IHI Open School Global Chapter Webinar:

Publishing your QI Work Using the Standards for Quality Improvement Reporting Excellence (SQUIRE) Publication Guidelines

Greg Ogrinc, MD
Andrea Jones and Luke Lewis

January 22, 2016
Today’s Agenda

- Welcome and Introductions
- IHI Open School Overview
- Presentation on SQUIRE and publishing your QI work
- Questions/Discussion
- IHI Open School Announcements
Introductions

Andrea Jones, Canada Regional Leader
ca.ihi.openschool@gmail.com

Luke Lewis, Midwest Regional Leader
mw.ihi.openschool@gmail.com

Gina Deitz, Community Coordinator, IHI Open School
openschool@ihi.org
Introductions

Greg Ogrinc, MD

- Senior Associate Dean for Medical Education – Dartmouth Medical School
- Director of the Quality Literature Program at Dartmouth, which developed the SQUIRE guidelines
- Associate Professor of Community and Family, of Medicine and of The Dartmouth Institute
- Long-time advisor to the IHI Open School
IHI Open School Mission

“Advance health care improvement and patient safety competencies in the next generation of health professionals worldwide.”
More than 30 online courses developed by world-renowned experts in the following topics:

- Improvement Capability
- Patient Safety
- Person- and Family-Centered Care
- Triple Aim for Populations
- Quality, Cost, and Value
- Leadership

35 credit hours for nurses, physicians, and pharmacists

Free Mobile App for iPhone and iPad – “IHI Open School”
Basic Certificate in Quality & Safety

- Formal recognition for participation
- Proves commitment to employers
- Requires completion of 16 courses
IHI Open School Online Resources

- Improvement Stories
- Activities and Exercises
- Publications
- Case Studies
- Video Library
- Posterboards

www.IHI.org/OpenSchool
782 Chapters in 78 countries
Community

- **376,783** student and residents registered on IHI.org
- **782** Chapters in **78** countries
- Host local and regional events
- Participate in educational reform
- Lead quality improvement projects
- Review online courses/content together

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Greg Ogrinc, Louise Davies, Daisy Goodman, Paul Batalden, Frank Davidoff, David Stevens
Objectives

• Describe the importance of sharing your improvement work through the published literature

• Identify the components of the Standards for Quality Improvement Reporting Excellence (SQUIRE 2.0) that distinguish academic, scholarly QI

• Analyze a journal article to identify the theoretical framework (rationale), context, and study of the improvement
Agenda

• The need for publishing QI work (15 min)
• SQUIRE 2.0 (15 min)
  • What distinguishes scholarly QI work?
• Journal article review (15 min)
An Intervention to Decrease Catheter-Related Bloodstream Infections in the ICU

Peter Pronovost, M.D., Ph.D., Dale Needham, M.D., Ph.D., Sean Berenholtz, M.D., David Sinopoli, M.P.H., M.B.A., Haitao Chu, M.D., Ph.D., Sara Cosgrove, M.D., Bryan Sexton, Ph.D., Robert Hyzy, M.D., Robert Welsh, M.D., Gary Roth, M.D., Joseph Bander, M.D., John Kepros, M.D., and Christine Goeschel, R.N., M.P.A.
Table 1. Characteristics of 103 Participating ICUs, According to the Period of Implementation of the Intervention to Reduce the Rate of Catheter-Related Bloodstream Infections.

<table>
<thead>
<tr>
<th>Period</th>
<th>No. of ICUs</th>
<th>No. of Catheter-Days per Month</th>
<th>Teaching Hospital</th>
<th>No. of Beds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>median (interquartile range)</td>
<td></td>
<td>median</td>
</tr>
<tr>
<td>March to May 2004*</td>
<td>40</td>
<td>154 (94–258)</td>
<td>83</td>
<td>404 (268–609)</td>
</tr>
<tr>
<td>June to August 2004</td>
<td>35</td>
<td>146 (72–228)</td>
<td>57</td>
<td>336 (218–610)</td>
</tr>
<tr>
<td>September to November 2004</td>
<td>17</td>
<td>181 (80–275)</td>
<td>59</td>
<td>299 (190–393)</td>
</tr>
<tr>
<td>After November 2004</td>
<td>11</td>
<td>172 (48–279)</td>
<td>73</td>
<td>288 (181–917)</td>
</tr>
</tbody>
</table>

* Baseline data were not collected by ICUs implementing the study intervention during the baseline (preimplementation) period.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>No. of ICUs</th>
<th>No. of Infections</th>
<th>Baseline Period</th>
<th>No. of Infections per 1000 Catheter-Days</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>median (interquartile range)</td>
<td></td>
</tr>
<tr>
<td>All hospitals</td>
<td>55*</td>
<td>2 (1–3)</td>
<td>511 (220–1091)</td>
<td>2.7 (0.6–4.8)</td>
</tr>
<tr>
<td>Teaching status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching</td>
<td>33</td>
<td>2 (1–4)</td>
<td>744 (377–1134)</td>
<td>2.7 (1.3–4.7)</td>
</tr>
<tr>
<td>Nonteaching</td>
<td>22</td>
<td>1 (0–2)</td>
<td>306 (194–608)</td>
<td>2.6 (0.4–4.9)</td>
</tr>
<tr>
<td>No. of beds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;200</td>
<td>13</td>
<td>1 (0–1)</td>
<td>247 (75–377)</td>
<td>2.1 (0–3.0)</td>
</tr>
<tr>
<td>200–299</td>
<td>12</td>
<td>2 (1–6)</td>
<td>595 (338–1670)</td>
<td>3.2 (0.3–4.3)</td>
</tr>
<tr>
<td>300–399</td>
<td>12</td>
<td>2 (1–3)</td>
<td>902 (184–1376)</td>
<td>2.7 (1.7–5.8)</td>
</tr>
<tr>
<td>≥400</td>
<td>18</td>
<td>2 (1–3)</td>
<td>616 (424–1102)</td>
<td>2.0 (1.3–4.7)</td>
</tr>
</tbody>
</table>

* Of the 103 participating ICUs, 48 did not contribute baseline data — 40 because they implemented the intervention at the initiation of the study and 8 because they did not report baseline data.
<table>
<thead>
<tr>
<th>Study Period</th>
<th>No. of ICUs</th>
<th>No. of Bloodstream Infections per 1000 Catheter-Days</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Overall</td>
</tr>
<tr>
<td>Baseline</td>
<td>55</td>
<td>2.7 (0.6–4.8)</td>
</tr>
<tr>
<td>During implementation</td>
<td>96</td>
<td>1.6 (0–4.4)</td>
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<tr>
<td>After implementation</td>
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<td></td>
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<tr>
<td>0–3 mo</td>
<td>96</td>
<td>0 (0–3.0)</td>
</tr>
<tr>
<td>4–6 mo</td>
<td>96</td>
<td>0 (0–2.7)</td>
</tr>
<tr>
<td>7–9 mo</td>
<td>95</td>
<td>0 (0–2.1)</td>
</tr>
<tr>
<td>10–12 mo</td>
<td>90</td>
<td>0 (0–1.9)</td>
</tr>
<tr>
<td>13–15 mo</td>
<td>85</td>
<td>0 (0–1.6)</td>
</tr>
<tr>
<td>16–18 mo</td>
<td>70</td>
<td>0 (0–2.4)</td>
</tr>
</tbody>
</table>

* Because the ICUs implemented the study intervention at different times, the total number of ICUs contributing data for each period varies. Of the 103 participating ICUs, 48 did not contribute baseline data. P values were calculated by the two-sample Wilcoxon rank-sum test.
† P≤0.05 for the comparison with the baseline (preimplementation) period.
‡ P≤0.002 for the comparison with the baseline (preimplementation) period.
Poll Question #1

How can I get these “good” results in my ICU? What would you do first?

1. Print and give the check-list to all physicians.
2. Contact the authors to find out more about the work.
3. Print and give the check-list to all nurses.
4. Look at your ICU data on rate of central line infections to determine whether you need the checklist.
Reality Check for Checklists
Bosk et al., Lancet, 374, Aug 8, 2009

• The Keystone study story was oversimplified
• Reasons that checklists have not penetrated medicine are cultural and social
  • A technical solution (checklist) is used to solve an adaptive (sociocultural) problem
  • “checklists” obscures the complex labor necessary to create local faith in the checklist
• Some interventions not highlighted in the NEJM article
  • Local leadership from administration
  • Safety and improvement training for staff
  • Valid and sound measurement of infections
  • Regular feedback from all frontline health professionals
  • More than 100 “Keystone checklist”...ability to modify for local use
Explaining Michigan: Developing an Ex Post Theory of a Quality Improvement Program
Dixon-Woods, Bosk, et al., Milbank Quart, 89(2), 2011

- Develop an approach to evaluate interventional programs
- QI studies are “remarkably poor at describing exactly what a program comprises”
- Michigan achieved widespread success by...
  - Generating pressure to join
  - Establishing a densely networked community
  - Reframed BSI as a social problem within the ICU
  - Used several interventions that shaped a culture of commitment to improving in practice
  - Harnessed data as a disciplinary force
  - Used “hard edges” such as the checklist itself, activist tactics, and the data
Background
Background

Why do we need SQUIRE? *(after Davidoff)*

- Done by busy “front line” professionals, more concerned with local change than generalizable truths
  - Lack of training and experience in research, publishing
  - Lack of academic incentives
- Editors, peer-reviewers unfamiliar, skeptical
- Writing about improvement work is hard
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How does SQUIRE help?

- Offers guidance on reporting original studies of improvement
  - Acknowledges context-dependence, complexity, iterative nature of the work
  - Emphasizes the measuring of impact and discovery *and also an* explanation of mechanisms
- Supports planning as well as writing phases
Methods

1. Evaluation of the initial SQUIRE guidelines (SQUIRE 1.0, 2008)
   • Assess usability and clarity
   • Semi-structured interviews / focus groups with 29 end users
   • Input from 18 experts (editors, researchers, improvers)

2. Early revisions of versions 1.2 and 1.4
   • Two consensus conferences (Nov 2013 & Nov 2014)

3. Pilot testing of version 1.6 with late revisions
   • 44 authors used interim draft to write sections of a manuscript
     • Provided feedback on utility and understandability of the draft guidelines
   • Semi-structured interviews with 11 journal editors
   • Version 1.8 sent to over 450 individuals around the world
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Major Changes to SQUIRE 2.0

1. Terminology & language
   • *e.g.*, improvement, intervention(s), changes

2. Theory → Rationale
   • Why this approach was chosen, why it was thought it might work
   • *Not* the method used for the work (*e.g.*, lean or six sigma)

3. Context
   • Where the work was done, what is important about the setting
   • Explicitly included in methods, results, discussion

4. Studying the intervention(s)
   • reflecting upon the work that was done – *e.g*.,
     • Did things get better for the reasons you thought?
     • Were there unintended consequences?
     • What is the opportunity cost for the value gained from the work?
1. **Language ➔ simplicity**

<table>
<thead>
<tr>
<th>Methods</th>
<th>What did you do?</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Ethical issues</td>
<td>Describes ethical aspects of implementing and studying the improvement, such as privacy concerns, protection of participants’ physical well-being, and potential author conflicts of interest, and how ethical concerns were addressed</td>
</tr>
<tr>
<td>8. Setting</td>
<td>Specifies how elements of the local care environment considered most likely to influence change/improvement in the involved site or sites were identified and characterized</td>
</tr>
</tbody>
</table>
| 9. Planning the intervention | a. Describes the intervention and its component parts in sufficient detail that others could reproduce it  
   b. Indicates main factors that contributed to choice of the specific intervention (for example, analysis of causes of dysfunction; matching relevant improvement experience of others with the local situation)  
   c. Outlines initial plans for how the intervention was to be implemented: e.g., what was to be done (initial steps; functions to be accomplished by those steps; how tests of change would be used to modify intervention), and by whom (intended roles, qualifications, and training of staff) |
| Planning the intervention (continued) | |
| 10. Planning the study of the intervention | a. Outlines plans for assessing how well the intervention was implemented (dose or intensity of exposure)  
   b. Describes mechanisms by which intervention components were expected to cause changes, and plans for testing whether those mechanisms were effective  
   c. Identifies the study design (for example, observational, quasi-experimental, experimental) chosen for measuring impact of the intervention on primary and secondary outcomes, if applicable  
   d. Explains plans for implementing essential aspects of the chosen study design, as described in publication guidelines for specific designs, if applicable (see, for example, www.equator-network.org)  
   e. Describes aspects of the study design that specifically concerned internal validity (integrity of the data) and external validity (generalizability) |
| 11. Methods of evaluation | a. Describes instruments and procedures (qualitative, quantitative, or mixed) used to assess a) the effectiveness of implementation, b) the contributions of intervention components and context factors to effectiveness of the intervention, and c) primary and secondary outcomes  
   b. Reports efforts to validate and test reliability of assessment instruments  
   c. Explains methods used to assure data quality and adequacy (for example, blinding; repeating measurements and data extraction; training in data collection) |
# Methods

## Context

Contextual elements considered important at the outset of introducing the intervention(s)

## Intervention(s)

- Description of the intervention(s) in sufficient detail that others could reproduce it
- Specifics of the team involved in the work

## Study of the Intervention(s)

- Approach chosen for assessing the impact of the intervention(s)
- Approach used to establish whether the observed outcomes were due to the intervention(s)

## Measures

- Measures chosen for studying processes and outcomes of the intervention(s), including rationale for choosing them, their operational definitions, and their validity and reliability
- Description of the approach to the ongoing assessment of contextual elements that contributed to the success, failure, efficiency, and cost of the improvement
- Methods employed for assessing completeness and accuracy of data

## Analysis

- Qualitative and quantitative methods used to draw inferences from the data
- Methods for understanding variation within the data, including the effects of time as a variable

## Ethical Considerations

Ethical aspects of implementing and studying the intervention(s) and how they were addressed, including, but not limited to, formal ethics review and potential conflict(s) of interest
2. Rationale (theory)

<table>
<thead>
<tr>
<th>SQUIRE</th>
<th>Why did you start?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction</strong></td>
<td><strong>Why did you start?</strong></td>
</tr>
<tr>
<td>3. Background Knowledge</td>
<td>Provides a brief, non-selective summary of current knowledge of the care problem being addressed, and characteristics of organizations in which it occurs</td>
</tr>
<tr>
<td>4. Local problem</td>
<td>Describes the nature and severity of the specific local problem or system dysfunction that was addressed</td>
</tr>
</tbody>
</table>
| 5. Intended improvement | a. Describes the specific aim (changes/improvements in care processes and patient outcomes) of the proposed intervention  
                          b. Specifies who (champions, supporters) and what (events, observations) triggered the decision to make changes, and why now (timing) |
| 6. Study question | States precisely the primary improvement-related question and any secondary questions that the study of the intervention was designed to answer |
# 2. Rationale (theory)

## SQUIRE

<table>
<thead>
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</tr>
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</tr>
<tr>
<td>5. Intended</td>
<td>Describes the specific aim (changes/improvements in care processes and/or outcomes) intended to address the problem (and any conditions to which it is intended to apply)</td>
</tr>
</tbody>
</table>

## SQUIRE 2.0

<table>
<thead>
<tr>
<th>Introduction</th>
<th>Why did you start?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Problem Description</strong></td>
<td>Nature and significance of the local problem</td>
</tr>
<tr>
<td><strong>Available knowledge</strong></td>
<td>Summary of what is currently known about the problem, including relevant previous studies</td>
</tr>
<tr>
<td><strong>Rationale</strong></td>
<td>Informal or formal frameworks, models, concepts, and/or theories used to explain the problem, any reasons or assumptions that were used to develop the intervention(s), and reasons why the intervention(s) was expected to work</td>
</tr>
<tr>
<td><strong>Specific aims</strong></td>
<td>Purpose of the project and of this report</td>
</tr>
</tbody>
</table>
3. Context
4. Study of the Intervention

<table>
<thead>
<tr>
<th>Methods</th>
<th>What did you do?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Context</td>
<td>Contextual elements considered important at the outset of introducing the intervention(s)</td>
</tr>
</tbody>
</table>
| Intervention(s)          | • Description of the intervention(s) in sufficient detail that others could reproduce it  
• Specifics of the team involved in the work                                                                                                                                                                      |
| Study of the Intervention(s) | • Approach chosen for assessing the impact of the intervention(s)  
• Approach used to establish whether the observed outcomes were due to the intervention(s)                                                                                                                         |
| Measures                 | • Measures chosen for studying processes and outcomes of the intervention(s), including rationale for choosing them, their operational definitions, and their validity and reliability  
• Description of the approach to the ongoing assessment of contextual elements that contributed to the success, failure, efficiency, and cost of the improvement  
• Methods employed for assessing completeness and accuracy of data                                                                                                                                              |
| Analysis                 | • Qualitative and quantitative methods used to draw inferences from the data  
Methods for understanding variation within the data                                                                                                                                                                |
## 3. Context

### 4. Study of the Intervention

<table>
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<tr>
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<tbody>
<tr>
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<tr>
<td>Intervention(s)</td>
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<td>Study of the Intervention(s)</td>
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</tr>
<tr>
<td></td>
<td>Methods for understanding variation within the data</td>
</tr>
</tbody>
</table>
www.squire-statement.org

SQUIRE
Promoting Excellence in Healthcare Improvement Reporting

SQUIRE stands for Standards for QUality Improvement Reporting Excellence. The SQUIRE guidelines provide a framework for reporting new knowledge about how to improve healthcare. They are intended for reports that describe system level work to Improve the quality, safety, and value of healthcare.

Read More!

Latest News
SQUIRE 2.0 is here!
The new and revised SQUIRE guidelines (SQUIRE 2.0) are

Feature Slideshow
Revised Standards for Quality Improvement Reporting Excellence

SQUIRE 2.0

**Notes to Authors**

- The SQUIRE guidelines provide a framework for reporting new knowledge about how to improve healthcare.
- The SQUIRE guidelines are intended for reports that describe system level work to improve the quality, safety, and value of healthcare, and used methods to establish that observed outcomes were due to the intervention(s).
- A range of approaches exists for improving healthcare. SQUIRE may be adapted for reporting any of these.
- Authors should consider every SQUIRE item, but it may be inappropriate or unnecessary to include every SQUIRE element in a particular manuscript.
- The SQUIRE Glossary contains definitions of many of the key words in SQUIRE.
- The Explanation and Elaboration document provides specific examples of well-written SQUIRE items, and an in-depth explanation of each item.
- Please cite SQUIRE when it is used to write a manuscript.

**Title and Abstract**

<table>
<thead>
<tr>
<th>1. Title</th>
<th>Indicate that the manuscript concerns an initiative to improve healthcare (broadly defined to include the quality, safety, effectiveness, patient-centeredness, timeliness, cost, efficiency, and equity of healthcare)</th>
</tr>
</thead>
</table>
| 2. Abstract | a. Provide adequate information to aid in searching and indexing  
b. Summarize all key information from various sections of the text using the abstract format of the intended publication or a structured summary such as: background, local problem, methods, interventions, results, conclusion |

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**SHORTCUTS**

- SQUIRE 2.0 PDF
- GLOSSARY
- BMJ QUALITY & SAFETY
Journal Article Review

• Review the Lesselroth et al (2011) article
• Use the SQUIRE 2.0 guidelines to review.
• We will assess each of the following with poll questions.

1. The *rationale/theoretical model*.
2. How is *context* described?
3. Have the authors described the *study of the intervention*?
Addressing the sociotechnical drivers of quality improvement: a case study of post-operative DVT prophylaxis computerised decision support

Blake J Lesselroth,1 Jianji Yang,1,2 Judy McConnachie,2 Thomas Brenk,2 Lisa Winterbottom1

ABSTRACT
Background: Quality improvement (QI) initiatives characterised by iterative cycles of quantitative data analysis do not readily explain the organisational determinants of change. However, the integration of

BACKGROUND
In modern healthcare’s knowledge-intensive environment, information technology (IT)
As I review this theoretical model, my initial reaction is:

1. This is so interesting how they frame their QI work.
2. I love how this provides a clear framework for analysis of the system.
3. An “activity system” and “epistemological”...this is not my view of QI work.
4. This is an exciting new way to envision how to make changes using an electronic medical record.
Poll Question #3

Now that I have read their setting and context, I am ready to:

1. Compare and contrast their work context to my own.
2. Be frustrated that their context is different.
3. Wonder why they didn’t randomize to control the context.

Setting and context
The study site is a 230-bed tertiary care teaching hospital serving United States veteran patients throughout the states of Oregon, Washington, Alaska and Idaho. The facility hospital and clinics use the VA computerised patient record system (CPRS), a HIMSS Stage 7 electronic record that supports computerised provider order entry. All patient data are stored in the VA health record database, the Veterans Integrated Systems Technology Architecture (VistA).

The Operative Care Division (OCD) is the administrative umbrella for university appointed staff in anaesthesia service, general surgery, and all surgical subspecialities. Residents rotate through OCD every 30–90 days and write the majority of electronic orders. Surgical quality is quantitatively assessed using a subset of nationally defined indicators. Facility, regional and national executives use the External Peer Review Program (EPRP) measures to compare facilities, grade performance and inform quality improvement initiatives.
Describing the Changes

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<td>1 PDSA Cycle 1</td>
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<td>2 Plan</td>
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<td>3 Do</td>
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<td>4 Study</td>
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<td>5 Act</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>6 PDSA Cycle 2</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Plan</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>8 Do</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>9 Study</td>
<td></td>
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</tr>
</tbody>
</table>

**Figure 2** Gantt chart illustrating deep venous thrombosis prophylaxis process improvement interventions according to Plan-Do-Study-Act (PDSA) cycles.
### Describing the Changes

#### Cycle Phase

|-------------|----------|----------|----------|----------|----------|----------|

#### Plan
- Literature review, workflow analysis

#### Do
- Menu development and implementation

---

#### Figure 2: Gantt Study-Act (PDSA)

**Low VTE risk**
- Risk < 1%
- Transurethral surgeries and no major medical comorbidities

**Medium VTE risk**
- Risk 15-30%
- Transurethral surgeries and medical comorbidities including COPD, CHF, CAD or malignancy

**High VTE risk**
- Risk 15-40%
- Major or open urologic surgery, Prior documented hypercoagulable state or thromboembolism

**For patients with contraindications to tx**
- Select contraindications below
  - Known Bleeding Diathesis
  - Active Life Threatening Bleed
  - INR over 1.5
  - Thrombocytopenia
  - Severe Uremia with Bleeding

**Early ambulation**
- Heparin 5000 units SQ Q12H

**SCDs and TEDs**
- For pts undergoing epidural intrathecal, or spinal procedures
  - Neuraxial Option

**Order quick picks that trigger provider entry dialogs**

**Selectable contraindication orders**

### Table 1: Sociotechnical issues identified by the team during CDS implementation and interventions taken to improve performance. Findings are categorised using the FITT framework (adapted from Ammenwerth et al.)

<table>
<thead>
<tr>
<th>Issues or barriers to CDS success</th>
<th>Interventions to improve performance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Actors in System</strong></td>
<td></td>
</tr>
<tr>
<td>Task</td>
<td>• Additional orders were needed</td>
</tr>
<tr>
<td></td>
<td>to improve efficiency of order-entry time</td>
</tr>
<tr>
<td>User</td>
<td>• Heterogeneous cohort of surgical</td>
</tr>
<tr>
<td></td>
<td>subspecialists</td>
</tr>
<tr>
<td></td>
<td>• Ordering providers rotate</td>
</tr>
<tr>
<td></td>
<td>frequently</td>
</tr>
<tr>
<td>Technology</td>
<td>• Orders needed to be tracked</td>
</tr>
<tr>
<td></td>
<td>automatically</td>
</tr>
<tr>
<td></td>
<td>• No way to automatically capture</td>
</tr>
<tr>
<td></td>
<td>contraindications</td>
</tr>
<tr>
<td>Interfaces</td>
<td>• Surgeons used unexpected order</td>
</tr>
<tr>
<td>Task</td>
<td>menu pathways</td>
</tr>
<tr>
<td>Technology</td>
<td>• Orders embedded in deep in sets</td>
</tr>
<tr>
<td></td>
<td>were overlooked</td>
</tr>
<tr>
<td>User</td>
<td>• Risk categories were difficult</td>
</tr>
<tr>
<td>technology</td>
<td>to apply to patients</td>
</tr>
<tr>
<td></td>
<td>• Decision support content difficult</td>
</tr>
<tr>
<td></td>
<td>to interpret</td>
</tr>
<tr>
<td>User task</td>
<td>• Guidelines discordant with local</td>
</tr>
<tr>
<td></td>
<td>practice</td>
</tr>
<tr>
<td></td>
<td>• Providers unwilling to use</td>
</tr>
<tr>
<td></td>
<td>enoxaparin or heparin</td>
</tr>
<tr>
<td>Technology</td>
<td>• Corollary orders created for each</td>
</tr>
<tr>
<td></td>
<td>subspeciality to improve efficiency</td>
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<tr>
<td></td>
<td>of transfer order-entry</td>
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<td></td>
<td>• Custom order menus created for</td>
</tr>
<tr>
<td></td>
<td>each speciality</td>
</tr>
<tr>
<td></td>
<td>• Training was embedded in resident</td>
</tr>
<tr>
<td></td>
<td>orientation</td>
</tr>
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<td></td>
<td>• Unique prophylaxis order items</td>
</tr>
<tr>
<td></td>
<td>built for tracking</td>
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<td></td>
<td>• Created unique contraindication</td>
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<tr>
<td></td>
<td>orders</td>
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<td></td>
<td>• Obsolete pathways removed from</td>
</tr>
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<td></td>
<td>the order menus</td>
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<td></td>
<td>• Prophylaxis orders placed at</td>
</tr>
<tr>
<td></td>
<td>start of pathway</td>
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<td></td>
<td>• Prophylaxis options organised</td>
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<td></td>
<td>by procedure</td>
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<td></td>
<td>• Content updated according to</td>
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<td></td>
<td>user feedback</td>
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<tr>
<td></td>
<td>• Clinical champions engaged to</td>
</tr>
<tr>
<td></td>
<td>in-service trainees</td>
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<td></td>
<td>• New warfarin order process</td>
</tr>
<tr>
<td></td>
<td>developed with anticoagulation</td>
</tr>
<tr>
<td></td>
<td>clinic</td>
</tr>
</tbody>
</table>
Examining Table 1, I now can see...

1. The relationship between the theoretical model and the results.
2. Some deep insights into the context.
3. Many interesting points, but not whether they are useful.
Outcomes – Clinical and Use of New Menu
What we can learn from the Lesselroth article?

• A clear theoretical model is often helpful to frame your QI work
• Describe the context as clearly as possible
  • Lesselroth describes the initial setting
  • How does the context evolve as the change is implemented?
• Include strong data analysis with your work
• Use quotes and/or representative stories when possible
Summary

• SQUIRE 2.0 helps one publish more complete reports of QI work for scholarly literature
  • Rationale/theory
  • Context
  • Study of the intervention

• Applicable to the many methods and philosophical approaches used to improve the quality, safety, and value of healthcare services

• Use the website (www.squire-statement.org)
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Questions? openschool@ihi.org
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Thursday, January 28, 2016 from 2 to 3 PM ET

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3. What do you like about the IHI newsletter, TW@IHI?
4. If you receive both, would you rather receive just one?
5. Would you rather have more or less email from IHI and the Open School overall?
Thank you!

Questions? Email openschool@ihi.org