A Review of Value Assessments of QCNL Projects

December 17, 2018
Demographic Change
Newfoundland and Labrador

**Population**

- **Total**
- **0-14**
- **15-64**
- **65+**

**% Change**

- **1996-2016**
  - Total: -5%
  - 0-14: -31%
  - 15-64: -9%
  - 65+: -16%
- **2016-2036**
  - Total: -5%
  - 0-14: 0%
  - 15-64: 50%
  - 65+: 18%

Source: Finance Gov NL
Provincial government health expenditure, 2017

Canada (average)  
Newfoundland  
Alberta  
Manitoba  
Saskatchewan  
Prince Edward Island  
Nova Scotia  
New Brunswick  
Quebec  
British Columbia  
Ontario

Source: CIHI
WHO WE ARE
Right treatment, right patient, right time

Conduct evidence-based research

Promote recommendations & guidelines

Monitor, evaluate, report changes over time

Implement solutions

Offer tools & resources
Interventions to Change Behavior

- Targeted Email Campaigns
- Practice Points
- Academic Detailing
- Implementation
- CME
- Public Campaigns
Unnecessary Care

Antibiotic prescriptions, 2014

- Newfoundland
- Saskatchewan
- Alberta
- Nova Scotia
- New Brunswick
- Prince Edward Island
- Ontario
- Manitoba
- British Columbia
- Quebec

Defined daily dosage

- Newfoundland has the highest rate, with 12 defined daily dosages.
- Quebec has the lowest rate, with 5 defined daily dosages.
Success Reducing Antibiotic Prescriptions

Total Annual Cost Avoidance from antibiotic prescription reduction in NLPDP Program

<table>
<thead>
<tr>
<th>Ab rate/100 active patients</th>
<th>Fiscal Year 2013</th>
<th>Fiscal Year 2014</th>
<th>Fiscal Year 2015</th>
<th>Fiscal Year 2016</th>
<th>Fiscal Year 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>97</td>
<td>44,193</td>
<td>48,799</td>
<td>49,195</td>
<td>49,241</td>
<td>44,807</td>
</tr>
</tbody>
</table>

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<tr>
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</thead>
<tbody>
<tr>
<td>49,241</td>
<td>44,807</td>
<td>4,434</td>
<td>9%</td>
<td>$88,680</td>
</tr>
</tbody>
</table>
Unnecessary Care

CT scans per 1,000 population

CT Scans Performed
- Newfoundland
- Canada

Harms of radiation
Benefits of imaging

21 guidelines from Choosing Wisely Canada on appropriate use of CT scans

Currently engaged with AB and ON in a randomized control trial to reduce unnecessary imaging
Success Reducing Unnecessary Testing in General Practice

Monthly Volume of Blood Urea Over Three Years

- Taken off the form
- Academic detailing
- 62% reduction

Number of Urea

Year:

2015

2016

2017
Success Reducing Unnecessary Testing in General Practice

Monthly Volume of Creatine Kinase Over Three Years

![Graph showing the monthly volume of creatine kinase from 2015 to 2017, with a 31% reduction after academic detailing.]
Success Reducing Unnecessary Testing in General Practice

Monthly Volume of Ferritin Over Three Years

- Academic detailing
- 20% reduction

Yearly data from 2015 to 2017.
## Success Reducing Unnecessary Testing in General Practice

Total Annual Cost Avoidance in **Eastern Health** from Unnecessary Biochemical Testing

<table>
<thead>
<tr>
<th>Test</th>
<th>% reduction</th>
<th>Cost avoidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDH</td>
<td>71%</td>
<td>$37,136</td>
</tr>
<tr>
<td>Urea</td>
<td>62%</td>
<td>$267,220</td>
</tr>
<tr>
<td>Creatine Kinase</td>
<td>31%</td>
<td>$44,264</td>
</tr>
<tr>
<td>AST</td>
<td>42%</td>
<td>$31,028</td>
</tr>
<tr>
<td>Uric Acid</td>
<td>26%</td>
<td>$24,716</td>
</tr>
<tr>
<td>Ferritin</td>
<td>20%</td>
<td>$159,280</td>
</tr>
<tr>
<td><strong>Total for all tests</strong></td>
<td></td>
<td><strong>$563,644</strong></td>
</tr>
</tbody>
</table>

Data over six month period (July - December) 2015 was compared with (July – December) 2017
## Success in Reducing Pre-op Testing in Healthy Patients having Low/moderate Risk Surgery

### Testing in low/moderate risk surgery in St. John’s

<table>
<thead>
<tr>
<th></th>
<th>Patients</th>
<th>Creatinine $8</th>
<th>INR $12</th>
<th>Hemoglobin $11</th>
<th>CXR $68</th>
<th>ECG $50</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016 (pre)</td>
<td>3997</td>
<td>4235</td>
<td>1573</td>
<td>4756</td>
<td>1135</td>
<td>2787</td>
</tr>
<tr>
<td>2017 (post)</td>
<td>4039</td>
<td>4027</td>
<td>1223</td>
<td>4621</td>
<td>607</td>
<td>1711</td>
</tr>
<tr>
<td>Reduction %</td>
<td>208</td>
<td>350</td>
<td>135</td>
<td>528</td>
<td>1076</td>
<td>39%</td>
</tr>
<tr>
<td>Cost Avoidance</td>
<td>$1,664</td>
<td>$4,200</td>
<td>$1,485</td>
<td>$35,904</td>
<td>$53,800</td>
<td></td>
</tr>
</tbody>
</table>

**Actual cost avoidance = $97,053**

**Potential Additional Cost Avoidance/Year > $100,000**
Success Enhancing Recovery After Surgery

- ERAS guidelines for colorectal cancer surgery piloted in 2016
- Length of stay in hospital decreased (1.8 days) compared to 2014 six months following implementation = $575,000 cost avoidance in hospital stays + readmissions

*Estimated cost for 2016 is a 1 year projection from 6 months of data
Success Improving Outcomes with Comprehensive Geriatric Assessments

Readmissions at St. Clare’s following Comprehensive Geriatric Assessments

<table>
<thead>
<tr>
<th></th>
<th>Intervention</th>
<th>Control 1</th>
<th>Control 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Patients</td>
<td>212</td>
<td>149</td>
<td>201</td>
</tr>
<tr>
<td>N (%) of patients readmitted after discharge</td>
<td>53 (25%)</td>
<td>51 (34%)</td>
<td>67 (33%)</td>
</tr>
<tr>
<td>Cost of Avoidance</td>
<td>$140,000</td>
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<td></td>
</tr>
</tbody>
</table>

Hazard ratio of 0.66 for intervention group versus control
39 assessments completed in total
Perceived Impact

- 44% intervention was less costly and more effective
- 31% expect >5000 individuals to benefit from the outcomes of the project
Perceived Impacts Summary

- 26% Wait times
- 82% Direct medical
- 23% Direct non-medical
- 51% Quality of Life
- 13% Absenteeism
- 38% Free up time for health care teams
82% expect a reduction in direct medical costs by >$100,000

20% expect a reduction in direct medical costs by >$100,000

Areas in which direct medical costs are expected to be reduced
QUESTIONS & DISCUSSION