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IMPLEMENTATION STRATEGIES: WHAT ABOUT TOOLS AND TOOLKITS?

There are Many Questions to Think About

- What is a tool? A toolkit?
- What does the literature say about toolkits?
- How can we study tools?
- What are the characteristics of a good toolkit?
- How should we think about publishing toolkits?

Poll Question #1: Experience with Developing Tools

- Have you prepared a tool or toolkit based on a QII or other type of research project?
 - Yes?
 - No?

POLL QUESTION #2: Experience with Publishing Tools

- Have you published a tool on a nationally available website or in a published article?
 - Yes?
 - No?

This Talk Focuses on Tools/Toolkits for Quality Improvement Interventions (QIIs)

- QII: “An effort to change/improve the process and/or outcomes of care by means of an organizational or structural change.”
 - Structural change: Context within which care processes are delivered

From: "Identifying quality improvement intervention evaluations: is consensus achievable?" Danz, Rubenstein, Hempel et al. *Quality and Safety in Healthcare*, 2010.

This Talk Aims to Engage QI and Implementation Researchers & Consumers

- Why tools?
- What are tools/toolkits?
- Evidence review on toolkits & their quality
- A project testing tools vs. tools + facilitation for improving care coordination
- A study of tool-based spread



Why Tools: Literature Types Important for Quality Improvement Interventions (QIIs)

- A panel of internationally known QI/implementation science experts submitted exemplar articles of important types of quality improvement intervention (QII) publications
 - 80 articles submitted
- Five researchers iteratively identified categories
 - Reviewers independently reviewed the publications using a decision tree screening form

The Four Types of Quality Improvement Intervention Literature Identified as Critical

- I. Empirical literature on the development and testing of QII's
- II. QII stories, theories, and frameworks
- III. QII literature synthesis and meta-analysis
- IV. Development and testing of QII-related tools

From: "Finding order in heterogeneity: types of QII publications."

Rubenstein, Hempel, Farmer et al. *Quality and Safety in Healthcare*, 2008.

Why Tools and Toolkits?

- Without these, a quality improvement intervention study is just a black box
 - Limited learning
 - No meaningful spread
 - No sustainment



- What does it mean to say that something improved outcomes if—we can't access the full methods and components

Definitions of “Tool”

- Tool
 - *Something that helps to gain an end* (Webster)
 - A device or implement used to carry out a particular function
- Toolkit
 - A set of tools to be used together for a particular purpose
- In health services research: *A set of materials and methods for a health care improvement intervention*
 - May include e.g., monographs, information technology, educational material

What is Known About Quality Improvement Toolkits in the Literature?

- We conducted a systematic review to determine QII toolkit:
 - Components
 - Uptake and utility
 - Effectiveness
- Manuscript for revise & resubmit: Hempel S, Lim, Danz, Larkin, Rubenstein
- Supported by the VA PACT Demonstration Lab Initiative and the RAND Corporation

Evidence Review on Toolkits: Methods

- Search of PubMed, CINAHL, Web of Science 2005-2014 for articles evaluating “toolkits” used for improving quality of care (English only)
 - Forward search of known toolkits (e.g., AHRQ, 8 others), references, topic expert suggestions
 - 2 independent reviewers screened 2,682 articles; full review for inclusion of 433 articles; disagreements resolved by discussion
- 43 studies of 41 toolkits met inclusion criteria

Inclusion Criteria

- Directed at healthcare delivery organizations
 - QIIs for improving healthcare quality
- Toolkits (not individual single item tools)
- Aimed at innovation spread
- Publicly or commercially available
 - Published 2005 on or still available
- Structured evaluation with controlled or uncontrolled designs
- Patient, provider or organizational outcomes

Findings: Most Frequent Stated Purposes of QII Tools/Toolkits

- Encourage engagement
 - Introductory and awareness –related materials
- Improve intervention fidelity
- Documentation of interventions
 - So that others may learn from, adapt and improve them
- Spread of interventions to improve care
 - Ease uptake and implementation in new settings
 - Support “scaling up” of pilots or demonstrations

Findings: Toolkit Characteristics

- Wide range of study designs; only four included randomly assigned groups
 - 22 pre/post intervention without comparator
 - 14 post only
- 60% described workshops, presentations, or other elements needed beyond simply access to the toolkit
- Most were downloadable online and free of charge
- 3 included software

Findings: Toolkit Effectiveness

- 58% reported specific effects on clinical practice
 - Most reported adherence to the procedures suggested by the toolkit (e.g., counseling on weight)
 - 35% reported effects on healthcare providers (post-only) and their self-reported attitudes, behaviors or knowledge
- 21% reported patient outcomes (none were RCTs)
- For a few toolkits (7), results of the intervention that led to the toolkit had been published
 - Those published showed effectiveness
 - Could not compare toolkit effects to original intervention

What We Didn't See Much Of

- Quality of tool functioning:
 - Verification, validation of key components
 - Life cycle stage (e.g., alpha, beta; PDSAs carried out; expected time to required updating)
 - Contextual elements expected to affect use
- Organizational perspectives
 - Adoption rates, time to implementation, adaptations
 - Penetration among eligible users, workload, sustainment
 - Human factors analysis; time/motion analysis
- Outcome or comparative effectiveness evaluation

Poll Question #3: Needs

- What is needed most to move tool science forward? (please type additional ideas into the Chat after answering)
 - Better support for QII study documentation of toolkits
 - Develop criteria for toolkit quality
 - A research or evaluation focus on spread



Two Example Ongoing Studies of Tools (From Our GLA COIN—CSHIIP--Teams)

1. Is a tool or toolkit enough to support quality improvement in a “ready” site, or is human support required?
2. A possible method for assessing naturalistic QII toolkit spread

#1:

Comparative Effectiveness of Toolkits versus Toolkits Plus Coaching for Care Coordination

- A VA Care Coordination Quality Enhancement and Research Initiative (QUERI) study
 - Began FY 2016, David Ganz MD PhD
 - Compares 12 randomly assigned outpatient clinics
- Sites choose a tool or tools to work on

Basic Design

Engage
Leadership

Implement

Compare

Toolkit only

Toolkit +
Coaching

Toolkit only

Toolkit +
Coaching

Primary Outcome of Interest: Patient Care Coordination Survey

- Patient Self-Report on the Hassles Scale*
 - For each item, thinking about the healthcare you get, how much of a problem for you is [insert item].
 - Would you say it's: A very big problem, A big problem, A moderate problem, A small problem, Not a problem at all?
- Compares site level results based on survey of patients at high risk of needing acute care
- Uses a site readiness assessment at baseline

Care Coordination Toolkit Identification

- Reviewed 20 existing toolkit repositories, websites and reference guides
 - Identified about 300 care coordination tools
 - Reviewed 66 tools in-depth
- Two of five clinicians independently reviewed each tool using a tool review checklist

Rating Criteria

1. Frequency of problem
2. Proximity to affecting patient experience
3. Impact on clinician and staff workflow in primary care
4. Impact on effectiveness of care (adherence to guidelines/best practice)
5. Life-cycle of the tool
6. Clarity
7. Ease of tool incorporation
8. Started with existing resources
9. Sustained with existing resources

Selecting Final Tools/Toolkits

- In-depth tool review added these dimensions
 - VA relevance
 - Relevance to patient experience of care coordination
 - Fit with other tools
 - Whether tool seemed duplicative
 - Concerns about implementation feasibility
- Final set includes 42 tools

Example Toolkit “Families”

- Patient-Directed Materials
 - After-visit Summary
 - Provider/Health System Contact Information
 - Patient Pre-visit Packet
 - Patient Agenda Setting
- Patient-Provider Communication
 - Enhancing Provider Communication with Patients
- Medications
 - Medication Management
- Provider-Provider Communication
 - Managing Referrals to Specialty Care
 - Care Management

Additional Project Aims

- Efficient, effective online format for tools (with VA Engineering & Resource Center—VERC)
 - Add/improve on tools based on site experiences
- Assess motivations for tool choice
- Assess links between site readiness and tool choice, implementation, and results

#2: Can we rigorously assess spread for tested primary care practice innovations?

- Overall study: VA Assessment and Improvement Laboratory—Evidence-Based Quality Improvement (EBQI) for PACT, VA's patient centered medical home
 - 6 PC practice sites developed & tested local innovations
 - Showed impacts (modest) on patient outcome measures and on provider burnout across sites/innovations
 - Innovations, with modest study team support, produced toolkits by innovators PC-based QI teams on VA Sharepoint http://vaww.portal.gla.med.va.gov/sites/Research/HSRD/VAILPCC/vtkits/Pages/vtk_home.aspx
 - Study team did distance QI facilitation, but did not directly suggest or support spread

Additional Resources on VAIL EBQI

- Rubenstein LV et al. A patient-centered primary care practice approach using evidence-based quality improvement: rationale, methods, and early assessment of implementation. *J Gen Intern Med*. 2014
- Yoon J et al. Impact of Medical Home Implementation through Evidence-Based Quality Improvement on Utilization and Costs. *Med Care*. 2016
- Huynh AK et al. Application of a Modified Stepped Wedge Model to Evaluate a Quality Improvement Intervention: A Proof of Concept Using Evidence-Based Quality Improvement Patient-Centered Medical Homes (EBQI-PCMH). *BMC Medical Research Methodology*, in press. *
- Stockdale S et al. Fostering Evidence-Based Quality Improvement for Patient-Centered Medical Homes: Initiating Local Quality Councils to Transform Primary Care. *Health Care Management Review*, in press.*
- Meredith L et al, Impact of the VA's Medical Home Demonstration on Primary Healthcare Professional Emotional Exhaustion and Satisfaction, submitted.*

*Abstract available upon request through Lisa.Rubenstein@va.gov

QI Methods for Testing Tool-Based Spread: Work in Progress, Alexis Huynh, PhD (VA Assessment and Improvement Laboratory)*

Nelson and Western Electric decision rules to detect special cause variations (i.e. due to the innovation)

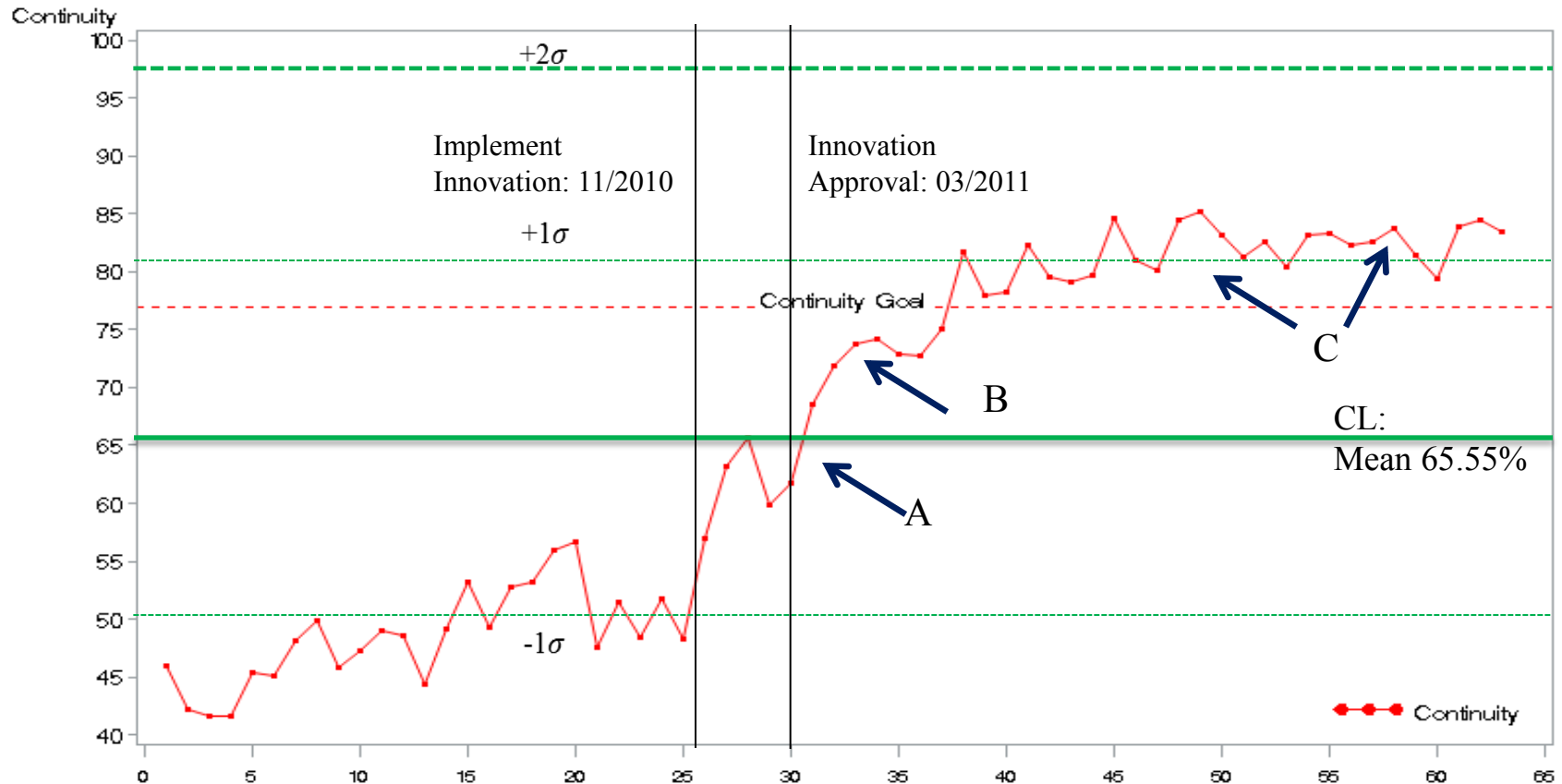
1. Any point outside (either above or below) the 3-sigma line
2. 2 of 3 consecutive points fall beyond 2 sigmas, on the same side of the CL
3. 4 of 5 consecutive points fall beyond 1 sigma, on the same side of the CL
4. 9 consecutive points fall on the same side of the centerline.
5. 6 or more points in a row that are continually increasing (or decreasing) to suggest a trend
6. 15 consecutive points are all within ± 1 sigma, on either side of the CL
7. 8 consecutive points where none are within ± 1 sigma, either side of the CL

*Presented at IHI Scientific Symposium plenary 2015

Results – Continuity for Site A – Initially PDSA'd & Adopted The Continuity Tool

Continuity

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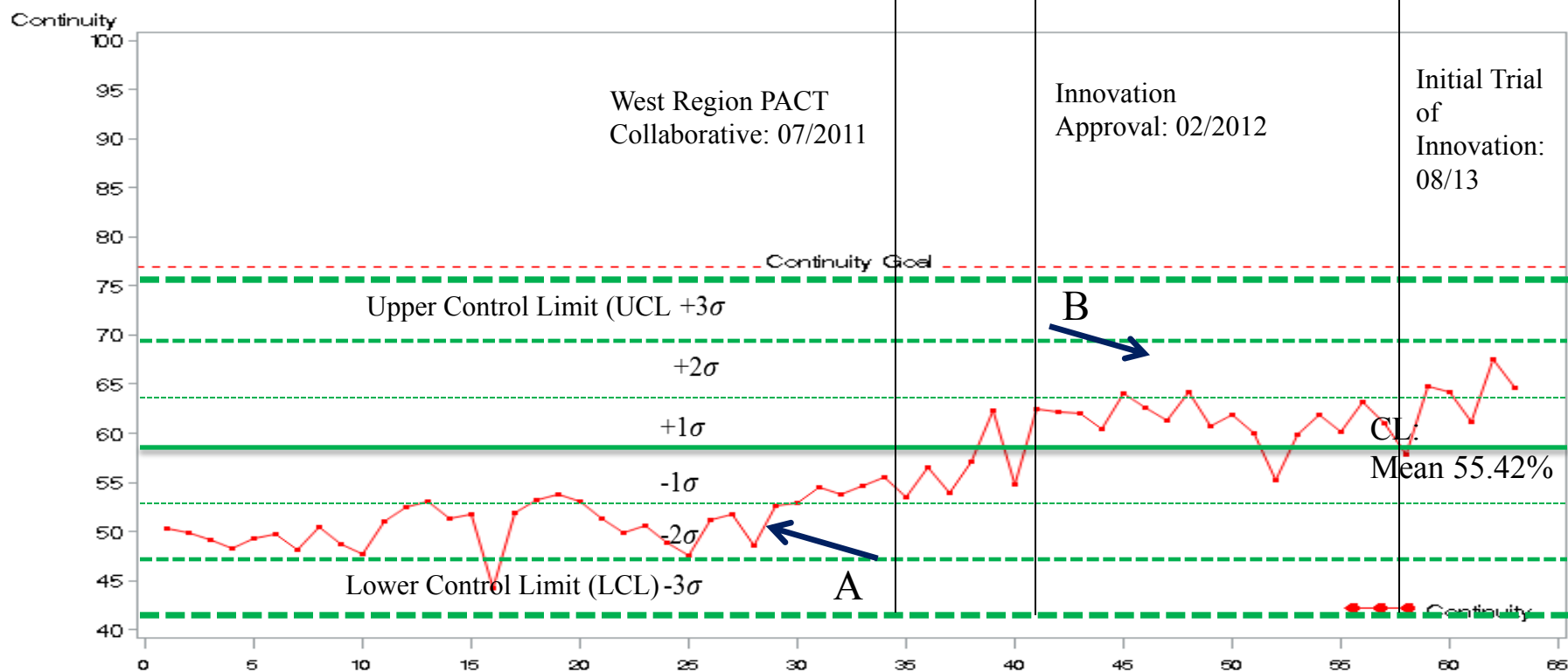
VETE

Continuity — Continuity FCP (Fee ER Excluded)—FACT 8
Data from 10/2008 to 12/2013 (FY09 to 12/FY14)

Results – Continuity for Site B – Took Up the Continuity Tool (Spread Site)

Continuity

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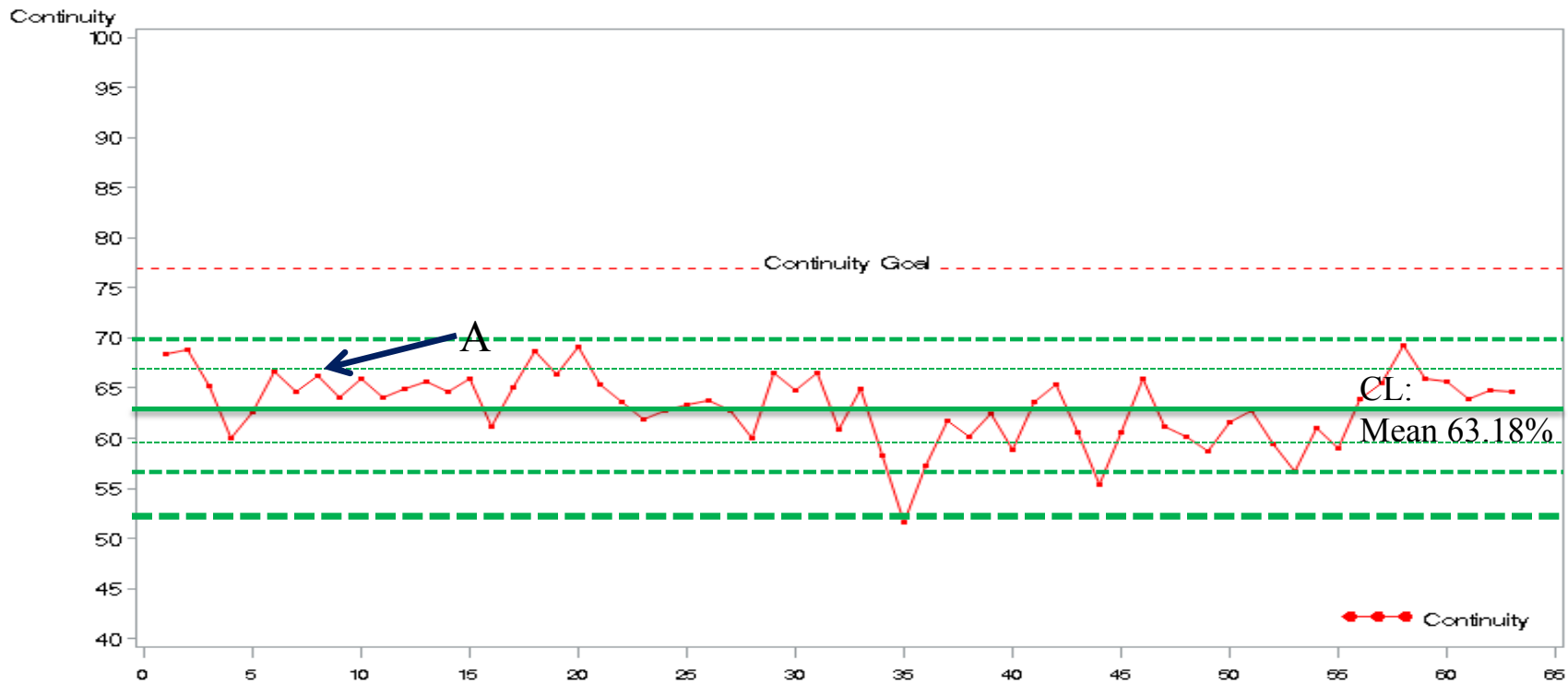


Continuity — Continuity FCP (Fee ER Excluded)—FACT 8
Data from 10/2008 to 12/2013 (FY09 to 12/FY14)

Results – Continuity for Site C – Non-Adopting Site

Continuity

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Continuity — Continuity FCP (Fee ER Excluded)—FACT 8
Data from 10/2008 to 12/2013 (FY09 to 12/FY14)

Study #2: Additional Finding & Conclusion

- For another innovation (penetration of secure messaging) the innovation site improved, but so did the comparison practices—showing the validity threat of common history
- QII statistics with comparison may be a promising method for testing tool-based primary care site innovation and spread



Summary

- The development and study of QII tools and toolkits is critically important
 - Including understanding spread
- Advances are happening
 - Increased toolkit production & publications
- Your thinking and expertise are needed
 - What should we expect from QII studies? From articles, when we write and review them?



Quick List of Toolkit Evaluation Elements (Not the Same as CONSORT!)

- Quality of tool functioning
 - Verification, validation of all key components
 - Life cycle stage (e.g., alpha, beta; PDSAs carried out; expected time to required updating)
 - Contextual elements expected to affect use
- User acceptability and feasibility
 - New & continuing user ratings, adoption rates, adaptations needed by different user types
 - Requirements for and history of sustainment
 - Penetration among eligible tool users, over time
 - Human factors analysis; time/motion analysis
 - Tool delivery method effects

For Further Information...

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- We can connect you to others as needed

Summary: Tools are a Core Implementation Strategy But Much Remains to Be Explored

