Commentary: Driving improvement

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Central Message

Provider feedback, peer collaboration, public reporting, and centrally governed, system-wide improvement and accountability programs have all been used to enhance cardiac surgery outcomes.

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In this issue of the *Journal*, Worrall and colleagues¹ describe a centrally governed accountability and improvement program spanning 14 cardiac surgery centers within a large health care system (Providence Health and Services). In the course of 3 years, they achieved a 50% reduction in the observed to expected mortality ratio and substantial morbidity decreases. We do not know what would have happened without these efforts, and some of the apparent improvements could simply have been regression to the mean from a single, randomly bad year (2014). We also do not know whether this exceptional performance can be sustained long term. Taken at face value, however, the Providence approach has produced admirable short- to medium-term results. What can we learn from this experience?

Historically, cardiac surgery quality improvement efforts have fallen into several major categories. The most common is feedback of risk-adjusted outcomes data to surgeons and hospitals, as exemplified by the Society of Thoracic Surgeons National Database. Ideally, these data motivate providers to initiate relevant improvement activities, and results among Society of Thoracic Surgeons Database participants² support this hypothesis. There is limited if any central oversight or authority, however, to intervene if such improvement does not occur. In addition, some general surgery studies suggest that mere participation in a data registry does not guarantee improvement, because the latter requires special skills, ownership, and accountability.³⁻⁵

A second approach is systematic, structured peer collaboration and sharing of best practices, as introduced by the Northern New England Cardiovascular Disease Study Group in the late 1980s⁶ and subsequently implemented by statewide collaboratives in Michigan⁷ and Virginia.⁸ These programs are voluntary, with centralized leadership and coordination but limited enforcement ability.

Mandatory public reporting is the third approach, implemented in New York in the late 1990s⁹ and subsequently in other states; a national voluntary public reporting program

was initiated by the Society of Thoracic Surgeons in 2010.¹⁰ These programs do not necessarily include systematic quality improvement initiatives; they rely primarily on each hospital to develop their own programs to advance their report card ratings.¹¹

The fourth approach, adopted by Providence,¹ combines centralized governance and accountability with systematic performance improvement initiatives. The national paradigm is the Veterans Affairs cardiac surgery quality program, begun in the early 1970s.¹² In the Veterans Affairs program, a central committee monitors the performance of each program, identifies quality concerns, and may require program remediation or even closure. At Providence, strategic and tactical decisions are made at the system level by a multidisciplinary committee.¹ Surgeons lead these efforts at their own hospitals, but the central governance structure organizes system-wide improvement initiatives and enforces accountability. Principal strategies include routine sharing of identified institutional and surgeon-level data; standardization of quality improvement processes with checklists; regular morbidity and mortality conferences with phase of care mortality analysis of all deaths; and annual outcomes targets with identification and analysis of outlying programs, which are expected to submit nonpunitive corrective action plans with specific actions, metrics, leaders, and timelines.

In the study of Worrall and colleagues,¹ this highly structured, system-wide approach to improvement achieved results quickly, efficiently, and at scale, but some caution is

warranted. Behavioral science studies suggest that professionals performing highly complex tasks may be most effectively motivated by internal drivers, such as the desire to achieve and be recognized for their mastery, to exercise greater autonomy in their actions, and to have a clear sense of purpose.¹³ As applied to cardiac surgery improvement, this motivational pattern suggests that a centralized governing authority should set realistic targets and provide specific improvement recommendations and support while giving frontline leaders and staff the autonomy to “own” the processes at their institutions and to be fully accountable for their results. At least in the Veterans Affairs and Providence systems, this approach has yielded impressive results. A strong case can be made that this level of centralized oversight is an ethical responsibility of large systems with numerous cardiac surgery centers.

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