Health Links: Meeting the needs of Ontario’s high needs users

Presentation to the Canadian Institute for Health Information
January 27, 2016
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SECTION 1

HEALTH LINKS: OVERVIEW & SUCCESSES TO DATE

Michael Robertson, Director, Capacity Planning and Priorities Branch, MOHLTC
Ontario has recognized the need to better coordinate care for the most complex patients to improve health outcomes and drive health system efficiencies.

- 5% of Ontario’s patients account for 66% of health care spending
- 75% of complex patients see six or more physicians, with 25% of those seeing more than 16.

Coordinated and integrated care is the heart of Health Links. Since Dec. 2012, Health Links have brought local providers together to integrate clinical care for patients.
Health Links Model: Better Integration

What is a Health Link?

- Interdisciplinary model of care at the clinical level which seeks to improve coordination of care for patients, improved patient outcomes, and better value for investment.
- Initial focus on improving patient care and outcomes for people with complex health conditions and seniors
- Individual care plans, improved access, improved satisfaction / experience
- Patients at the centre:
  • Designing their care plans
  • Providing the patient perspective in the planning of the health link
Health Links Journey

December 2012
- Health Links announced

February 2013
- 22 Early Adopters organizing
- More than 400 groups on board

July 2013
- 26 Health Links
- High users identified
- Promising results and practices identified

July 2015
- 82 Health Links in every region
- Standardization across core elements.
- Scale best practices
- Progress on results and evaluations

2016-17
- Health Links continue to expand operations:
  - To serve all of Ontario’s complex patient population
  - To improve patient outcomes, and realize system efficiencies through increased care coordination
Health Links Impacts: Progressive and Tangible Gains

Coordinated Care Plans

By September 2015, 11,302 complex patients were provided with coordinated care plans through Health Links.

Access to Primary Care

By September 2015, 23,643 patients were provided with regular and timely access to primary care through Health Links.

*Data collection supported by HQO Quality Improvement Reporting & Analysis Platform (QI-RAP) tool
SECTION 2

HEALTH LINKS: CRITICAL SUCCESS FACTORS

Nam Bains, Manager, Capacity Planning and LHIN Support, Health System Information Management Division, MOHLTC
Health Links: Critical Success Factors

• Developing a target population enabled the ministry to create a consistent, standardized way to define and describe the high needs users/complex patient across LHINs and Health Links.

• Analysis of high needs users established that 5% of health service users accounted for 65% of the costs. In establishing a target population, we explored these options:
  • High cost patients
  • Patients that used multiple sectors
  • Frequent use of ED
  • Patients with long hospital stays
  • Patients with mental health conditions
  • Presence of specific chronic conditions
  • Presence of multiple chronic/high cost conditions
Target Population: Presence of multiple chronic and/or high cost conditions (4+)

<table>
<thead>
<tr>
<th>Approach</th>
<th># of people identified</th>
<th>How many are high cost users? Number (percent)</th>
<th>Of all high cost users, how many are in this category?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 5% High Cost Users</td>
<td>563,980</td>
<td>563,980</td>
<td>100%</td>
</tr>
<tr>
<td>Presence of Multiple Chronic and/or High Cost Conditions (4+)</td>
<td>672,410</td>
<td>340,420</td>
<td>60%</td>
</tr>
</tbody>
</table>

This approach:

- Identifies approximately 5% of the population
- Provides reasonable overlap between patients with multiple conditions and high cost users
- Although half of patients with multiple conditions (comorbidities) are not current high cost users, a coordinated care approach may prevent them from becoming high cost users
- Using 4+ as a cut-off achieves a good balance between not capturing too many non-high cost users, and capturing 3 out of 5 high cost users
- The average cost for patients with 4+ conditions is $21,540, compared to $1,240 for patients with <4 conditions
- Patients with 4+ conditions account for 6% of health care users and 52% of costs
Health Links are well-positioned to support the needs of vulnerable patient population sub-groups (e.g. palliative, mental health, frail elderly).

As Health Links become embedded across the province, they may be leveraged to meet the needs of vulnerable groups in collaboration with other sectors.

The recommended Target Population approach will help to identify priority sub-population groups.

Results show there is substantial overlap between the Target Population and:

- **Palliative care** patients (9 of 10 palliative care patients are in the Target Population)
- **Mental health** patients (over half of patients in the Target Population have mental health conditions)
- **Frail seniors** (70% of frail seniors are in the Target Population)
Target Population: Presence of multiple chronic and/or high cost conditions (4+)

- 51% of those with 4+ conditions are high cost users  [49% are not]
- 60% of high cost users have 4+ conditions  [40% do not]
- 3% of Ontario’s health service users are high cost users with 4+ conditions

'High cost user' = Top 5% high cost user, 2011/12
## Describing the Target Population

### Examples of high cost user / Target Population (multiple condition) patients

<table>
<thead>
<tr>
<th>4+ conditions</th>
<th>High Cost User</th>
<th>Not High Cost User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male age 30</td>
<td>Male age 30</td>
<td>Female age 65</td>
</tr>
<tr>
<td>$717,000</td>
<td>$717,000</td>
<td>$8,600</td>
</tr>
<tr>
<td>3 IP stays</td>
<td>3 IP stays</td>
<td>1 IP stay</td>
</tr>
<tr>
<td>for total of 270 days</td>
<td>+ 1 DS visit + 7 oncology visits + 30 Homecare visits + 200 OHIP claims</td>
<td>for 3 days + 4 ED visits + 5 Homecare visits + 18 OHIP claims</td>
</tr>
<tr>
<td><strong>Diagnoses</strong></td>
<td>Depression, diabetes, purpura, neoplasm, sepsis</td>
<td><strong>Diagnoses</strong></td>
</tr>
<tr>
<td><strong>Diagnoses</strong></td>
<td>Neoplasm, anxiety disorder, ischaemic heart disease, hernia, arthritis</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>&lt;4 conditions</th>
<th>Female age 55</th>
<th>Male age 80</th>
</tr>
</thead>
<tbody>
<tr>
<td>$140,000</td>
<td>$140,000</td>
<td>$1,500</td>
</tr>
<tr>
<td>IP stay of 10 days + 150 dialysis visits</td>
<td>IP stay of 10 days + 150 dialysis visits</td>
<td>14 OHIP claims</td>
</tr>
<tr>
<td><strong>Diagnoses:</strong> Renal failure, transplant</td>
<td><strong>Diagnoses:</strong> Renal failure, transplant</td>
<td><strong>Diagnoses:</strong> Renal failure, transplant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dementia, hypertension, stroke</td>
</tr>
</tbody>
</table>

IP: Acute inpatient hospital stay    DS: Day surgery    ED: Emergency dept visit    MH: Mental health inpatient stay

This figure show sample profiles for patients in the Target Population, to help illustrate how patients may be High Cost Users but not in the Target Population and vice versa (in the Target, but not necessarily a High Cost User).

**Target Population (A and B)**

A) Provides an example of a complex high needs patient with multiple conditions. The patient has had lengthy inpatient hospital stays, treatment for cancer, and received homecare. The patient is a high cost user.

B) Provides an example of a complex patient with multiple conditions who is not a high cost user. The patient has had multiple contacts with the health care system with a short hospital stay, repeat emergency department visits and homecare. The patient will likely benefit from a coordinated care approach which could help improve outcomes and patient experience.
**Socio-economic overlay**

**SES overlay allows us to see if some areas, relative to other areas, may be experiencing higher levels of socio-economic stress. Patients that come from these areas may have higher levels of social, economic hardship relative to others.**

By creating SES risk scores for areas across Ontario we can:

- See which Health Links may have more people with high SES risk. Health Links can use this information to understand their area and the population they serve.

By assigning the SES risk score of an area to patients in that area we can:

- Describe what proportion of Target Population patients (those with 4+ co-morbidities) may have additional challenges because of high SES risk and also
- Describe SES risk for those who are not in the Target

**Analysis approach for SES risk**

- Included 9 measures of socio-economic status that are consistent with Ontario’s Poverty Reduction Strategy, and Ontario Marginalization Index* (including low income prevalence, household income, government payments as a % of income, post-secondary education, households in need of repair, unemployment, living alone, recent immigration, no knowledge of official languages)

- These tell us something about material deprivation (economic), and marginalization (social/ethnic)

- Analysed National Household Survey (2011) data for each Dissemination Area (DA; ~20,000 in Ontario). Divided DA results into Quintiles (1= lowest or ‘best’ score, and 5=highest or ‘worst’ score; Summed all 9 measures into one overall score).

- Assigned the SES risk score for the DA to postal codes associated with that DA.

- Examined distribution of scores. Identified cut-off (approximately 90th percentile) to flag ‘higher SES risk’

*Used in Measures of System Performance in Ontario’s Health Links (Part 3), Dr. Seija Kromm, Luke Mondor and Dr. Walter P. Wodchis (January 2015).*
Target Population: Presence of multiple chronic and/or high cost conditions (4+) **AND higher SES risk**

- 1.44M patients (12% of population) are in the higher SES risk group: the majority are neither high cost users nor in the target population
- 7% of higher SES risk patients are in the Target Population
- 14% of the Target Population have higher SES risk

### Diagram

**All health care system users**

11,279,650

- **Target population**
- **High cost users**
- **Total higher SES risk population**: 1,444,500
- **Patients with higher SES risk not in high cost user or target populations**: 1.3 million (91.4%)
- **Higher cost, higher SES risk patients not in the target population** (n=27,000)
SECTION 3
HEALTH LINKS: EVALUATING THE IMPACT OF HEALTH LINKS

Michael Hillmer, Director, Research, Analysis and Evaluation Branch, MOHLTC
Provincial Health Links Evaluation

Designed by:
The Ministry of Health and Long-Term Care,
The Health Links Evaluation Consortium
The Health Links initiative will be evaluated through the Ministry’s Health System Research Fund (HSRF).

The HSRF provides the Ministry with access to a wealth of expertise through seasoned researchers in the areas of primary care reform, health system performance and sustainability, and community-based care. These policy-relevant research areas are particularly relevant within the context of Health Links.

The Ministry is leveraging this knowledge and expertise as part of an evaluation ‘consortium’ of HSRF-funded researchers.
Provincial Health Links Evaluation: Goals/Methodology

Goals
• The provincial evaluation will assess the effectiveness of the Health Links model at creating value for the health care system and for patients, caregivers, and providers.

Methodology
• The evaluation will use a mixed methods approach, consisting of the following analyses:

<table>
<thead>
<tr>
<th>Quantitative Analysis</th>
<th>Qualitative Analysis</th>
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<tbody>
<tr>
<td>• Identify the impact of the Health Links model on health care costs and health care utilization patterns</td>
<td>• Determine the impact of the Health Links model on patient, provider, and caregiver experience.</td>
</tr>
</tbody>
</table>

• The evaluation will also seek to leverage ongoing research initiatives related to Health Links, including Dr. Walter Wodchis and HSPRN’s evaluation in Central LHIN and work led by Dr. Moira Stewart and INSPIRE-PHC, as well as other initiatives.
Provincial Health Links Evaluation: Quantitative Analysis

- ICES will lead a pre-post observational study in which administrative data will be used to determine health care utilization patterns of patients for baseline and performance years (i.e., prior to and following patients’ enrollment in Health Links).

<table>
<thead>
<tr>
<th>Intervention Group</th>
<th>Control Group</th>
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<tbody>
<tr>
<td>The patient sample will be determined by ICES researchers.</td>
<td>A random control group comprised of patients not currently enrolled in Health Links will be identified and matched for age, gender, health profile, social needs, socio-economic status, and geographic distribution.</td>
</tr>
<tr>
<td>The patient sampling strategy will endeavour to ensure patient representativeness based on a number of factors, including but not limited to:</td>
<td>The control group will include randomly selected patients who fall within each of the selected Health Link’s geographic boundaries and who are eligible to participate in Health Links (i.e., patients living with 4+ chronic diseases) but do not currently receive care through this initiative.</td>
</tr>
<tr>
<td>• Geography;</td>
<td>• Geography;</td>
</tr>
<tr>
<td>• Rural vs. urban settings;</td>
<td>• Rural vs. urban settings;</td>
</tr>
<tr>
<td>• Age;</td>
<td>• Age;</td>
</tr>
<tr>
<td>• Gender;</td>
<td>• Gender;</td>
</tr>
<tr>
<td>• Patient health profiles;</td>
<td>• Patient health profiles;</td>
</tr>
<tr>
<td>• Socio-economic status; and</td>
<td>• Socio-economic status; and</td>
</tr>
<tr>
<td>• Patient dependence on a caregiver.</td>
<td>• Patient dependence on a caregiver.</td>
</tr>
</tbody>
</table>

- Differences in utilization patterns and costs between the intervention and control groups will be compared, both retrospectively (prior to joining Health Links) and prospectively (after joining Health Links).
The qualitative component of the Health Links analysis will consist of patient, caregiver, and provider experience surveys and/or interviews.

**Patient Experience**  
(Dr. Moira Stewart, UWO)

- Survey measures will include, but will not be limited to:
  - Timely access to care;
  - Coordination/integration of care;
  - Information provision;
  - Shared decision-making;
  - Patient engagement;
  - Patient satisfaction;
  - Mobility;
  - Demographic information;
  - Mental health status (e.g., anxiety and depression).

**Caregiver Experience**  
(Dr. Jenny Ploeg and Dr. Maureen Markle-Reid, McMaster University)

- Survey measures will include, but will not be limited to:
  - Health and well-being;
  - Caregiver strain;
  - Depression;
  - Anxiety;

- Interview questions will include, but not be limited to:
  - What aspects of Health Links are working well and what aspects are not;
  - How Health Links supports caregivers in their role;
  - The caregivers’ recommendations for change.

**Provider Experience**  
(Dr. Walter Wodchis, U of T)

- Providers within selected Health Links, identified through the Health Links lead organization, will also be asked to share their thoughts and experiences via surveys or through interviews.

- Interviews may be used to determine how lessons learned can be applied to lower performing and/or new Health Links in addition to informing the ongoing development and implementation of the advanced Health Links model.
Regional Health Links Evaluation
(Central LHIN)

Designed by: Walter Wodchis, Kevin Walker, Agnes Grudniewicz, Jenna Evans, Ross Baker

Health System Performance Research Network
Regional Health Links Evaluation (Central LHIN)

• The provincial Health Links evaluation has been informed by research being done by Dr. Walter Wodchis et al. in the Central LHIN.

Background and Goals

• This study is being undertaken in response to an Applied Health Research Question from the Central LHIN.
• The goals of the evaluation are to:
  • (1) Understand the capabilities of Health Links in the Central LHIN to undertake integrated care programs; and
  • (2) Evaluate the effect of the program on patient health care utilization outcomes.

Methodology

• The Health Links evaluation in Central LHIN also uses a mixed methods approach:
  • Quantitative analysis (review of administrative data): To examine changes in health care utilization patterns.
  • Qualitative analysis (case studies): To measure the capability of Health Links in the Central LHIN to undertake integrated care programs.
Regional Health Links Evaluation: Quantitative Analysis

• This analysis will use a registry of Central LHIN Health Links patients sourced from the CCAC, which will be linked to administrative databases at ICES for comparison with a matched comparator cohort.

• The analysis will examine the impact of Health Links on three primary outcomes (obtained from ICES databases):
  1. Acute care hospitalization;
  2. Emergency department visits;
  3. Total health system cost.

• Secondary explanatory indicators (obtained from ICES databases) include, but are not limited to:
  • Enrollment with a primary care physician;
  • # of primary care or specialist visits;
  • # of home care visits; and
  • % with primary care follow-up within seven days of an ED visit or hospitalization.
Data Analysis

- Outcome measures and explanatory measures will be captured for the period of one year prior to admission to Health Links (index date) and one year after the index date.

- The general analysis strategy for the majority of outcomes will be to employ a **differences-in-differences approach**.
  - Pre-post differences in the outcomes for Health Links patients before and after enrolling will be compared to the same differences over time for matches control patients.

<table>
<thead>
<tr>
<th></th>
<th>HL Participant</th>
<th>Non-HL Participant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-enrolment period</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Pre-enrolment period</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>First (pre-post) difference</td>
<td>A - C</td>
<td>B - D</td>
</tr>
<tr>
<td>Difference-in-difference</td>
<td>(A - C) - (B - D)</td>
<td></td>
</tr>
</tbody>
</table>
The purpose of the qualitative analysis (case studies) is to measure the capability of Health Links in the Central LHIN to undertake integrated care programs.

The analysis will consist of:

1. Qualitative semi-structured key informant interviews with leadership and key providers;
2. Surveys of leaders and key providers using a comprehensive survey tool; and
3. Surveys of all other providers using brief partnership survey tool.
Regional Health Links Evaluation: Qualitative Analysis

- Qualitative interview data will be analyzed using thematic analysis and the Context and Capabilities for Integrated Care Framework, developed by the HSPRN.
- This framework includes various measures (taken from academic literature) that help assess an organization’s context and capabilities when it comes to effective integrated care delivery.*

SECTION 4
HEALTH LINKS: WITHIN THE BROADER SYSTEM

Phil Graham, Director, Primary Health Care Branch
Nadia Surani, A/Manager, Inter-professional Programs Unit, Health System Accountability and Performance Division
The Ministry’s proposal for health system transformation has four components

• Key learnings from Health Links informed features of the Ministry’s proposal to strengthen patient-centred care - “Patients First, A Proposal to Strengthen Patient-Centred Health Care in Ontario”.

1 Effective Integration of Services and Greater Equity
   • Make LHINs responsible for all health service planning and performance.
   • Identify sub-LHIN regions as the focal point for integrated service planning and delivery (note that these regions would not be an additional layer of bureaucracy).

2 Timely Access to, and Better Integration of, Primary Care
   • LHINs would take on responsibility for primary care planning and performance improvement, in partnership with local clinical leaders.

3 More Consistent and Accessible Home & Community Care
   • Direct responsibility for service management and delivery would be transferred from CCACs to the LHINs.

4 Stronger Links to Population & Public Health
   • Linkages between LHINs and public health units would be formalized.
1. More Effective Service Integration, Greater Equity

- The mandate of LHINs would be extended to play a greater role in primary care, home and community care, and public health.

- LHINs would identify smaller geographic regions that follow recognized care patterns. These LHIN sub-regions would not be the focal point for local planning and service management and delivery.

- LHINs and LHIN sub-regions would assess local priorities, current performance, and areas for improvement to achieve integrated, comprehensive care for patients.

- The expanded LHIN role would be inclusive of the voices of Indigenous peoples, Franco-Ontarians, newcomers, and people with mental health and addictions issues in order to better address their health outcomes.

Anticipated Performance Improvements

- Care delivered based on community needs
- Appropriate care options enhanced within communities
- Easier access to a range of care services
- Better connections between care providers in offices, clinics, home and hospital
2. Timely Access to Primary Care, and Seamless Links Between Primary Care and Other Services

- High quality primary health care is the foundation of any high-performing health care system.

- Each LHIN and LHIN sub-region would be responsible for organizing local primary care to ensure access to high quality, integrated care for the patients in their region.

  - LHINs would work closely with patients and primary care providers to plan and monitor performance, and to identify ways to improve care that are tailored to the needs of each community.

  - LHINs and LHIN sub-regions would be responsible for ensuring that local patients have access to primary care. This does not mean that patients would be required to receive care in their region or that patients would no longer be able to choose their provider.

Anticipated Performance Improvements

- All patients who want a primary care provider have one
- More same-day, next-day, after-hours and weekend care
- Lower rates of hospital readmissions; lower emergency department use
- Higher patient satisfaction
3. More Consistent and Accessible Home & Community Care

- Essential home care functions would be moved into the LHINs to enable better integration with other parts of the health care system.

- LHIN boards would have responsibility for oversight of home and community care.

- Home care coordinators would be increasingly focused on LHIN sub-regions and placed in primary care settings.

- Most home care services would continue to be provided by current service providers. Over time, contracts with these service providers would be better aligned with LHIN sub-regions.

- The ministry’s 10 step plan Patients First: A Roadmap to Strengthen Home and Community Care would continue with greater support and renewed emphasis under LHIN leadership.

Anticipated Performance Improvements
- Easier transitions from acute, primary and home and community care and long-term care
- Clear standards for home and community care
- Greater consistency and transparency around the province
- Better patient and caregiver experience
4. Stronger Links Between Population & Public Health and other Health Services

- Population health – defined as the health outcomes of a particular community – is a core responsibility of local public health units in Ontario.

- The proposed reforms would integrate population health and health system planning and delivery.

- LHINs and public health units would formalize the alignment of their work and planning to ensure that population and public health priorities inform planning, funding and delivery.

- The ministry plans to modernize the Ontario Public Health Standards and Organizational Standards.

- The ministry would appoint an expert panel to advise on opportunities to deepen that partnership between LHINs and local boards of health and to improve public health capacity and delivery.

Anticipated Performance Improvements

- Health service delivery better reflects population needs
- Public health and health service delivery better integrated
- Social determinants of health and health equity incorporated into care planning
- Stronger linkages between disease prevention, health promotion and care
Next Steps

- The ministry is inviting feedback from staff within the system, patients, clients and caregivers and health care partners about how this proposal would affect care in your community.

- Feedback and questions can be sent to health.feedback@ontario.ca