Reforming the delivery system with integrated models of care

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CHSPR 2019 31st Annual Health Policy Conference

Value in Canadian Healthcare: Evolution or Revolution?
March 8, 2019
Disclosure

• I do not have any affiliation (financial or otherwise) with a commercial organization.

• I receive funding for our research and evaluation team from the Ontario Ministry of Health and Long Term Care (MOHLTC). The MOHLTC has not reviewed or approved the material that I present today. This presentation does not represent the views of the funding organization.
Purpose

In Ontario ...

• What are major delivery reforms that aim to increase value?
• What is the role of policy and organizations in leading and supporting these reforms?
• What is the role of payment reform in supporting these changes?
• What are some of the implementation challenges and how (well?) are these being addressed?
Example Delivery Reforms

In Ontario ...

- Health Links -> Integrated Care
- Integrated Funding Models -> Bundled Care
Example Delivery Reforms

Integrated Care

Health Links
N = 21 → 69 → 82

Ontario Health Teams

Bundled Care
6 IFM Sites → 35 Hip / Knee

Proposed: Cardiac + Stroke + Hip FX + Thoracic

2012 2015 2018 2019 2020

All ?
Health Links

Coordinated and integrated care is the heart of Health Links:

- New model of care to improve care for high needs patients
- All providers working at the local level to integrate clinical care and coordinate plans at the patient level
- Initial focus on people with complex health conditions

Source: Health System Transformation
Health System Fund Research Program - November 1, 2013
Helen Angus - Associate Deputy Minister, MOHLTC
Health Links

In 2012
• Focus on high cost patients -> top 5% (66% health care cost)
• Often for people with many hospitalization or ED visits
• Low Rules implementation

In 2015 - 2018
• Focus on individuals with 4+ Chronic Conditions
• Monitoring of Completed Coordinate Care Plan
• Patient-reported “confidence care goals will be met” (2018)
Health Links Results: Enrolment

Figure 1: Cumulative number of CCPs to date

```
Number of CCPs

Q1  Q2  Q3  Q4  Q1  Q2  Q3  Q4  Q1  Q2  Q3  Q4  Q1  Q2  Q3  Q4  Q1  Q2  Q3
```

Fiscal Year
Health Links Results: Costs

Comparable Pre-index Trajectories in Total System Cost

Total Cost

<table>
<thead>
<tr>
<th>Total Cost ($)</th>
<th>1-y Pre-Index</th>
<th>1-y Post-Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>Matched Comparators</td>
<td>Matched Enrollees</td>
</tr>
<tr>
<td>3000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Enrollee Costs Decline after Health Links Start Date
Health Links Results: Costs

Comparator Costs Decline More Than Enrollee Costs

![Diagram showing total cost comparison between matched comparators and matched enrollees over pre-index and post-index periods. The graph illustrates a decline in comparator costs more than enrollee costs.](image)
6 IFM (Bundled Care) Programs

Modelled after pilot program at St. Joseph’s Health System in Hamilton, Ontario
### 6 IFM (Bundled Care) Programs

<table>
<thead>
<tr>
<th>Program Focus</th>
<th>COPD/CHF Broad</th>
<th>COPD/CHF Self-Mgmt</th>
<th>COPD/CHF Shared Care</th>
<th>UTI / Cellulitis</th>
<th>Stroke</th>
<th>Cardiac Surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td>N Partners</td>
<td>15</td>
<td>7</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Features</td>
<td>Integrated care coordinator; 24/7 telephone line; virtual team rounds; lead home care agency.</td>
<td>Care coordinators; a 24/7 access line for patients; remote consults enabled through technology and Specialist follow-up, including ambulatory rehabilitation.</td>
<td>eHomecare model (eShift/eClinic) for remote monitoring immediately after discharge; 24/7 telehealth; navigator; clinical care coordinator.</td>
<td>Short-term nursing interventions with approx. 14 nurses hired specifically for this intervention; full access to electronic health record both inside and outside the hospital; 1 contact number.</td>
<td>Clinical collaboration tool; warm handoffs during transitions in care; potential use of telecommunications technologies to deliver health care services to patients at home.</td>
<td>Integrated care coordinator who works with patients beginning at pre-op; a 24/7 contact center; and telemonitoring in the home.</td>
</tr>
</tbody>
</table>
### 6 IFM (Bundled Care) Programs

<table>
<thead>
<tr>
<th></th>
<th>COPD/CHF Broad</th>
<th>COPD/CHF Self-Mgmt</th>
<th>COPD/CHF Shared Care</th>
<th>UTI / Cellulitis (Emerg.)</th>
<th>Stroke</th>
<th>Cardiac Surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enrollees</strong></td>
<td>2,516</td>
<td>171</td>
<td>238</td>
<td>642</td>
<td>513</td>
<td>1,925</td>
</tr>
<tr>
<td><strong>Total Eligible Patients</strong></td>
<td>6,526</td>
<td>1,593</td>
<td>2,100</td>
<td>15,201</td>
<td>1,447</td>
<td>2,108</td>
</tr>
<tr>
<td><strong>% of patients enrolled</strong></td>
<td>38.6%</td>
<td>10.7%</td>
<td>11.3%</td>
<td>4.2%</td>
<td>35.5%</td>
<td>91.3%</td>
</tr>
</tbody>
</table>
6 IFM Results: Relative Cost

![Graph showing relative cost comparisons for different projects.](image)
7 suggested steps to manage change in the health system

(Perla et al., JAMA 2015)

<table>
<thead>
<tr>
<th>Recommended Step</th>
<th>Health Links (Final)</th>
<th>IFM (Final)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Establish Clear Aims</td>
<td>☐*</td>
<td>☐*</td>
</tr>
<tr>
<td>2. Develop an Explicit Theory of Change</td>
<td>☐</td>
<td>☐          (Local)</td>
</tr>
<tr>
<td>3. Create the Context Necessary for a Test of the Model</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4. Develop the Change Strategy</td>
<td>?</td>
<td>☐          (Local)</td>
</tr>
<tr>
<td>5. Test the Changes</td>
<td>☐ (Late)</td>
<td>☐</td>
</tr>
<tr>
<td>6. Measure Progress Toward Aim*</td>
<td>☐ (Late)</td>
<td>☐</td>
</tr>
<tr>
<td>7. Plan for Spread</td>
<td>☐ (Late)</td>
<td>☐¶</td>
</tr>
</tbody>
</table>

* Aims may vary by perspective and progress is measured against varying aims.
¶ Developed after initial testing of programs.
Health Links vs IFM/Bundled Care

Health Links had a lot less to support implementation and spread.

<table>
<thead>
<tr>
<th>Health Links</th>
<th>IFM / Bundled Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Change in Funding</td>
<td>Bundled Episode Funding</td>
</tr>
<tr>
<td>Low Rules: 2+ providers + “coordinate care”</td>
<td>Acute to Home +/- 30 days</td>
</tr>
<tr>
<td>No Planned Monitoring/Evaluation</td>
<td>Predefined ¼-ly monitoring + Comprehensive evaluation + Learning collaborative.</td>
</tr>
<tr>
<td>No clear evidence standard</td>
<td>Published (Mostly acute care) Evidence Standards</td>
</tr>
</tbody>
</table>
Challenges – IFM/Bundled Care

1. Privacy culture differences across partners
   – challenges information sharing & management

2. Financial pressures
   – Lack of resources (human/ financial) particularly affects smaller-scale partners; impacts buy-in desire/ ability

3. Competing organizational priorities

4. Savings taken up by increased volume

5. Covering large geographies

6. Coordination

7. Physician engagement in chronic bundles
Keys to Success – IFM/Bundled Care

Context

• Program Structure
• Leveraging Existing Partnerships

Mechanism

• Building Trust
• Developing Thoughtful Models
• Engaging Clinicians
• Sharing Information
Key to Success: Build TRUST

• “... the hospital people’s overall message to the community paternalistically was we look after really sick, really complicated people, and we do it with very high technology. And you people are lovely and nice and sweet but you couldn't possibly do what we do. And the community-based people said, you guys in hospitals are a comedy of errors. You have all of these resources, all of this infrastructure, much of which you only use a few hours a day and not on weekends or after-hours. [After a long process-mapping exercise from different perspectives], there was a big eye opener for many of us who said – You do that in homes? Like you go out into places like that? You go into unsafe places at all hours of the day and night...?” (Organization leader)
Use of hospital-related health care among Health Links enrollees in the Central Ontario health region: a propensity-matched difference-in-differences study

Lake Mudder MSc, Kevin Walker MSc, Yu Qiong Bai MSc, Walter P. Wodchis PhD

Abstract

Background: Health Links are a new model of providing care coordination for high-risk, high-needs patients in Ontario. We evaluated use of hospital-related care services among Health Links patients in the Central Local Health Integration Network (LHIN) of Ontario in the year before versus after program enactment and compared rates of use with those among similar patients with comparable plans not enrolled in the program (comparison group).

Methods: We identified patients who received a Health Links coordinated care plan before Jan. 1, 2015, using key registry and health administrative data. We used propensity scores to match 1:1 (1:1) enrollees (cases) with comparable patients (comparison group) on multiple covariates. The propensity score was used to adjust the rate of use in the index year and the year before the index year, using linear regression, to estimate the difference-in-differences within patients.

Results: Of the 244 enrollees in the region, we matched 313 (95.7%) to comparison patients. All measured sociodemographic, clinical, and health care use characteristics were balanced between the two groups (statistical difference ≤ 1% for all values). The rate of days in acute care per patient-year increased by 10% (95% confidence interval: 0.1%–19.4%) after the index date, with differences being consistent for all other measures. Differences-in-differences analyses revealed greater reductions in hospital admissions, emergency department visits, and acute care days after the index date in the comparators group than among enrollees.

Interpretations: Initial implementation of the Health Links program in the Central LHIN did not reduce expected indicators of Health Links patients' performance among enrollees. Further Health Links program evaluation and standardization is important; future research may reveal effects from the initiative's other outcomes or with longer follow-up.

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