

A Benefits Realization Management Strategy for EMR Implementation

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Framing the Conversation

“Success is about navigating cascading circumstances and, if it works out, you use revisionist history to act like you knew what was going to happen all along.”

Jim Balsillie, 2015
Co-Founder, RIM

Risky approach...likely not in our best interest

Objectives for Today

Using the Benefits Realization strategy to drive:

- Clinical quality
- Patient safety
- Operational benefit
- Return on Investment

Adapting the framework from Project Planning to Execution to Operations

No Conflict of Interest to declare





Children's Hospital of Eastern Ontario

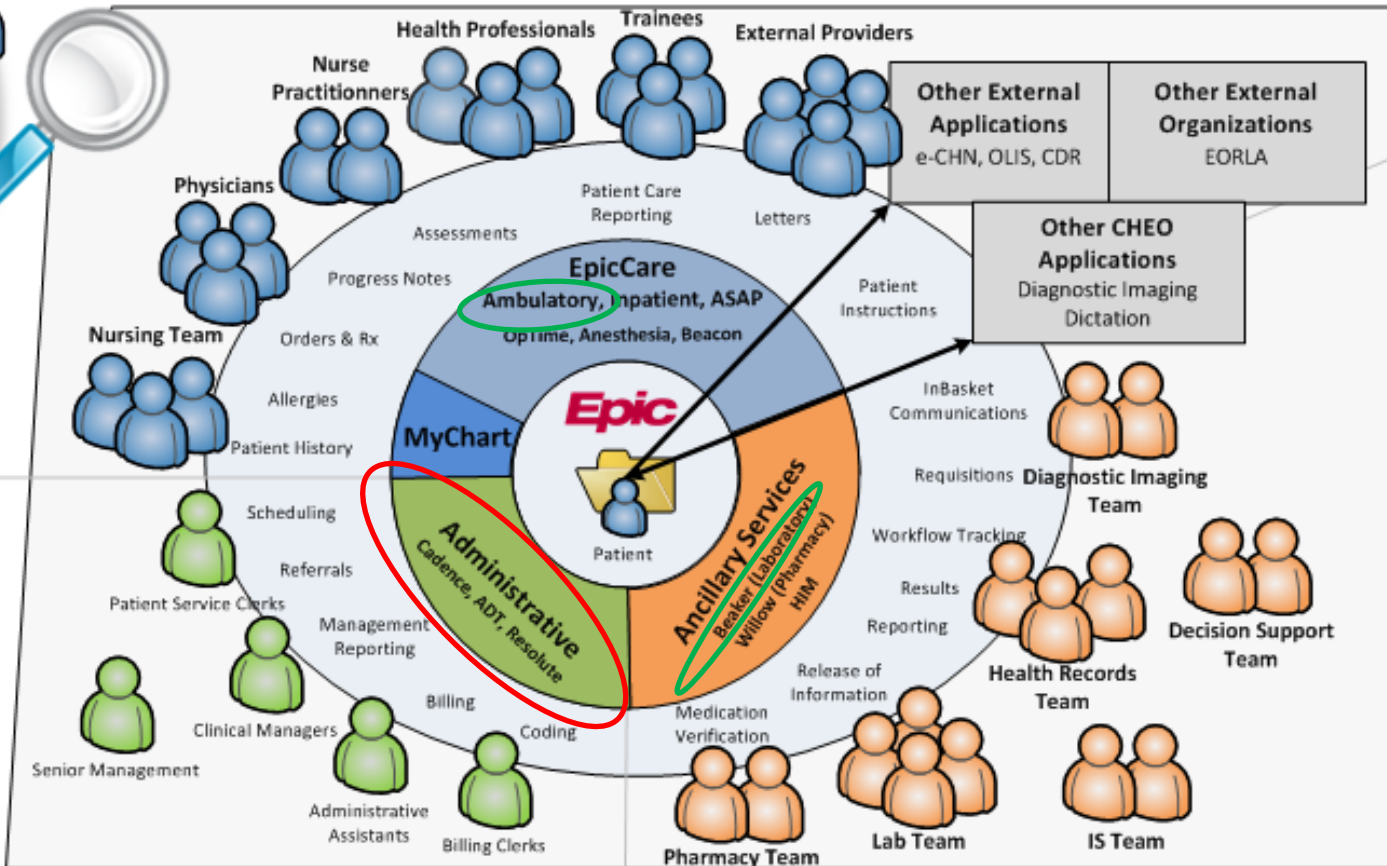
- ❖ 167 bed tertiary care hospital
- ❖ Referral Base: ~ 2 million
 - 194,000 outpatient visits to 63 specialty clinics
 - Regional trauma center and Level III NICU
 - Pediatric Care to Eastern Nunavut
- ❖ Enterprise Epic implementation
 - EpicCare Ambulatory
 - Epic lab: Beaker
 - Patient Access and Revenue Cycle
 - Patient Health Portal



CHEO's Epic Electronic Health Record



Patient & Families



Phase 1: Ambulatory

Wave 1 (Oct 2013)

Infectious Disease C1

Pediatric Medicine

Rheumatology

ENT

Discharge Planning

Genetics

Audiology

Physiotherapy

Psychology

Social Work

Clinical Nutrition

Wave 2 (Apr 2014)

Nephrology

Urology

Urodynamics

Adolescent Health

Endocrinology

HIV

Autism

Metabolics

Mental Health

MH Eating Disorder

Wave 3 (Oct 2014)

Gastroenterology

Neurology

Neurosurgery

Respirology

Cardiology

Cardiovascular Surgery

Occupational Therapy (Rehab)

Rehab Medicine (Rehab)

Speech/Language (Rehab)

Wave 4 & Post Upgrade (Apr-Oct 2015)

Neonatal Follow-Up

Child and Youth Protection

Complex Care

Chronic Pain

Orthopedics

General Surgery

Plastics

Neuromuscular

Spina Bifida

Increasing Complexity

**100% patients are registered and scheduled*

** 83% (33/40) clinics are 'Live' for clinical documentation*

Benefits Evaluation Framework



- ❖ Aligned Epic and CHI's key performance indicators to CHEO's strategic objectives
- ❖ Married multiple evidenced based frameworks and best EMR best practices
- ❖ **Overarching question => "What are the benefits (clinical and/or operational) of implementing an EMR system in a pediatric out-patient hospital based setting?"**

CHFO's Benefits are being Realized



125 pt/proxy accessing their own records through MyChart

Patients

BedBoard supporting patient flow



65,559 medication orders
~ 1-2% rapid change/mo

Providers

1,059 unique users/mo
accessed 331,180 records.



> 1 million procedure orders
(e.g. lab, DI)
~ 1-2% duplicates/mo

System

> 1 million less lines of transcription in 2014



Benefit Realization...

Becoming More Concrete

- ❑ Industry Benefit Realization Discovery
 - ❑ Meetings with Epic ROI Experts to review potential benefits and focus areas
 - ❑ Peer Review of Epic Benefit Realization
 - ❑ Review of findings from Advisory Board
 - ❑ Initial Documentation: A3, Benefit Repository and Benefit Realization Findings to use as foundation for discussions

- ❑ CHEO-Specific Benefit Realization Discovery
 - ❑ EPIC / CHEO Staff for On Site Discovery Meetings and Rounding Tours
 - ❑ CHEO Specific Benefit Realization Findings



Epic Benefits Realization: Peer Hospital References



- Kaiser Permanente is an integrated managed care consortium, based in US
- Kaiser Permanente has 167,300 employees, 14,600 physicians, 37 medical centers, and 611 medical offices



- US a 1, 812- staffed bed facilities
- Approximately 12,973 inpatient hospital admissions
- 1.2 million hospital outpatient admissions
- 35,702 inpatient surgical procedures
- 70,712 outpatient surgical procedures
- 320,305 emergency care visits

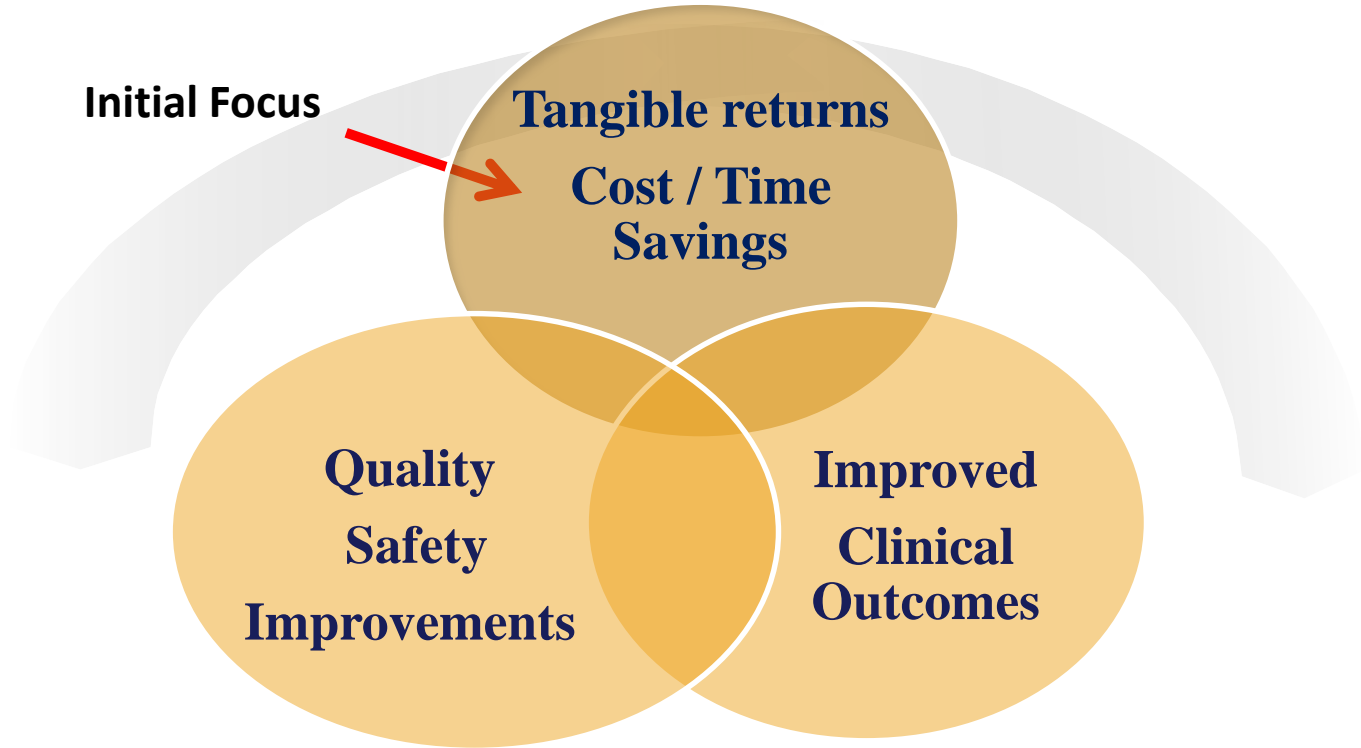


- Operates more than 100 care giving sites, including 10 acute care hospitals
- 2,345 beds
- 6 outpatient care campuses, 7 nursing centers, 3 assisted living centers, 7 advanced imaging centers



- US a 410-bed children's general facility
- Approximately 28,000 inpatient are admitted annually with more than 173,225 emergency room visits
- 5,661 annual inpatient and 21,653 outpatient surgeries

Epic Benefits Realization



Benefit Realization: Key Principles

- ❑ Not straightforward or easy; noncompetitive environment
- ❑ Maximum benefits comes down to appetite for operational change / standardization
- ❑ Estimating benefits is challenging and uncomfortable as people are the largest cost savings
- ❑ Operations driven performance improvement initiative
 - Team effort requiring policy changes, augmented and/or changed roles, workflow redesign, clinical team engagement
- ❑ Strong oversight and assigned benefit owners
 - Targeted operational initiatives undertaken post implementation;
- ❑ Initial Focus
 - low hanging fruit to start
 - select few benefits and build out detailed plans to realize



Epic Benefits Realization

Access	Effectiveness	Safety	Efficiency	Satisfaction
Optimize /Streamline scheduling	Reduce turn-around-time (TAT) for tests, procedures (DI, Lab,	Prevent adverse drug events	Redirection of staffing (Health Records, etc.), nursing labor expense	Improve patient access to information
Increase access to medical record (speed, multiple access)	Streamline close loop medication management (TAT,	Reduce medical errors	Decrease dictation/transcription	Increase patient/families satisfaction
Reduce missed appointments/ no-shows (DI, Lab,	Improve reporting (quality, operational, research)	Increase allergy testing/ immunization rate	Reduction of paper-based, manual activities (paperless)	Increase provider satisfaction
Decrease wait time (OR, ED)	Embed clinical decision support capabilities in the clinician's workflow	Prevent wrong site, wrong patient, wrong person surgery	Reduce cost related to high cost supplies space & storage, etc.	Improve outcomes
	Improve data quality of patient and clinical information	Reduce the risk of healthcare associated infections (CLABSI,	Reduce cost of current IT systems & maintenance	
	Reduce length of stay (ED, inpatient)	Embed evidence-based alerts/reminders	Eliminate diagnostic and lab tests (duplicate, unnecessary tests)	

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Note: Potential "Low hanging fruit" cost savings

Potential CHEO-Specific Opportunities To Realize Tangible Hard and Time Savings

Automation Standardization Optimization

Throughput: LOS reduction, TAT reduction, readmission reduction

7

Scheduling: Inpatient, Amcare, missed appointments/ no shows

6

Surgical Case Management: Case Booking Requests, Operating Room Management

5

Order Management: Consults, Referrals, Medications, Labs, DI ,Antibiotic stewardship, reduction in duration of therapy, Pharmacy techs order entry

4

Patient Flow Management: patient movement (admit/transfer/discharge), bed management, workload balancing, accommodations, management staff availability, TAT (ED, Amcare, OR, DI, Labs)

3

Health Records: coding / abstracting, filing, chart pulls, and transcription services, transportation, off site storage, paper, labels, mail outs, research requests

2

Clinical Administrative Duties: data entry/re-entry, chart management, statistical and consult tracking, time on phone, scanning orders (DI) will be reduced / eliminated

1

Ordered By Ease of Realization

Example: Clinical Administrative Area

CHEO Benefit	Peer Reference	Feasibility Effort	
Data Entry/ Re-entry	<ul style="list-style-type: none"> • 100% reduction in pharmacist order entry/re-entry • 60% reduction in charge entry staff 		
Chart Management	<ul style="list-style-type: none"> • 44% reduction in annual printing • 75% reduction lab results printing • 26.6% reduction in copy paper ordered per month • 118 paper forms were eliminated 		
Statistical Tracking			
Scanning	<ul style="list-style-type: none"> • 57% reduction in scanning 		
Supply cost	<p>Gunderson Lutheran: 26.6% reduction in copy paper ordered per month, an annual savings of \$11 815</p> <ul style="list-style-type: none"> • 118 paper forms were eliminated, a savings of \$18 716 per year 		

Example: Health Records

CHEO Benefit	Peer Reference	Feasibility Effort	
Coding/ Abstracting	<ul style="list-style-type: none"> Charts completed 90% faster 50% to 95% of charts being closed in the same day 	Green	Yellow
Filing	<ul style="list-style-type: none"> 100% reduction in loose paper filing 44% reduction in medical record staff costs (filing and retrieval) 	Green	Green
Chart Pulling	<ul style="list-style-type: none"> 75%- 87.5% reduction in routine chart pulls 	Green	Green
Transcription	<ul style="list-style-type: none"> 25% reduction in transcription volume 50% reduction in transcription 4 months after going live 74.6% reduction in transcription costs 	Yellow	Yellow
Supply cost	<ul style="list-style-type: none"> Savings in costs of printed forms \$1.4 million decrease in printing expenses of annual outpatient forms Hospitals medical records savings of \$3.9 M due to paperless environment. Medical records realized a \$3 M dollar reduction due to the paperless environment 	Green	Green

Example: Surgery Management

CHEO Benefit	Peer Reference	Feasibility Effort	
Case booking request	<ul style="list-style-type: none">• 50% reduction in the OR scheduling costs	Yellow	Red
Operating Room Management	<ul style="list-style-type: none">• 100% reduction of OR cases starting late (75% were late before Epic)• 10% increase of efficiency in the ORs	Yellow	Yellow
Supply cost	<ul style="list-style-type: none">• 44% reduction in annual printing• 26.6% reduction in copy paper ordered per month• 118 paper forms were eliminated	Yellow	Yellow

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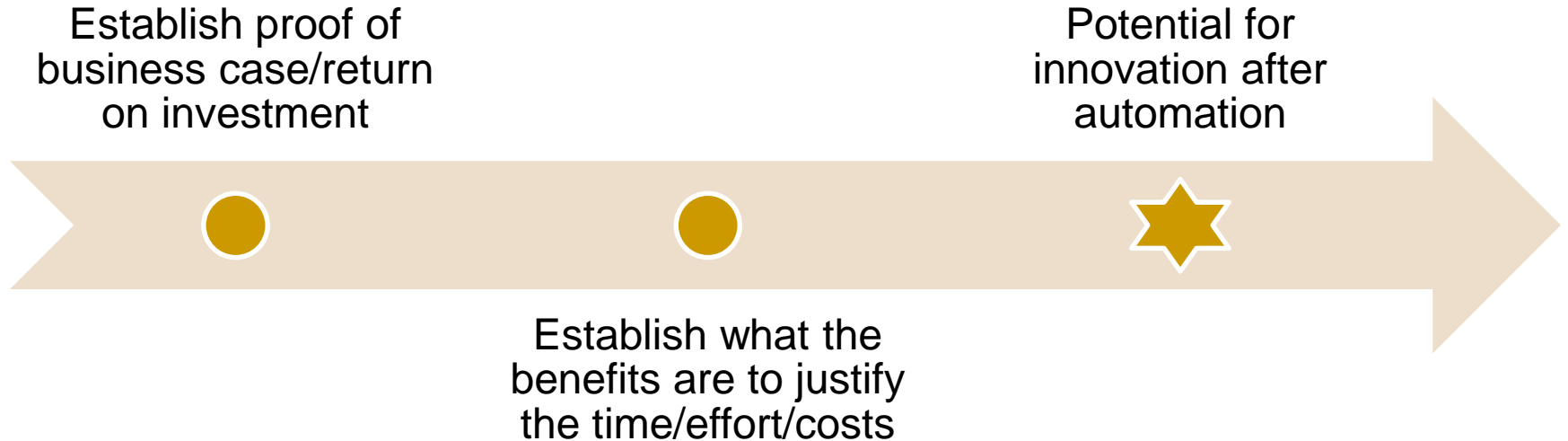
Ordered By Ease of Realization

BR Hard Cost Savings in Ambulatory Care and Health Records

Benefit Area	Benefits (based on Low projection cost savings)	Benefits (based on High projection cost savings)
Reduce paper related supply cost	\$237,000	\$383,000
Reduce staffing expenses	\$610,000	\$978,000
Reduce transcription costs	\$182,000	\$912,000
Total	\$1,029,000	\$2,273,000
<i>Cost savings in Ambulatory Care can also be realized increased throughput. For example, the clinics will have the ability to absorb 2-3 % increase in annual volumes and maintaining existing staffing volumes representing an annual revenue increase of approximately of \$120K</i>		

Why measure benefits?

Transitioning from Project to Operations



Key Concepts

A-List versus
B-List outcomes

6-8 Key Outcome Targets articulated and linked to strategy
versus multiple smaller initiatives
Importance of tracking both & link to Lean

Hard Green versus Soft
Green

True savings that can be applied to corporate priorities versus
efficiencies that allow teams to address identified pressures.
Tracking and encouraging local efficiencies.

Embedding
governance of BR
within existing structure

Small hospital to warrant standalone governance but we
require the transparency and accountability that a solid
governance structure brings

Strong linkage to
strategy

Keeping with need to focus, balanced approach and vision of
the EHR as a key strategic enabler

Strategic Directions – needing to focus



Our Epic Journey at CHEO

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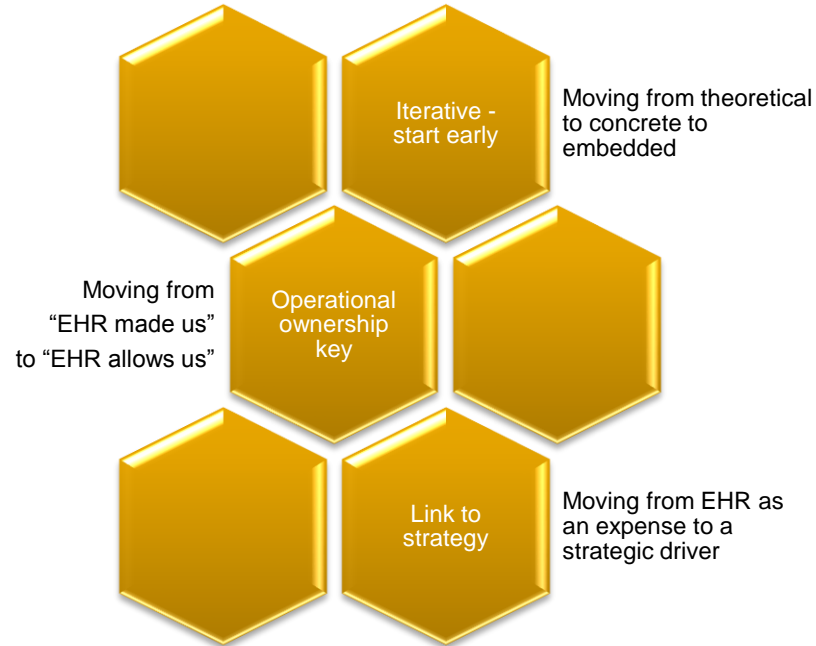
CHEO Benefit Opportunities

Days Saved	Improvements Made	Safety First	Time Found	Inspiring Workplace
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Our Road Ahead...

- Proposed governance structure approved by Executive Team
 - Core group (Operations, Strategy and MD Leads)
 - Tools for tracking in process
 - Team meetings to start in Fall
- Plan to select 6-7 key initiatives corporately to drive
 - Operational owner for each initiative
 - Forming part of strategic plan

Lessons Learned



Our Epic Journey at CHEO