Six Steps to Begin a Quality Improvement Collaborative

John Petrilli, MD | Karo G. Ohanian | Randy Xun, MD | Dana Neutze, MD, PhD

Abstract

Quality improvement collaboratives (QICs) are increasingly used in graduate medical education to enhance clinical outcomes and meet educational objectives. While they offer potential benefits, such as driving systemic change and developing best practices, multi-institutional QI efforts face unique challenges, and no consolidated guidance exists to help faculty navigate them. Drawing on literature and personal experience, we outline six steps to help educators overcome hurdles associated with launching a QIC: (1) choose a goal aligned with organizational priorities; (2) recruit a multidisciplinary team; (3) craft a clear and generalizable aim statement; (4) select preexisting, nationally-recognized metrics; (5) navigate institutional review board requirements; and (6) plan meetings around key milestones. These steps will help medical educators anticipate common hurdles, secure administrative support, and foster effective collaboration across institutions. Personal illustrations accompany each step. By following this framework, educators can more confidently lead QICs to engage learners and improve patient care.

Introduction

Learning collaboratives benefit multiple clinical and educational aims, including quality improvement (QI).[1] In fact, the Accreditation Council for Graduate Medical Education's requirements for family medicine specifically promote quality improvement collaboratives (QICs) to "enhance population care across regions by sharing best practices to deliver high-quality patient care."[2] QIC benefits include learning from different practice styles, encouragement to overcome systemic resistance to change, development of generalizable procedures, and dissemination of practice-changing discoveries.[3,4] While others have described characteristics of successful QICs[1,5-9] (Table 1) and QI curriculum,[8,10,11] there are no existing guides to help new collaboratives avoid pitfalls unique to beginning a QIC.

From 2022 to 2023, we participated in a QIC through a faculty development fellowship. Our collaborative included family medicine departments from seven academic institutions affiliated with community or tertiary hospital systems. We encountered hurdles to collaborative QI, for which we found little guidance. We address these hurdles in the six steps outlined in this article, which are based on literature[12] and personal experience. They assume familiarity with QI principles[13-15] and the *Model for Improvement*.[13,16] We hope this framework helps educators better train learners and improve patient care.

Step 1: Choose a Goal That Aligns With Organizational

Initiatives.

The most important decision facing a QIC is its goal.[7] While single-institution QI may address smaller-scale problems such as patients' wait time at a specific clinic, successful QICs should choose goals that align with organizational initiatives.[5] Without alignment, QICs risk losing crucial administrative support.[10,11] While organizational initiatives are not always glamorous, they are usually rooted in evidence and tied to financial or recognition incentives.[5,10] A 2018 systematic review of QIC effectiveness concluded, "Collaboratives reporting success generally addressed relatively straightforward aspects of care, had a strong evidence base, and noted a clear evidence-practice gap in an accepted clinical pathway or guideline."[1]

While QICs might be tempted to improve an area of personal or emerging interest, consider the following example. Our goal was to improve rates of lung cancer screening. Screening is undeniably important, but it was not an organizational goal at our institutions. Furthermore, the screening guideline is difficult to apply due to the need to calculate pack-years and time since one quit smoking.[17] Our success was therefore hampered from the outset by organizational backing and a complicated clinical pathway. We should have considered a shared organizational initiative, perhaps from a Healthcare Effectiveness Data and Information Set (HEDIS) measure.

Step 2: Recruit a Multidisciplinary Team.

To launch a collaborative, people must first discover that they share a common goal.[18] State meetings and virtual networks, such as STFM Connect,[19] are suitable meeting spaces. Once representatives from various institutions commit to a collaborative, it is time to form local teams. Successful teams include members from various backgrounds.[5,6,9] At a minimum, recruit the following (one person can serve multiple roles).[14]

- **Team lead:** oversees all aspects of the QI project; guides the team to key personnel and systems
- **Technical expert**: has a detailed understanding of systems (eg, a QIC planning to use the electronic medical record [EMR] should include someone from information technology).
- **Systems leader:** possesses the authority to implement change; foresees the impact of changes on seemingly unrelated systems (eg, the medical director of an ambulatory clinic)
- **Improvement advisor:** is trained in QI; advises the team and helps interpret data.
- **Executive sponsor:** secures resources and removes barriers (eg, medical director, department chair).

An experienced member of our collaborative served as both team lead and a common improvement advisor. Institutional representatives served as local team leads and systems leaders, since most held leadership roles (eg, medical director). Each local team included a technical expert. For most, this was a technology expert who built reports to identify smokers who had completed lung cancer screening. Lastly, department chairs or program directors served as executive sponsors.

Step 3: Craft a Clear Aim Statement That Allows for Local Variation.

The aim statement defines success and, second only to the goal, directs the team's improvement efforts. An effective aim statement promotes clear objectives by being SMARTIE (Specific, Measurable, Achievable, Relevant, Time-bound, Inclusive, and Equitable).[20] Since the aim applies to multiple organizations, it should allow for local variation in patients and processes.

Our collaborative chose to "increase lung cancer screening rates among eligible, current smokers by 25% within one year." This aim statement allowed for local variation by classifying the goal in relative, not absolute, terms. It also clearly defined the target population (current smokers). Former smokers also qualify for screening, but

identifying them is complicated due to EMR inaccuracy.[21] By starting the improvement initiative with current smokers, our QIC made progress toward its goal without having to consider variations in our diverse EMRs.

Step 4: Select Preexisting, Nationally-Recognized Metrics.

We strongly encourage QICs to use pre-existing, nationally recognized metrics, since institutions cannot collaborate without common measures of success. HEDIS measures are an example. Successful QICs report data regularly,[5,6] so the collaborative should choose metrics that can be sampled easily and iteratively. A good metric can also be improved within the project's expected timeline.[8] Consider outcome, process, structure, and/or balancing metrics, to gauge initiatives' success and to explore unforeseen effects.[22,23]

If a common metric does not exist, the QIC must develop a new one, which could be an arduous process. Considering our example, only one of our institutions tracked lung cancer screening. Most of our members therefore had to collect data through manual queries done by busy technology experts.

Step 5: Navigate the Institutional Review Board (IRB).

QI projects are generally exempt from IRB oversight, since they do not involve research or human subjects activity.[24,25] However, QICs might *not* be exempt, because they may share identifiable data and disseminate results,[26] which fall under the purview of the IRB. IRB representatives and experienced colleagues provide excellent guidance through local board procedures.[27] Our members consulted both to streamline approval, though we had vastly different experiences. Some members secured approval in a matter of weeks, while others had to engage executive sponsors.

Be sure to engage the IRB early in the project with specific details about what data is being collected, whether data will be de-identified, how interventions will affect patient care and local systems, and whether the collaborative's findings will be disseminated. We chose to analyze our data locally, which lessened IRB concerns about data sharing, since shared data was aggregated and de-identified. Use a data use agreement if sharing identifiable data between institutions.

Step 6: Plan Meetings to Coincide With Important Milestones.

Team communication is critical for success,[28] and geographic separation makes communication more difficult. Our QIC spanned the continental United States, meaning we had to communicate across multiple time zones. This required thoughtful use of in-person, virtual, and asynchronous communication.[6]

At the outset, the collaborative should define its expectations for communication and the frequency with which it will meet for various project milestones. The Institute for Healthcare Improvement recommends a mixture of "learning sessions" and "action periods."[7] Learning sessions provide the team with the knowledge and skills to carry out improvement activities, whereas action periods provide time to implement change and gather data. Based on our experience, we propose a loose framework for meetings in Figure 1.

At the beginning of the project, the QIC should plan to meet frequently for education and to address unexpected challenges. During the implementation portion of the project, the frequency of data collection will likely dictate how often the QIC meets. Lastly but importantly, QIC members should secure protected time from executive sponsors to participate in the QI endeavor.[10,11]

Conclusion

Quality improvement collaboratives offer substantial benefits to institutions and patients, but multi-institutional efforts come with unique challenges. The steps outlined here will help medical educators anticipate hurdles, guide learners, and ultimately launch QICs to enhance patient care.
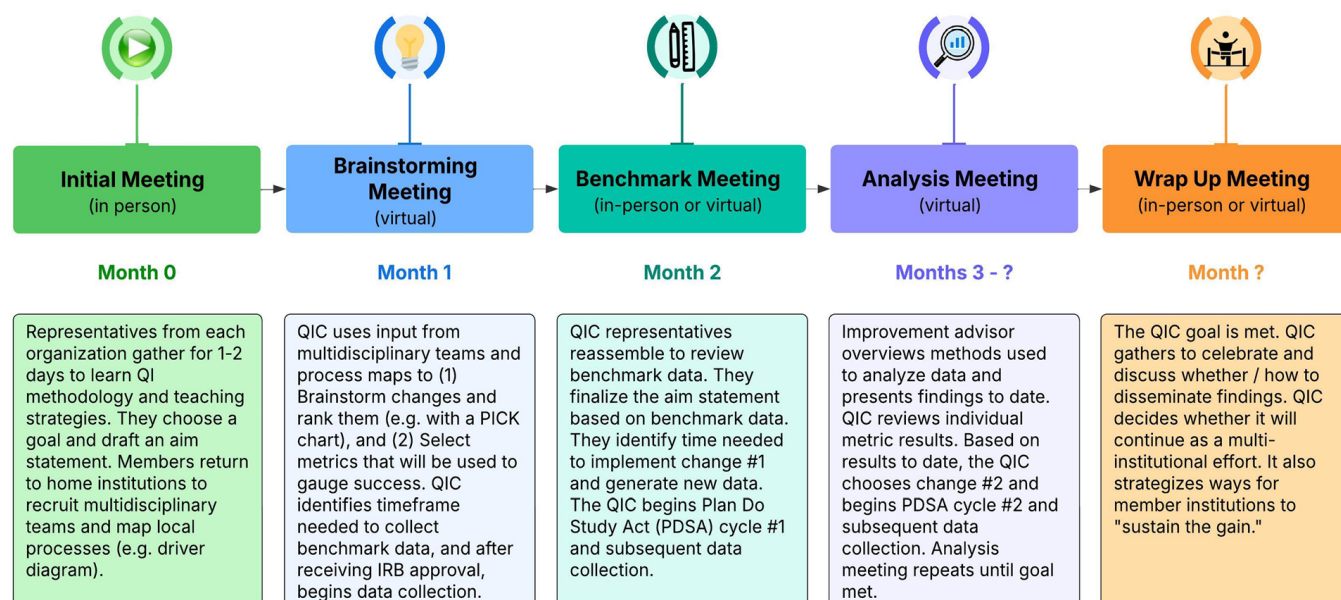
Tables and Figures

Table 1. Characteristics of Successful QICs*

QI Project Characteristics	Team Characteristics	Organizational Characteristics
Alignment with supervisory structures, incentives, and systemic pressures	Multidisciplinary, including a range from organizational hierarchy	Confidence using data to make decisions
Goal addresses a straightforward aspect of care with a clear evidence-practice gap	Organizational leadership involvement	Explicit standards to enable constructive challenges when standards aren't met
Data measured and reported easily	Prior experience / training in QI	Shared-responsibility and bottom-up discussion
New data collection in response to changes		Peer reflection to improve knowledge and problem-solving
Plan-do-study-act (PDSA) cycles		Culture of "habits for improvement" (eg, evidence-based medicine, systems thinking)
In-person learning sessions		
Virtual and asynchronous communication		

Abbreviations: QIC, quality improvement collaborative; QI, quality improvement.
*Compiled from references 1, 5-9.

Figure 1. Example Quality Improvement Collaborative Meeting Timeline

Initial Meeting (in person)	Brainstorming Meeting (virtual)	Benchmark Meeting (in-person or virtual)	Analysis Meeting (virtual)	Wrap Up Meeting (in-person or virtual)
Month 0	Month 1	Month 2	Months 3 - ?	Month ?
Representatives from each organization gather for 1-2 days to learn QI methodology and teaching strategies. They choose a goal and draft an aim statement. Members return to home institutions to recruit multidisciplinary teams and map local processes (e.g. driver diagram).	QIC uses input from multidisciplinary teams and process maps to (1) Brainstorm changes and rank them (e.g. with a PICK chart), and (2) Select metrics that will be used to gauge success. QIC identifies timeframe needed to collect benchmark data, and after receiving IRB approval, begins data collection.	QIC representatives reassemble to review benchmark data. They finalize the aim statement based on benchmark data. They identify time needed to implement change #1 and generate new data. The QIC begins Plan Do Study Act (PDSA) cycle #1 and subsequent data collection.	Improvement advisor overviews methods used to analyze data and presents findings to date. QIC reviews individual metric results. Based on results to date, the QIC chooses change #2 and begins PDSA cycle #2 and subsequent data collection. Analysis meeting repeats until goal met.	The QIC goal is met. QIC gathers to celebrate and discuss whether / how to disseminate findings. QIC decides whether it will continue as a multi-institutional effort. It also strategizes ways for member institutions to "sustain the gain."

Abbreviations: QI, quality improvement; QIC, quality improvment collaborative

Acknowledgments

Corresponding Author

John Petrilli, MD

Department of Family Medicine, University of South Florida, Morsani College of Medicine, Tampa, FL

jpe@usf.edu

Author Affiliations

John Petrilli, MD - Department of Family Medicine, University of South Florida, Morsani College of Medicine, Tampa, FL

Karo G. Ohanian - Department of Family Medicine, Eastern Virginia Medical School, Portsmouth, VA

Randy Xun, MD - St. Anthony North Family Medicine Residency, Westminster, CO

Dana Neutze, MD, PhD - Department of Family Medicine, UNC Chapel Hill School of Medicine, Chapel Hill, NC

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