

Programmatic quality measures: a new model to promote surgical quality

Xane Peters^{1,2,*}, Jill Sage³, Courtney Collins⁴, Frank Opelka³, Clifford Ko^{1,5,6}

¹Division of Research and Optimal Patient Care, American College of Surgeons, Chicago, IL 60611, United States

²Department of Surgery, Loyola University Medical Center, Maywood, IL 60153, United States

³Division of Advocacy and Health Policy, American College of Surgeons, Washington, DC 20001, United States

⁴Division of Gastrointestinal and General Surgery, The Ohio State University Wexner Medical Center, Columbus, OH 43210, United States

⁵University of California Los Angeles David Geffen School of Medicine, Los Angeles, CA 90024, United States

⁶Department of Surgery, VA Greater Los Angeles Healthcare System, Los Angeles, CA 90073, United States

*Corresponding author: Division of Research and Optimal Patient Care, American College of Surgeons, Chicago, IL 60611, United States.

Email: xpeters@facs.org

Abstract

Health care performance metrics are offered predominantly in terms of outcomes, processes, or structural components of health care delivery. However, measurement is limited by variability in data sources, definitions, and workarounds. The American College of Surgeons has recently developed a new type of performance metric known as a “programmatic measure”. These metrics align structures, processes, and outcomes to better coordinate quality measurement with support of frontline care teams. In this multifaceted way, these measures differ from current “single” measures such as targeting surgical site infection. The thematic focus of these measures and alignment of structure-resource components to support processes and outcomes also sets these measures apart from contemporary composite measures. Importantly, structural elements of these measures reflect minimum resources required for patient care, addressing staffing and resource barriers felt by local institutions in addressing numerous existing quality metrics. These metrics will streamline quality reporting to improve care navigation for patients. Clinicians will find more appropriately aligned goals and responsibilities, resulting in increased teamwork and communication. These measures are designed to address the current burdens of overabundant metrics, priority misalignment, and low resources in a patient-centric fashion to better align health care quality and measurement.

Key words: quality metric; programmatic measure; surgical quality.

Background

Over the past 20 years since *To Err is Human*,¹ several hundred performance metrics have been developed in surgery to both evaluate quality of care and identify areas for improvement. Metrics have been described as outcomes-based, process-based, and structure-based, along the lines of the Donabedian Model of Quality.² While outcome metrics are usually favored because they provide the end result of the surgical episode, in certain situations outcome metrics cannot be developed to reach sufficient validity, in which case process metrics have been used (eg, venous thromboembolism [VTE] prophylaxis). Structure-based metrics were more common (eg, procedure volume)^{3,4} in the early 2000s, although 2 new structure metrics have been developed and used by the Centers for Medicare and Medicaid Services (CMS) (maternal health and equity).⁵

Performance metrics are not without problems. Variations in definitions, risk adjustment, data sources, and inclusion/exclusion criteria are some of the issues associated with measure specifications. Further, measure gaming adds to the list of challenges.⁶ In the current landscape, local burden, competing demands, and costs are increasingly problematic.

The American College of Surgeons (ACS) has prioritized surgical quality since being established over 100 years ago, including developing surgical quality programs spanning diseases (malignant and benign), acuity (acute and elective), and populations (children and older adults). The oldest ACS quality programs began helping hospitals over 30 years ago. All ACS quality programs have evidence- and expert-based standards (structure, process, and outcomes) that are verified with triennial site visits. Published reports have demonstrated the effectiveness of these quality programs, showing hospitals that are accredited perform better than hospitals that are not.⁷⁻¹⁰

The ACS has now developed a new type of performance metric that builds upon the experience of their quality programs. These new metrics are called “programmatic measures,” which synergistically combine structure, process, and outcome-based measures together, such that they simultaneously evaluate quality and support frontline clinical care. The aligned multipronged clinical and functional combination is what sets programmatic measures apart from current “single” measures. They are also different than a conventional composite measure¹¹ given their thematic content (eg, focusing specifically on priorities of geriatric surgery) and the structural-resource component(s) that support the process and outcome components.

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Operational application of programmatic measures

An example of a programmatic measure developed by the ACS is the Geriatric Surgery Programmatic Measure, which we developed and submitted to the CMS Measures Application Partnership in 2022 for inclusion in the Hospital Inpatient Quality Reporting Program. This measure focused on inpatient geriatric surgery and was developed based on the work conducted to develop and run the ACS Geriatric Surgery Verification Program, a hospital-based quality program. The measure includes structural components (eg, identified staff roles to support the geriatric surgery efforts), processes (eg, patient goals, frailty screening-care, post-discharge continuity), and outcomes (eg, delirium monitoring). In its initial iteration, this measure included a total of 11 attestation-based questions across 7 domains (eg, identifying goals of care, medication management, function and mobility) that represent optimal care for the older adult surgical patient. A hospital receives 1 point for each domain where they attest to at least 1 statement. For each hospital, the final scoring is equal to the number of complete attestations divided by the total number of domains (7), resulting in a final score. The public reporting of the scores may be undertaken numerically or using the current star-rating system as seen on the CMS website. We favor reporting both a total score and the individual domain scores, allowing patients to see more specifically what hospitals are attesting to in the surgical care of the older adult. This geriatric surgery measure as described was approved in the CMS vetting process with “conditional support for rulemaking” in December 2022. Building on that success, the measure has been revised to expand to include inpatient and emergency geriatric care spanning 5 cross-cutting geriatric domains: patient health care goals, medication management, frailty screening and intervention, social vulnerabilities, and age-friendly care leadership. Initial scoring will be unweighted; however, with implementation, data gathering, attestation scores, and outcomes analyses, we foresee probable weighting of specific elements to prioritize specific domains relative to one another. This strategy is in line with our experience where ACS surgical quality programs based on structure, process, and outcomes have resulted in better surgical quality of care and patient outcomes—and forms the basis of this work in programmatic measures.

Programmatic measures address 3 current problems

Programmatic measures address at least 3 problems currently plaguing the quality measurement landscape. First, programmatic measures better align important frontline clinical care with quality measurement. Providing high-quality care to geriatric surgical patients includes such things as ascertaining patient goals, addressing frailty, and knowing delirium rates, which are components addressed in the measure. While not all clinical processes are incorporated, the measure contains prioritized patient issues that importantly are clinically integrated, leading to better overall coordination and implementation of care. Second, programmatic measures use a structural component in the form of the minimal resource level needed to undertake patient care. The common problem being felt by some local facilities is the lack of staff and resources to address the vast array of quality metrics—akin to unfunded,

unsupported “mandates.” Similar to the Donabedian model that highlights the importance of structure, programmatic measures identify structural components needed to proceed—in this case example with geriatric surgery quality. Moreover, since the components align care with the metric, much of the work is fulfilled by frontline patient-facing team members.

Finally, a programmatic measure does not focus solely on a single concept (like surgical site infection [SSI]) but addresses a broader aspect of care (eg, quality surgical care to the geriatric patient). In this regard, single outcomes like SSI will not necessarily be the targeted endpoint but rather incorporated as a whole when frontline teams treat the “entire patient.” The conceptualization and strategic reasoning for this type of measure is in large part to give back more responsibility and control to frontline teams. Instead of “studying to the test questions,” programmatic measures seek to highlight priorities and also support the surgical teams to manage and care for the patient. This was the thought behind the case example of the Geriatric Surgery Programmatic Measure.

Embedding programmatic measures in today’s landscape

Looking forward, if programmatic measures can more sufficiently evaluate and represent a programmatic view of clinical care, like geriatric surgery, rather than a single focus like SSI, we believe advantages will be seen from several stakeholder perspectives. Patients will benefit through better patient care and outcomes, and when results are made transparent this will enable them to more easily locate their care. The simplified reporting of programmatic measures instead of the hundreds of measures making up our current system may increase patient understanding and empower them to make better informed decisions about where to receive care.

For the clinician, control and time for patient care are felt to be markedly decreasing, in part due to increasing metrics and documentation requirements. Programmatic measures can minimize this burden by ensuring that teams are adequately resourced and aligning multiple disciplines under a common goal, thereby facilitating teamwork, interdisciplinary communication, and shifting the perceived responsibilities of high-quality care to the coordinated system (program) rather than individual providers as one-off, siloed priorities. Programmatic measures can also offer measure parsimony, reducing long lists of measures for each physician service and site, which have become costly and a distraction from patient-centeredness and care improvement. Finally, any strategy that can align quality evaluation with frontline care will be an improvement to the current landscape.

For the quality stakeholder community that includes payers, purchasers, and policymakers, programmatic measures can be viewed as the next iteration of quality metrics. They build on the lessons gained from single measures, and address some of the current problems of burden, insufficiently resourced initiatives, and misalignment. The expectation is that more effective, efficient, and integrated quality metrics will bring us closer to achieving high-quality surgical care. Having been developed from decades of effective surgical quality programs at the ACS, we propose programmatic measures as an important step in achieving quality and value in surgical care.

It is important to recognize possible challenges and limitations of programmatic measures. While they are based on

the Donabedian model, developed with decades of frontline experience, and have evidence to support their use, attaining better care and outcomes do not just “magically” happen. First, implementing needed frontline clinical structures and processes necessary to meet programmatic measures may be challenging for some hospitals. One reason is variability in leadership, organization, and resources. While possibly challenging, we have seen successful implementation and better quality in all types and sizes of hospitals and settings, including small, rural, and safety-net facilities. Second, a potential limitation is that the measure is being planned as an attestation-only metric for CMS. It is likely that attestation-only will not be sufficient in the long term to fully achieve sustainable high-quality programmatic care. We thus foresee validation (verification through audit) of the programmatic domain adherence may be needed in the future. This validation step is wholly feasible. At the ACS, remote virtual validation of programmatic compliance is being achieved in thousands of hospitals currently, including for example, over 500 level 1 and 2 trauma centers and over 900 bariatric surgery programs. A final potential challenge is “topping out” of the measure. In truth, topping out in the initial attestation phase would be a welcomed result and bring forth an opportunity to introduce a validation component.

Conclusion

Programmatic measures are intended to address priority issues. In surgery, these measures will provide patient-centric measures that span the episode continuum across several domains of quality (eg, effectiveness, patient-centeredness). Ideally, better alignment of resource and conduct, care and measurement, and patient, clinician, and system perspectives will ensue. Experiences so far with the Geriatric Surgery Measure demonstrates the utility of evidence- and expert-based standards incorporated into a metric, as well as acceptance exemplified by CMS endorsement. As more programmatic measures are developed, upcoming evaluations will provide further lessons and progress.

Supplementary material

Supplementary material is available at *Health Affairs Scholar* online.

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Conflicts of interest

Please see ICMJE form(s) for author conflicts of interest. These have been provided as supplementary materials. All authors are all affiliated with the American College of Surgeons, which may be interpreted as a conflict of interest.

Notes

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