

# Physician-led quality improvement: a blueprint for building capacity

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Physicians have a vital role to play in health system transformation, and their committed involvement provides an opportunity for comprehensive improvement and change. Health care has been shifting to a team-based, integrated, and collaborative approach, with a greater expectation for physicians to engage and lead quality improvement (QI). However, there are many barriers to physician QI capability, participation, and leadership. A physician leader at a university and a provincial health care

organization's executive director recognized this challenge and developed an innovative coalition, the Strategic Clinical Improvement Committee, to build organizational capacity for physician-led QI. Six key principles and approaches underpin the coalition: QI as inseparable from care, accountability, a team approach, organic growth through training, academic credibility, and return on investment, including 14 enabler strategies. To date, achievements include the completion of over 60 physician-led QI projects, development of a summer health care improvement elective course, receipt of grants totaling \$250 000, 16 QI papers published in peer-reviewed journals, and numerous projects shared nationally and internationally at conferences. The coalition has propelled a shift toward a physician-led improvement culture at the direct

care level. The criticality of sustaining this culture of physician QI engagement and leadership will require balancing competing priorities, limited resources, and various other health system influences.

**KEY WORDS:** health care, quality improvement, physician leadership, coalition

Mathura P, Marini S, Spalding K, Duhn L, McMurtry N, Kassam N. Physician-led quality improvement: a blueprint for building capacity. *Can J Physician Leadersh* 2022;8(2):51-8. <https://doi.org/10.37964/cr24749>

In health systems studies, the evidence is clear about the importance of physician engagement and leadership to direct projects, initiatives, and transformation.<sup>1</sup> The role of physicians is evolving; they must demonstrate effective leadership qualities beyond those needed to treat patients and include all aspects of health system improvement.<sup>2</sup> Physician leadership in quality improvement (QI) is defined "as the active and willing participation of physicians in local and regional QI projects that develop a strategic partnership with healthcare operations to improve healthcare delivery."<sup>3</sup>

A western Canadian university (University of Alberta) department

of medicine (DoM), located in an urban provincial health zone, identified the need for health system transformation. The aim for the change was: QI education, physician engagement and leadership, innovation, and enhanced patient-centred care.<sup>4</sup> The challenges facing the DoM leaders were the need for large-scale QI education and participation and the planning, evaluation, and coordinated implementation of practice change interventions. Further, there was no formal way to facilitate the collaboration of medicine program physicians in the two local health organizations and associated hospitals, regarding clinical service enhancements. Each organization's hospital medicine program had varied QI strategic priorities, and there was minimal sharing of interventions, successes, and opportunities. Few DoM physicians, who have joint academic and organization appointments, participated in hospital-based QI initiatives. QI training was completed by a small number of DoM physicians and not included in the medical learner programs. Physician participation in QI initiatives was voluntary and often at the request of medical leadership. The DoM physicians had minimal desire to participate, and many did not view QI as academically creditable, without promotional or financial benefits.

The DoM leaders recognized the need to create networking and collaboration opportunities for physician QI engagement and leadership.<sup>4</sup> To address these challenges, in January 2015, an

innovative physician-led coalition – the Strategic Clinical Improvement Committee (SCIC) – was developed. A coalition is defined as the joining of people and organizations and often involves existing leaders working in strategic pragmatic partnerships to influence outcomes on a particular problem.<sup>5,6</sup>

In this article, we describe the development of the SCIC and outline enabler strategies to address the identified challenges. Further, we present a physician-led QI leadership approach to engage physicians as leaders in health care QI.

### **Collaborative sponsorship**

In 2015, two senior leaders, a university DoM deputy clinical department head, who had the authority for the academic medicine department, and a health organization (Alberta Health Services) executive director, who had oversight for the local health zone medicine program, sought to join program and strategic priorities through a new coalition, with each serving as co-chair. The focus of this initiative was to strengthen physician QI capability; participation in and leadership of improvement projects; medicine program collaboration; and patient outcomes and experiences. This strategic collaboration between the university's DoM, the two health organizations (Alberta Health Services and Covenant Health), and six zone hospitals provided the platform to build a shared vision and purpose for organizational clinical QI and to

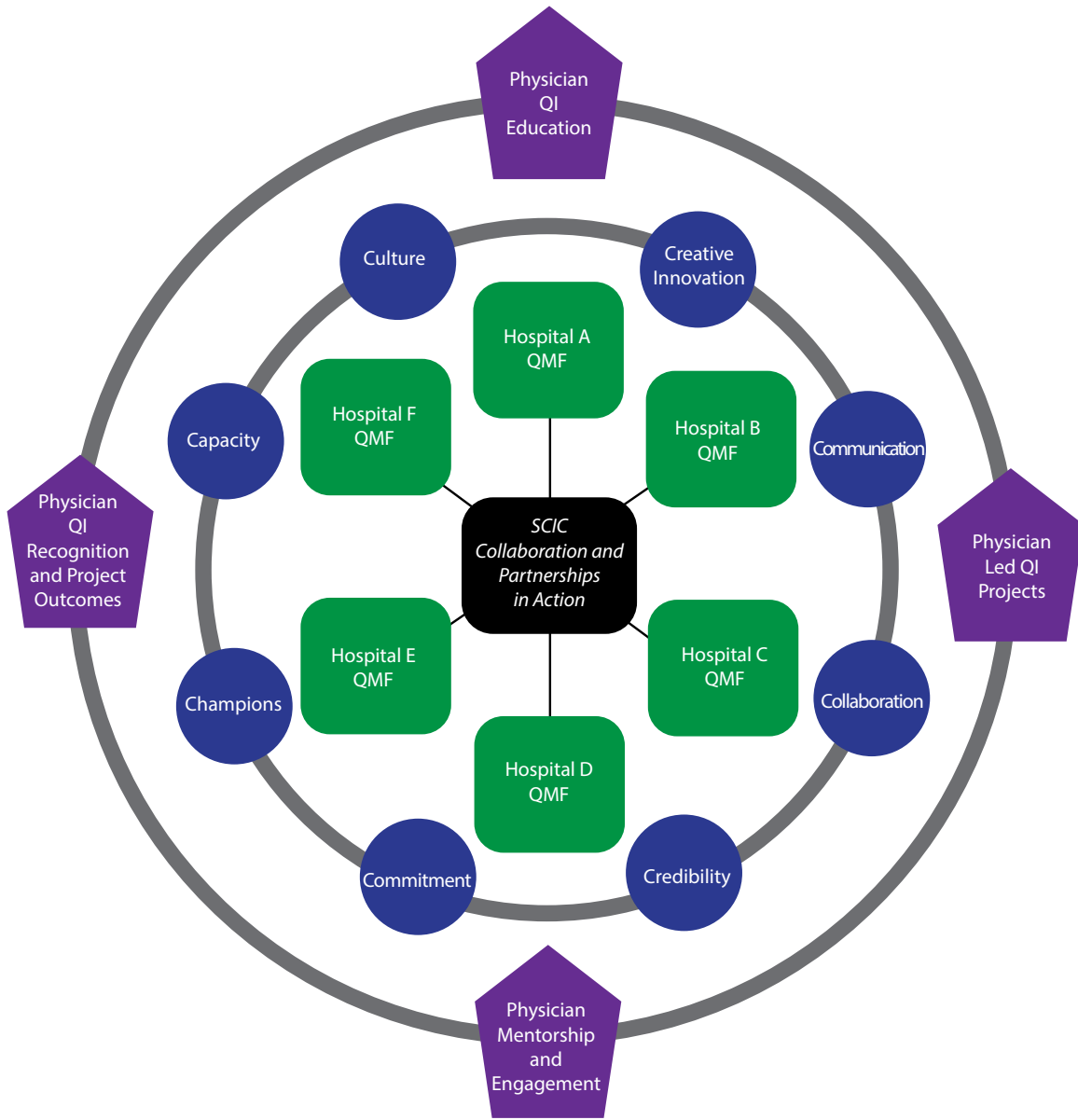
develop physician QI knowledge and skills.

### **Development of the Strategic Clinical Improvement Committee**

Physician volunteers from each of the 15 DoM divisions and the health organization medicine programs were recruited. Junior (<5 years) faculty physicians and physicians with an interest in QI were encouraged to be part of the coalition. Beyond physician leaders, medicine program interdisciplinary operational leaders were invited to participate. The initial 20-member coalition (14 physicians and six executive directors representing each hospital) met in person monthly, developed terms of reference, and recognized physicians as QI leaders requiring a theoretical and practical understanding of the science of improvement so as to influence sustained organizational improvement.<sup>7</sup>

A QI specialist position was created with responsibility for infusing and facilitating improvement-science knowledge in collaborative partnerships among academic medicine speciality physicians, organizational leaders, and frontline clinical staff. This funded position is a joint contract, with accountability to both the university DoM and the health organization medicine program. In September 2016, the QI specialist joined the coalition and, shortly thereafter, a patient advisor and clinical informatics physician were also recruited.

Figure 1. A multilevel physician QI leadership coalition model



To support teamwork and collaboration among the coalition members and frontline clinicians, a slogan was developed: *Collaboration and Partnerships in Action*. It was used on all documents to express the willingness to collaborate with clinicians (interdisciplinary health care personnel) and health organizations to achieve optimal health care outcomes.

The coalition created eight committee values based on the Salas and Frush framework<sup>8</sup> for team performance. The shared values are creative innovation, communication, collaboration, credibility, commitment, champions, capacity, and culture.

Effectively leading change is increasingly identified as a critical success factor for improved health

and organizational performance; this requires physician QI leaders to become change advocates.<sup>9</sup> The coalition used the LEADS framework to identify four priority topics for physician QI leadership: QI education, QI project leadership, mentorship and engagement, and QI recognition and project outcomes.<sup>3,10</sup> The priorities reflect supporting members to lead self, develop

hands-on QI skills, build QI teams to mobilize knowledge while mentoring and engaging frontline interdisciplinary clinicians, and support a culture of health system improvement.

As a result of this initiative, a framework for a physician-led QI leadership coalition was developed (Figure 1). The framework comprises three rings. The inner ring reflects the partnerships developed among six hospitals in the health zone, where each hospital's quality management framework (QMF) is collaboratively linked for the zone medicine program. The middle ring is the shared values of the SCIC and its partners. The outer ring reflects the priority topics, guided by the LEADS framework, to support physician QI capability, participation, and leadership.

## Aim of the SCIC

The aim of the coalition was to build organizational capacity for physician-led QI. The membership addressed this through improved science education, hands-on training, and mentorship. Further, it also served as a forum for sharing information about QI initiatives; showcased individual and team successes; created a platform for QI dialogue about physician-led initiatives; and recommended improvement opportunities for implementation within the medicine program. In the first two years, the goal was to provide physician members with foundational QI literacy and experiential project opportunities

with a multidisciplinary frontline team. To aid with the development of long-term goals, an internal coalition evaluation was planned.

## Strategies to enable the SCIC

To achieve the goal and address the challenges identified by the co-chairs, six key approaches were developed: QI as inseparable from care, accountability, a team endeavour, organic growth through training, academic credibility, and return on investment. They included 14 enabler strategies (Table 1).

### ***QI as inseparable from care***

To prevent competing priorities between the health care organizations and the DoM, the co-chairs acknowledged the need to ensure alignment between academic and clinical medicine. The health organization developed a quality management framework (QMF), to "provide vision, leadership and direction for quality planning, quality monitoring and QI within [the health organization]."<sup>11</sup>

Despite the QMF, physician QI participation and leadership remained limited and varied with projects and membership on quality councils. Many physicians were unaware of why they should engage and what would be gained from their participation. To address these challenges, the co-chairs developed a governance structure that linked coalition physicians to the QMF quality councils and aligned coalition and organizational QI priorities. This

allowed QI information to flow within and across the DoM and the health organizations. It also provided member physicians with the opportunity to join quality councils and collaborate with multidisciplinary clinicians as active participants and leaders of clinical innovation.

### ***Accountability***

Before the coalition was established, minimal physician-led QI projects were completed, and only a few medicine physicians modeled QI leadership. Thus, coalition physicians were encouraged to complete a QI project of their choice in collaboration with interdisciplinary clinicians and medical learners (residents and medical students). The physician coalition member was a QI mentor, educating medical learners and colleagues about QI and implementation approaches. In addition, that physician was accountable for the project timeline and championed the improvement at their local hospital.

### ***Team endeavoured***

Collaboration among the DoM divisions and within the zone medicine program was infrequent; thus, an interdisciplinary QI team approach was established. The coalition QI specialist recruited interdisciplinary frontline clinicians along with skilled health organization personnel, such as data analysts, QI and patient engagement consultants, and patient safety advisors. Quarterly, the QI specialist and the hospital-based medicine program QI consultants met to share and develop strategies for expanding

Table 1. Key approaches and strategies used to enable the Strategic Clinical Improvement Committee, a coalition to promote physician leader participation in quality improvement (QI)

Key approach	Strategy
<b>QI as inseparable from care</b>	<ol style="list-style-type: none"> <li>1. Establish co-chairs: physician leader from university's department of medicine and executive director of the health zone organization's medicine program.</li> <li>2. Align governance structure with health organization's quality framework. Ensure that strategic priorities are physician-led and accomplished collectively and that physician coalition members are aware of and assigned to either hospital or program quality committees.</li> </ol>
<b>Accountability</b>	<ol style="list-style-type: none"> <li>3. Physician coalition members serve as mentors influencing residents, medical students, and frontline physicians.</li> <li>4. Physician coalition members lead implementation of interventions at their local hospitals and are accountable for project timeline.</li> </ol>
<b>A team endeavour</b>	<ol style="list-style-type: none"> <li>5. QI projects are led by physicians, supported by residents and a coalition QI specialist and, when appropriate, assisted by other health organization skilled staff, such as data analyst, patient experience, and QI consultants.</li> <li>6. Link health zone medicine program QI consultants. Coalition QI specialist and health organization medicine program QI consultants meet quarterly to share, collaborate, and develop spread strategies.</li> <li>7. Establish formal linkage to the health organization's Patient Engagement Department and recruit a patient advisor as a member of the coalition.</li> </ol>
<b>Organic growth through training</b>	<ol style="list-style-type: none"> <li>8. Train faculty physicians, residents, and undergraduate medical students using a QI workshop called Evidence-based Practice for Improving Quality (EPIQ).<sup>13</sup> Develop a Summer Healthcare Improvement Program for undergraduate medical students to learn improvement science while assisting physician coalition members and residents with QI projects. Link the health organization QI educational program to the EPIQ workshop to avoid duplication.</li> <li>9. Encourage physicians to complete formal training in improvement science (master's, certificate, or PhD). Support coalition QI specialist to obtain advanced QI training (PhD in health quality).</li> </ol>
<b>Academic credibility</b>	<ol style="list-style-type: none"> <li>10. Support scholarly outcomes, such as peer-reviewed manuscripts and conference posters.</li> <li>11. Acknowledge physician-led QI activities during the annual DoM faculty physician performance review process.</li> <li>12. Include QI in the annual university research day, welcoming both university and health organization staff. Invite QI experts as plenary speakers to present and judge abstracts/posters.</li> </ol>
<b>Return on investment</b>	<ol style="list-style-type: none"> <li>13. Establish joint funding arrangements between the university and health organization for dedicated QI specialist personnel to sustain coalition QI support.</li> <li>14. Track QI project outcomes, complete cost calculations to demonstrate intervention effect and financial impact. Secure grants to fund QI projects and to support knowledge dissemination.</li> </ol>



interventions. Where applicable, the patient advisor, informatics physician lead, and other colleague physicians from different DoM specialities were encouraged to collaborate by participating in QI project teams.

### **Organic growth through training**

Because improvement-science knowledge was lacking, an Evidence-based Practice for Improving Quality (EPIQ) workshop, offered by the university's life-long learning for physicians department, was selected as the training platform.<sup>12</sup> To advance medical learner QI knowledge and experience, the coalition developed a summer health care improvement elective course for undergraduate medical students. These students directly supported the physician member and resident in completing project tasks. The coalition perceived this continuum of QI learning across all levels of medical learners as promoting and building a physician QI culture.

### **Academic credibility and return on investment**

QI was viewed as not academically creditable and without physician recognition, peer support, or funding. To support knowledge dissemination via published manuscripts, physician members were encouraged to complete advanced QI training (i.e., master's), moving beyond foundational QI knowledge, and the QI specialist was also supported to complete a PhD in health quality. To motivate physicians to participate and lead

QI activities, the co-chairs added QI to the DoM's annual research day. DoM leaders acknowledged QI, added it to the faculty physician annual review process, and encouraged physician-peer QI mentorship. All QI project outcomes were tracked, and, when appropriate, cost calculations were included to demonstrate intervention effect and financial impact. For some projects, grant funding was obtained to offset associated costs (i.e., publication costs).

### **Impact of the SCIC**

The coalition has achieved its aim and actively demonstrated the expansion of physician QI leadership. From January 2015 to December 2021, the coalition grew to 35 members (27 physicians) who currently meet quarterly, with a 70% meeting attendance rate. Almost all (80%) coalition physicians are active members of the QMF quality councils, and most (11/15, 73%) DoM divisional meetings share QI endeavours and establish annual QI priorities. Of the 27 physician members, 22 (81%) have completed at least one QI project, and seven (26%) have completed more than two projects. Approximately 650 physicians and learners are EPIQ trained, and four physician members and two residents have completed advanced QI training (i.e., master's degree or certificate). Over 60 physician-led projects have been completed, and almost all have resulted in a conference abstract and/or poster. Sixteen QI manuscripts have been published, and numerous projects

have been shared nationally and internationally.

In 2019, the coalition was awarded a prestigious university DoM collaboration award, and, in 2018, the QI specialist received a preclinical mentorship excellence award from the Undergraduate Medical Student Association for outstanding teaching contribution. The Royal College accreditation team recognized the integration of QI learning into the internal medicine residency-training program. Demonstrating the DoM academic QI commitment, a formal QI career pathway was established for faculty physicians, and several coalition physicians have been recognized for their QI efforts in the annual faculty physician review process, which supports academic advancement. Grants totaling \$250 000 have been awarded, and coalition-supported QI project interventions have resulted in an accumulated cost avoidance of over \$300,000. Three annual research and QI events have been held, with 120–300 clinicians and academic staff in attendance, highlighting and recognizing resident and physician-led QI. To increase transparency and to encourage physician-led QI, a public facing webpage was developed that houses all completed project posters, manuscripts, and includes information about the annual QI event, and coalition contact information.<sup>13</sup>

### **Discussion**

Given the ongoing health system evolution, establishing

a physician-led QI coalition was a novel approach to support physician engagement and leadership in QI. Physicians are well positioned to lead and implement improvement, as they are aware of and have experience in the various clinical care pathways.<sup>14</sup> Moreover, physicians have a unique perspective, the skillset, and the ability to focus on patient outcomes while inspiring colleagues to improve care.<sup>15</sup> The SCIC is a supportive coalition for physicians to enhance their leadership while leveraging improvement science and mentoring colleague physicians, interdisciplinary clinicians, and medical learners.

In this coalition approach, we emphasized key enabler strategies to support physician-led QI similar to those identified by Goitein and others.<sup>14,16-18</sup> The strategies include: sponsorship by a university and health organization initiating coalition infrastructure; strategic priority setting; multidisciplinary membership; financial investment for a QI specialist; QI education and experiential training that includes medical learners; enhanced understanding of clinical multidisciplinary processes; links to health organizations<sup>14,16</sup>; networking and collaboration<sup>17</sup>; physician project choice<sup>14</sup>; informal physician-peer mentoring; a forum to recognize and share<sup>14</sup>; and academic credibility<sup>16</sup> and integration into the annual faculty physician performance review.<sup>18</sup> Most important, coalition physicians work in direct collaboration with academics and other health system partners to

form interdisciplinary frontline teams leveraging evidence-informed practices to develop sustainable interventions.<sup>14</sup>

The coalition supports the scale and spread of interventions across the health zone and province by positioning physicians as change champions and leaders, strengthening intervention reach, change acceptance, and clinical impact. The coalition is a forum for sharing QI projects, highlighting team successes, and, most important, creating improvement dialogue among the physician members to co-create additional interventions and identify further improvement opportunities.

Barriers that were not addressed by this coalition that impact physician QI leadership include the need for protected time to focus on QI work<sup>15</sup> and remuneration<sup>16</sup>, which is linked to a formalized physician QI role with a job title, description, and recruitment process for long-term sustainment of the coalition.<sup>19,20</sup> Further, there is the need to develop a formalized physician QI mentorship program that links experienced physicians with physicians attempting a QI project for the first time.<sup>21,22</sup> Finally, having only one QI specialist supporting the coalition infrastructure, physician members, projects, training and medical learners is not sustainable. To support coalition growth, formal links and collaboration across the health organizations' existing quality departments are needed to ensure access to skilled QI, patient safety, and data analyst personnel.

## Future direction and conclusions

The next step is to explore the perceptions of physician members to determine areas of strength, the effectiveness of enabler strategies, and areas for advancement. The formation of this physician-led QI coalition has illuminated its substantive potential; it has been a lived example of *what is* and *what can be*. Physicians and learners feel empowered and want to engage in improvement that affects patient outcomes and experiences and supports the goals of the provincial health organizations. The combination of basic QI training, frontline QI project completion, and a forum for sharing and learning gave physicians the confidence to take steps toward improvement leadership. This physician QI leadership coalition started the shift toward a physician-led improvement culture at the direct care level. Sustaining the improvement culture will require balancing competing priorities, limited resources, and various other health system influences.

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## Acknowledgements

We thank Dr. Barbara Ballermann, Cathy Osbourne, and all members of the Edmonton Zone Medicine Quality Council, Strategic Clinical Improvement Committee for their dedication, support, and commitment to health care quality improvement.

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**Author attestation:** PM wrote and reviewed the manuscript. SM, NM, KS, LD, and NK reviewed the manuscript. NK and NM initiated, developed, and served as co-chairs for the coalition called the Strategic Clinical Improvement Committee. All authors approved the final manuscript.

**Disclosure:** The authors declare no conflict of interest or competing interests. No funding was received for this study and ethical approval was not required. This manuscript will be presented by PM as an appendix to a thesis in partial requirement for a PhD degree in health quality from Queen's University.

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*This article has been peer reviewed.*