**Triple AIM:** Delivering better health and care at lower cost, while reshaping culture in Ontario healthcare organizations

**Presented by:**
Canadian Foundation for Healthcare Improvement
Women’s College Hospital
Grey Bruce Health Services

November 3, 2014
Toronto, Ontario
Session Goals:

- Provide an overview of the IHI Triple Aim
- Focus on Triple Aim application in two organizations, addressing:
  1. How do organizations interpret and apply the IHI Triple Aim, with reference to changing care for “high-risk, high-cost” patient populations?
  2. How do organizations deliver Triple Aim innovations to drive systemic quality improvement?
  3. What’s required by way of leadership, culture and improvement capability to deliver on the Triple Aim promise?
- Share observations about Triple Aim improvement
Our Mission
Accelerating healthcare improvement and transformation for Canadians

Our Vision
Timely, appropriate, efficient and high-quality services that improve the health of Canadians

Our Goals
- Healthcare Efficiency
- Patient- & Family-Centred Care
- Coordinated Healthcare

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A system design that simultaneously improves three dimensions:

- Health of the population
- Patient experience of care
- Per capita cost of care
Kaiser Pyramid: Risk Segmentation

The pyramid represents the distribution of risk across the population.

Kaiser Permanente as cited in Feachem, Sekhri & White (2002)
Concentration of Spending: Ontario

Health Care Cost Concentration:
Distribution of Health expenditure for ON, 2007

Wodchis et al. (2012)
In British Columbia, 5% of the population is associated with 30% of physician services spending.

In Ontario, 5% of the population is associated with 60% of hospital and home care spending.

In Manitoba, 5% of the population is associated with 41% of prescription medication spending.

Concentration of healthcare spending:
- Rais et al. (2013)
- Reid et al. (2003)
- Kozyrskyj et al. (2005)
Is Canada Getting Value for Money?

<table>
<thead>
<tr>
<th>Country Rankings</th>
<th>1.00–2.66</th>
<th>2.67–4.33</th>
<th>4.34–6.00</th>
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<tbody>
<tr>
<td>Overall Ranking (2007)</td>
<td>Australia</td>
<td>Canada</td>
<td>Germany</td>
</tr>
<tr>
<td>Quality Care</td>
<td>3.5</td>
<td>5</td>
<td>2</td>
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<tr>
<td>Right Care</td>
<td>5</td>
<td>6</td>
<td>3</td>
</tr>
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<td>Safe Care</td>
<td>4</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Coordinated Care</td>
<td>3</td>
<td>6</td>
<td>4</td>
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<tr>
<td>Patient-Centered Care</td>
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<td>6</td>
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<tr>
<td>Access</td>
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<tr>
<td>Efficiency</td>
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<td>5</td>
<td>3</td>
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<tr>
<td>Equity</td>
<td>2</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Healthy Lives</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Health Expenditures per Capita, 2004</td>
<td>$2,876*</td>
<td>$3,165</td>
<td>$3,005*</td>
</tr>
</tbody>
</table>
HealthLink... an innovative approach that brings together healthcare providers in a community to better and more quickly coordinate care for high-needs patients.

Source: Ontario Ministry of Health and Long-Term Care, 2014
QBPs in ON:

- Clinical areas having wide clinical practice variation, contributing to uneven quality and costs
- Requiring a separate mechanism that ties funding to the implementation of best practices & improved quality
1\textsuperscript{st} Canadian Triple Aim Cohort: Triple Aim Improvement Community (TAIC), 2013-2014

West to East . . .

9 teams
4 provinces

Alberta Health Services, North Zone
Alberta Health Services, Edmonton Zone
The Region of Peel, ON
Canadian Mental Health Association, ON
Central Health, NL
Eastern Health, NL
McGill University Health Centre, Montreal, QC
Women’s College Hospital, ON
Grey Bruce Health Services, ON
2nd Canadian Triple Aim Cohort:

West to East

10 teams
7 provinces

HealthAchieve
The Triple Aim in Action
at Women’s College Hospital
Toronto, ON

Dr. Geetha Mukerji
- Clinical Lead in Quality, Women’s College Health Systems Solutions and Virtual Care, Women’s College Hospital
TORONTO, ONTARIO

City of Toronto motto: “Diversity our strength”

- Total Population 1,089,140
  - 9% of Ontario population
- Large, ethnically and culturally diverse urban area
- 160 languages and dialects
- 41% born outside Canada
- 18% living below Low Income Cut-Off (Ontario overall average is 11.7%)

An academic ambulatory care hospital in Toronto, Ontario with a strategic focus on **health system solutions** and **chronic complex conditions**:

- Brand new (May 2013) facility designed solely for ambulatory care
- 800 staff and 546 physicians
- 100 researchers and scientists
- 300,000 ambulatory visits
- 100,000 distinct patients seen per year
  - 70% female
  - ~ 2000 patients per year use our language interpretation services
Project Target Population

- **High needs, high cost (HNHC) patients:**
  - 1-5% of the population, whose health care needs are better met outside of emergency departments and inpatient wards
  - Identified through:
    - Health care utilization
    - Health care connect
    - Screening tool of health status
    - Hot spotting of providers

**Our Triple Aim population size is...**

- Approx. 13,000 unattached patients in our LHIN
  - 983 of these are HNHC and lack a primary care physician
- 3203 patients identified as high needs/high cost (defined as 2 or more ED visits in last 1 year) from hot-spotting of providers.
• Encompasses Toronto Central Local Health Integration Network (TC LHIN) and Toronto Mid-West HealthLink (HL)

• Region sees the **fastest patient population growth, highest number of unattached patients**, and more **patients from outside the geographic boundaries** than any other LHIN.

• A majority of patients within the HL are 40+ years old and most have a minimum of >5 co-morbid chronic medical conditions.

• The use of multiple services are necessary for care for the complex patients in this population.
Three strategies for reaching high needs medically complex patients in the community:

- Creating Pathways to Primary Care
- Enabling Timely and Appropriate Imaging
- Facilitating Access to Specialist Care

All projects aim to achieve all three of the Triple Aim dimensions of health.

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Seamless Care Optimizing the Patient Experience (S.C.O.P.E.) 2

Offers a greater number of primary care providers with high needs patients access to community resources and specialist care. Improves coordination of care for high-users of health care services to reduce overall utilization while improving their experience of care.

Promoting Access to Team-Based Healthcare (P.A.T.H.)

Creates a structured way to bring unattached high needs, medically complex patients who are most at risk of avoidable Emergency Department visits and hospitalizations into a team based primary care practice.

1-800-IMAGING

A central access point for primary care providers with medically complex patients requiring urgent radiology exams. Access to a radiologist enables immediate bidirectional feedback as to the most appropriate exam based on the clinical indication, avoiding an Emergency Department visit.
Project 1: P.A.T.H.

Promoting Access to Team-Based Healthcare (P.A.T.H.)

Creates a structured way to bring unattached high needs, medically complex patients who are most at risk of avoidable Emergency Department visits and hospitalizations into a team based primary care practice.

Outcome Measures

- Preventive health screening and uptake [Population Health]
- Self-rated Health [Population Health]
- Patient experience (surveys and patient feedback) [Experience of Care]
- ED and walk-in clinic utilization [Per Capita Cost]

Extensive Process Evaluation

- Number of complex patients
- Cycle time
- Provider experience
Ontario LHINs’ definition: complexity as a “composite of a number of reinforcing medical and psychological issues”.

1. **Screen positive according to the Hospital Admission Risk Prediction (HARP) tool**
   - Variables as predictors of hospital admission:
     - 1) Age, 2) Place patient was discharged to 3) # of acute admissions last 6 mo, 4) # ED visits in last 6 months, 5) Medical co morbidities

2. **Polypharmacy**

3. **Cognitive impairment and/or mental health/addiction**

4. **Social factors** (compromised living situation, lacking economic stability, refugee status, language/literacy level).
PATH PROJECT TIMELINE

Planning (Oct-Dec 2013)

Implementation (Dec 2013- Jan 2014)

Quality Improvement Cycles (Jan 2014-Ongoing)

Research (Feb 2014-Jul 2015)

Knowledge Transfer (July-Aug 2015)

They Are Here

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Baseline Self-Rated Health (n=24)

- Very Good/Excellent: 40%
- Good: 30%
- Fair: 20%

Length of Time Unattached to a PCP (n=17)

- Less than 1 year: 10%
- 1-4 years: 40%
- 5-10 years: 20%
- 10 years or more: 20%

Healthcare Utilization in Prior 6 months (n=24)

- Number of visits: 40
- ED Visits: 5
- Walk-ins: 35

Have brought 24 previously unattached patients to a regular Primary Care Provider.
Project 2: 1-800-IMAGING

A central access point for primary care providers with medically complex patients requiring urgent radiology exams and other informational services. Access to a radiologist enables immediate bi-directional feedback as to the most appropriate exam based on the clinical indication, avoiding an Emergency Department visit.

Process Measure
- Deliver a pilot of the virtual hub that will provide service to 30-60 community based providers with HNHC patients within the first year of program launch

Outcome Measures
- Improved timeliness of care [Experience of Care]
- Critical results delivery time from report completion to findings communicated [Experience of Care]
- Decreased ED admissions for reasons of urgent medical imaging, [Per Capita Cost]
- Self reported health [Population health]
1-800-IMAGING : Call Volume

30 Unique callers

PCP Engagement

Median Line

HealthAchieve
## Virtual Hub Services

**Service Requested** | **No. of Calls**
--- | ---
Appropriateness Consult | 13
Urgent imaging | 41
Urgent Reporting | 2
Radiology Consult | 6
Information | 12
**TOTAL** | **74**

As of Sept 5, 2014

Virtual Hub Services
Provided – June - Sept 2014

17 “potential” ED Visit Avoided

Per Capita Cost

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1-800-IMAGING: Project Timelines

- **Planning** (Oct 2013-Feb 2014)
- **Implementation** (Feb 2014-May 2014)
- **Quality Improvement Cycles** (May 2014-Ongoing)
- **Knowledge Transfer** (July-Aug 2015)

They Are Here
LESSONS FROM WCH: Elements required for Triple Aim success within an organization

1. Executive leadership support with frontline engagement

- **Co-Executive Leads**
  - Dr. Danielle Martin
  - Jane Mosley

- **Portfolio Management**
  - Dr. Geetha Mukerji
  - Dr. Sacha Bhatia
  - Kyla Pollack, Sarah Dimmock

- **Measurement Team**
  - Cheryl Woodman
  - Monique Crichlow, Sukirtha Tharmalingam

- **Finance Team**
  - Beverly Conquest
  - Jimmy Liu, Veronica Ho

- **PATH Project**
  - Lead: Holly Finn

- **SCOPE 2 Project**
  - Lead: Laura Pus

- **1-800-Imaging Project**
  - Lead: Marino Fernandopulle
  - Jeffrey Zon

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LESSONS FROM WCH: Elements required for Triple Aim success within an organization

1. Executive leadership support with frontline engagement
2. Building capacity and infrastructure at outset
3. Closer engagement across departments and leveraging existing capability
4. Greater use of standardized measurement tools
5. Strong communication between QI project teams
CHALLENGES

- Limited robust electronic data
- Lack of system level data, LHIN, regional levels
- Hospitals working in “silos”
- Funding for sustainability and scalability of projects
1. Capacity Building:
   • Able to apply Triple Aim to current and future projects
   • WCH portfolio management team and measurement leads

2. New Hospital Processes and Legacy of Triple Aim:
   • Pipeline of projects incorporating Triple Aim
   • PATH incorporated into Hospital QIP
   • WCH AP-QIP Ethics Process Launched August 2014

3. WCH Strategy
   • Triple Aim is informing the Strategic Directions of WCH
QUESTIONS
The Triple Aim in Action at Grey Bruce Health Services: COPD REACH Project

Sonja Glass, Jane Wheildon
Grey Bruce Health Services
The City of Owen Sound is located 2 hours from Toronto on the southern shores of Georgian Bay in Ontario, Canada.

- The Owen Sound Hospital is the largest of the six sites at Grey Bruce Health Services and provides comprehensive health care services for the region, including surgical services, acute care, oncology, diagnostic imaging, mental health, women and children, laboratory, dialysis, emergency services and rehabilitation.
- During any given year, GBHS sees 95,000 emergency department visits, performs approximately 13,000 surgeries, conducts 151,000 diagnostic imaging procedures and 5.4 million lab procedures. The 1,600 staff and 200 physicians, including 50 specialists and 29 surgeons remain committed to providing the residents of Grey and Bruce with the best health care, based on the most up-to-date best practices.

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COPD REACH
(Realizing Excellence in Advancing Chronic Health)

• **Aim:** To optimize the health of individuals with COPD, assisting them in managing their chronic disease while improving their experience of care and controlling costs.

• **Focus:** High Risk & High Cost (Familiar Faces) who receive care in Owen Sound.
Rationale for choosing this Population

• Chronic diseases affect one in three Ontarians and almost four in five Ontarians aged 45 and over.

• Patients with COPD are high users of health care services across primary care, community, long term care and acute care, impacting both individual quality of life as well as health system costs.

• There are significant opportunities to prevent the development or exacerbation of COPD, to reduce admissions/readmissions, to better educate patients about their condition and to improve coordination of care between health care providers in different sectors.
  – COPD is one of our highest CMGs for GBHS admissions.
  – Changes in funding associated with introduction of the QBP for COPD.

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The Importance of Understanding Your Patients

- Reviewed many data sources to identify our top 10 patients (DAD, NACRS, FHT identified high users, CCAC clients, ER and Medicine Inpatient Staff).

- Detailed chart reviews using both the LACE tool and the NICE tool. These chart reviews identified many opportunities for improvement!

- Contacted the 10 patients by telephone and asked them if we could make a home visit.
Meet Mary

My name is Mary. I have COPD. I am not well a lot of the time. It is a struggle to deal with this disease, but I am more than this disease. Sometimes I feel that I am just seen as the “COPD” patient. I have other health issues, but they are often dismissed because I am the “COPD” patient. I miss my life - I love getting out, but it is almost impossible now. I was a business woman, and was considered a very capable person. Sometimes, I feel that healthcare people talk at me, not with me. Living in the country presents challenges - arranging rides and the expense of transportation, but I am not in a position to move. I did quit smoking, but members of my family continue to smoke and that is very hard on me.

*HealthAchieve*  
*Mary is a composite of patient stories*
COPD REACH Project
Lessons Learned From Our Patients

- Transitions and communication between acute care, community and primary care are challenging. More engagement with COPD patients families is required so they can support and facilitate the treatment plan.

- Social issues and resource limitations are major factors impacting health

- There are disparities in the availability, knowledge and acceptance of community supports and resources.

- Resources we developed to assist patients in managing their health are not actually useful at this stage of their disease.

- We are not adequately assessing or addressing the social issues that drive health behaviors.
COPD REACH Project
Lessons Learned From Our Patients

- Younger patients have concerns they don’t raise to health care providers that impact their behavior (body image, abusive relationships, fear, etc.)
- In-home services that focus primarily on medical needs (e.g. blood pressure) versus social needs are not sufficient
- There are opportunities to utilize peers and peer support groups
- Need to incorporate teach-back as an educational strategy (e.g. use of aero-chamber with inhalers)
- 2nd hand smoke more prevalent than smokers with COPD. Need to expand NRT education/treatment options to family/support persons
- Chronic Pain management has relationship with patients ability to manage at home. Poorly managed pain cause anxiety and stress that exacerbates COPD
GBHS COPD Data

**COPD Admissions**
- **Fiscal 12_13**: 179
- **Fiscal 13_14**: 172

**COPD % of Readmissions < 30 Days**
- **Fiscal 12_13**: 18.4%
- **Fiscal 13_14**: 17.0%

**Population Health**
Volume of Admitted Cases to Inpatients with COPD as Most Responsible Diagnosis

**Cost of Care**
Initial Admission Diagnosis of COPD with 30 Day (urgent) Readmit with Any Diagnosis
GBHS COPD Data

COPD Average Length of Stay (ALOS)
- Fiscal 12_13: 6.5
- Fiscal 13_14: 6.1

COPD ER Visits (Main Diagnosis)
- Fiscal 12_13: 774
- Fiscal 13_14: 648

Cost of Care
COPD as Most Responsible Diagnosis
Average Length of Stay

Cost of Care
COPD as Main Diagnosis ER Visits Volumes
Next Steps

- Continue to monitor GBHS project initiatives to ensure they are having a positive impact on our patients and that they align with requirement of the QBP.

- Work with our Health Links partners including Primary Care, SWCCAC, Home and Community Services, EMS and the Grey Bruce Health Unit.

- Continued patient engagement from Mary and her family to ensure implemented changes are meeting our patient/families needs.

- Continue our work with CFHI-INSPIRED
QUESTIONS
IHI TRIPLE AIM IMPROVEMENT COMMUNITY (TAIC): Observations

Jenn Verma
Canadian Foundation for Healthcare Improvement
Myth: Triple Aim relies on dated definitions of patient satisfaction & population health

- **Busted**: It’s about acting with the individual, but learning for the population

Start with 5…
- Ask: What matters to you?
- Include family/friend if preferred
- Identify their life and health goals as well as care preferences

Then scale to 25
- What are the staffing/resourcing implications?
- What will it take to standardize your practices?
Managing Health for a Population

• Top 5%
• Top 20%
• Top 50%

Using 66% of healthcare resources, for some the system is not working

Most people – health promotion, disease prevention, the system works fine for them

Source: Alberta Health Services, Edmonton Zone; adapted from Ann Lindsay, Stanford Coordinated Care Support

Disease Management, self-management Support

Care Support

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Edmonton Population: Zone ≈ 1.2 million, City ≈ 820,000

Triple Aim Community: The Eastwood area in the inner north east of the city ≈ 74,000 people

Target: People with high utilization now ≈ 4600

Segment: adults with chronic disease, addictions and mental health issues and women with addictions and pregnancy ≈ 2155

Root Causes: poverty, illiteracy and homelessness complexity, fragmentation and culture of care in the health care system undervaluing of continuity of primary care both by patients and health system
Population Segmentation (and Costs)

<table>
<thead>
<tr>
<th>Category</th>
<th>Population</th>
<th>Average Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Needs Children</td>
<td>149</td>
<td>$21,213</td>
<td>$3,160,727</td>
</tr>
<tr>
<td>Women’s Health</td>
<td>403</td>
<td>$15,448</td>
<td>$6,225,533</td>
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<tr>
<td>Complex Infants/Toddlers</td>
<td>131</td>
<td>$56,151</td>
<td>$7,355,794</td>
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<tr>
<td>High Needs Younger Adults (Addictions &amp; Mental Health)</td>
<td>584</td>
<td>$32,598</td>
<td>$19,037,301</td>
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<tr>
<td>Complex Older Adults (Addictions &amp; Mental Health)</td>
<td>1,752</td>
<td>$34,568</td>
<td>$60,563,798</td>
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<td>Frail Elderly</td>
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<td><strong>TOTALS</strong></td>
<td><strong>4,623</strong></td>
<td><strong>N/A</strong></td>
<td><strong>$169,668,951</strong></td>
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</table>

(out of total n = 80,000)

Source: Alberta Health Services, Edmonton Zone Eastwood, Planning Profile (Draft; 2013)
Myth: Triple Aim has “potency” as an idea but is difficult to translate into practice and outcomes

- **Busted**: It’s about supporting teams to test small-scale changes to practice, with a view to at-scale change/spread.
Myth:Triple Aim has “potency” as an idea but is difficult to translate into practice and outcomes

- Busted: It’s about supporting teams to test small-scale changes to practice, with a view to at-scale change/spread.
**Myth:** It’s impossible to simultaneously realize better health, care and costs

- **Busted:** It’s possible. Develop a portfolio that, in full, achieves the Triple Aim
Define “Quality” from the perspective of an individual member of a defined population.

**IHI Triple Aim**

- **Healthcare Public Health Social Services**
  - Individuals & families
  - Definition of primary care
  - Integration
  - Per capita cost reduction
  - Prevention and health promotion

- **System-level Metrics**
QUESTIONS