The Science of Performance Measurement: Next Frontiers in Research

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Society’s Expectations

- Optimal Course Possible for Condition X, Y
- Natural Course
- Effect of Health Care
- Contribution Of Health Research
- Adverse effects of treatment

Time

Health Status
Best Case Scenario: Optimal Course with Low Variability in Outcomes for Equivalent Resources
Poorly Performing System: High Variability in Expected Output for Equivalent Resources

Health Status

Optimal Course Possible

Great, Good, No Impact, Unsafe

Natural Course

Time
Moving the Dial on Health: Early Wins Focus on Common Problems with Big Intervention Effects

Optimal Course

Natural Course

Health Status

Time

Effect of Health care

Adverse effects of treatment

Targets for Health System/Provider Performance

Targets for Biomedical/Social/Epigenetic Discovery

Health Status

Time

Adverse effects of treatment

Optimal Course

Natural Course
What’s In the Secret Sauce to Optimize System Performance

Measurement, Feedback, Incentives

Effective Interventions

Organization of People, Programs, Policies to Deliver Effective Interventions
Towards Evidence-Based Policies, Programs, & Interventions
Non-Evidence-Based Quality Process Measures Can Cause Harm

- Infant Positioning → SIDS
- Hormone Replacement → MI/Stroke
- O2 for Premies → Retrolental Fibroplasia
Towards Evidence-Based Policies & Programs
Improving Access to Primary Care

Case study: Primary health care reform in Ontario

- ~$1B/year for patient rostering, interdisciplinary care teams, blended payment models, bonus payments and incentives (for screening, prevention, etc.)
- penalty for utilization outside the group practice
- The result?

Glazier et al. All the Right Intentions but Few of the Desired Results: Lessons on Access to Primary Care from Ontario's Patient Enrolment Models. *Healthcare Quarterly* 2012; 15(3)
**No Change In Access to Primary Care or ED Use**

Are there Missing Ingredients?

Are these Process Measures Appropriate?

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"Many patients continue to be without timely access to care, and the use of walk-in clinics and emergency departments remains high...the details of how incentives are structured matters."

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<th>Year</th>
<th>% with primary care physician</th>
<th>% same/next day appointment</th>
<th>% walk-in clinic visit in past year</th>
<th>ED visits per 100 population</th>
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Restructuring the Care Team: Reduction in Mortality/Disability with Stroke Programs vs tPA

Stroke Units vs. Usual Care

Absolute Reduction in Mortality/Disability

15.8%


tPA vs. Usual Care

Absolute Reduction in Mortality/Disability

4.9%

Systematic Review tPA: Cochrane, 2010
Re-Designing Pre-Hospital Emergency Care

- “The Golden Hour”
- Improved survival in trauma cases
- Trained healthcare professionals to work specifically in emergency medical situations
  - Ex: Paramedics
Impact of Re-Designing Pre-Hospital Care in Trauma Cases

Patients were more likely to survive when their life-threatening events were managed in the pre-hospital phase.

The importance of pre-trauma centre treatment of life-threatening events on the mortality of patients transferred with severe trauma. Gomes et al., 2010.
Re-engineering the Continuum of Care for Hip and Knee Replacement

Primary Care & Referral
- Referral template
- Surgeon access
- Benchmark/monitor

Pre-surgery
- Centralize intake
- Case manager
- Patient buddies

Surgery
- Standard treatment
- Dedicated OR team
- Benchmark/monitor

Post-surgery
- Standardize rehab
- Monitor outcomes

Raising the Bar: New Generation Learning Health Care System

- The Learning Health System
- Optimal Course Possible for Condition X, Y
- Effect of Health care
- Adverse effects of treatment
- Natural Course

Health Status vs. Time
The Learning Health System: Tackling the Tough Populations

Representative timeline of a patient’s experience in the health care system

Source: Best care at lower cost: the path to continuously learning health care in America. Institute of Medicine, 2012
Clinical Data Research Networks (CDRNs): system-based networks that originate in healthcare systems, such as hospitals, health plans, or practice-based networks, and securely collect health information during the routine course of patient care.

Patient-Powered Research Networks (PPRN): networks operated and governed by groups of patients and their partners and are focused on a particular condition and interested in sharing health information and participating in research.
The Canadian Innovation Teams in Community-Based Primary Care

LEGEND

- Audas
- Grunfeld
- Harris
- Kaczorowski
- Katz
- Haggerty
- Liddy
- Ploeg
- Stewart
- Wodchis
- Wong
- Young

- Accessing child/youth mental health services
- PHC for persons living with HIV/AIDS
- Chronic disease awareness & management
- Organisational innovations to improve access to PHC for vulnerable groups
- Improving PHC for older adults with complex care needs
- Community-based cancer care along the continuum
- Transforming Indigenous PHC delivery
- Performance measurement & reporting
- Patient-centred innovations for persons with multimorbidity
- Community-based approaches for older adults and their caregivers
- Transforming PHC in the remote North
- Transforming PHC in First Nations & rural/remote communities
Spotlight: Transforming Community-Based Primary Care delivery through performance measurement

**Canadian NPI:** Sabrina Wong (University of British Columbia)

**Funding Partners:** CIHR & MSFHR

**The challenge:** A comprehensive performance portrait of primary health care in Canada is lacking, and comparisons across jurisdictions are challenging.

**The goal:** Demonstrate the feasibility and usefulness of comparative and comprehensive CBPHC performance measurement and reporting in three provinces as a foundation to inform innovation in the delivery and organization of the Canadian CBPHC system.

*We will help make Canada a leader in evaluating the effectiveness of CBPHC innovations.*
CBPHC Innovation Teams are working together to identify and report on a common set of context and outcome indicators (in domain areas like access, health outcomes, equity, cost).

Why:
- To understand the impact of different models of CBPHC on (1) access to care for vulnerable populations and (2) chronic disease prevention and management
- To understand how structures (e.g., governance, financing) and context influence the success of PHC models of care

How:
- Working group chaired by Dr. Sabrina Wong. Each team earmarked $50K annually to support the common set of indicators.
SPOR Network of Networks in Primary and Integrated Health Care Innovations
Thank you

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