The Long and Winding Road: Moving a Good Idea into Routine Practice

Soon Is Not A Time, Some Is Not A Number, Hope Is Not A Plan

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Deprescribing guidelines have the potential to help with the needs of a high performing health care system – including better access, improved quality and greater efficiency. The IHI International Program in Health Policy and Practice Innovations selected deprescribing guidelines as a key innovation to implement in the US. In this presentation, Frank Federico will contextualize deprescribing within the overall patient safety movement and provide an overview of the transferability of the guidelines within the US IHI Innovators Network.
Objectives

• Describe why the implementation of deprescribing guidelines is urgent and important

• Explain how members of the IHI Innovators Network are pilot testing the implementation of deprescribing guidelines
The Science of Improvement

• An applied science that emphasizes:
  • Innovation
  • Rapid-cycle testing in the field, and
  • Spread in order to generate learning about what changes, in which contexts, produce improvements.

• Characterized by the combination of:
  • Expert subject knowledge with
  • Improvement methods and tool
  • Multidisciplinary — drawing on clinical science, systems theory, psychology, statistics, and other fields.
Lens of Profound Knowledge

- Appreciation of a System
- Human Behavior
- Theory of Knowledge
- Variation

Aim
Where to Start

• Start with WHY
• Need to understand why the change is necessary
• The goal is always to build processes to deliver the care that we believe that a patient should receive
• “We are working to help patients”
Medications

• Most common intervention in health care
• Associated with many adverse events
• Reason for ED visits, admissions and readmissions
• Can be a positive force in improving and maintaining health
Why Deprescribing Matters

• Deprescribing - reducing or stopping medications that may harm or no longer benefit a patient - decreases the likelihood of an adverse event, and reduces the financial burden of paying for a multitude of medications.
Cumulative complexity model

- Workload
- Capacity
- Burden of treatment
- Access
- Use
- Self-care
- Burden of illness
- Outcomes

Shippee et al 2011
Improving Medication Safety by Decreasing Harm and Errors

**Outcomes**

- Engage all layers of the organization
- Patient/Family/Caregiver Engagement
- Use Systems Approach
- Address Medication Reconciliation

**Primary Drivers**

- Build Will
- Collect Ideas
- Reporting Culture Cultivated
- High Risk Areas Identified
- Safety Lessons Learned & Shared

**Secondary Drivers**

- Health Literacy
- Mechanism to Listen and Learn from Patients/Families
- Patient and Family Engagement & Education
- Get Results
- Standardized Protocols and Algorithms
- Use Improvement Science
- Measurement/Assessment of Processes
- Segment the Population
- Effective Communication and Collaboration within/ between organizations
- Reduce Polypharmacy

**Aim:**

**By When:**
Medication Without Harm: WHO's Third Global Patient Safety Challenge

• Medication Without Harm aims to reduce severe avoidable medication-related harm by 50%, globally in the next 5 years
  • High Risk Medications
  • Polypharmacy
  • Transitions in Care

• IHI Focus: Optimization of medications: patient centered, safe efficient, effective and accessible
Steps to Succeed

• A clear, measurable aim
• A measurement framework in support of reaching the aim
• A clear description of the
  • Ideas (content) and how these ideas are expected to impact the results (the causal pathway from changes to desired outcomes)
  • Execution strategy (what will be done to ensure reliable adoption of the content?)
• Dedication to rapid testing (PDSA cycles), prediction, and learning from tests
• Understanding, describing, and visualizing systems (e.g., using a process map or value stream map)
Creating a New System

- Improvement
- Implement (Hold the Gains)
- Design Scale-up & Spread
- Spread
The Old or Typical Approach...

Conference Room

DESIGN ➔ DESIGN ➔ DESIGN ➔ DESIGN ➔ APPROVE

Real World

IMPLEMENT
How Can We Foster the Adoption of Successful Spread of New Ideas?

The traditional approaches

**MEMO**

To: All staff  
Subject: Spreading new ideas

Starting next Monday everyone will follow the new hand hygiene protocol.

Thank you, Management
The Quality Improvement Approach

Conference Room

DESIGN

Real World

TEST & MODIFY  TEST & MODIFY  TEST & MODIFY

ADAPT or APPROVE (IF NECESSARY)

START TO IMPLEMENT

START TO IMPLEMENT

TEST & MODIFY  TEST & MODIFY  TEST & MODIFY
A Driver Diagram Is …

A pictorial display that helps conceptualize an issue and determine the pathway to achieve your goal.

Joseph Duhig, MBA – PI Mentor
Figure 1 | Proton Pump Inhibitor (PPI) Deprescribing Algorithm

Why is patient taking a PPI?
- Indication still unknown?
  - Mild to moderate esophagitis or GERD treated x 4-8 weeks (esophagitis healed, symptoms controlled)
  - Peptic Ulcer Disease treated x 2-12 weeks (from NSAID; H. pylori)
  - Upper GI symptoms without endoscopy: asymptomatic for 3 consecutive days
  - ICU stress ulcer prophylaxis treated beyond ICU admission
  - Uncomplicated H. pylori treated x 2 weeks and asymptomatic
- Barrett's esophagus
- Chronic NSAID use with bleeding risk
- Severe esophagitis
- Documented history of bleeding GI ulcer

Recommend Deprescribing
- Strong Recommendation (from Systematic Review and GRADE approach)
  - (evidence suggests no increased risk in return of symptoms compared to continuing higher dose), or
  - (daily until symptoms stop) (1/10 patients may have return of symptoms)

Decrease to lower dose
- Stop and use on-demand

Monitor at 4 and 12 weeks
- If verbal: Heartburn, Dyspepsia, Regurgitation, Epigastric pain
- If non-verbal: Loss of appetite, Weight loss, Agitation

Use non-drug approaches
- Avoid meals 2-3 hours before bedtime; elevate head of bed; address if need for weight loss and avoid dietary triggers

Manage occasional symptoms
- Over-the-counter acid, H2RA, PPI, alginate prn (ie. Tums®, Rolaid®, Zantac®, OXP®, Gaviscon®)
- H2RA daily (weak recommendation – GRADE; 1/5 patients may have symptoms return)

Continue PPI
- or consult gastroenterologist if considering deprescribing

Stop PPI
- If symptoms persist x 3 – 7 days and interfere with normal activity:
  1) Test and treat for H. pylori
  2) Consider return to previous dose
What are we trying to accomplish?

Aim:

• *How much by when*

Example

• Decrease use of PPIs beyond the recommended course of treatment in 50% of eligible patients in the next six months.
What are we trying to accomplish?

Aim:

• *Increase use of PPI deprescribing algorithm by 75% in eligible patients by Dec 2018.*

Process measure in service of the desired outcome.
Balancing Measure

• Number of patients who will have to PPI re-prescribed after deprescribing intervention.
Associates in Process Improvement

Model for Improvement

What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in improvement?

Act

Plan

Study

Do
The Sequence for Improvement

1. Developing a change
2. Testing a change
3. Implementing a change
4. Make part of routine operations
5. Sustaining and spreading a change to other locations

- Act
- Plan
- Study
- Do

- Theory and Prediction
- Test under a variety of conditions
### The Three Faces of Performance Measurement

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Improvement</th>
<th>Accountability</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aim</strong></td>
<td>Improvement of care (efficiency &amp; effectiveness)</td>
<td>Comparison, choice, reassurance, motivation for change</td>
<td>New knowledge (efficacy)</td>
</tr>
<tr>
<td><strong>Methods:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Test Observability</td>
<td>Test observable</td>
<td>No test, evaluate current performance</td>
<td>Test blinded or controlled</td>
</tr>
<tr>
<td>• Bias</td>
<td>Accept consistent bias</td>
<td>Measure and adjust to reduce bias</td>
<td>Design to eliminate bias</td>
</tr>
<tr>
<td>• Sample Size</td>
<td>“Just enough” data, small sequential samples</td>
<td>Obtain 100% of available, relevant data</td>
<td>“Just in case” data</td>
</tr>
<tr>
<td>• Flexibility of Hypothesis</td>
<td>Flexible hypotheses, changes as learning takes place</td>
<td>No hypothesis</td>
<td>Fixed hypothesis (null hypothesis)</td>
</tr>
<tr>
<td>• Testing Strategy</td>
<td>Sequential tests</td>
<td>No tests</td>
<td>One large test</td>
</tr>
<tr>
<td>• Determining if a change is an improvement</td>
<td>Run charts or Shewhart control charts (statistical process control)</td>
<td>No change focus (maybe compute a percent change or rank order the results)</td>
<td>Hypothesis, statistical tests (t-test, F-test, chi square), p-values</td>
</tr>
<tr>
<td>• Confidentiality of the data</td>
<td>Data used only by those involved with improvement</td>
<td>Data available for public consumption and review</td>
<td>Research subjects’ identities protected</td>
</tr>
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Learning System

Leadership
Psychological Safety
Accountability
Reliability
Transparency

Culture
Continuous Learning
Improvement and Measurement
Teamwork and Communication
Negotiation

Framework for Safe and Reliable Care
• How would you apply what you have learned to your work?

• What are the concepts that made you think differently than before and why?

• What’s your greatest “take away” learning from this session? Why?

• Any questions?