IMPROVING RESEARCH AND EVALUATION AROUND CONTINUOUS QUALITY IMPROVEMENT IN HEALTH CARE

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The field of continuous quality improvement (CQI) has had limited success in producing effective tools, strategies or insights to improve quality, despite attracting strong interest. CQI is the process-based, data-driven approach to improving the quality of a product or service. It operates under the belief that there is always room for improving operations, processes and activities to increase quality. Over the past five years, the Robert Wood Johnson Foundation (RWJF) has encountered unique challenges while trying to evaluate the effectiveness of Foundation programs that involve CQI as a strategy for improvement.

“How will we know that change is an improvement?” is a core question of one of the most commonly-used models for CQI. For health care practitioners, researchers and funders, this question applies also in a broader context – the issue of evaluation. Specifically, when evaluators try an initiative that uses the theory and methods of CQI to improve performance at some level of health care organization, how do they know that the initiative has worked? How, and what, do they learn from these initiatives? How do they know whether a similar initiative will work in other organizations? How do they build the science of improvement in health care settings?

CHALLENGES ASSOCIATED WITH CQI PROGRAM EVALUATIONS

To investigate the challenges of CQI, RWJF funded Brian Mittman, Ph.D., at the Veteran’s Administration Greater L.A. Healthcare System and Susanne Salem-Schatz, Sc.D. at Healthcare Quality Initiatives. Their research team gathered and synthesized the views of a range of leaders in the field of quality improvement, as well as directors, evaluators and participants involved in national programs that employ CQI as a strategy to improve health and health care. According to this study, the major issues identified by Foundation-funded evaluators of CQI programs and others can be grouped into two categories:

**Designing and managing CQI program evaluations:** CQI programs have multiple and diverse goals. They seek both to: (a) develop and disseminate new knowledge about how to improve quality and (b) improve patient care quality and outcomes in the organizations participating in the programs. The ideal design for program impact is often not the ideal design for evaluation of program impact. Further, many of the research paradigms currently being used are not optimally suited to complex continuous quality improvement work.

**Developing and Implementing Data Collection and Measurement Strategies:** Complex program designs make the measurement of a CQI program’s impact difficult. The nature of conducting CQI in real time in real organizations means that even if program and evaluation measurement goals were aligned, data collection would still be difficult.
RECOMMENDATIONS TO ADDRESS CHALLENGES ASSOCIATED WITH DESIGNING AND MANAGING CQI PROGRAM EVALUATIONS

- **Begin quality improvement initiatives with a clear articulation of the Foundation’s goals and purposes.** Clarity up front about the level of rigor required and key questions will improve the decisions made about everything from site selection to data collection.

- **Use a systematic approach to program evaluation and planning.** Logic models that are based on explicit theories or conceptual models of change are a valuable tool for articulating a program’s goals and its anticipated progression of actions, results and outcomes. Changes to the logic model can be made as the program progresses; the model itself provides a way to check assumptions of all parties involved and to highlight information needs.

- **Encourage alternative paradigms to facilitate learning about quality program implementation.** The randomized controlled trial from health services research and the clinical sciences is not always the best approach to use to assess the effectiveness of CQI. A balance between quantitative hypothesis testing and more qualitative approaches is needed. Theory and methods developed and commonly used in other disciplines may be useful to advance this field.

- **Encourage a collaborative approach between program, evaluation and site teams in line with program goals for learning.** When the primary goal is not a statistically valid conclusion about program effectiveness, the need for an independent, outside evaluator may not be as important.

- **Make decisions about program tradeoffs explicit and put in writing.** Those anticipating evaluation results should understand that results of evaluations may fall short of what they would ideally like to know. Where evaluation objectives are forfeited in order to improve program performance, funders and National Program Offices need to understand what that means in terms of information that can be shared with the field.
RECOMMENDATIONS TO ADDRESS DATA COLLECTION AND MEASUREMENT CHALLENGES

- **Consider whether additional data collection adds value when resources are stretched.** Collecting additional data just to be “safe” may turn out to be too expensive to justify.

- **Consider using local data collected by sites to assess the success of their CQI efforts for evaluation only in limited circumstances.** Staff involved in continuous quality improvement interventions often collect and use data for reflective learning. These data may vary across sites and must be audited for consistency if used in a quantitative external evaluation.

- **Provide adequate financial and structural support for data collection and measurement activities.** Program, evaluation and site budgets should be reviewed to ensure resources allotted to support and conduct measurement and data collection match what is needed to accomplish the funders’ goals for evaluation findings. If adequate resources are not available, consider scaling back or dropping external evaluations—taking care to adjust expectations of those interested in the program’s impact for results.

- **Promote the development and endorsement of nationally standardized measures.** The development of standardized measures to document and assess CQI implementation would greatly enhance learning in this field, especially where important outcomes are not otherwise captured in existing national data sets.
EXISTING GAPS IN THE THEORY AND CONCEPTUAL FOUNDATIONS OF CQI RESEARCH METHODS.

- Most published CQI research relies on conventional clinical research methods and approaches that are not suited to the nature of CQI work. These research methods do not support the use of logic models, explicit theory-based hypothesis testing, a focus on processes and the mechanisms of impact, and the importance of contextual factors and the need to adapt CQI programs to local circumstances.

- Other disciplines, e.g., education and the social sciences offer alternative approaches to evaluation, but these are not yet widely used in health care CQI.

- The range of theories and models used for CQI research and evaluation is too narrow and are often not ideal for the study of health care delivery systems.

- There is a lack of opportunities for CQI practitioners, researchers and consumers to review peer-reviewed examinations of the relative or absolute success or failure of alternative continuous quality improvement strategies.

“OUR LEARNING ABOUT HOW TO DO CQI IS EMERGING, AND OUR KNOWLEDGE ABOUT HOW TO EVALUATE CQI IS EMERGING AS WELL.” – STUDY PARTICIPANT
IMPROVING THE SCIENCE OF CQI RESEARCH AND EVALUATION

The RWJF-funded evaluators were asked for suggestions to advance the field of CQI research—beyond their particular needs for evaluation of the effectiveness of CQI programs. Based on these interviews, the researchers made the following recommendations for the field of CQI research and evaluation:

- **Enhance the legitimacy and use of a broad range of research and philosophy of knowledge paradigms.** Accelerated progress in CQI research and evaluation requires the application of paradigms, methods and approaches from other disciplines. Funders, especially, can help by supporting the adoption of new or adapted paradigms by, e.g., issuing targeted grant solicitations seeking research conducted within alternative paradigms, facilitating recruitment of researchers from other disciplines into the CQI research field, supporting inclusion of CQI research in conferences and journals and supporting the training of those currently conducting CQI research and evaluations in alternative perspectives and approaches.

- **Encourage development and use of theoretical models, conceptual frameworks and logic models to explain CQI initiatives.** Funders can support theory–development as stand alone projects or provide supplemental funding for theory–development efforts within currently-funded CQI programs.

- **Support the development of methods, tools and standards for the design, conduct and reporting of CQI research and evaluations.** Possible steps include: 1) direct support for projects to develop improved methods and tools, including standardized definitions and measures of key variables; 2) supplemental funding for methods development activities within broader CQI programs; 3) and support for the development of consensus statements specifying standards for the design, conduct and reporting of CQI research and evaluation.

- **Expand opportunities to publish and disseminate a broader range of CQI implementation and evaluation reports.** Many insights and lessons regarding CQI strategies are developed but not sufficiently documented or disseminated. The field needs more venues for publication (including refinements to existing venues). Such venues could include special journal issues and Web-based resource centers.

- **Expand opportunities for health care professionals already engaged in CQI to be trained and encouraged to fully document their CQI processes and results in a manner that will support later analysis and synthesis.**
• **Support improved synthesis of findings from CQI research and evaluation efforts.** Most efforts to synthesize findings from CQI research and evaluation rely on methods best suited to quantitative data and findings, rather than to the qualitative data and tacit knowledge central to CQI research. To inform the intent and activity of CQI work, the field needs to learn how to derive comprehensive findings from both types of evidence. Until publication bias disappears, synthesizers should seek to incorporate non-results in work presented to decision makers.

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*There is broad consensus regarding the existence of a problem as well as broad motivation and commitment to seek solutions and to make changes that will result in improvement. To advance the field will require coordinated, collaborative efforts and a considerable investment on the part of national and local funders. The Robert Wood Johnson Foundation believes potential benefits are considerable and is committed to improving the science and practice of CQI research and evaluation.*