Ontario’s Health Links: Measuring Success

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Outline

I. Introduction & Objective

II. Approach

III. Findings

IV. Discussion
I. Introduction and Objective

• Ontario’s Health Links (HL) initiative was launched in January 2013
  • Goal was to “Integrate and improve coordination of care provided to patients with most complex healthcare needs (“top 5%”).”
  • HLs given flexibility to identify target population and improve integration of care.
  • Each is led by either a primary care organization (e.g., FHT), acute care hospital, or a community group (e.g., CCAC)
I. Introduction and Objective

• Applied Health Research Question (AHRQ): What ‘value’ do Health Links add to the healthcare system?

• Objective: To conduct empirical analysis to assess the performance of Health Links on measurable indicators using health administrative data held at the Institute for Clinical Evaluative Sciences (ICES)
II. Approach: Triple Aim Framework
II. Approach: Performance Indicators

Six health system level indicators:

1. Cost:
   • Average monthly per capita cost (age/sex std)

2. Health outcomes/population health:
   • Acute hospitalization rate/100,000 (age/sex std)

3. Experience:
   • ED visit (low acuity)/100,000 (age/sex std)
   • Readmission rate/100,000 (for 25 CMG, risk adjusted)
   • Individuals with PC follow-up within 7 days acute discharge (%)
   • Proportion of individuals rostered to PC MD (age/sex std)
II. Approach: Administrative Data

• Study period: April 1, 2012 – March 31, 2013
• Study population: ON residents as of Apr 1, 2012
• 2 cohorts of interest:
  – All Ontarians
  – High cost users: Top 5% of healthcare cost users in previous year
• Assign individuals to a geographically defined Health Link (n=54)
  – Through postal code of:
    1. Physician an individual is rostered to (71.5%)
    2. Usual provider of primary care (18.7%)
    3. Home residence (9.8%)
II. Approach: Compared to What?

1. Provincial averages
2. Groups of Health Links by:
   • urban, rural, suburban categories\(^1\)
   • neighbourhood socio-economic deprivation

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2 Stukel, TA; Glazier, RH, Schultz, SE; Guan, J; Zagorski, BM; Gozdyra, P; and Henry, DA (2013) Multispecialty physician networks in Ontario. Open Medicine, 7(2): e40.
III. Findings
## III. Health Link Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Full Cohort</th>
<th>Top 5%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ontario</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Pop. (N)</td>
<td>13,727,824</td>
<td>686,392</td>
</tr>
<tr>
<td>Male (%)</td>
<td>49.2</td>
<td>43.9</td>
</tr>
<tr>
<td>Age (median)</td>
<td>39</td>
<td>66</td>
</tr>
<tr>
<td>Enrolled in PC model</td>
<td>71.4%</td>
<td>78.4%</td>
</tr>
<tr>
<td>2+ chronic conditions</td>
<td>26.6%</td>
<td>80.0%</td>
</tr>
<tr>
<td>Median total cost 1 yr prior to index date</td>
<td>$375</td>
<td>$16,760</td>
</tr>
</tbody>
</table>

*Note: HL = Health Link*
### III. Performance: Provincial average

**Early adopters (n=22)**

![Image of a table showing performance metrics for various health regions in Ontario, Canada. The table includes columns for Average Monthly Cost, Acute Hospitalization, ED Visits, and Readmission Rates, among others, with some regions marked as early adopters.](image-url)
Using Health Outcomes for Better Information and Care (HOBIC)

Leveraging the culture of performance excellence in health systems

III. Rural/Suburban/Urban

<table>
<thead>
<tr>
<th>Health Links</th>
<th>Early Adopter</th>
<th>Later Adopter</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural (RIO≥40)</td>
<td>6</td>
<td>5</td>
<td>11 (20.4)</td>
</tr>
<tr>
<td>Suburban (10≤RIO&lt;40)</td>
<td>8</td>
<td>17</td>
<td>25 (46.3)</td>
</tr>
<tr>
<td>Urban (RIO&lt;10)</td>
<td>8</td>
<td>10</td>
<td>18 (33.3)</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>32</td>
<td>54</td>
</tr>
</tbody>
</table>

- Similar number of rural and urban (early vs later adopter)
- More suburban later adopter HL
III. Comparison of Performance

Aggregate Z-score formula:

\[ Z_i = \frac{x_k - \mu_i}{\sigma_i} \]

\[ Z_j = \frac{x_k - \mu_j}{\sigma_j} \]

\[ Z_{score\_total} = \sum \left[ (-1)Z_i + Z_j \right] \]

\( Z_i \) = indicator ‘i’, below average is better
\( Z_j \) = indicator ‘j’, above average is better
\( x_k \) = Health Link k’s performance
\( \mu \) = mean
\( \sigma \) = standard deviation
III. Comparison of Performance

- Q1: Better in top 5% population
- Q2: Better in both populations
- Q4: Lower performance in both populations
- Q3: Better performance in total population

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III. Socio-economic status

- Stratify results by socio-economic status (average neighbourhood deprivation) in Health Links
III. Socio-economic status

Findings: Baseline performance; early HLs; total population by SES Quintile

- Health Link performance is highly related to community SES
Currently cannot:

- Identify which individuals are enrolled and receiving HL services.
- Identify which physicians are associated with each HL and providing HL services.
IV. Discussion: Summary

• HLs vary in their performance on indicators used to measure the value they create.

• Rural/suburban/urban:
  – Urban perform similarly in both cohorts,
  – Rural and suburban better in their Top 5% Cohorts.

• SES findings show relationship between community SES and performance.
  – Individual or community level effect?
THANK YOU!

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