The present and future of quality measures and public reporting in neurosurgery

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Quality measurement and public reporting are intended to facilitate targeted outcome improvement, practice-based learning, shared decision making, and effective resource utilization. However, regulatory implementation has created a complex network of reporting requirements for physicians and medical practices. These include Medicare's Physician Quality Reporting System, Electronic Health Records Meaningful Use, and Value-Based Payment Modifier programs. The common denominator of all these initiatives is that to avoid penalties, physicians must meet "generic" quality standards that, in the case of neurosurgery and many other specialties, are not pertinent to everyday clinical practice and hold specialists accountable for care decisions outside of their direct control.

The Centers for Medicare and Medicaid Services has recently authorized alternative quality reporting mechanisms for the Physician Quality Reporting System, which allow registries to become subspecialty-reporting mechanisms under the Qualified Clinical Data Registry (QCDR) program. These programs further give subspecialties latitude to develop measures of health care quality that are relevant to the care provided. As such, these programs amplify the power of clinical registries by allowing more accurate assessment of practice patterns, patient experiences, and overall health care value. Neurosurgery has been at the forefront of these developments, leveraging the experience of the National Neurosurgery Quality and Outcomes Database to create one of the first specialty-specific QCDRs.

Recent legislative reform has continued to change this landscape and has fueled optimism that registries (including QCDRs) and other specialty-driven quality measures will be a prominent feature of federal and private sector quality improvement initiatives. These physician- and patient-driven methods will allow neurosurgery to underscore the value of interventions, contribute to the development of sustainable health care solutions, and actively participate in meaningful quality initiatives for the benefit of the patients served.

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ABBREVIATIONS CEHRT = certified EHR technology; CMS = Centers for Medicare and Medicaid Services; EHR = electronic health record; EP = eligible professional; MACRA = Medicare Access and CHIP Reauthorization Act; MIPS = Merit-Based Incentive Payment System; NQF = National Quality Forum; N²QOD = National Neurosurgery Quality and Outcomes Database; PQRS = Physician Quality Reporting System; QCDR = Qualified Clinical Data Registry; VM = Value-Based Payment Modifier.

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QUALITY measurement has taken on an increasingly central role in our rapidly evolving health care landscape.⁷ As the practice of medicine shifts from individual authority to societal accountability, the quality of medical interventions will be under increasing and continuous scrutiny by patients, peers, payers, and policy makers.⁷

If executed appropriately, quality measurement can empower all members of the health care equation.⁷ First, the accumulation of high-quality, risk-adjusted data advances the objective of patient-centered health care by giving patients the tools to participate more meaningfully in shared decision making. Second, physicians and other health care professionals will be able to use these data to facilitate targeted quality improvement, practice-based learning, and effective resource utilization. Third, the data will allow policy makers and payers to more easily and accurately understand the true value of clinical interventions, an essential consideration in resource-intensive fields such as neurosurgery. In the end, better data will allow these various stakeholders to reward clinical excellence in an objective and evidence-based manner.

The Importance of Quality Measurement in Medicine

Now more than ever, there is increasing regulatory pressure to create a standardized framework for quality measurement across all areas of medicine. The Centers for Medicare and Medicaid Services (CMS) developed and released the CMS quality strategy in 2013¹³ in alignment with the National Quality Strategy.¹ The CMS quality programs address care provided across the continuum, encourage quality improvement through the use of payment incentives and reductions, and promote transparency. Although these goals are well intentioned, most national quality metrics developed to date have been generic and do not reflect the needs of specialty medicine or meaningfully improve care. Furthermore, measures often rely solely on administrative (claims) data, which for specialties such as neurosurgery lack specificity due to coding limitations. In this environment, neurosurgery can play a pivotal role in the advancement of health care quality and safety through the creation of more robust, data-driven, specialty-specific measures.

We present here an overview of the current quality measurement and reporting landscape with an emphasis on new regulatory and legislative developments, such as the Physician Quality Reporting System (PQRS) Qualified Clinical Data Registry (QCDR) reporting option. We highlight the role of neurosurgery and new opportunities in this rapidly changing field.

Quality Measures

Quality measures are used to determine the value of care provided by physicians; they are tools that help quantify health care processes, outcomes, patient perceptions, organizational structure, and systems of care. Measures are meant to reflect the ability of physicians and clinical teams to provide high-quality care. The CMS has estab-

lished that quality measures should relate to one or more of the following goals: effective, safe, efficient, patient-centered, equitable, and timely care.¹⁷

The types of measures reported change yearly.¹⁷ They generally vary by specialty and focus on quality areas such as clinical outcomes, care coordination, patient safety and engagement, clinical processes, effectiveness of care, and population/public health. They can also vary by reporting method. In order for quality measures to be considered relevant to specific clinical conditions and to be selected for use, the following factors are considered: type of care delivered (e.g., preventive, chronic, acute); clinical setting in which care is delivered (e.g., office, emergency department, operating room); quality improvement goals for the given year; as well as other quality reporting programs in use.¹⁷

The most common measure types are outcome, process, and structural measures. They are defined as follows:¹⁷ 1) outcome measure: a measure that assesses the results of health care experienced by patients such as clinical events, recovery and health status, experiences in the health system, and efficiency/costs of care; 2) process measure: a measure that focuses on steps that should be followed to provide good care—these measures are predicated upon the belief that a scientific basis exists to support the conclusion that the process, when executed according to design, will increase the probability of achieving a desired outcome; and 3) structural measure: a measure that assesses features of a health care organization or clinician relevant to the capacity to provide quality health care. These measures address the resources and capabilities available for patient care.

Quality Measure Development

There are several ways new quality measures may become accepted. National or regional organizations, private or public vendors, and professional societies or associations are all actively participating in the development process. Measure validation and approval by expert multidisciplinary panels lie at the core of creating high-quality metrics. Some of the highest standards for the development and maintenance of quality metrics have been set by the National Quality Forum (NQF).²⁸ Most developers must put their measures through a rigorous evaluation process long before the NQF considers them for endorsement. This organization's careful review and assessment gathers input from stakeholders across the health care enterprise and develops consensus about which measures warrant endorsement as "best in class." The NQF uses 4 criteria to assess a measure for endorsement. Proposed measures should be 1) important to report, 2) scientifically acceptable, 3) useable and relevant, and 4) feasible to collect.²⁸

Despite its rigor, the NQF process can be lengthy and expensive. The NQF review process typically occurs on a 3-year schedule.²⁶ Every 3 years, endorsed measures in a topical area, as well as newly submitted measures, undergo a 9-step consensus development process, including review against updated NQF evaluation criteria, to ensure that the measure specifications are current, accurate, and

harmonized with other measures.²⁶ The development and maintenance of a single measure through this process can cost up to \$250,000, based on some estimates.⁹ The length and cost of this process make NQF endorsement prohibitive for smaller medical societies.

In recognition that the health care community is increasingly asking for more visible and faster progress in improving quality, the NQF has recently taken steps to change its approach to measure development and endorsement, with the goal to be more strategic and efficient. Much of this work has focused on streamlining its 8-step Consensus Development Process,⁷ which is the primary method by which the organization evaluates and endorses consensus standards, including performance measures, best practices, frameworks, and reporting guidelines. Whether the NQF will achieve its objective of accelerating its processes to address the need to “get to better measures faster” remains to be determined.

Although CMS is required to consider NQF-endorsed measures for its federal reporting programs (where they exist), it has the authority to adopt non-NQF-endorsed measures when they target measure gaps or high-priority areas. Private payers may regard NQF-endorsed measures highly, but at present there is no mechanism to mandate use in the private sector.

The adoption of quality measures by CMS is a similarly prolonged, complicated, and expensive process. CMS relies on a standardized approach, known as the Measures Management System, for developing and maintaining measures used in its various quality programs.¹² CMS uses this framework to identify measure gaps and determine which measure development projects to fund. Funded measure developers (i.e., contractors) are then expected to adhere to these standards when developing and implementing these measures.

These and other sources have resulted in more than 1600 measures used across 33 different quality programs under Medicare alone. A study of almost 30 private health plans identified approximately 550 distinct measures in use, with little overlap between the measures used by private and public programs.²⁷

Physician Quality Reporting System: Requirements for Satisfactory Reporting

Under the PQRS, individual eligible professionals (EPs) and group practices must report quality measure data to CMS on an annual basis to avoid a payment penalty. Physicians and other EPs who satisfactorily report PQRS measures data to CMS in 2015 can avoid a payment adjustment of -2%, which would apply to all 2017 Medicare Part B-covered professional services. This same penalty will apply to 2018 payments based on 2016 reporting.

The PQRS offers EPs several reporting mechanisms.¹⁷ These options, and their associated requirements, differ slightly depending on whether they are being used by individuals or group practices. However, they generally include claims-based reporting, electronic health record (EHR) options, web interfaces, CMS-certified survey vendors, PQRS-qualified registries, and (new as of 2014) participation via a QCDR.¹⁷

Preliminary results from the application of PQRS to individual physicians have demonstrated that the modest incentives (which were initially part of this program, but ended after 2014) are significantly offset by the implementation and maintenance costs of the program.⁸ CMS recently reported that 76.9% of the 2889 neurosurgeons who participated in PQRS in 2013 were eligible for incentive payments, which averaged only \$731.¹¹

Unfortunately, the majority of measures that are included in the traditional CMS-approved PQRS measure set are generic and process oriented, and concerns have been raised about their relevance to true clinical quality.³⁶ Existing PQRS measures often do not apply to procedural fields and acute conditions and are particularly irrelevant to surgical specialties, such as neurosurgery. The paucity of clinically relevant PQRS measures means that neurosurgeons have very little opportunity to participate in the program meaningfully and are faced with Hobson's choice—either accept increasing payment penalties or report simply for the sake of reporting. Neither achieves the quality improvement goals of the nation.

Qualified Clinical Data Registry Reporting

Fortunately, new opportunities for meaningful neurosurgical participation in quality reporting have recently been created through the Congressional authorization of QCDRs in 2014. The QCDR is an alternative to traditional PQRS reporting methods that allows participants to satisfy PQRS requirements by reporting measures that have been developed and validated by the registry entity. CMS-approved QCDR entities may include a registry, certification board, or another collaborative effort that collects medical and/or clinical data for the purpose of patient and disease tracking with an ultimate goal to foster improvement in the quality of care provided to patients.¹⁶ The data submitted to CMS via a QCDR covers quality measures across multiple payers and is not limited to Medicare beneficiaries.

A QCDR is different from a PQRS “qualified registry” in that it is not limited to only reporting measures approved under the traditional PQRS set. This allows for the development and inclusion of measures tailored to specialty care, such as neurosurgery. A QCDR may contain measures from one or more of the following categories: Clinician & Group–Consumer Assessment of Healthcare Providers and Systems; NQF-endorsed measures; current PQRS measures; measures used by boards or specialty societies; or measures used in regional quality collaborations.

However, a QCDR entity can only offer its participants a maximum of 20 non-PQRS measures to choose from for purposes of qualifying for the PQRS.

Amplifying the Power of Clinical Registries

Clinical registries have seen explosive growth in recent years and represent a reliable clinical outcomes platform that can allow head-to-head comparison of treatment techniques.⁷ Additionally, through accurate risk adjustment (to account for the sicker patients treated in some centers of excellence, or the tendency to treat patients who have

more comorbidities with less invasive options), registries allow for the evaluation of individual practitioners, practice groups, and hospital performance, as well as assessments of patient experience. These programs will supplement national efforts to minimize disparities and reward excellence. Registry programs will also facilitate targeted quality improvement, practice-based learning, shared decision making, and effective resource utilization.⁷ In summary, specialty-specific quality registries are reliable tools for patients, physicians, hospitals, and payers who wish to define and promote value in therapeutic interventions. Among all the available public reporting methods, QCDRs are particularly well suited to harness the power of registries to create disease- and treatment-specific measures that reflect realistic and relevant quality targets for neurosurgery and other medical specialties.

The Complexity Continues

Despite the obvious value of quality measurement and reporting, physicians are currently faced with a cacophony of conflicting regulatory requirements. In addition to participation in PQRS,¹⁵ physician groups are also mandated to gradually participate in 2 additional quality initiatives. First, the EHR Incentive Program, also known as meaningful use, aims to assess if physician groups are using federally certified EHR technology (CEHRT) in a meaningful manner to improve patient care.¹⁴ Under this program, physicians are assessed for the use of CEHRTs to verify drug-drug and drug-allergy interactions, to computerize order entries for medications and laboratory orders, and to create and transmit summary of care documents.

Physicians are even held accountable for actions beyond their control, such as ensuring that a patient views, downloads, or transmits health information to a third party. Although this program initially offered more than \$30 billion in incentive payments to physicians and hospitals that were meaningful users of CEHRTs, the program has now transitioned to penalties only. Medicare providers who do not meet federal meaningful use standards in 2016 will face a 3% cut in Medicare payments in 2018.¹⁴ This “stick-based” approach is driving both hospitals and physician practices to undergo major restructuring of their budgets to increase the emphasis on information technology.²⁹

The Value-Based Payment Modifier (VM) is an additional mandate that results in differential payments to physician group practices and solo practitioners under the Medicare Physician Fee Schedule based on an evaluation of performance on a composite of quality and cost-of-care measures.¹⁸ This program is being applied gradually, depending on the size of the provider group. Noncompliance, as well as poor performance, can result in Medicare pay cuts as high as 4%.¹⁸ Quality composite scores are based on PQRS measures reported (including non-first-year QCDRs), as well as 3 outcomes measures automatically calculated by CMS based on administrative claims. The cost composite consists of total per capita spending measures and a measure that looks at spending related to a patient’s entire hospital episode (including 3 days prior to and 30 days after the hospital-

ization). These measures are not only irrelevant to specialty care, but they also may result in neurosurgeons being held accountable for care decisions and spending outside of their control. Although high-value care can be rewarded under this program, recent evidence has shown that the program is not having a major impact on patient outcomes²² and that only a small minority of providers will experience financial benefits.³¹

Although the cumulative effect of all of these penalties is concerning, bigger concerns have been raised about the true impact of these initiatives on patient outcomes. The literature demonstrates modest benefits when using EHRs,^{2,10,32} but no association between meaningful use and improved outcomes has been identified.³³ (Meaningful use is using CEHRT to improve the quality, safety, and efficiency of care. The CMS meaningful use program sets specific objectives that eligible professionals and hospitals must achieve to qualify for CMS EHR Incentive Programs.)

Similarly, only modest gains have been observed in the preliminary implementation of pay-for-performance initiatives,⁶ and there has been significant criticism about the current structure and effectiveness of the VM.^{19,34} There is a need to coordinate these quality programs and return control to the medical profession and its relevant clinical experts to determine the most accurate and meaningful ways to measure and improve the quality of subspecialty care. Neurosurgeons should not face penalties for the inability to achieve generic standards that are not relevant to their practices. Congressional initiatives are underway⁴ with proposed legislation to reform aspects of the EHR Incentive Program. This includes more stringent requirements on EHR vendors to ensure that their systems are interoperable and can actually be used to seamlessly transmit health information and improve care.²⁴

Public Reporting

Adding to the complexity and perversity of the current quality improvement enterprise is the fact that CMS (and private payers and other stakeholders) have begun to publicly report data that they believe reflect true quality. Last year, CMS announced plans to publicly report quality measure performance data collected on all physicians via its Physician Compare website¹⁹ by 2016, if technically feasible. Concerns have been raised about the validity of performance data, especially in regard to the rigor of risk adjustment, appropriateness of patient attribution to providers,²¹ and the role of hospital administrators in the accurate reporting of data.²⁰ The closely related Hospital Compare website (<https://www.medicare.gov/hospitalcompare/search.html>), which displays hospital quality metrics, has been criticized recently for the validity of the publicly reported data.⁵ As CMS continues to increase the data available for public consumption, questions remain about whether consumers actually find such data useful and whether they are using it for health care decision making.

The Future for Quality Reporting

Recent legislation passed by the US Congress (the Medi-

care Access and CHIP Reauthorization Act [MACRA])²³ repealed Medicare's sustainable growth rate payment formula and replaced it with a new streamlined value-based incentive payment system called the Merit-Based Incentive Payment System (MIPS). The MIPS consolidates the 3 existing Medicare incentive programs (PQRS, meaningful use, and VM), repeals their existing penalty structure, and replaces it with a new system that will give physicians the opportunity to earn incentive payments for high performance. The MIPS payments, incentives, and negative adjustments will slowly increase over the coming years. Because MIPS is designed to be budget neutral, meaning that bonus payments must be offset by negative payment adjustments, it is difficult to predict actual payments until the program begins. However, Congress has budgeted an additional \$500 million bonus pool each year to provide incentive payments to the highest performers.

MACRA offers higher annual Medicare fee schedule payment updates to physicians who participate in and receive a significant portion of their revenue from alternative payment models (e.g., accountable care organizations, bundled payment initiatives, and patient-centered medical homes). Under the alternative payment model system, in addition to financial rewards from the underlying shared-savings model, physicians have the opportunity to earn an additional 5% annual bonus from 2019 to 2025.

As noted, MIPS eliminates the existing penalties for PQRS, the EHR, and VM programs at the end of 2018.²³ Starting in 2019, physicians will receive bonuses or penalties that are determined by a composite score, ranging from 0 to 100. The score consolidates the existing quality programs as follows: 30% quality, 30% resource use, 25% meaningful use of EHRs, and 15% for a new component that will recognize clinical practice improvement activities that may be more relevant to a specialty, but are not recognized under the current system (this could include reporting to a QCDR, American Board of Medical Specialties Program for Maintenance of Certification, and other activities). Physicians will only be assessed on measures that are relevant to their practice. Also, scoring weights may be adjusted as necessary to ensure that individuals are measured equitably, based on the comorbidity profile of their patients. However, risk adjustment of these measures is critical to ensure that the quality and resource-utilization measures are accurate assessments of physician performance. The biggest challenge is to protect neurosurgeons from a system that unfairly penalizes those who take on risk in their practice.

Lest neurosurgeons question the overall commitment of payers to aggressively link objective measures of quality to reimbursement, it should be noted that in January 2015, only a few months before MACRA passed and authorized all of the previously mentioned changes, the Secretary of the US Department of Health and Human Services set an explicit timetable to more rapidly shift Medicare reimbursements from volume to value, setting out to tie 85% of all Medicare fee for service payments to quality or value by 2016, and 90% by 2018. In parallel to this effort, the private sector formed an alliance and announced the goal of tying 75% of their payment models to quality and lowering health care costs by 2020.

MACRA is a major step toward combining and updating existing quality programs. The role of QCDRs was prominently featured in the legislation, making clear that registries will continue to be an essential component of public reporting moving forward. Furthermore, the new law directs CMS to make the quality programs more clinically relevant and insists that physicians be meaningfully involved in the design of reporting systems. Physician specialty societies will have an enhanced opportunity to identify and submit quality measures (particularly if developed for use in QCDRs) that are relevant to their specialties, without having to first pass through the NQF or other long and costly endorsement processes. Most importantly, this congressional mandate may create significant opportunities for neurosurgery to influence the changing quality measures landscape.

Qualified Clinical Data Registry in Neurosurgery

Neurosurgery has been at the forefront of the new developments for QCDRs and the creation of specialty-specific quality measures. The development of the National Neurosurgery Quality and Outcomes Database ([N²QOD] <http://www.neuropoint.org/NPA%20N2QOD.html>) by the NeuroPoint Alliance²⁵ provided the specialty with the data that allowed the development of the first neurosurgery-specific QCDR and associated quality metrics. This initial project focused on lumbar spine surgery, because the lumbar module of the N²QOD was the most fully developed component of the registry.³ A detailed report of neurosurgery's first QCDR, as well as a review of the newly created measures, is offered in a companion article.³⁰ As more subspecialty modules are implemented in N²QOD, their data will be used to develop additional subspecialty-specific QCDRs.

The initiatives taken by organized neurosurgery demonstrate a commitment on behalf of our specialty to maintain a leading role in developing meaningful quality improvement and health care transparency projects. By using granular registries, such as the N²QOD, we are confident that we can highlight the value of neurosurgical procedures and ultimately, improve patient outcomes.³⁵ Our goal is to facilitate these developments and empower all the stakeholders in health care (physicians, patients, policy makers, and payers) to make appropriate decisions based on neurosurgery-specific data.

Conclusions

Quality measurement and public reporting are intended to facilitate targeted outcome improvement, practice-based learning, shared decision making, and effective resource utilization in health care. Regulatory pressures have created a complex network of quality requirements to be met by physicians and practices. However, recent legislative reform is changing this landscape and fueling optimism that QCDRs specifically, and registries in general, will be the main quality-reporting avenues in the near future. Neurosurgery has been at the forefront of these developments and has leveraged the experience of

the N²QOD to develop one of the first specialty-specific QCDRs. This program will allow neurosurgeons to objectively demonstrate the value of our interventions and actively participate in meaningful quality initiatives, to the benefit of our patients, as well as the purchasers of health care services.

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Disclosures

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