Improving Value
CHSPR 2019

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Key Messages

- Low-value care is common
- Much of it is provider-driven
- Some of it is amenable to change
- There are proven, evidence-based strategies to change health professional behaviour
- Selecting the strategy before clarifying why the problem exists is suboptimal
Low-value testing

Repeat DEXA rate (%)

ECG rate (%)

CXR rate (%)

Pap test rate (%)

Low-value prescribing

Potentially inappropriate Antibiotic Prescribing

Potentially inappropriate NSAID Prescribing

Log odds of prescribing an antibiotic (unadjusted)

Log_odds of prescribing an antibiotic (adjusted)


Patient characteristics seem less predictive than physician prescribing HABITS
Addressing the evidence-practice gap

Guidelines do not self-implement

“You Can’t Manage What You Don’t Measure”

paraphrasing of an original quote by Lord Kelvin. The first to use this paraphrasing was Bill Hewlett, the co-founder of Hewlett-Packard.

“...if I keep no record of what I do, I can always assume I’ve succeeded.”

-Stephen Colbert

*10 Key Takeaways From Bill Gates’ Annual Letter 2013*
2012 A&F Cochrane Review

Audit and feedback: effects on professional practice and healthcare outcomes (Review)

Ivers N, Jamtvedt G, Flottorp S, Young JM, Odgaard-Jensen J, French SD, O'Brien MA, Johansen M, Grimshaw J, Oxman AD

140 RCTs
Primary analyses included: 2310 groups of health professionals from 32 cluster-randomized trials and 2053 health professionals from 17 trials allocating individual providers

A&F ↑ guideline-concordant practice by 4% (IQR 0.5-16)

more effective when:
  o the source is a respected colleague,
  o delivered both verbally and written,
  o provided more than once,
  o includes explicit targets and action plan

Targeted behavior plays an important role
  o more effective when baseline performance lower
Central Illustration: An example of a monthly feedback report provided to physicians in the intervention arm of the study.

**Monthly TTE Order Appropriateness**

- **January 04 - February 01, 2015**
  - Total TTEs classified: 12
  - Appropriate: 9 (75%)
  - Rarely appropriate: 2 (17%)
  - Maybe appropriate: 1 (8%)

**Cumulative TTE Order Appropriateness**

- **December 01, 2014 - February 01, 2015**

**Reasons for Rarely Appropriate Orders**

- 1. Routine perioperative evaluation of ventricular function with no symptoms or signs of CVD
- 2. Lightheadedness/presyncope with no other symptoms or signs of CVD
- 3. Routine surveillance of known small pericardial effusion with no change in clinical status
- 4. Routine evaluation of systemic hypertension without symptoms or signs of hypertensive heart disease
- 5. Low-risk treadmill score

## MyPractice: Long-Term Care

### Health Quality Ontario

**Summary:** Apr 01, 2017 - Jun 30, 2017

### What are my unadjusted overall prescribing rates?

<table>
<thead>
<tr>
<th></th>
<th>My Residents</th>
<th>Ontario Rate</th>
<th>How does my prescribing compare to my peers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antipsychotic Prescribing</strong> for dementia without psychosis</td>
<td>15.3%</td>
<td>24.3%</td>
<td>My prescribing rate is lower than at least 75 percent of my peers</td>
</tr>
<tr>
<td><strong>Benzodiazepine Prescribing</strong></td>
<td>24.4%</td>
<td>13.6%</td>
<td>My prescribing rate is higher than 60 percent of my peers</td>
</tr>
<tr>
<td><em><em>3 or more Specified</em> CNS-Active Medications</em>*</td>
<td>11.1%</td>
<td>16.7%</td>
<td>My prescribing rate is similar to many of my peers (between the 25th &amp; 60th percentile)</td>
</tr>
</tbody>
</table>

[https://www.hqontario.ca/Quality-Improvement/Practice-Reports/Long-Term-Care](https://www.hqontario.ca/Quality-Improvement/Practice-Reports/Long-Term-Care)
If you build it, who will come?
<table>
<thead>
<tr>
<th>Suggestion for Designers of Practice Feedback</th>
<th>Examples of Implementation Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nature of the desired action</strong></td>
<td></td>
</tr>
<tr>
<td>1. Recommend actions that are consistent with established goals and priorities</td>
<td>Consider feedback interventions that are consistent with existing priorities, investigate perceived need and salience of actions before providing feedback</td>
</tr>
<tr>
<td>2. Recommend actions that can improve and are under the recipient’s control</td>
<td>Measure baseline performance before providing feedback, establish that the action is under the recipient’s control</td>
</tr>
<tr>
<td>3. Recommend specific actions</td>
<td>Include functionality for corrective actions along with feedback, require recipient-generated if-then plans to overcome barriers to target action</td>
</tr>
<tr>
<td><strong>Nature of the data available for feedback</strong></td>
<td></td>
</tr>
<tr>
<td>4. Provide multiple instances of feedback</td>
<td>Replace one off feedback with regular feedback</td>
</tr>
<tr>
<td>5. Provide feedback as soon as possible and at a frequency informed by the number of new patient cases</td>
<td>Increase frequency/decrease interval of feedback for outcomes with many patient cases</td>
</tr>
<tr>
<td>6. Provide individual rather than general data</td>
<td>Provide practitioner-specific rather than hospital-specific data</td>
</tr>
<tr>
<td>7. Choose comparators that reinforce desired behavior change</td>
<td>Choose 1 comparator rather than several</td>
</tr>
<tr>
<td><strong>Feedback display</strong></td>
<td></td>
</tr>
<tr>
<td>8. Closely link the visual display and summary message</td>
<td>Put summary message in close proximity to the graphical or numerical data supporting it</td>
</tr>
<tr>
<td>9. Provide feedback in more than 1 way</td>
<td>Present key messages textually and numerically, provide graphic elements that mirror key recommendations</td>
</tr>
<tr>
<td>10. Minimize extraneous cognitive load for feedback recipients</td>
<td>Eliminate unnecessary 3-dimensional graphical elements, increase white space, clarify instructions, target fewer outcomes</td>
</tr>
<tr>
<td><strong>Delivering the feedback intervention</strong></td>
<td></td>
</tr>
<tr>
<td>11. Address barriers to feedback use</td>
<td>Assess barriers before feedback provision, incorporate feedback into care pathway rather than providing it outside of care</td>
</tr>
<tr>
<td>12. Provide short, actionable messages followed by optional detail</td>
<td>Put key messages/variables on front page, make additional detail available for users to explore</td>
</tr>
<tr>
<td>13. Address credibility of the information</td>
<td>Ensure that feedback comes from a trusted local champion or colleague rather than the research team, increase transparency of data sources, disclose conflicts of interest</td>
</tr>
<tr>
<td>14. Prevent defensive reactions to feedback</td>
<td>Guide reflection, include positive messaging along with negative, conduct “feedback” discussions</td>
</tr>
<tr>
<td>15. Construct feedback through social interaction</td>
<td>Encourage self-assessment around target behaviors before receiving feedback, allow user to respond to feedback, engage in dialogue with peers as feedback is provided, engage in facilitated conversations/coaching about the feedback</td>
</tr>
</tbody>
</table>
How does public reporting fit in?

Antipsychotic drugs prescribed to seniors at alarming rates, province finds

By DAVID BRUSER Investigative Reporter
JESSE MCLEAN Investigative Reporter
Mon., April 21, 2014
(A) Proportion of residents receiving prescriptions for antipsychotics, statins, benzodiazepines and trazodone each month, Ontario, Canada (October 2013 to March 2016). Newspaper publication date was April 2014; CIHI report publication date was June 2015. (B) Observed versus predicted antipsychotic prescribing trends showing secular trend in prescribing, Ontario, Canada (October 2013 to March 2016). CIHI, Canadian Institute for Health Information.

Assumptions/mechanisms for some common interventions

Education: knowledge deficit key role in lack of desired action

A&F: motivated recipient, credible and actionable data

Public reporting: name and shame; competition where there is adequate supply + patient-mediated demand

‘Nudges’: much of human behaviour is either reactionary or habitual; can shift environmental cues to shift behaviour

P4P: extrinsic motivator required to make up for lack of implicit motivation to achieve certain tasks or to encourage providers to prioritize certain tasks
What about funding reform?

Aligning innovations in health funding with innovations in care

Noah M. Ivers MD PhD, Irfan Dhalla MD MSc, Adalsteinn Brown DPhil

Cite as: CMAJ 2018 August 13;190:E957-60. doi: 10.1503/cmaj.171312

Canada has been called the land of the pilot project. It is not uncommon for a promising, innovative model of care to disappear or stagnate after the project or grant-based funding finishes — or the willingness of a clinician or researcher to put in extra hours dries up. This seems especially true of innovations that support patients transitioning from one sector of the health system to another (e.g., from hospital to community). Yet projects that allow different parts of the health care system to work together more efficiently are exactly the type of innovations we need. To ensure that pilot projects that successfully improve integration and coordination of care become routine, changes may be needed to how health care provider organizations are funded. Funding strategies must reflect how care should be organized rather than reinforcing how it is currently organized.
Ontario Healthcare Implementation Laboratory (OHIL) – QBP Stream

Who are we?

Multidisciplinary, multi-institution collaboration, partnering with HQO, supported by Ontario SPOR Support Unit via funding from MOHLTC/CIHR

OHIL QBP team:
  PI: Noah Ivers
  Co-PI: Adalsteinn Brown

Qualitative Team:
  Karen Palmer (WCRI & SFU); Jenna Evans (CCO & UofT); Husayn Marani (WCRI & UoT); Kirstie Russell (WCRI); Danielle Martin (WCH & UofT)

Quantitative Team:
  Alvin Li (ICES); Karen Palmer (WCRI & SFU); Monica Taljaard (OHRI); Mike Paterson (ICES, UofT, McMaster); Anjie Huang (ICES); Husayn Marani (UoT); Lauren Lapointe-Shaw (UofT); Daniel Pincus (ICES & UofT); Marian Wettstein (UofT); Girish Kulkarni (UofT); David Wasserstein (Sunnybrook HSC & UofT); Jessica Widdifield (Sunnybrook HSC & UofT)
Qualitative analysis of the dynamics of policy design and implementation in hospital funding reform

Karen S. Palmer1,2*, Adalsteinn D. Brown3,4, Jenna M. Evans3,5, Husayn Marani5,6, Kirstie K. Russell1, Danielle Martin3,6,7, Noah M. Ivers1,3,6,7

1. Women's College Research Institute, Women's College Hospital Health Sciences, Simon Fraser University, Burnaby, British Columbia Management and Evaluation, Dalhousie University, Halifax, Nova Scotia, Canada, 2 Li Ka Shing Knowledge Institute, St. Michael's Hospital, Program Evaluation Unit, Cancer Care Ontario, Toronto, Canada, 3 and Virtual Care, Women's College Hospital, Toronto, Ontario, Canada, 4 Community Medicine, Women's College Hospital and University of

Abstract

Background

As in many healthcare systems, some Canadian jurisdictions have moved to standardize costs or standardising care? Qualitative evaluation of the implementation and impact of a hospital funding reform in Ontario, Canada

Karen S. Palmer1,2*, Adalsteinn D. Brown3,4, Jenna M. Evans3,5, Husayn Marani5,6, Kirstie K. Russell1, Danielle Martin3,6,7 and Noah M. Ivers1,3,6,7

Abstract

Background: Since 2011, the Government of Ontario, Canada, has phased in hospital funding reforms hoping to encourage standardisation, evidence-based clinical care processes to both improve patient outcomes and reduce system costs. One aspect of the reform — quality-based procedures (QBP) — replaced some of each hospital's global budget with a pre-set price per episode of care for patients with specific diagnoses or procedures. The QBP initiative included publication and dissemination of a handbook for each of these diagnoses or procedures, developed by an expert technical group. Each handbook was intended to guide hospital's in reducing inappropriate variation in patient care and cost by specifying an evidence-based episode of care pathway. We explored whether, how and why hospitals implemented these episode of care pathways in response to this initiative.

Methods: We interviewed key informants at three levels in the healthcare system, namely individuals who conceivably could influence the implementation of the episode of care pathways.
Qualitative findings - highlights

- Ongoing differences in understanding of QBP goals and funding mechanism have created challenges with implementation and difficulties in measuring success.

- Implementation supports provided by the government or other organizations were identical for each QBP and did not address differences in hospitals’ highly variable capacity to manage change.

- Mismatch between the adoption supports developed in response to the policy (handbooks with best practice clinical pathways) and those needed by different hospital leadership groups.

- Hospitals sometimes focused more on containing the costs of care than on improving adherence to best-practice clinical pathways.
QBPs were not associated with substantial changes.

- minimal effects across the four selected QBPs (hip fracture, congestive heart failure, pneumonia and prostate cancer surgery) on outcomes related to:
  - quality of care
  - access to care
  - coding behaviour

Hospitals responded to the initiation of QBPs differently and different QBPs seemed to better ‘fit’ the intervention.
Deep-dive example: Prostate-Specific Results

...changes in the initial management of localized prostate cancer

A  % radical prostatectomy as initial management strategy

B  % radiation therapy as initial management strategy

C  % active surveillance as initial management strategy

p = 0.0044  
p = 0.5343  
p = 0.7299
Lessons learned

Clarify the goal and expected mechanism(s) of action in context; select the target for the intervention accordingly

Don’t under-estimate challenges of local change management

Avoid one-size-fits all implementation supports; carefully assess needs
Evidence-based implementation of evidence-based clinical interventions

Start with the diagnosis, **NOT** the treatment

1. **Who** needs to do **What** differently?
2. **Why** isn’t that happening now?
3. **Which** strategies have been tried before?
4. **How** can we most efficiently facilitate change in our targeted group(s)?
Our challenges

Can we incorporate implementation science when considering funding reform or other initiatives aiming to improve value? Can we embed evaluation and commit to iterative improvement? Can we lead large-scale change by demonstrating how and why we think the strategy will achieve the quadruple aim?
## Maternal Newborn Dashboard - Home Page

Sample Hospital, 01-Jul-2012 to 30-Sept-2012. Months with acknowledged data submission: July, August, September.

<table>
<thead>
<tr>
<th>Key Performance Indicators</th>
<th>Rate (%)</th>
<th>Status</th>
<th>Benchmark rates (%)</th>
<th>Comparator rates (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Target (green)</td>
<td>Warning (yellow)</td>
</tr>
<tr>
<td>1 Proportion of newborn screening samples that were unsatisfactory for testing</td>
<td>5.0</td>
<td></td>
<td>&lt;2.0</td>
<td>2.0-3.0</td>
</tr>
<tr>
<td>2 Rate of episiotomy in women who had a spontaneous vaginal birth</td>
<td>16.8</td>
<td></td>
<td>&lt;13.0</td>
<td>13.0-17.0</td>
</tr>
<tr>
<td>3 Rate of formula supplementation at discharge in term infants whose mothers intended to breastfeed</td>
<td>40.1</td>
<td></td>
<td>&lt;20.0</td>
<td>20.0-25.0</td>
</tr>
<tr>
<td>4 Proportion of women with a cesarean section performed prior to 39 weeks’ gestation among low-risk women having a repeat cesarean section at term</td>
<td>30.3</td>
<td></td>
<td>&lt;11.0</td>
<td>11.0-15.0</td>
</tr>
<tr>
<td>5 Proportion of women who delivered at term and had Group B Streptococcus (GBS) screening at 35-37 weeks’ gestation</td>
<td>97.0</td>
<td></td>
<td>&gt;94.0</td>
<td>90.0-94.0</td>
</tr>
<tr>
<td>6 Proportion of women who were induced with any indication of post-dates and were less than 41 weeks’ gestation at delivery</td>
<td>9.5</td>
<td></td>
<td>&lt;5.0</td>
<td>5.0-10.0</td>
</tr>
</tbody>
</table>

### Data source
BORN Ontario, 2012-2013

### Notes
1. Rates and status are based on three prior months of data that have been acknowledged for submission, allowing a one month lag.
2. A grey status indicates data have not been acknowledged for submission for all three months in the reporting period. Please ensure acknowledgement is complete for each month in the reporting period.
3. Comparator rates are calculated from a minimum of three or more hospitals who have acknowledged their data for submission for all three months in the reporting period within a given comparator category. Comparator rates for other same level of care hospitals and other similar birth volume hospitals exclude reporting hospital data, whereas rates for Ontario include reporting hospital data.
Primary analyses evaluating the effect of the implementation of the Maternal Newborn Dashboard on provincial rates of six clinical performance indicators, from November 2009 to March 2015, in Ontario, Canada.
