

Continuous quality improvement in orthopedic surgery: changes and implications with health system funding reform

This guest editorial on quality control measures in orthopedic surgery was invited, as the time has come where we need to look at better quality improvement measures that are meaningful and physician-based. We do not want to have measures imposed that we have had no hand in designing or approving. All surgical specialties — not just orthopedic surgery — will need to be involved in this effort.

Total health expenditure was expected to reach \$219.1 billion or \$6105 per Canadian in 2015,¹ with orthopedic care accounting for approximately 12% of total hospital acute care costs.² In 2012–13, providing health care in Ontario consumed 42 cents of every tax dollar. Without modification, health spending would account for up to 70 per cent of the provincial budget by 2025.³

In an effort to stem the tide, health system funding reform (HSFR) was implemented in April 2012 as part of Ontario's Action Plan for Health Care. A major constituent was the introduction of standardized bundled payments for quality-based procedures (QBP), which serve to reward care that improves patient outcomes. The United States and other countries are also moving toward bundled pricing.^{4,5} Of the QBPs currently in place in Ontario, 20% (4 of 20) involve orthopedic surgical procedures.⁶

The principle behind HSFR, and the ethos for establishing mandated QBPs, is to improve the quality of health care. The adage goes, “improve the quality of care, enhance patient satisfaction, and thereby improve patient outcomes and lower costs.” However, what is quality improvement, and how is it best enacted and then measured?

Quality: What does it mean in today's health care landscape?

According to the Institute of Medicine,⁷ quality health care should be safe, effective, patient-centred, timely, efficient and equitable. Quality does not necessarily improve by spending more money; quality could be a means to save money, as better coordinated care can lead to lower complication rates, shorter lengths of stay, reduced readmissions, and reduced use of health services after surgery.⁸ Quality of care can be assessed and improved through 3 sequential and interrelated dimensions: structures, processes and outcomes.⁹

Increasingly, data collected through local data sets are being contributed to provincial and national registries in order to help quality-improvement initiatives.^{10,11} The American College of Surgeons' National Surgical Quality Improvement Program (NSQIP) measures and compares

the quality of surgical care across North America to enhance a hospital's ability to zero in on preventable complications.^{12–16} As health care is always evolving with advances in technology, procedures and medical knowledge, the need for a “plan, do, study, act” (PDSA) cycle is necessary whereby data can be analyzed instantly and feedback provided constantly in order to continuously revise and improve.¹⁶

The PDSA cycle forms the basis for continuous quality improvement (CQI), which encompasses processes associated with providing a product or service to meet or exceed customer expectations. The key to any CQI initiative is using a structured planning approach to evaluate current health care structures and processes and improve upon them to achieve the desired outcome and vision.^{17,18} To study and improve structures and processes, time-driven activity-based costing (TDABC) is becoming more frequently used in health care, including orthopedic surgery.¹⁹

CQI and orthopedic surgery

Core aspects of most CQI programs include collection of data that allow assessment of health care structures, processes and patient-centred outcomes; feedback of performance and outcomes data to surgeons and stakeholders, ideally with risk adjustment and benchmarking of the data; and implementation of appropriate interventions to promote reduction in wasteful and inefficient variation in care while simultaneously improving performance.²⁰

Despite their relative infancy in health care, CQI programs have proven valuable at improving patient outcomes in orthopedic surgery, one of which was spearheaded by the Alberta Bone and Joint Health Institute.^{21,22} There have also been examples in subspecialties of orthopedic surgery looking at various quality end points, including fall prevention,²³ antibiotic delivery in the emergency department²⁴ and use of stat MRI for acute spine injuries.²⁵

Quality improvement plans in Ontario are now a formal commitment aligned with system and provincial priorities.²⁴ Surgeons must become active participants in the quality movement by understanding the basic principles of CQI and how they apply to patient care.²⁵ Only through

collaboration and integration can health care incorporate a culture for improving quality and patient safety. Truly improving performance is difficult, though, owing to questions about quality, design care processes, measure inputs and outputs, multistakeholder collaborations, and incentive programs. Major obstacles commonly reported are lack of time, limited resources, lack of training, and pressures to deal with other changes.²⁶⁻²⁹ Future efforts in developing quality improvement require strong physician leadership in helping to develop an optimal care team that is as patient-centred as possible.⁸

In summary, CQI programs evaluating health care services can inform choices to optimize care and improve efficiencies through knowledge translation. Successful end products may include better patient satisfaction, improved patient-reported outcomes, highly efficient care pathways, and overall cost savings.

Paul E. Beaulé, MD; Darren M. Roffey, PhD; Stéphane Poitras, PT, PhD

Affiliations: From the Division of Orthopaedic Surgery, The Ottawa Hospital, Ottawa, Ont. (Beaulé); the Clinical Epidemiology Program, Ottawa Hospital Research Institute, Ottawa, Ont. (Roffey); and the Physiotherapy Program, Faculty of Health Sciences, University of Ottawa, Ottawa, Ont. (Poitras).

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