Funding Healthcare in Canada: The Pitfalls and Opportunities

5th Annual Norman Bethune Symposium
Vancouver, BC

Jason M. Sutherland
Associate Prof, Centre for Health Services and Policy Research, UBC
Senior Researcher, Agency for Healthcare Research and Quality
Scholar, Michael Smith Foundation for Health Research
Health spending per capita, OECD, 1980-2010

Source: OECD
Overview

• 2014:
  – Spending on healthcare in Canada was estimated to be $214.9 billion
  – Over $6,000 per Canadian

• Health is ~47% of provincial government’s budget
  • Hospitals are the largest and most costly segment of the Canadian healthcare system
  • Crowding out other sectors of public spending: Education
Current State of Funding:

- Sector-based
- Government/HAs pour in money: Unclear value
Overview: Silos

• Global Budgets for Hospitals
  – Pay for all the services delivered by the hospital irrespective of the volume and type of care delivered
  – Cost containment and opaque
  – No incentive for increasing access
    • Decreasing wait times and discouraging early discharge
    • Alternate level of care: no ‘push’ and no ‘pull’
  – Predictable budgets and cost certainty
Overview: Silos

• Physician Payment
  – Fee-for-service payments based on fee schedules
    • Paid by provinces directly
    • By-pass hospitals and regions
  – Incentive for increasing volume of services
  – No incentive for increasing effectiveness or quality
  – No alignment with population need
Overview: Silos

• State of Affairs:
  – Hospital budgets have increased ~5%, each year, for the last decade
  – Wait times have not improved despite significant expansion of $ and capacity
    • Why is this? Elasticity of supply?
  – Significant political and health policy issue
Overview: Silos

- Recent, but not new, findings rank Canada’s performance among the worst of 11 OECD countries in:
  - Safety and coordination of care
  - Timely communication between sectors
  - Access to specialists and elective surgery
  - Poor access to off-hours primary care

<table>
<thead>
<tr>
<th></th>
<th>Australia</th>
<th>Canada</th>
<th>France</th>
<th>Germany</th>
<th>Netherlands</th>
<th>New Zealand</th>
<th>Norway</th>
<th>Sweden</th>
<th>Switzerland</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Able to get Same/Next Day Appointment When Sick</td>
<td>65%</td>
<td>45%</td>
<td>62%</td>
<td>66%</td>
<td>72%</td>
<td>78%</td>
<td>45%</td>
<td>57%</td>
<td>93%</td>
<td>70%</td>
<td>57%</td>
</tr>
<tr>
<td>Very/Somewhat Difficult Getting Care After Hours</td>
<td>59%</td>
<td>65%</td>
<td>63%</td>
<td>57%</td>
<td>33%</td>
<td>38%</td>
<td>45%</td>
<td>68%</td>
<td>43%</td>
<td>38%</td>
<td>63%</td>
</tr>
<tr>
<td>Waited Two Months or More for Specialist Appointment(a)</td>
<td>28%</td>
<td>41%</td>
<td>28%</td>
<td>7%</td>
<td>16%</td>
<td>22%</td>
<td>34%</td>
<td>31%</td>
<td>5%</td>
<td>19%</td>
<td>9%</td>
</tr>
<tr>
<td>Waited Four Months or More for Elective Surgery(b)</td>
<td>18%</td>
<td>25%</td>
<td>7%</td>
<td>0%</td>
<td>5%</td>
<td>8%</td>
<td>21%</td>
<td>22%</td>
<td>7%</td>
<td>21%</td>
<td>7%</td>
</tr>
</tbody>
</table>
• Warranted variation: Natural variations in how patients want to be treated
• Professional model that rewards autonomy
• Inadequate information on:
  • Patient characteristics and risks
  • Risks and benefits of treatment choices
  • Processes of care and outcomes

Source: BC Ministry of Health, 2014
## Variations in Access and Quality

<table>
<thead>
<tr>
<th>Quartile</th>
<th>Hospital</th>
<th>Hospital Adjusted Rate per 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest</td>
<td>Surrey Memorial Hospital</td>
<td>49.4</td>
</tr>
<tr>
<td></td>
<td>Burnaby Hospital</td>
<td>60.6</td>
</tr>
<tr>
<td></td>
<td>Kelowna General Hospital</td>
<td>62.2</td>
</tr>
<tr>
<td></td>
<td>Royal Columbian Hospital</td>
<td>63.3</td>
</tr>
<tr>
<td></td>
<td>Abbotsford Regional Hospital and Cancer Centre</td>
<td>70.8</td>
</tr>
<tr>
<td></td>
<td>Langley Memorial Hospital</td>
<td>75.2</td>
</tr>
<tr>
<td>Highest</td>
<td>Victoria General and Royal Jubilee Hospital</td>
<td>90.6</td>
</tr>
<tr>
<td></td>
<td>Penticton Regional Hospital</td>
<td>91.6</td>
</tr>
<tr>
<td></td>
<td>Nanaimo Regional General Hospital</td>
<td>91.7</td>
</tr>
<tr>
<td></td>
<td>Kootenay Boundary Regional Hospital (Trail)</td>
<td>93.5</td>
</tr>
<tr>
<td></td>
<td>St. Joseph's General Hospital [BC]</td>
<td>95.6</td>
</tr>
<tr>
<td></td>
<td>Campbell River and District General Hospital</td>
<td>97.4</td>
</tr>
</tbody>
</table>

Highest and lowest rates of hip fracture surgery within 48 hrs
Source: BC DAD data from 2011/2012
Variations Across the Continuum

Adjusted ratio of placement to LTC for hospitalized medical patients, Alberta

Source: Sutherland et al, 2013
Variations Across the Continuum

LHIN 10
N = 2,663

Acute hospitalization
Total cost: $11,354
Hospital services: $9,294
Physician services: $2,060

Re-hospitalizations within 30 days
Total cost: $9,416

Discharge from acute care

Inpatient rehabilitation
Total cost: $7,062

6.8%

Home care
Total cost: $803
64.0%

Home with no services
29.2%

Total post-acute care cost: $1,794

Total expected cost for the episode: $13,147

LHIN 8
N = 4,807

Acute hospitalization
Total cost: $11,858
Hospital services: $9,193
Physician services: $2,665

Re-hospitalizations within 30 days
Total cost: $11,858

Discharge from acute care

Inpatient rehabilitation
Total cost: $7,062

53.4%

Home care
Total cost: $904
19.4%

Home with no services
27.2%

Total post-acute care cost: $4,065

Total expected cost for the episode: $16,137

Source: Hellsten, 2013
Variations Across the Continuum
Variations Across the Continuum

Cumulative spending on stroke care

- Champlain LHIN
- Ontario
- Erie St. Clair LHIN

Index event | Index + 30 days post-discharge | Index + 60 days post-discharge | Index + 90 days post-discharge

$0 | $10,000 | $20,000 | $30,000 | $40,000
Overview

• Glaring problems – easy to see, hard to fix

• Provider payment reforms:
  – Implemented activity-based funding for hospitals
    • A single amount for each patient’s type of care during hospitalization (per case)
  – Pay-for-performance for decreasing Emergency Department waits
  – Marginal pricing models for surgical treatment
Activity-based Funding: The BC Experiment

- Observed
- Pre-ABF trend

ABF implemented April 2010


ABF implemented April 2010

Activity-based Funding: The BC Experiment

**Medical**

- Observed
- Pre-ABF trend

**Surgical**

- Observed
- Pre-ABF trend

ABF implemented April 2010
Activity-based Funding: The BC Experiment

• Why are the results from hospitals in BC different from those reported in other countries?
  – Three year horizon of the program limited hospital’s response to the incentives, such as expanding capacity
  – Less than 20 percent of hospital’s government revenues and a no-loss provision
  – Hospital-focused with no commensurate changes in the post-acute care sector
Pay-for-Performance

• Program:
  – Incentives to decrease ED wait times

• Incentives:
  – Percentage of patients attaining wait time thresholds equates to incremental hospital funding
  – Small financial incentive, renewed annually

• Results:
  – No change observed in ED wait times
Marginal Pricing Surgical Treatment

• **Program:**
  - Attempt to unlock marginal surgical capacity within hospitals

• **Incentive:**
  - Government (agency) provided a price for each surgery

• **Results:**
  - Price was less than hospitals’ marginal cost in most scenarios regarding excess capacity
  - Joint replacements were profitable in all scenarios
Marginal Pricing Surgical Treatment

- Pricing is absolutely important!

<table>
<thead>
<tr>
<th>Inpatient surgery case mix title</th>
<th>Hospital average cost</th>
<th>Marginal Cost in Canadian $</th>
<th>HSPO price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sinus intervention</td>
<td>$2709</td>
<td>$721</td>
<td>$2595</td>
</tr>
<tr>
<td>Non-complex hernia repair</td>
<td>$3026</td>
<td>$654</td>
<td>$2499</td>
</tr>
<tr>
<td>Complex hernia repair</td>
<td>$4446</td>
<td>$987</td>
<td>$3717</td>
</tr>
<tr>
<td>Shoulder/rotator cuff intervention</td>
<td>$3308</td>
<td>$655</td>
<td>$2550</td>
</tr>
<tr>
<td>Shoulder replacement</td>
<td>$8845</td>
<td>$3388</td>
<td>$7598</td>
</tr>
<tr>
<td>Unilateral hip replacement</td>
<td>$9800</td>
<td>$3322</td>
<td>$8526</td>
</tr>
<tr>
<td>Unilateral knee replacement</td>
<td>$8734</td>
<td>$2708</td>
<td>$7599</td>
</tr>
<tr>
<td>Revised knee replacement w/o infection</td>
<td>$10,930</td>
<td>$3836</td>
<td>$9498</td>
</tr>
<tr>
<td>Revised knee replacement with infection</td>
<td>$12,588</td>
<td>$3688</td>
<td>$10,725</td>
</tr>
</tbody>
</table>

Source: Sutherland, 2015
Current State

• Little or no effect in BC
  – Many possible reasons and barriers; Hospital focused
  – Disconnected from physicians, long-term care and community-based care

• Ontario and Quebec are now implementing funding policy changes

• *We make our system more costly and ineffective - and, likely, poorer quality, than necessary*
The current international consensus is to encourage integrated models of care using financial incentives.

<table>
<thead>
<tr>
<th>Lever</th>
<th>Quality</th>
<th>Fragmentation</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding Policy</td>
<td>Value-based Purchasing and Non-Payment</td>
<td>Episodes of Care</td>
<td>Episodes of Care</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Meaningful Use of EHR</td>
<td>Meaningful Use of EHR</td>
</tr>
<tr>
<td>Organization and Delivery System</td>
<td>Accountable Care Organizations</td>
<td>Accountable Care Organizations</td>
<td>Accountable Care Organizations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medical Home</td>
<td>Medical Home</td>
</tr>
<tr>
<td>System-Level</td>
<td>Cross Sector Data Standardization</td>
<td>Patient Outcomes and Experience</td>
<td></td>
</tr>
</tbody>
</table>
Contrasting Approaches to Improving Value

**Continuum of Payment Bundling**
With examples from jurisdictional review

- **Scope of services / providers bundled**
  - Multiple providers, all care settings
  - Multiple providers, single care setting
  - Single provider entity

- **Episode duration**
  - Per service
  - Per discharge
  - Defined time window
  - Year of care

- **Payment windows**
  - Medicare End Stage Renal Disease Bundle (US)
  - Medicare Participating Heart Bypass & Acute Care Episode demonstrations (US)
  - Chronic Kidney Disease QBP (Ontario)
  - Cystic fibrosis tariff (England)
  - Diabetes Bundled Payment (Netherlands)
  - Bundled Payments for Care Improvement (US)
  - Medicare Oncology Care Model (US)
  - Systemic treatment QBP (Ontario)
  - Medicare Oncology Care Model (US)
Key Take-Aways

• Some integrated funding and delivery models already occur in provinces
  – Chronic kidney disease, Cancer

• Focused on clinical areas with high variability in spending, quality or effectiveness
  – Mixed methods review found many knew where problems existed + data validation
  – Unwarranted variation amenable to change
Key Take-Aways

• Known Barriers:
  – Information sharing between sectors
  – Privacy
  – Labour contracts and scopes of practice
  – Physician relationships
  – Measuring outcomes that matter to patients
Summary

• At limit of silos? Integrated funding models are coming
  – Our system is similar to others undergoing change
  – Provinces hold policy levers

• Many templates to choose from
  – ACOs, episodes, year of care, etc, built on fee-for-service

• Many opportunities! Barriers are well known.
Advancing world-class health services and policy research and training on issues that matter to Canadians

jsutherland@chspr.ubc.ca
www.healthcarefunding.ca

www.chspr.ubc.ca
@CHSPR