



Canadian Foundation for
**Healthcare
Improvement**

Fondation canadienne pour
**l'amélioration des
services de santé**

INSPIRED Collaborative Workshop

Capturing the Cost of Doing Improvement & Return on Investment

February 11, 2015

11:15am-12:00pm PST

Accelerating healthcare improvement
Accélérer l'amélioration des services de santé

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Presenters



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Disclosures

■ Work-related

- Funding: Ontario Neurotrauma Foundation/Rick Hansen Institute, Canadian Foundation for Healthcare Improvement, Canadian Institute for Health Research, Statistics Canada, Cancer Care Ontario/Ontario Institute for Cancer Research, Ontario HIV Treatment Network, Canadian Stroke Network, Sunnybrook/Ministry of Health, Canadian Patient Safety Institute;
- Industry: Consultant, advisor, modeller to many pharmaceutical/device companies for products related to oncology, respirology, cardiology, diabetes, HIV;
- Third Party Payers: Consultant, advisor;
- Collaborated with CADTH, ICES, NICE, MOH;
- Company provides costing advice.

■ Personal-related

- Husband, 3 children, dog;
- Tax payer;
- 3 degrees of separation from Mother Teresa.

Why Care About Costing?

- To understand if interventions to improve healthcare quality are being delivered efficiently and whether they can be delivered more efficiently
- To inform business plans and help create imperatives for change to engage stakeholders and encourage sustainability
- To help organizations identify opportunities for reinvestment
- Greater accountability in a time when resources are scarce

What Elements Need To Be Considered?

1. Perspective
2. Outcomes
3. Costs
4. Time Horizon

1. Perspective

What is the perspective of the analysis?

- Who is the target?
- Who is the information for?
- Who is the payer?
- Sets up/identifies the type of resources and costs required for the analysis.
- Different perspectives: societal, institutional, clinical, whole-health system....



2. Outcomes

What is the outcome of interest?

- Clinical
- Quality of life
- Health system
- Other?

What is important to the payer/perspective?



3. Costs

What is the cost?

- Dependent on the perspective of the analysis
- Identify the resources-experts in the area, continuum of care, round table, medical, non medical, equipment, time
- Identify the sources of the data-patients, databases, health care professionals, prospective and retrospective studies
- Quantify the resources
- Value the resources



4. Time Horizon

What is the time horizon for the analysis?

- Dependent on perspective
- Measurable vs. Modelled

What is important to the payer/perspective?



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Table 1 Unit cost list.

Description	Cost (2006 \$ CAD)	Source
<i>Drugs (per month)</i>		
Inhaled corticosteroid	\$64.02	Ontario Drug Benefit Formulary (ODBF)
Oral corticosteroid	\$1.00	ODBF
Theophylline	\$15.16	ODBF
Anticholinergic (short acting) inhaled	\$68.12	ODBF
Beta agonist (long acting) inhaled	\$60.53	ODBF
Beta agonist (short acting) inhaled	\$6.26	ODBF
Leukotriene receptor antagonist	\$55.92	ODBF
Antibiotic	\$28.60	ODBF
<i>Physician</i>		
General practitioner	\$58.20*	Ontario Schedule of Benefits (OSB) version July 1, 2006
Respiratory specialist	\$58.25 [†]	OSB
Other specialist	\$58.25	OSB
Emergency physician	\$86.10	OSB
<i>Allied health professionals</i>		
COPD case manager (RN)	\$35.80	Ontario Nurses's Ass (ONA) http://www.ona.org/faq/index.html#ont_sal
<i>Laboratory/diagnostics</i>		
Spirometry	\$17.05	Ontario Schedule of Laboratory Fees (OSLF)
Blood gases	\$47.05	OSLF
Sputum	\$11.37	OSLF
Urine	\$2.59	OSLF
X-ray chest	\$32.05	OSLF
Bronchial endoscopy	\$184.61	OSLF
ECG	\$105.95	OSLF
<i>Outpatient/Inpatient tests</i>		
Arterial blood gases	\$17.89	OSB/OSLF
Auscultation	\$30.70	OSB/OSLF
CAP gases	NA	OSB/OSLF
Oximetry	\$4.30	OSB/OSLF
Peak flow	\$28.80	OSB/OSLF
Pulmonary function test	\$154.38	OSB/OSLF
<i>Transportation</i>		
Ambulance	\$845.61	http://www.health.gov.on.ca/english/public/program/ehs/land/service_qa.html
House call	\$41.75	OSB
Nurse home care	\$20.60	http://www.eldercarehomehealth.com/Rates.html
<i>Rehabilitation</i>		
Inpatient+outpatient	\$17,122	²⁹
Outpatient programme (6 weeks)	\$1600	³⁰
<i>Oxygen</i>		
Oxygen [‡]	\$0.00	http://www.health.gov.on.ca/english/public/pub/adp/pdf/oxygen.pdf Full reimbursement by OMOH ADP oxygen program

*Due to exacerbation billed as general assessment.

[†]Due to exacerbation billed as medical specific assessment.

[‡]No oxygen volume information was collected in the RUSIC study, therefore not possible to cost.



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Unpacking the Cost of Doing Quality Improvement (QI)

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Itemizing QI Program Costs

▪ Start-up costs:

1) Personnel

- Clinical care physicians; nurses, respiratory therapists, pharmacists...
- Backfill staff for education/information sessions, or for project management
- Release of staff time

2) Education and training expenses

3) Capital items

4) Materials, supplies and services

5) Travel: to different sites, stakeholder group meetings

6) Other related upfront costs

Itemizing QI Program Costs (Cont'd)

- **Recurring costs:**
 - Personnel
 - Refresher education and training
 - Equipment or other capital costs
 - Materials, supplies, and services
 - Other (e.g. communication and outreach activities)

For Example: Quantifying Benefits of QI Work

- **Utilization benefits**
 - Reduced use of healthcare resources
 - E.g. reduction in hospital admissions, emergency department (ED) visits, hospital length of stay, re-hospitalization, etc.
- **Quality/Service benefits**
 - E.g. Wait time reductions, % patients dying in their place of choosing, patient satisfaction
- **Health-related benefits**
 - Improved clinical outcomes
- **Quality of life gains**
 - QALY gain due to an improved clinical outcome



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Case Example - Hamilton Health Sciences

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Overview

- Partnership between Hamilton Health Sciences, Hamilton Niagara Haldimand Brant Community Care Access Centre and VitalAire Home Healthcare
- Overarching aim: to implement a holistic, proactive, evidenced-based model of care for patients living with moderate to severe COPD while supporting caregivers, reducing reliance on hospital-based care and containing costs



Question of Interest

- Is it good value for money to keep funding this program?

Perspective

- Third-payer party perspective or a societal perspective

Outcomes

■ Utilization benefits

- Decreased # of admissions for COPD
- Decreased # of patients admitted twice or more in 6 months
- Decreased absolute % of unplanned readmissions within 30 days (same as/related diagnosis)
- Decreased # of ED visits for COPD

Outcomes Continued

- **Quality/Service benefits**
 - Improved care transitions from hospital to community
 - Process measures (e.g. timely follow-up with family practice)
 - Decreased # of deaths in hospital for patients with COPD
 - Patient and family care giver experience with INSPIRED program

Outcomes Continued

- **Health benefits**

- COPD in-hospital mortality rate

- **Cost benefits**

- Total acute inpatient direct costs for COPD
- Total direct cost per emergency department (ED) visit for COPD

- **Quality of life (QoL) gains**

- Improved QoL for patients with COPD

Costs: Project Management and Administration

Sample activities: Develop memorandum of understanding, patient consent form, charter, work plan

- Project lead, respirology lead, executive sponsor, project manager
- Working group participation by front-line managers and staff
- Quality improvement specialist consultation
- Legal counsel & privacy officer consultation
- Administrative staff support
- Supplies and equipment (e.g. printing of education materials, computer, office equipment, etc.)



Costs: Measurement and Evaluation

Sample activities: Identify/review/select potential assessment and survey tools, develop indicators, design and test data collection tools, complete data analysis and reporting

- Physician Measurement Lead
- Process Improvement Advisor
- Integrated Decision Support (IDS) Staff
- Front-line staff to complete “manual” survey administration and data collection for pre, post and potentially mid-program evaluation
- Ongoing analysis/reporting (outcome, process, balancing measures)



Costs: Project Outreach, Communication and Education

Sample activities: Internal and external stakeholder communication, INSPIRED program staff communication, orientation, education

- Public Relations (external media launch)
- Presentations to internal medical, clinical and administrative leaders and staff at acute site
- INSPIRED program staff session with orientation to program, processes and tools
- Follow-up education for Psychosocial Spiritual Bereavement Clinicians to give overview of COPD and review COPD Discharge Transitions Bundle
- Family physician engagement

Costs: INSPIRED Program Delivery

- INSPIRED Nurse Coordinator (3 patient contacts)
- Respiriology Physicians (increase in activity)
- Respiratory Therapists (4 patient contacts)
- Psychosocial Spiritual Bereavement Clinicians (2 patient contacts)
- Weekly case review teleconferences
- Meetings to support process improvement, data sharing, leadership updates, etc.
- Transportation costs for home visits



Time Horizon

- Time-limited collaborative (12 months)
- Some health outcomes (e.g. in-hospital mortality rate), will require long-term analysis to reveal an impact on costs

Discussion

Are you interested in capturing the costs of your program?

1. Why or why not?
2. What challenges you about capturing these?

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