Structuring Your OI Project Using the SQUIRE Guidelines – From Conception to Publication

Timmy Ho MD, MPH
Neonatal Fellow
Harvard Neonatal and Perinatal Fellowship Program Boston Children’s Hospital
Boston, MA

Timmy Ho is a third year neonatology fellow at Boston Children’s Hospital and is the first joint research fellow between the Harvard Pediatric Health Services Research Fellowship and the Institute for Healthcare Improvement. He explores mechanisms of improving the efficiency, workflow, and patient experience of healthcare delivery by applying fundamental skills in implementation science. An innovator, he has both participated in and mentored hackathons sponsored by the groups at MIT and Harvard, developed a mobile application to improve resident workflow, and hopes to lead multidisciplinary teams to transform how health care workers care for patients.

Annual Quality Congress Special Preconference, Friday, October 2, 2015
Jump Starting Quality – Calling All Fellows! Strategies to Launch a Successful Quality Improvement Project
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Objectives:
Articulate the key questions relevant to every quality improvement project.
Organize the critical steps needed to plan your improvement project.
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Disclosures

I have no financial relationships to disclose or relevant conflicts of interest (COIs) to resolve.

This presentation includes confidential information about the soon-to-be-published SQUIRE 2.0 guidelines. Please respect the work of the authors. Thank you.

Learning Objectives

1. Articulate the key questions relevant to every quality improvement project
2. Organize the critical steps needed to plan your improvement project
3. Recall the necessary components to publish a manuscript using the SQUIRE guidelines

Outline

• General comments about SQUIRE 2.0
• Title and Abstract: Self-explanatory
• Introduction: Why did you start?
• Methods: What did you do?
• Results: What did you find?
• Discussion: What does it mean?

SQUIRE 2.0

• 18 items, omitting multiple sub-items
• Terminology: simplification of language, glossary of terms
• Theory: rationale, or "why did you think this would work"
• Context: Fundamental item in Methods
• Studying the interventions: Doing versus studying

Title and Abstract

1. Title
   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)

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, conclusions

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Introduction: Why did you start?

3. Problem Description
   - Nature and significance of the local problem

4. Available knowledge
   - Summary of what is currently known about the problem, including relevant previous studies

5. Rationale
   - 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

6. Specific aims
   - Purpose of the project and of this report

Methods: What did you do?

7. Context
   - Contextual elements considered important at the outset of introducing the intervention(s)

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

9. Study of the Intervention(s)
   - a. Approach chosen for assessing the impact of the intervention(s)
   - b. Approach used to establish whether the observed outcomes were due to the intervention(s)

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

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

12. 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

Discussion: What does it mean?

14. Summary
    - a. Key findings, including relevance to the rationale and specific aims
    - b. Particular strengths of the project

15. Interpretation
    - a. Nature of the association between the intervention(s) and the outcomes
    - b. Comparison of results with findings from other publications
    - c. Impact of the project on people and systems
    - d. Reasons for any differences between observed and anticipated outcomes, including the influence of context
    - e. Costs and strategic trade-offs, including opportunity costs

Results: What did you find?

13. Results
    - a. Initial steps of the intervention(s) and their evolution over time (e.g., time-line diagram, flow chart, or table), including modifications made to the intervention during the project
    - b. Details of the process measures and outcome
    - c. Contextual elements that interacted with the intervention(s)
    - d. Observed associations between outcomes, interventions, and relevant contextual elements
    - e. Unintended consequences such as unexpected benefits, problems, failures, or costs associated with the intervention(s)
    - f. Details about missing data

16. Limitations
    - a. Limits to the generalizability of the work
    - b. Factors that might have limited internal validity such as confounding, bias, or imprecision in the design, methods, measurement, or analysis
    - c. Efforts made to minimize and adjust for limitations

17. Conclusions
    - a. Usefulness of the work
    - b. Sustainability
    - c. Potential for spread to other contexts
    - d. Implications for practice and for further study in the field
    - e. Suggested next steps

18. Funding
    - Sources of funding that supported this work. Role, if any, of the funding organization in the design, implementation, interpretation, and reporting
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Summary

• To be filled in later

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References


Questions?