Commentary: Failure to rescue: “The medium is the message”

Paul Kurlansky, MD

Since Silber and colleagues1 defined “failure to rescue” (FTR) as the mortality among patients who suffered postsurgical complications, interest has accelerated within the profession, with broad endorsement by the National Quality Forum and public reporting by the Centers for Medicare and Medicaid Services. Therefore, the article by Likosky and colleagues2 is both timely and welcome, especially as the Society of Thoracic Surgeons (STS) recently introduced FTR as a newly developed STS metric at this year’s annual meeting.

Several of the findings are consistent with what has been previously reported. By focusing on the most common cardiac surgical operation, coronary artery bypass grafting, the authors avoided much of the heterogeneity potentially introduced by complex interactions of operation and complication—a rich topic for future research. Findings were, in several regards, similar to that reported by Edwards and colleagues3 for patients undergoing coronary artery bypass grafting in the STS database. Even more compelling than relatively similar rates of FTR for major complications was the key finding common to many surgical FTR studies—as mortality increases, the increase in FTR is more pronounced than the increase in complications, strongly suggesting that the management of complications may be a more powerful driver of mortality than their incidence. The implications are manifest—although it is both praiseworthy and appropriate to attempt to prevent complications, a certain level of complications may be intrinsic to the patient population needing surgery and therefore more productive efforts need to be directed toward instituting those systems and practices most successful (nonmortal) in their management. The introduction of intraoperative variables into their modeling was appropriate but may have been cautious. The failure to change the c-statistic has many explanations, not the least of which may be the impact of rare but powerful effects that may not influence overall model discrimination but may manifest in specific situations—net reclassification index, calibration, and other parameters warrant examination as well. Although the calibration of their model improved with the inclusion of a broader range of complications, one addition factor that may have also been worthy of exploration is the interactions of specific combinations of complications as these associations can be quite variable and dramatic.

In our appropriate passion to address this issue, we should not overstate the case. Complications and their management represent only one phase of care driving mortality in cardiac surgery.4 As such, FTR does not replace any of our current well-established metrics but rather informs and augments them in a potentially actionable fashion.

One of the most important contributions of this report is the IMPROVE Network itself. If the authors’ conclusions suggest the ability of greater-performing institutions to help inform their lower-performing colleagues, then it is specifically the sort of data-sharing networks such as this one that have a unique potential not only to identify these opportunities but to actually develop the initiatives that can yield positive results. The balance between sufficient volume to generate meaningful data and limited scope that permits individual interaction and collaboration may be the very model for actualizing the improvements advocated. The medium is the message.5

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Commentary: It takes a village: The next frontier in quality improvement

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In this issue of the Journal, Likosky and colleagues describe a retrospective observational study of 83,747 cases of coronary artery bypass at 90 centers in 6 regional collaboratives. Rates of (1) complications, (2) operative mortality, and (3) failure to rescue (FTR), defined as death following a complication, were compared across hospital observed to expected mortality terciles. The data revealed significant interhospital variation in mortality, which was driven much more by FTR than by rate of complications. Further, FTR rate after major complications was not correlated with operative mortality, which was driven much more by FTR than by rate of complications. Further, FTR rate after major complications was not correlated with case volume. As the authors state, “interhospital variation in mortality is driven more by how a hospital manages complications than the rate of complications.”

In a quest to improve cardiac surgical care, surgeons have pursued additional training, developed procedural refinements, and improved both care algorithms and patient selection criteria. This has resulted in improved morbidity and mortality despite the ever-increasing comorbidity of our patients. Others have demonstrated significant institutional variation in outcomes. This study shows again that high-performing centers with low mortality do not have fewer complications but rather lower mortality in those who experience a complication.

Surgical outcomes are sometimes viewed as a reflection of surgeon competence. However, quality performance encompasses a range of processes. This study spotlights the next frontier in cardiac surgery quality improvement: institutional competence. Reducing complications is desirable. However, rate of complications is more likely due to patient comorbidities than to quality of hospital care.


CENTRAL MESSAGE
Reducing failure to rescue is the next frontier in quality improvement. This requires a team approach to care, development of new relationships with shared responsibilities, and new paradigms of care.

References