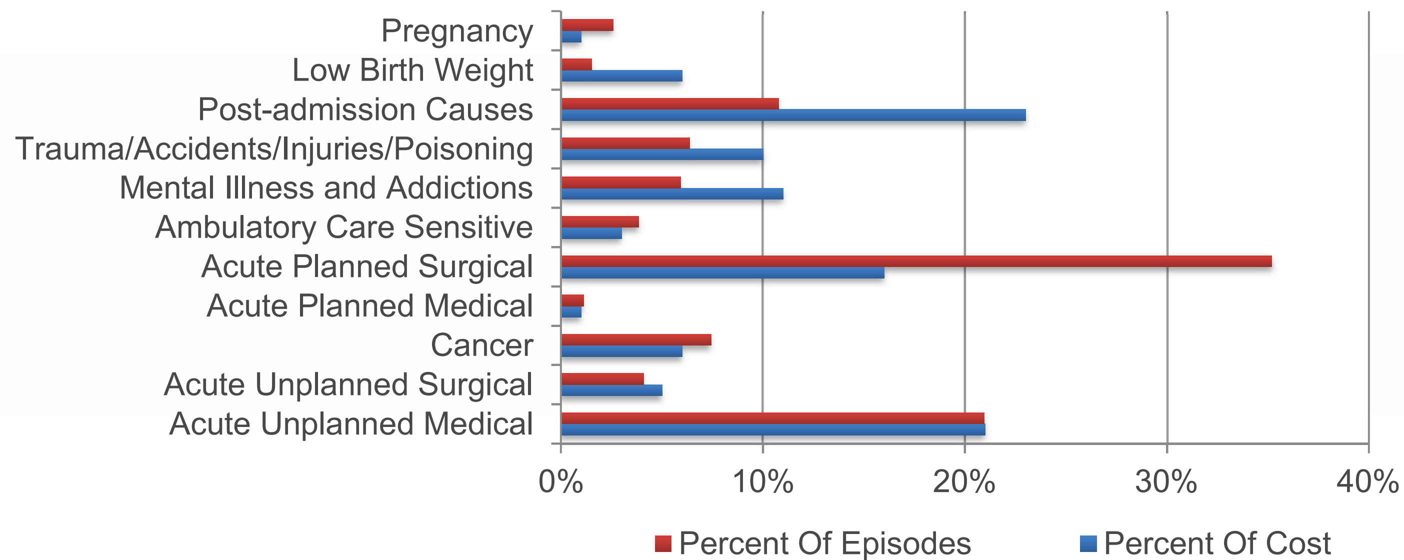
CIRCA 2007 – HIGH COST USERS



On average, health care spending is highly concentrated with the top 5% of the population (ranked by cost) accounting for 66% of expenditure

Wodchis et al., CMAJ Open 2016

TYPES OF HIGH COST EPISODES



Guilcher et al., PLOS One 2016

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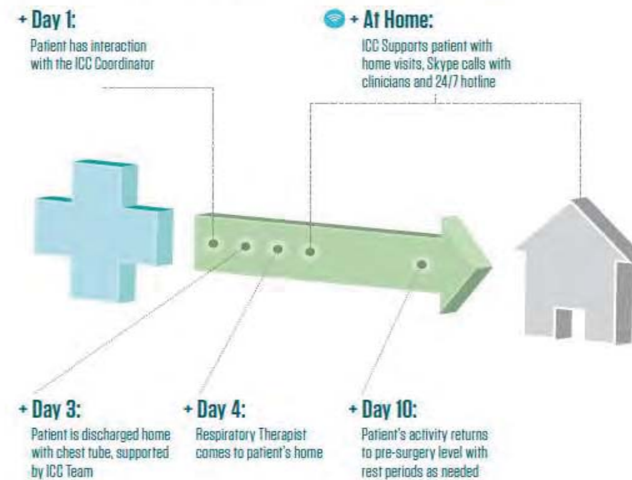
BUNDLED CARE/INTEGRATED FUNDING MODEL



St. Joseph's HEALTH SYSTEM

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BUNDLED CARE / INTEGRATED FUNDING MODEL

- Ministry of Health Supported 6 Demonstration Projects to test bundled/integrated funding in different patient population groups

  Planned and Unplanned Surgery
  - Cardiac Surgery

  Unplanned Medical
  - Stroke
  - COPD/CHF (3 sites)
  - Infections

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EVIDENCE INFORMED CARE

Quality-Based Procedures: Clinical Handbook for **Stroke (Acute and Postacut**

Health Quality Ontario and
Ministry of Health and Long-Term Care

December 2016
(Revised, originally published February 2015)

This handbook includes, in its acute phase, an update of the Clinical Handbo
for Stroke published in April 2013.

Quality-Based Proc
Clinical Handbook f
Coronary Artery Dis

Cardiac Care Network of Ontario &
Ministry of Health and Long-Term Care

March 2016

Quality-Based Pr
Clinical Handboc
**Heart Failure (A
and Postacute)**

Health Quality Ontario &
Ministry of Health and Long-Term Care

February 2015

(This handbook includes, in its acute phase, an update of the
for Congestive Heart Failure, published in April 2013.)

Quality-Based Procedures: Clinical Handbook for **Chronic Obstructive Pulmonary Disease (Acute and Postacute)**

Health Quality Ontario &
Ministry of Health and Long-Term Care

February 2015

(This handbook includes, in its acute phase, an update of the Clinical Handbook
for Chronic Obstructive Pulmonary Disease, published in April 2013.)

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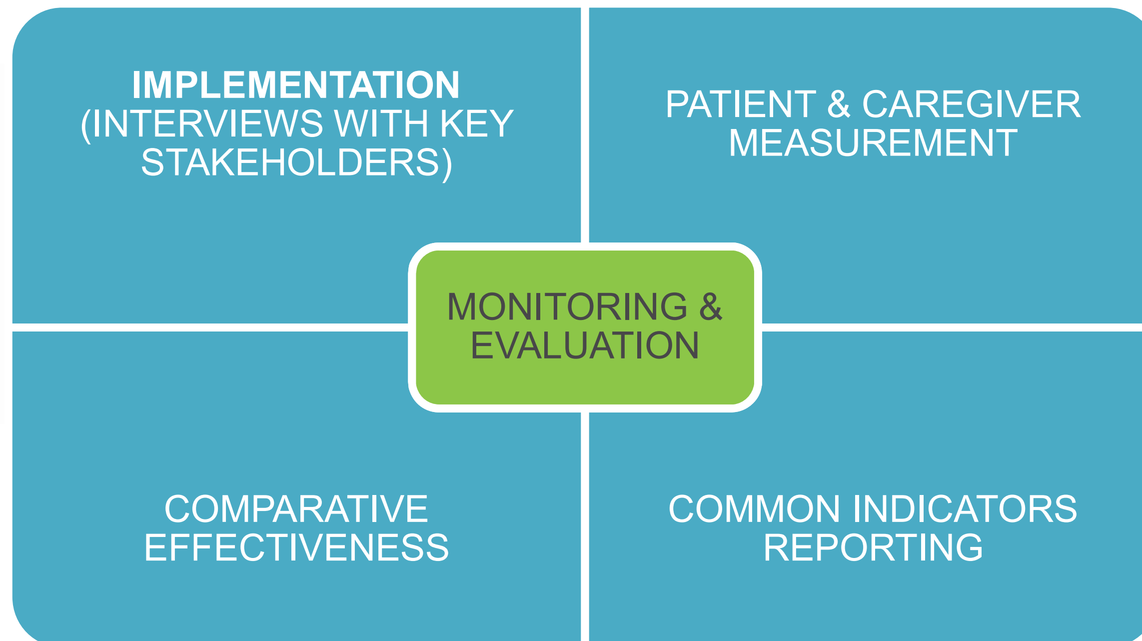
REALIST-INFORMED HEALTH SYSTEM EVALUATION

HSPRN EVALUATION FRAMEWORK

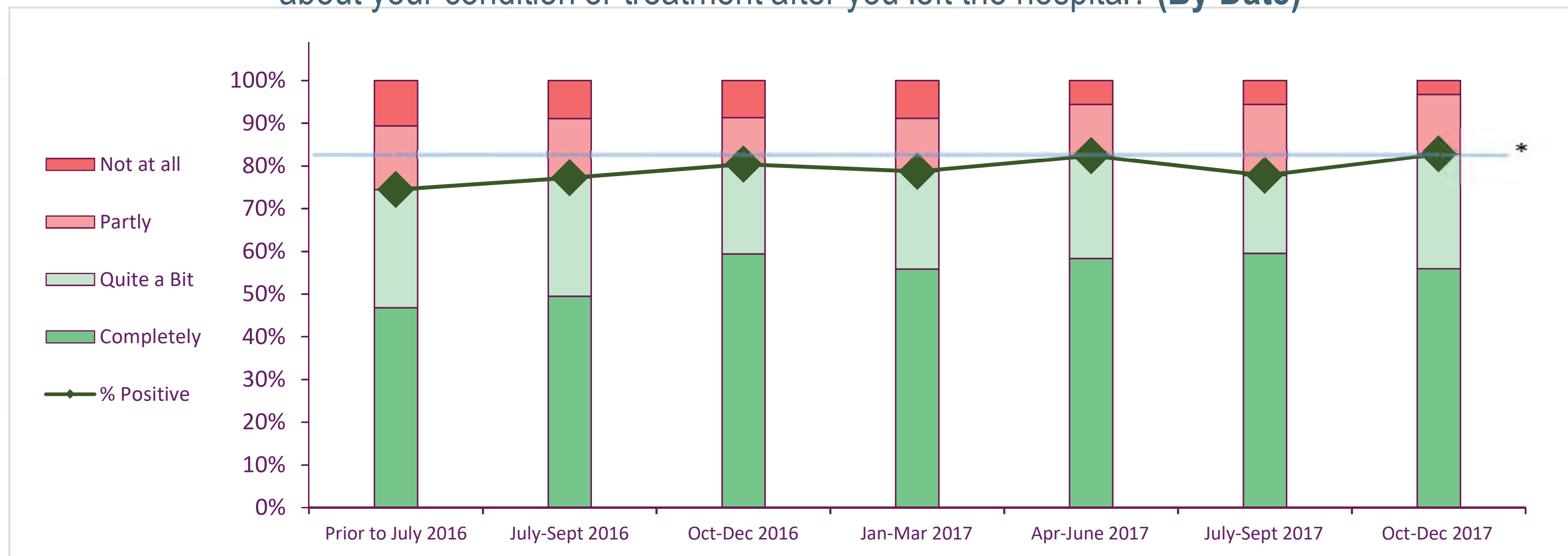


IMPLEMENTATION LEARNING

1. Building on existing partnerships & priorities
2. Good relationships/trust among partners
3. Strong leadership; belief in model
4. LHIN (Health Region Payer) leadership and involvement
5. Program cohesiveness at operational and implementation levels
6. Physician engagement
7. Navigator/ Coordinator role

PATIENT & CAREGIVER MEASUREMENT

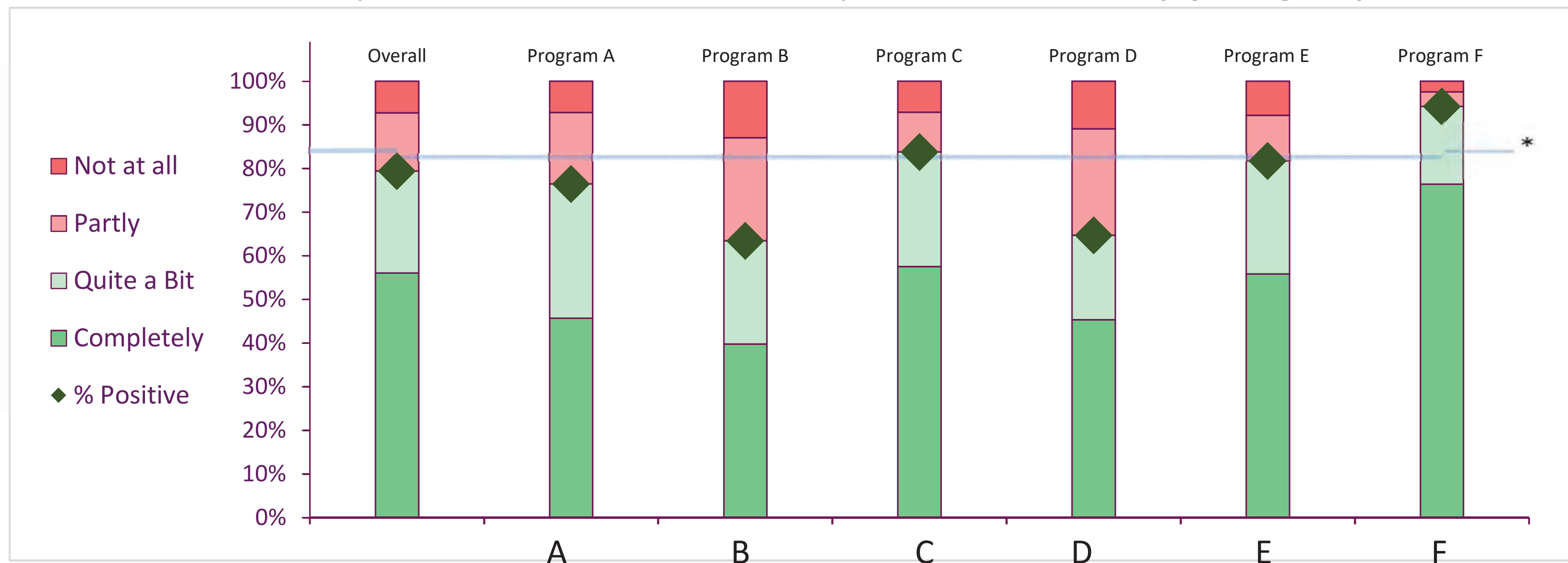
Question 10. Did you receive enough information from hospital staff about what to do if you were worried about your condition or treatment after you left the hospital? **(By Date)**



In fiscal year 2016-17, 82.6% of 32,052 Ontario medical/surgical patients selected *usually* or *always* to the same question on the Canadian Patient Experiences Survey – Inpatient Care (CPES-IC) (* indicated by blue line on the charts below).

PATIENT & CAREGIVER MEASUREMENT

Question 10. Did you receive enough information from hospital staff about what to do if you were worried about your condition or treatment after you left the hospital? **(By Program)**



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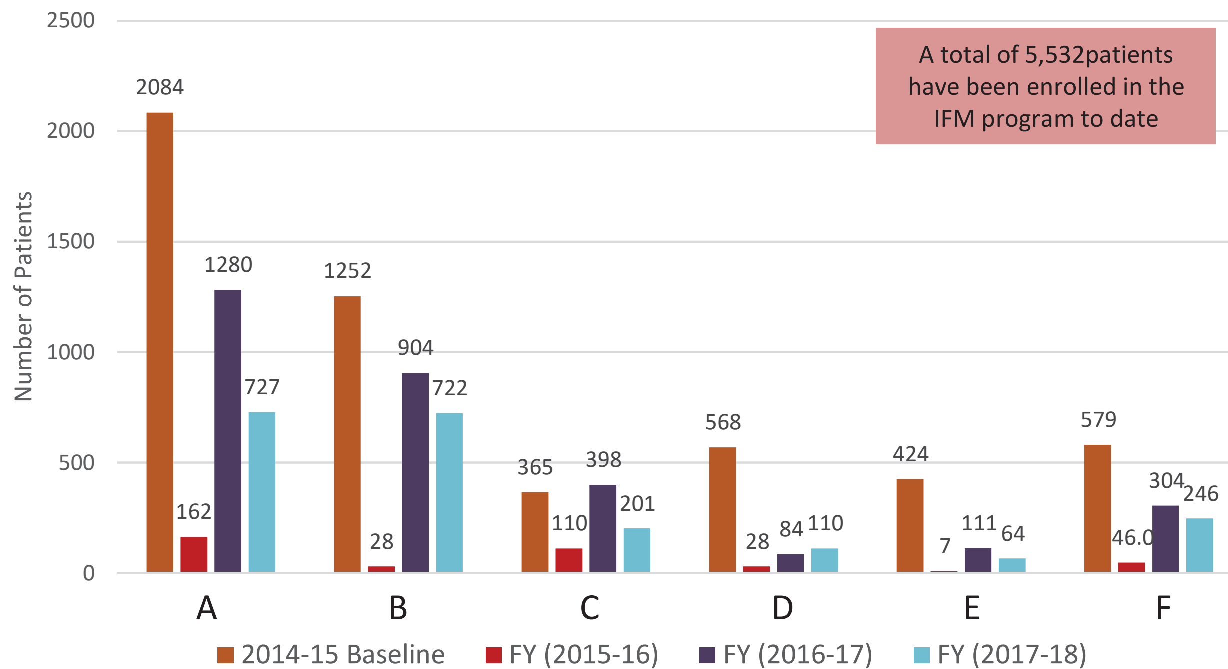
COMMON INDICATOR [SELF] REPORTING



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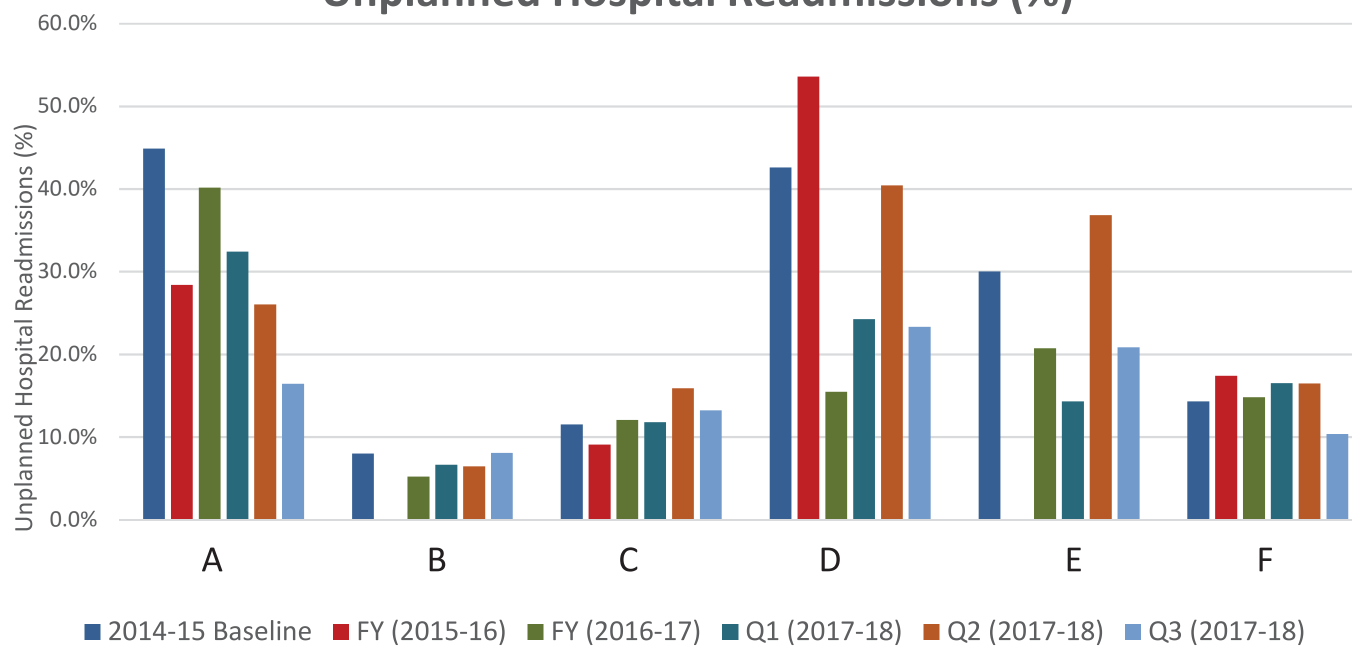
COMMON INDICATOR [SELF] REPORTING



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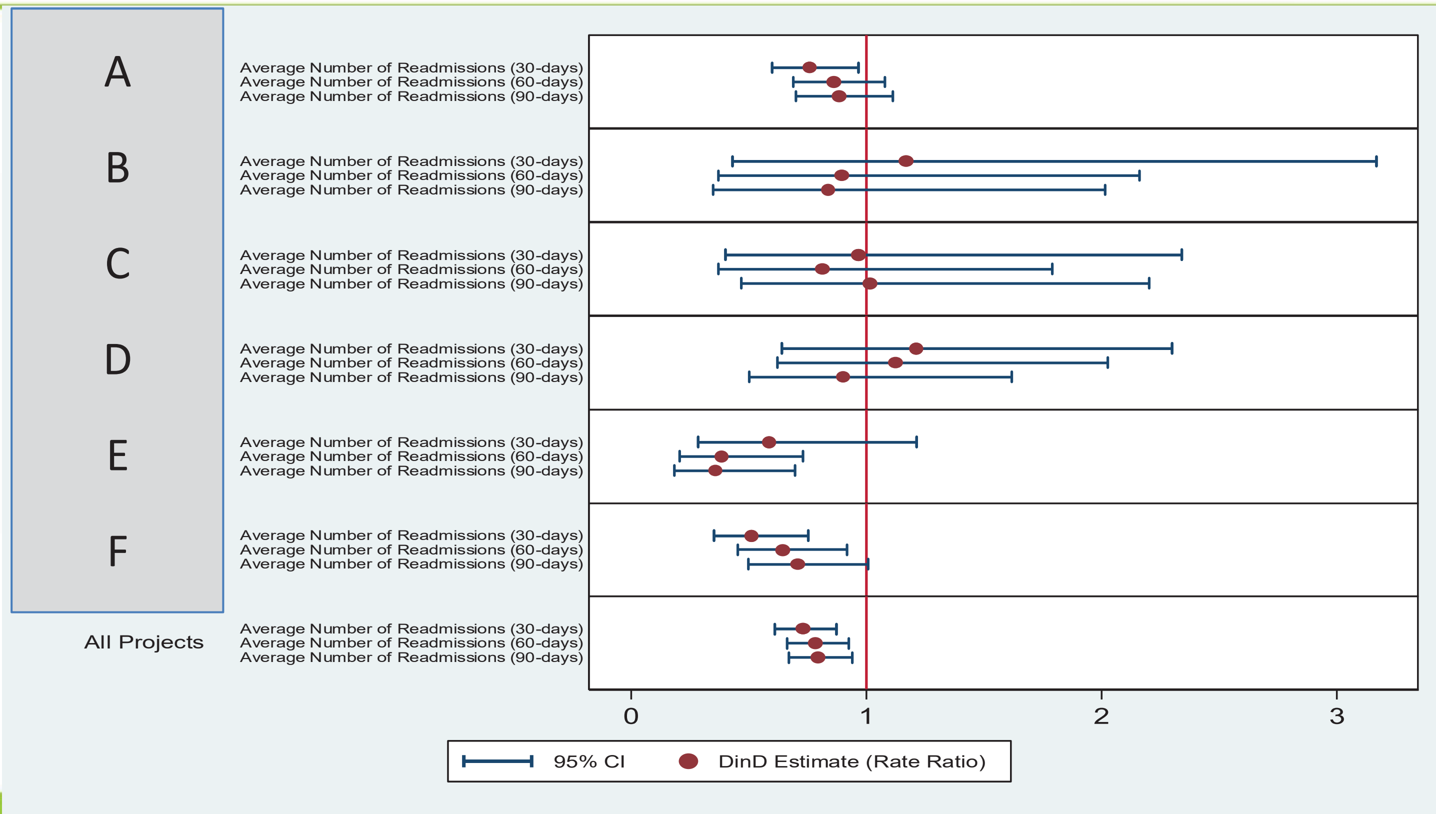
COMPARATIVE EFFECTIVENESS EVALUATION

1. Difference pre-post IFM implementation for patients from IFM facilities
2. Difference pre-post for patients from comparator facilities identified by each program
3. The difference of these changes over time (Difference-in-Differences)

	IFM Facilities	Comparator Facilities
Intervention Period	A	B
Historical Period	C	D
First (pre-post) Difference	A-C	B-D
Difference-in-Differences	(A-C) - (B-D)	

Because not all patients are enrolled we have undertaken extensive matching of pre versus Post and intervention versus control patients on Age, Sex, and 10+ matching variables)

PRELIMINARY BUNDLED CARE/IFM RESULTS: READMISSIONS



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TOWARD A LEARNING HEALTH SYSTEM

- Key Outcome: Go Fast with Planned Surgeries; Go Slow with Medical

- Learning what works, for whom and in what context
  - Medical patient success has been observed in reducing initial length of stay in some projects and readmissions among some patients
  - Patients in medical programs often refuse program to maintain existing home care

- System Response:
  - Provincial Implementation of Hip and Knee Bundles in 2018/19;
  - Hip Fracture, Cardiac and others to come in 2019/20
  - Further study for full-year payments for chronic medical conditions

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THE WAY FORWARD: STANDARDIZING THE APPROACH

1. **Using tacit knowledge along with data to identify issues. Suggested criteria for action:**
   A. Large system burden; B. Gap between actual and potential performance;
2. **Evidence-informed transformation**
   A. Evidence-based/informed strategies exist; B. Local capability and willingness for improvement;
3. **Implementation-science informed implementation**
   A. Attention to local context and adaptation while retaining essential fidelity
4. **Quality Improvement Science / data-driven monitoring and evaluation**
   A. Focused, Timely, Patient-Centred measurement & reporting; B. Evolve !
5. **Scale and spread**

LEARNING HEALTH SYSTEMS

PATIENT-CENTERED LEARNING HEALTH SYSTEMS THE BEST WAY FORWARD

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