Neurosurgical practice and health care reform: moving toward quality-based health care delivery

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In an effort to rein in spending and improve patient outcomes, the US government and the private sector have adopted a number of policies over the last decade that hold health care professionals increasingly accountable for the cost and quality of the care they provide. A major driver of these efforts is the Patient Protection and Affordable Care Act of 2010 (ACA or Pub.L. 111–148), which aims to change the US health care system from one that rewards quantity to one that rewards better value through the use of performance measurement. However, for this strategy to succeed in raising the bar on quality and efficiency, it will require the development of more standardized and accurate methods of data collection and further streamlined federal regulations that encourage enhanced patient-centered care instead of creating additional burdens that interfere with the physician-patient relationship.

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Neurosurgery and Health Care Reform

Gaps in Quality and Variations in Spending

Efforts to target improvements in quality and efficiency come at a time when US national health care spending makes up nearly one-fifth of the gross domestic product and is projected to grow at a rate faster than the overall economy over the next 10 years.¹¹ The US also leads other economically advanced nations in health care spending as a share of its overall economy, and per capita spending on health care is 2.5 times higher than the average of other members of the Organisation for Economic Co-Operation and Development.¹³ With the federal government’s share of national health care expenditures expected to grow to nearly 50% over the next decade, largely due to Medicare,¹¹ and Medicare being projected to represent a growing share of the federal budget,⁹ the US government is under great pressure to rein in spending.

Despite these heavy investments, some health policy researchers continue to cite inefficient and poorly coordinated care and variations in spending and quality.⁸ These include findings that the US ranks near the bottom on many measures of caring for the sickest patients, and continues to have one of the worst track records when it comes to medical errors compared with other advanced

Abbreviations used in this paper: ACA = Affordable Care Act; ACO = accountable care organization; CMMI = Center for Medicare & Medicaid Innovation; CMS = Centers for Medicare & Medicaid Services; EHR = electronic health record; IOM = Institute of Medicine; IPAB = Independent Payment Advisory Board; PCORI = Patient-Centered Outcomes Research Institute; PQRS = Physician Quality Reporting System; Pub.L. = public law.
nations. Others cite the fact that on average each year, 1 in 7 Medicare patients admitted to a hospital is subject to a harmful medical error, and nearly 1 in 5 Medicare patients discharged from a hospital is readmitted within 30 days. It also has been estimated that about 30% of medical care in the US is duplicative or unnecessary and may not improve the patient’s health. However, the accuracy of these claims is often questioned. It remains unclear whether overuse or inappropriate use of services is contributing to these trends or if variations in spending and utilization are due to factors such as the broken medical litigation system, the practice of defensive medicine, or the poverty and health status of patients in certain geographic locations. Nevertheless, policymakers are increasingly basing health care payment and delivery reforms on the assumption that higher spending does not necessarily translate into higher quality care and may actually lead to unnecessary or inappropriate care.

**Current Barriers to Achieving a Higher Value Health Care System**

The current Medicare payment system remains a significant barrier to reaching the goal of higher value in health care. Medicare’s fee-for-service approach to physician payment continues to incentivize volume over quality, while Medicare’s inpatient hospital prospective payment system, which is meant to promote efficiency by paying for predetermined bundles of services associated with a specific case (known as Diagnosis Related Groups), does little to discourage multiple admissions and readmissions. Furthermore, each of Medicare’s multiple payment systems for different types of providers and settings operates in a silo, which discourages team-based approaches to care and results in poor communication, fragmentation, and duplication of services as patients move from one provider or care setting to another. This fragmented system is especially problematic considering the needs of the Medicare population, two-thirds of whom have multiple chronic conditions and, as a result, account for 93% of Medicare fee-for-service expenditures.

The private sector has also traditionally implemented payment models that enable paternalistic, physician-targeted utilization paradigms. Such fee-for-service programs have provided scant incentive to providers to contain costs, improve quality, or adopt evidence-based practices. In a health care system devoid of high-level evidence on effectiveness of care, these quantity-driven payment schemes have inadvertently encouraged overutilization without supporting evidence and proven outcomes.

**Efforts to Bend the Cost Curve and Close Gaps in Quality**

**Public Sector Activities.** The Institute of Medicine (IOM) first drew the nation’s attention to gaps in quality and safety in its 1999 report, “To Err Is Human.” In two subsequent reports, the IOM laid out 6 aims for health care—that it should be safe, effective, patient-centered, timely, efficient, and equitable—as well as recommendations for aligning provider payment policies with quality improvement activities. These reports set the groundwork for multiple critical transformations in the culture of medical practice. For one, they brought widespread attention to the problems of overuse, underuse, and misuse of health care services and cultivated general agreement among both policymakers and the public that the nation must find ways to bend the health care cost curve and close gaps in quality. More importantly, the IOM reports spurred action. Over the last decade, its recommendations were translated into smaller-scale public and private payer pilot projects designed to move the health care system from a passive purchaser of volume-based health care to an active purchaser of high-quality, high-value health care. Each of these new programs was founded on the principle that “you can’t manage what you can’t measure,” and many provided valuable lessons and set the foundation for more permanent reforms seen today.

One example is the Hospital Inpatient Quality Reporting Program, originally authorized under the Medicare Prescription Drug and Modernization Act of 2003 (Pub.L. 108–173). Under this program, hospitals must report on a designated set of facility-level quality measures to receive a full annual payment update. Furthering quality care delivery, the Deficit Reduction Act of 2005 (Pub.L. 109–171) authorized that Medicare and Medicaid not make additional payments to hospitals for cases in which specific hospital-acquired conditions were not present on admission. Under the Physician Quality Reporting System (PQRS), originally authorized under the Tax Relief and Health Care Act of 2006 (Pub.L. 109–432) and subsequently extended, physicians that report on a set of physician or group practice–level quality measures are eligible for a bonus payment that, starting in 2015, turns into a 1.5% Medicare payment penalty and increases to 2% for 2016 and beyond.

A few years later, the Health Information Technology for Economic and Clinical Health (HITECH) Act portion of the American Recovery and Reinvestment Act of 2009 (Pub.L. 111–5) established a federal infrastructure to advance the use of health information technology with the intent of improving the quality of patient care. A significant portion of the HITECH Act’s funding, $19 billion, was set aside for the Medicare/Medicaid Electronic Health Record (EHR) Incentive Program, which offers physicians and hospitals incentives for the adoption and meaningful use of EHRs, including the active exchange of health information to achieve a higher level of patient-centered care and the collection of clinical quality metrics to assess performance. Physicians who met the program’s requirements by 2011 or 2012 could earn a total of $44,000 over 5 years, starting with $18,000 the 1st year. The total incentive payment is lower for those who take longer to meet the requirements and, starting in 2015, the bonuses turn into Medicare penalties (–1.0% in 2015; –2.0% in 2016; –3.0% in 2017–2018; –4.0% in 2019; and –5.0% in 2020 and beyond) if meaningful use of EHRs has not been achieved.

The ACA significantly builds upon these efforts to improve quality, foster greater efficiency, and encourage changes in how health care services are delivered by further enhancing collaboration; placing more weight on the measurement and assessment of performance; enhancing transparency, namely through the public reporting of per-
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Performance data; accelerating adoption of health information technology; and supporting what the IOM refers to as a “learning healthcare system” by emphasizing the use of evidence-based medicine principles for both clinical and patient decision making.

The ACA also strengthens the infrastructure for performance measurement and higher value care by creating a new national center known as the Center for Medicare & Medicaid Innovation (CMMI), which is expressly authorized to test and implement new models of care within Medicare and Medicaid with the potential to curb costs and enhance quality. In its 1st year of operation, the CMMI has launched 16 initiatives supported by over $1.7 billion in federal funding that will involve more than 50,000 providers over the next 5 years.

Some CMMI-supported initiatives rely solely on incentives, such as the Comprehensive Primary Care Initiative, through which Medicare will work with commercial and state health insurance plans to offer bonus payments to primary care physicians who better coordinate care and prevent costly illnesses (http://www.innovations.cms.gov/initiatives/Comprehensive-Primary-Care-Initiative/index.html). Under another project known as the “Partnership for Patients,” more than 7100 organizations—including more than 3200 hospitals—have pledged to reduce preventable hospital-acquired injuries and complications by 40% and to cut readmissions within a month of discharge by 20% over the next 3 years. While the CMMI will provide over $500 million in resources to these hospitals, Medicare will penalize those with a high percentage of preventable readmissions under a separate ACA-authorized program. The CMMI is also responsible for administering a national pilot program that will provide a single bundled payment for physician, hospital, and postacute care services associated with a single episode of care. The program, which aims to correct the inefficiencies of the current fee-for-service model, will begin in 2013 and could pave the way for more permanent reforms. Finally, the CMMI is responsible for the implementation of the Shared Savings Program, which promotes more integrated models of care by allowing physicians, hospitals, and other health care professionals to form accountable care organizations (ACOs) to better coordinate care across multiple settings. Under the Shared Savings Program, ACO participants receive a share of the savings to Medicare when they meet certain quality and cost benchmarks. Those ACOs willing to assume larger risk are eligible to keep an even larger share of the savings produced, but face penalties if their costs exceed specified targets.

One of the ACA’s most significant efforts to control costs in Medicare is the creation of the Independent Payment Advisory Board (IPAB), an independent entity housed within the executive branch and consisting of 15 full-time members appointed by the president and confirmed by the Senate. The creation of IPAB has been touted by some as a critical mechanism for slowing increases in health care spending, but it is also controversial due to concerns about its unrestricted power and its potential to arbitrarily limit patient access to necessary care. Beginning in 2015, if health care expenditure growth exceeds set targets, IPAB will make obligatory recommendations to cut spending in Medicare. The recommendations made by IPAB will then be sent to Congress, and if Congress does not agree with the recommendations, it must pass alternative cuts of the same proportion within a narrow time frame. If Congress does not move to pass legislation, the Secretary of the Department of Health and Human Services is required to implement IPAB’s recommendations.

To promote the goals of lowering health care costs and increasing the quality of patient care, the ACA also places heavy emphasis on transitioning toward value-based purchasing models for both hospitals and physicians. This model is a drastic departure from the Hospital Inpatient Quality Reporting Program and the PQRS, which tied reimbursement only to the reporting of performance on quality metrics. Under the value-based purchasing model, Medicare reimbursement will be tied directly to the achievement of certain cost and quality benchmarks, including those related to patient satisfaction. The Hospital Value-Based Purchasing Program applies to all inpatient facilities beginning in fiscal year 2013. Under a separate program, the CMS will reduce Medicare payments to hospitals for services related to preventable readmissions and hospital-acquired conditions. By 2017, it is estimated that about 9% of Medicare payments to hospitals will be based on reporting and performance of quality metrics, paving the way for similar trends within other care settings. The Physician Value-Based Payment Modifier is authorized to begin applying to select physicians (mainly large group practices) in 2015 and to all physicians by 2017. The Physician Value-Based Modifier is a budget-neutral program, meaning that cuts to poor performers will fund higher payments to those who achieve certain quality and cost benchmarks. The ACA also authorizes pilot programs to test value-based purchasing in long-term care hospitals, inpatient rehabilitation facilities, cancer hospitals, and hospice programs.

It is important to note that quality in the CMS value equation (quality + cost) is currently limited mostly to process measures of care recorded from administrative claims data. Many of these measures are not disease specific (that is, measures related to perioperative care) nor are they validated as measures associated with any true patient-centered benefit. While process of care measures are easy to obtain and serve as loose proxies of outcome, there is wide agreement that an opportunity exists for patients, providers, and specialty societies to shape more accurate measures of quality care.

In an effort to provide both physicians and patients with more meaningful and useful information regarding the comparative clinical effectiveness of different procedures and services, the ACA also created the Patient-Centered Outcomes Research Institute (PCORI). This is an independent organization that is funded partly by the federal government and partly by private insurers. Its board consists of a mix of representatives from the private sector—including payers, providers, consumers, and industry—who are appointed by the nonpartisan Government Accountability Office; it also includes the heads of the Agency for Healthcare Research and Quality and the National Institutes of Health. The intent of PCORI is to
encourage the collection of better comparative evidence on what health strategies work best. Although the ACA stipulates that PCORI cannot make recommendations to mandate or deny coverage based on its findings, the CMS may take the resulting data into consideration when making coverage and reimbursement decisions. Just a couple of weeks ago, PCORI approved 3 projects, but their funding announcements won’t be released until the spring of 2013, so I would change this sentence to, “To date, PCORI has not funded any specific comparative effective research projects, nor has it made any formal clinical recommendations.”

Hand-in-hand with these initiatives is the goal to advance transparency within the Medicare program. For the last several years, the CMS has been publicly reporting facility-level care and performance rates for heart attack, heart failure, pneumonia, surgery, and patient satisfaction scores on its Hospital Compare website (http://www.hospitalcompare.hhs.gov). As of October 2012, Hospital Compare also includes new surgical outcome measures submitted on a voluntary basis by hospitals participating in the American College of Surgeons’ National Surgical Quality Improvement Program (http://site.acsnsqip.org). The CMS’s collaboration with the American College of Surgeons demonstrates its willingness to defer to a specialty’s aptitude for more disease-specific and outcome-focused quality measures over its own. Similar opportunities exist for all specialties.

The CMS is also in the process of developing a Physician Compare Website, which it has been rolling out in stages. In the first stage, which was completed in 2011, the names of those professionals who satisfactorily participated in the 2009 PQRS were posted. The second phase of the plan, which is currently in progress, includes posting of the names of professionals who are successful e-prescribers under the 2009 e-Prescribing (eRx) Incentive Program, as well as those participating in the EHR Incentive Program. The third stage of implementation will involve fulfillment of the ACA mandate to implement a plan by 2013 for making physician performance data—including quality, efficiency, and patient experience data—available to the public. The law requires that the CMS provide physicians with statistical feedback and give them a reasonable opportunity to review individual data before it is publicly reported. The CMS recently announced that, beginning in 2013, it will publicly post performance data for a defined set of measures that apply to group practices participating in the PQRS Group Practice Reporting Option and ACOs participating in the Shared Savings Program. Over the next 5 years, the CMS will expand public reporting to include patient experience data and actions taken to avoid preventable hospitalizations by group practices and ACOs, PQRS performance data for individual physicians, and information on physicians who qualified for the PQRS Maintenance of Certification incentive (https://federalregister.gov/a/2012-16814).

**Private Sector Activities.** In the private sector, the pressure to collect quality data is just as strong. Most, if not all, of the largest private health plans have rolled out national and local programs to measure and recognize high-value facilities and physicians. These programs, including Blue Cross Blue Shield’s Blue Distinction Program, require the collection of data to establish that a facility or a professional meets select quality and efficiency benchmarks. Over the past 10 years, there has been a surge in publicly reported quality dashboards and scorecards coming out of the private sector, as well. For example, the UnitedHealth Premium Designation program evaluates physicians and specialty centers that meet certain quality metrics and cost-efficiency standards. Physicians who earn the designation are listed in UnitedHealthcare’s physician directory and are eligible for additional financial rewards (http://www.uhc.com).

Medical professional societies are increasingly moving into the driver’s seat by investing resources in the development of data collection and quality recognition programs that more accurately reflect the care provided by their members and provide more meaningful information than is currently offered by current federal initiatives. For example, organized neurosurgery recently launched the NeuroPoint Alliance to provide neurosurgeons with an Internet-based data management platform for collecting, evaluating, and improving upon neurological outcomes. Its newly established National Neurosurgery Quality and Outcomes Database (N2QOD) is a tool that allows users to collect and track data related to quality by providing risk-adjusted, longitudinal performance measurement of patient-centered surgical spine outcomes. Furthermore, the Society of Thoracic Surgeons (STS) has partnered with Consumer Reports magazine to publicly report quality information on cardiac bypass surgery based on information collected through the STS National Database. The ratings system allows consumers to compare surgical groups on complication rates, mortality, and other quality targets related to cardiac bypass surgery.

**Efforts to Date**

After 10 years of testing these reforms, much work remains. The IOM reports of the late 1990s and subsequent Congressional action prompted a sense of urgency in implementing regulations to control quality and costs despite an inadequate evidence base for most clinical questions, a paucity of pilot studies to demonstrate a link between federally endorsed quality metrics and improved patient outcomes, and insufficient consideration of the potential unintended consequences of holding health care professionals accountable for irrelevant or insufficiently adjusted standards. As a result, the US health care system finds itself in a situation where the cart got before the horse.

While enhanced accountability has stimulated an influx of quality measure development in both the private and public sectors and within the medical profession, the science of measuring quality and cost for complex, real-world patients with multiple overlapping conditions remains unrefined. Most measures in wide use today continue to rely on administrative, claims-based data sets, which were developed primarily for reimbursement purposes and often lack an accurate level of clinical detail to support true quality improvement. Most current measure sets also only focus on care processes, some of which
are not necessarily linked to better outcomes and many of which are clinically irrelevant to certain specialties. Among the outcome measures that do exist, many lack adequate risk-adjustment mechanisms and fail to reflect the true clinical and economic realities of caring for individual patients.

Similarly, efforts to develop cost-of-care measures continue to hit roadblocks, especially in relation to individual physician-level measurement. Confidential physician resource use feedback reports distributed to select physicians in preparation for the Physician Value-Based Payment Modifier have demonstrated a range of unresolved challenges related to the measurement of individual physician resource use and the adjustment of payments based on value. Methods that accurately attribute an individual physician’s resource use to the care of a specific patient are still lacking, and stakeholders continue to work to define episodes of care on which to base cost analyses. Despite recent investments, the infrastructure needed to support a higher-value system (that is, one that achieves better outcomes at a lower cost) is also still not available. This infrastructure includes interoperable information technology to support clinical and administrative processes; sufficient evidence to guide informed medical decision making; workforce preparation that encourages team-based approaches to care and continual performance assessment; and the true breakdown of the payment system silos that discourage collaboration, shared responsibility, and efficiency. The result is that many health care professionals find few of these quality recognition programs relevant to their practice and few, if any, provide meaningful and actionable data that will result in better care. A review of 7 studies of primary care programs that provided physicians with financial incentives for meeting certain performance targets, published by the Cochrane Collaboration in September 2011, found little evidence of success in improving the quality and cost-effectiveness of care. In March 2012, a study published in the New England Journal of Medicine found no evidence that the Medicare Premier Hospital Quality Incentive Demonstration—the largest hospital-based pay-for-performance program in the US—had improved 30-day mortality rates.

Consequently, there is great mistrust within the medical community, which hampers efforts to achieve true quality improvement. This mistrust is stimulated not only by the irrelevance and insufficiency of the measures used under federal and private payer programs, but by medical-legal concerns that these new accountability standards are a double-edged sword. While evidence-based guidelines and carefully vetted quality metrics can assist health care professionals in medical liability cases, they can also work against the professional if interpreted too strictly. Current quality recognition programs fail to recognize or adjust for legitimate circumstances—such as more complex, higher-risk patients—when a health care professional chooses not to follow a guideline or to perform the processes prescribed by a metric or when care does not result in the expected outcome. Giving health care professionals the opportunity to clearly document these exceptions to the rule will be key to preserving autonomy and to promoting trust in the system.

Going Forward

Simultaneous implementation of multiple accountability programs will create extraordinary financial and administrative burdens, as well as mass confusion, for health care professionals. Over the next few years, physicians will face penalties for failure to comply with the criteria of multiple overlapping programs, including the Physician Value-Based Payment Modifier, the PQRS, the EHR Incentive Program, as well as private payer programs. Physicians are being asked to undertake meaningful payment and delivery reforms just as they face Medicare rates that are already below market value; potentially steep payment cuts due to the flawed Medicare sustainable growth rate formula, which inaccurately ties physician payment updates to the rate of the overall economy rather than the actual cost of providing care; and other potential cuts expected from the IPAB and the Budget Control Act of 2011 (Pub.L. 112–25). This perfect storm of regulatory and financial burdens threatens the viability of many physician practices and imperils patient access to care.

Over the last decade and culminating with the passage of the ACA, the federal government has made an unprecedented investment in the goal of achieving a high-performance health system. While this goal is admirable, it will depend heavily on the ability of the health care system to find a balance between improving care for patients, promoting responsible stewardship of health care dollars, and guarding physician freedom and autonomy from unjustified and misguided restrictions. Organized medicine can play an important role by ensuring that the goal of greater value in health care is driven not only by economics, but by what is best for patients. Neurosurgeons have a unique understanding of the complexity of neurosurgical care as well as the practical and scientific insights that permit the determination of what is truly appropriate for their patients.

It is critical that organized neurosurgery remain integrally involved in efforts to meaningfully define and measure quality and cost and to encourage the delivery of safe, efficient, and efficacious care. Still, organized medicine cannot do this alone. Meaningful reform will require significant federal and private sector investments in an infrastructure that will improve the nation’s capacity to capture and interpret clinical data. This includes not only digital tools to accelerate the integration of the best clinical knowledge into care decisions, but also streamlined and revised regulations that will encourage the generation of new knowledge and better care.

Disclosure

Rachel Groman is a paid consultant of Hart Health Strategies and a former employee of the American Association of Neurological Surgeons/Congress of Neurological Surgeons (AANS/CNS). Koryn Rubin is a paid employee of the AANS/CNS. Each of these organizations has an interest in health care administration; however, no additional funds were used to support this report.

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