From SQUIRE 1.0 to SQUIRE 2.0: A new way to evaluate and update publication guidelines

Louise Davies

For the SQUIRE Group:

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

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What are the SQUIRE Guidelines?

- Publication guidelines for reporting work aimed at improving the quality, safety, and value of health care
- First released in 2008
- Updated version – SQUIRE 2.0 released last month
  - Product of 3 years of evaluation and development

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

Methods

Davies, Louise, et al. "Findings from a novel approach to publication guideline revision: user road testing of a draft version of SQUIRE 2.0." *BMJ quality & safety* (2015): bmjqs-2015.

Davies, Louise, et al. "The SQUIRE Guidelines: an evaluation from the field, 5 years post release." *BMJ quality & safety* (2015): bmjqs-2015.

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Key findings from Evaluation

- SQUIRE helps in planning, but not in writing

"It doesn't give a structure for the actual writing process…these are formative questions [on the checklist] but they are not helpful as a summative structure for me…"

~The guidelines tell me everything, but they don't tell me what is important to include…there is no heirarchy…~

- It is not clear what should be reported
  - Should iterations or failed parts be reported?
    - (it depends…if useful for reader to know, then yes.)
- There were redundancies
- Some items were incomprehensible to users
  - Study of the intervention: *"what is that?"*

SQUIRE 1.6 Road Test

Research question:

Is this updated version of the SQUIRE Guidelines understood and *implemented* as intended?

Who we invited to participate:

427 people who were 'friends of SQUIRE'

- Graduates or directors of improvement programs in the U.S., U.K., Canada and Sweden
- Authors who had used SQUIRE before

Participants

- 83 volunteered, 44 people completed the tasks
  - 29 academic or university setting
  - 15 community, business, government, other

  - 22 MD's, 10 PhD's, 11 with Masters, Bachelors, Other
  - 30 Medicine, 7 nursing, 7 other

  - 3 had never been published
  - 18 had published 1-5 papers
  - 29 were in between
  - 12 had published 16 or more papers

What we asked (a lot!)

- Would you please use SQUIRE 1.6 as you work on your current manuscript?
  1. Send us the section we randomize you to submit
     - i.e., intro, methods, results, or discussion
  2. Identify in your section which SQUIRE items you used by applying 'track changes' comments
  3. Fill out a survey on the Guidelines:
     - Which items did you use, where and why
     - 'Quiz' questions on 'context' and 'theory'/'logic'
     - Basic demographics

charitable foundation). Each project was charged with making improvements to bring routine practice closer to established best practice. All projects were based on the clinical communities approach, which provides a structure for improvement that requires the involvement and engagement of those stakeholders likely to be affected by improvement activity through peer influence and harnessing the collective power.

In the programme, each project had a core team that led and coordinated project activities and recruited participating sites to help co-design and implement the improvement work. Teams were supported by THF programme officers and by a technical provider (a management consultancy) that offered a package of leadership support and training in improvement methods. Core team membership varied depending on context but typically included clinicians, a project manager and relevant stake- holders. A key feature of the programme was that it mandated the inclusion of patients in the core team of each project.

Our study was conducted as part of a commissioned external evaluation of the programme and was given a favourable opinion by the Leicestershire, Northamptonshire & Rutland Research Ethics Committee 1.

Kyla Donnelly 7/6/2014 11:14 AM
Comment [1]: Specific aim of improvement

Kyla Donnelly 7/6/2014 8:48 AM
Comment [2]: The logic on which the improvement…

Kyla Donnelly 7/5/2014 8:00 PM
Comment [3]: Description of the improvement

Kyla Donnelly 7/6/2014 8:48 AM
Comment [4]: Context elements…

Kyla Donnelly 7/6/2014 8:48 AM
Comment [5]: Description of the improvement…

Kyla Donnelly 7/6/2014 11:12 AM
Comment [6]: Funding

Kyla Donnelly 7/6/2014 11:15 AM
Comment [7]: Ethical consideration

Key findings – confusion around terminology

- One person felt the use of a ‘lean’ approach meant the SQUIRE Guidelines were less applicable

→ SQUIRE 2.0 uses the word healthcare improvement, not quality improvement

- Another felt that having multiple iterations meant it was harder to use SQUIRE

→ SQUIRE 2.0 is clear that iterations of work should be included if useful for the reader to learn from

Key findings – people interpreted items differently than intended

– 1.6 Item: ‘Context elements that influenced the improvement…’
  - People reported some context, but not often context that would affect the intervention – such as context that changed over time or that created external pressures to change

  → SQUIRE 2.0 specifically requests information on context in more areas of the manuscript – not just introduction

Key findings – people interpreted items differently than intended

– 1.6 item: '[Describe] the logic on which the improvement was based, including mechanism by which it was expected to work'
  - People labeled the method used for improvement as the logic (e.g., lean), or
  - People labeled as the logic model the description of the evidence on which the intervention was based

→ SQUIRE 2.0 uses the term: 'Rationale' instead of logic / mechanism / theory

Key findings – people interpreted items differently than intended

– 1.6 item: '[Identify the] process and outcome measures used for the improvement…'

- People described outcome measures (the things that improved) but not process measures (which might tell us why or how)

→SQUIRE 2.0 explicitly request that people 'study the intervention' ("the process") –

→Did things work they way they thought it would?

→Is their intervention the reason things got better?

→Were there unintended consequences?

→Etc…

Key findings – people interpreted items differently than intended

- 1.6 item: '[Describe the] evolution of the improvement'
  - Usually missing was the alteration or steps of the implementation over time
  - Instead, people labeled the reporting of baseline data as fulfilling this item.

→ In SQUIRE 2.0 we re-worded this item again to be clearer that iterations of work should be included if useful for the reader to learn from

Key findings - People left out things that are unfamiliar or for which methods are not well developed

- 1.6 item: ‘Assessment methods for context factors that contributed to the success, failure, efficiency, and cost of the improvement’
- 1.6 item: ‘Costs and strategic trade-offs, including opportunity costs’

→ SQUIRE 2.0 Dissemination will encourage ongoing development of methods for the field

Summary

- Among highly motivated people working in healthcare improvement:
  - The 1.6 version of the Guidelines were only partially applied as intended. This was most notable in:
    - 'The study of the intervention' – e.g., process measures
    - Describing how context affected the work
    - Describing why/how it was thought the intervention would work (theory or rationale)
    - Describing costs, both financial and opportunity

Limitations

- The 1.6 Guidelines were given to authors without explanation or elaboration document
- Some items in the Guidelines do not have robust methods available yet
- Some of the Guideline items use concepts that were just published within the past year – information has not disseminated yet

Implications for Guideline Dissemiation

- Road testing guidelines *with users* before release:
  - provides needed information about how people interpret what you thought was clear
  - tells you what you need to teach during the dissemination phase
  - Reveals the holes in your field – where things are unclear or need more development

Louise.Davies@Dartmouth.edu
Greg.Ogrinc@Dartmouth.edu

www.Squire-statement.org

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