For decades, it is known that surgical outcomes vary by surgeon. Numerous studies have shown that surgeons (and hospitals) with higher volumes have better outcomes. More recently, Birkmeyer et al demonstrated that surgical skills (referring to the gentleness, tissue exposure, instrument handling, time and motion, and flow of operation) are associated with outcomes and that a surgeon’s skills are related to their case volume. Surgeons are an important part of the quality equation, and measures of their outcomes are important for patients when deciding about whether to proceed with a given procedure, in a certain hospital, with a specific surgeon. Consider, for example, the case of a healthy 65-year-old, asymptomatic woman who on routine physical examination is found to have severe mitral regurgitation. The guidelines recommend early surgical repair provided that the likelihood of achieving durable valve function is >95%, which is possible when performed by an experienced surgeon in a center of excellence. Reasonably, patients and referring clinicians should have access to well-designed, rigorous outcome measures that enable comparison of performance across surgeons and healthcare systems.

In the United Kingdom, outcomes for cardiothoracic surgeons have been reported since 2005; other surgical specialties followed suit in 2013. Sponsored by the Society for Cardiothoracic Surgery in Great Britain and Ireland, patients, clinicians, and payors can easily access information about an individual surgeon’s procedure volume, case-mix, and risk-adjusted, inpatient mortality relative to the national average. The data are clear and concise and seemingly should support transparency and accountability, as they are factored into reimbursement fees. Yet there is pushback from the surgical profession about the value of mortality measures and the appropriateness of attribution to individual surgeons.

In this issue of Circulation: Cardiovascular Quality and Outcomes, these issues are highlighted in a study by Jarral et al evaluating UK surgeons’ attitudes about public reporting of surgeon-specific, risk-adjusted mortality rates. Astoundingly, three fourths of surgeons responded to the survey, an indication that surgeon-specific mortality rates are highly controversial. Surgeons were asked a series of questions about the measure, including whether they supported the measure, considered it important for assessing the overall ability of a surgeon, believed the measure promoted transparency and accountability between the surgeon and the public, and whether the measure has resulted in quality improvement. They were also asked whether the measure had unintended consequences, such as risk-averse behaviors, misinterpretation of data, or negative effects on the training of junior surgeons.

At least 1 out of every 2 surgeons opposed surgeon-specific mortality data. As one might expect, surgeons with less experience and higher risk-adjusted mortality were more likely to oppose the measure and to perceive the measure as being misinterpreted by referring clinicians and patients. Many surgeons raised concerns that the data were not adequately risk-adjusted and that surgeons could game the measure by upcoding a patients’ clinical comorbidities or the complexity of a procedure to achieve a higher expected mortality and thereby lower risk-adjusted rate. They offered examples of surgeons cherry-picking low-risk cases. Respondents also expressed frustration that the emphasis was on mortality rather than a suite of outcome measures that reflect overall quality. Still, the majority of respondents supported a team-based mortality measure that held accountable other clinicians and factors responsible for patient outcomes.

These findings may reflect the complaints of an overburdened physician group that has not fully embraced outcome measurement or could be a signal of a health system that is ill prepared to use outcome measures for patient-centered decision making, data feedback, shared learning, and quality improvement. These distinctions are critically relevant for the United States, especially as the redesign of the Medicare Access and CHIP Reauthorization Act (MACRA) in April 2016, authorized by the Centers for Medicare and Medicaid Services, will place most clinicians into a Merit-Based Incentive Payment System, which will likely include clinician-specific outcome measures.

In the United Kingdom, mortality is the only outcome assessed among cardiothoracic surgeons; moreover, mortality rates are measured at the surgeon level only, and not at the team, physician group, or institutional levels. Thus, public reporting of surgeon-specific mortality data may have resulted in surgeons feeling vulnerable and perhaps scapegoated, especially those early in their training. This may also explain why surgeons with limited experience were more likely to mistrust the validity of the data. Surgeons may worry that their reputation, pride, referral base, and revenue are at stake and that there could be retribution. A recent survey of UK physicians found that those who had experienced a complaint of any kind had high rates of depression, anxiety, and suicidal ideation. They were also more likely to hedge (behaving overcautious
by over-prescribing, over-referring, or over-investigating) and avoid (preferentially caring for low-risk patients). However, these reactions and behaviors need not be the case.

When well-implemented, performance measures may be of great appeal to surgeons, giving credit to those that have distinguished themselves as top-performers. In this context, surgeons may be motivated to seek continued training and skill development, perhaps even hiring the coach that Atul Gawande writes about in *Personal Best.* Surgeons may be inspired to take leadership roles; to work more collaboratively with other members of the healthcare team; and to be more responsive to postoperative wound care, mobility, and other aspects of recovery. Before surgery, they may be more inclined to engage patients in the decision-making process, enabling patients to be the arbiters of whether the benefits outweigh potential risks, which in-turn may reduce unwanted procedures with unfavorable risk: benefit profiles. Yet to achieve a culture of transparency, accountability, personal growth and learning, and shared decision making, outcome measures need to be linked to institutional commitments to high-quality care and to reimbursement models that reward quality performance. Alone, outcome measures may not get the buy-in from surgeons that is needed to foster high-quality, patient-centered care.

Outcome measures are a starting point for illuminating variation and deficiencies in quality. When developed using rigorous scientific standards, comparison can be made across providers caring for patients of varying health status and disease severity (case-mix) and with varying case volume. Outcome measures may be reported either in relation to the average provider or to a specific benchmark and may be used for several purposes. In the past, outcome measures have been used to regionalize care, directing patients to top-performers; to identify and learn from outliers (positive deviance approach); to drive quality improvements; and to calculate reimbursement. In the literature, there are no examples of surgeon-specific outcomes being used in shared decision-making tools. Yet context matters, and the goals of measurement need to be made explicit.

How can we use the study by Jarral et al to advance the goals of outcome measurement? Are there opportunities to develop a new generation of surgeons, even young surgeons with inexperience, who embrace quality measurement and reporting? First, we need to consider the context and culture within which outcome measures are embedded. If the goal is to reduce mortality by diverting patients to established centers of excellence, then measurement alone may be sufficient. However, if the goal is to improve aspects of care associated with mortality, then we need to understand and the influence of surgical skill, checklists, postoperative care, clinician and organizational leadership, and other aspects of clinical care and organizational culture that are associated with outcomes. Moreover, we need to provide guidance on best practices, along with strategies for improving care quality. Second, in attributing mortality to the surgeon, we cannot alienate the role of the hospital, healthcare team, or provider group, who can and should share some responsibility for a surgeon’s outcomes. This can be accomplished through various implementation strategies and incentive programs which tie a surgeons’ outcomes with the goals of the healthcare system. Third, professional societies, health outcomes groups, and others should work toward creating learning environments that embrace transparency, data sharing, and the identification and dissemination of best practices. The Michigan Bariatric Surgery Collaboration is an example of a University–payor partnership that includes clinicians from >38 institutions throughout the State of Michigan to collect and report patient outcomes, promote collaborative learning, and implement quality improvement.

This is an exciting time for outcome measures. In the United States, the Affordable Care Act has linked reimbursement to performance outcomes. For example, the Medicare Hospital Readmissions Reduction Program provides a financial incentive to hospitals to lower readmission rates; since its implementation, readmission rates have dropped. The Center for Medicare and Medicaid Innovation is exploring new bundled payment programs that tie quality outcomes to payments. In these programs, outcome measures are attributed to the hospital, health system, or population. With the implementation of MACRA in 2019, however, the United States has an opportunity to follow the UK’s lead in measuring physician-specific outcomes. Importantly, we need to define the goals of measurement, foster a culture of data transparency and trust, and form quality improvement collaboratives that support physicians to achieve their personal best in the operating room and as part of the perioperative care team. Surgeon-specific outcome measures are an important component of the quality equation; they are important to patients, and, if well implemented, can help to achieve better outcomes for patients and the healthcare system.

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References


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