

# Policy Recommendations: Achieving the Potential of Health Care Performance Measures

## Timely Analysis of Immediate Health Policy Issues

May 2013

Robert A. Berenson, Peter J. Pronovost, and Harlan M. Krumholz

There is a consensus that measuring performance can be instrumental in improving value in U.S. health care. In particular clinical areas, such as cardiac and intensive care, measurement has been associated with important improvements in providers' use of evidence-based strategies and patients' health outcomes over the past two decades. Perhaps most important, measures have altered the culture of health care delivery for the better, with a growing acceptance that clinical practice can and should be objectively assessed. Nevertheless, as we argue in the [full-length version of this paper](#), substantial shortcomings in the quality of U.S. health care persist. Furthermore, the growth of performance measurement has been accompanied by increasing concerns about the scientific rigor, transparency, and limitations of available measure sets, and how measures should be used to provide proper incentives to improve performance. The challenge is to recognize current limitations in how measures are used in order to build a much stronger infrastructure to support the goals of increased accountability, more informed patient choice, and quality improvement. In the following paper, we offer seven policy recommendations for achieving the potential of performance measurement.

## Policy Recommendations

### 1. Decisively move from measuring processes to outcomes.

There is growing interest in relying more on outcome measures and less on process measures, since outcome measures better reflect what patients and providers are interested in. Yet establishing valid outcome measures pose substantial challenges—including the need to risk-adjust results to account for patients' baseline health status and risk factors, assure data validity, recognize surveillance bias, and use sufficiently large sample sizes to permit correct inferences about performance. We believe the operational challenges of moving to producing accurate and reliable outcome measures, though daunting, are worth the effort to overcome. Patients, payers, policy-makers, and providers all care about the end results of care—not the technical approaches that providers may adopt to achieve desired outcomes, and may well vary across different organizations. Public reporting and rewards for outcomes rather than processes of care should cause provider organizations to engage in broader approaches to quality improvement activities, ideally relying on rapid-learning through root cause analysis and teamwork rather than taking on a few conveniently available process measures that are

actionable but often explain little of the variation in outcomes that exemplifies U.S. health care.

However, given the inherent limitations of administrative data, which are used primarily for payment purposes, and even clinical information in electronic health records (EHRs), consideration should be given to developing a national, standardized system for outcome reporting.<sup>1</sup> A new outcome reporting system would not be simple or inexpensive, but current data systems may simply be insufficient to support accurate reporting of outcomes. An example is the National Health Care Safety Network system for reporting health care infections.<sup>2</sup>

Alternatively, EHR vendors could modify their products to allow them to be used to calculate validated quality measures. By standardizing which structured data elements they include in their products and the metadata they use to describe these fields, vendors could allow for the calculation of validated quality measures, such as those collected by National Surgical Quality Improvement Program and the Society of Thoracic Surgeons. Once collected, clinical data would need to be evaluated for validity and quality. Prioritizing which measures require highly valid data



and which do not may also help. It may be that for rare events, less accurate, although substantially less costly, administrative data would suffice, while for more common events and conditions, it would be more cost-effective to collect clinical data from clinical records. However, the quality of EHR data is also being questioned.<sup>3</sup>

An emphasis on measurement of outcomes, rather than care processes, need not ignore the contribution of specific processes that are associated with achieving better outcomes. In fact, achieving high reliability on process measures could be viewed as an internal tactic that providers might adopt as part of a comprehensive approach to achieve good outcomes, rather than as an end in itself.<sup>4</sup> Professional societies or governmental agencies could maintain a library of process measures that providers could select from to audit their own performance. But here the distinction between measures for quality improvement and for public reporting becomes important: publicly reported measures could emphasize the outcomes of interest, while measures used internally for quality improvement could emphasize the care processes that an organization is working on performing better.

A relatively small number of process measures, especially if linked with intermediate outcome measures, could serve as excellent measures for public reporting, mitigating the risks for surveillance bias, although the public would need to be educated about their clinical implications. Process measures (e.g., obtaining hemoglobin A1C levels in diabetics and properly taken blood pressure readings) could be linked to intermediate outcome measures (e.g., hemoglobin A1C level and blood pressure). The use of such measures in public reporting efforts could also educate patients and consumers about these important parameters of clinical care. However, caution should be used in using intermediary outcome measures, as demonstrated by the recent experience in which intensive treatment of patients to lower their hemoglobin A1C was recently shown not to be associated with the favorable outcomes expected. NCQA and others developed process measures favoring achievement of hemoglobin A1C levels below 7 percent. Yet, it was precisely this level that failed to show improved outcomes in three recent randomized trials, ultimately leading to the abandonment of that process measure by NCQA.

In some clinical areas, process measures that assess the rate at which specific harmful medical errors occur also hold appeal. For harms that are almost entirely preventable—some of which are referred to as “never

events”—risk adjustment and other statistical concerns should be unimportant.

A promising avenue for supporting a movement toward reliance on outcomes is greater use of patient-reported outcomes, which are derived using tools that measure what patients are able to do and how they feel through surveys. A wide variety of patient-level instruments to measure patient-reported outcomes related to physical, mental, and social well-being have been used in clinical research, such as within the National Institutes of Health’s Patient-Reported Outcomes Measurement Information System. Extending this research application for purposes of accountability and performance improvement would require additional work to address methodological and data challenges.<sup>5</sup>

## **2. Use quality measures strategically, adopting other quality improvement approaches where measures fall short.**

While working to develop a broad set of outcome measures that can be the basis for attaining the goals of public accountability and information for consumer choice, Medicare should ensure that the use of performance measures supports quality improvement efforts to address important deficiencies in how care is provided, not only to Medicare beneficiaries but to all Americans.

CMS’ current focus on reducing preventable rehospitalizations within 30 days of discharge represents a timely, strategic use of performance measurement to address an evident problem where there are demonstrated approaches to achieve successful improvement.<sup>6</sup> Physicians and hospital clinical staff, if not necessarily hospital financial officers, generally have responded quite positively to the challenge of reducing preventable readmissions. CMS has complemented the statutory mandate to provide financial incentives to hospitals to reduce readmission rates by developing new service codes in the Medicare physician fee schedule that provide payment to community physicians to support their enhanced role in assuring better patient transitions out of the hospital in order to reduce the likelihood of readmission.<sup>7</sup>

CMS recently announced that after hovering between 18.5 percent and 19.5 percent for the past five years, the 30-day all-cause readmission rate for Medicare beneficiaries dropped to 17.8 percent in the final quarter of 2012,<sup>8</sup> implying some early success with efforts to use performance measures as part of a broad quality improvement approach to improve a discrete and important quality and cost problem. However, this

approach is not without controversy. Improvements have been modest, and some suggest that readmission rates are often outside the hospital's control, so CMS' new policy unfairly penalizes hospitals that treat patients who are the sickest.<sup>9</sup> And while readmission in surgical patients is largely related to preventable complications, readmissions in medical patients can be related to socioeconomic status. Also, some have questioned the accuracy of CMS' seemingly straightforward readmission rate measure, finding that some hospitals reduce both admissions and readmissions—a desirable result—yet do not impact the readmission *rate* calculation.<sup>10</sup> And one of this paper's authors (R. Berenson) has suggested a very different payment model that would reward hospital improvement rather than absolute performance, thereby addressing the reality that hospitals' abilities to influence readmission rates do vary by factors outside of their control.<sup>11</sup>

We consider the current controversy around implementation of a readmissions penalty to be a healthy debate. Because the purpose for which the penalty was designed is so important, scrutiny and vigorous discussion can lead to improvements to CMS' payment policy and performance measures to address what remains an unacceptable failure in U.S. health care delivery. There clearly is a tension between getting the measures absolutely right and achieving a “good enough” status that can produce quality improvement. In the words of Jonathan Blum, deputy administrator and director for the Center of Medicare at CMS, “It's a very traumatic event to go back to the hospital. I'm personally comfortable with some imprecision to our measures.”<sup>12</sup>

With the growing evidence that Congress's “value-based purchasing” approach to measuring and rewarding hospitals (Congress's term for pay-for-performance) only marginally improves patient outcomes, and possibly diverts attention from doing the hard work of making culture and work process improvements that actually would produce improved outcomes, Congress should refocus its directives to CMS to emphasize improving specific quality deficiencies—relying more on promoting collaborative quality improvement activities and new payment approaches that incorporate performance measures than on public reporting and pay-for-performance *per se*. As an illustration, the nuclear industry has a robust approach to improving quality using peer-to-peer review, validated tools, and a focus on learning rather than judging.<sup>13</sup>

*“CMS' current value-based purchasing efforts, requiring reporting on a raft of measures of varying usefulness and validity, should be replaced with the kind of strategic approach used in the national effort to reduce bloodstream infections.”*

CMS on its own created the Partnership for Patients, a public/private partnership to improve the quality, safety, and affordability of health care for all Americans. The initiative promotes active collaboration by physicians, nurses, and other hospital personnel, as well as employers, patients and their advocates, and federal and state governments to address tangible problems where approaches to quality improvement to improve outcomes exist but need broad-based adoption. Specifically, CMS is funding 26 hospital engagement networks to allow 3,700 hospitals to share best practices, and funding 82 sites to provide care transitions services to Medicare beneficiaries leaving the hospital through the agency's Community-Based Care Transitions Program; it is also encouraging patient engagement through both of these efforts.<sup>14</sup> The Partnership for Patients began in 2011, under the guidance of then acting CMS Administrator, Donald Berwick, and has targeted two basic areas for quality improvement with specific measureable outcome objectives:<sup>15</sup>

1. **Making Care Safer.** By the end of 2013, preventable hospital-acquired conditions would decrease by 40 percent compared to 2010.
2. **Improving Care Transitions.** By the end of 2013, preventable complications during transition from one care setting to another would be decreased so that all hospital readmissions would be reduced by 20 percent compared to 2010.

Unfortunately, this effort started without validated performance measures and currently lacks valid performance measures for most of the conditions. As a result, it will be exceedingly difficult to evaluate whether this program improved quality or safety for patients. Given the significant public investment in this program, rigorous evaluation should be a requirement.

A successful model of the strategic use of measures to accomplish substantial quality improvement can be found in recent efforts to reduce central line-associated blood stream infections (CLABSI) ([see appendix](#)). In this case, the primary motivation for physicians, nurses, and other hospital staff to participate in this activity was intrinsic—to reduce preventable mortality and

morbidity caused by infections. One of the authors (P. Pronovost) who was instrumental in developing and leading the CLABSI-reduction programs believes that public reporting of infection rates by states, *Consumer Reports*, the Commonwealth Fund, and, later, CMS had a generally positive effect on stimulating interest and action at senior levels of hospital management. Also contributing were the efforts of the Joint Commission with its national patient safety goals, and the Center for Disease Control and Prevention's (CDC) National Healthcare Safety Network and their work with state health departments to shine a spotlight on a problem that had a solution. The CDC recently reported that central-line bloodstream infections dropped by 41 percent between 2008 and 2011.<sup>16</sup>

Many opportunities for broad-based collaborations to improve hospital quality exist. CMS' current value-based purchasing efforts, requiring reporting on a raft of measures of varying usefulness and validity, should be replaced with the kind of strategic approach used in the national effort to reduce bloodstream infections.

Similarly, the current approach to improving the quality of care provided by physicians in Medicare needs to be reconsidered. Many physicians believe quality reporting on a few measures is being promoted as an end in itself, whether or not the particular measures chosen represent high priority for improvement, can accurately reflect the physician's actual quality of care, or are associated with meaningful patient outcomes. Drawing inferences about a physician's quality using a few measures peripheral to the physician's core professional activities may well be misleading and a diversion from the opportunity to engage physicians in substantive quality improvement activities.

Here, again, policy-makers should be more strategic, focusing on clinical areas where measures are meaningful and valid, and where concerted multi-party collaboration could materially improve the health of the population. With this approach, it is likely that not all physicians in Medicare would be routinely measured; but much of what the public wants to know about physician competence and performance cannot be measured using the currently available measure sets. Strategies that work through peer assessment and fostering professionalism may also provide promising opportunities to improve quality and safety.

Observing the lack of "high leverage" processes of surgical care, particularly those specific to particular procedures, experts on surgical quality have suggested that surgeons be encouraged and supported to participate in surgical learning collaborative activities,

with no reporting or rewards for individual performance.<sup>17</sup> Building on this suggestion, a more strategic approach would judge the effectiveness of care in terms of collective improvements in outcomes—on clinical quality, patient experience, and cost. Measurement would be integrated into quality improvement initiatives, such as those led by Regional Health Improvement Collaboratives,<sup>18</sup> national medical specialty societies,<sup>19</sup> national specialty boards,<sup>20</sup> and accountable care organizations (ACOs) as they come online. In short, Congress should allow CMS greater flexibility to provide physician incentives to actively participate in meaningful quality improvement collaboratives as an alternative or a complement to routine reporting and public reporting on a handful of quality measures.

### **3. Measure quality at the level of the organization, rather than the clinician.**

Historically, the physician has been viewed as the leader of medicine, with responsibility for the care and outcomes of patients; in iconic photographs and paintings, the physician is seen as a lone, heroic figure. Such a view has led to natural interest in the measurement of individual physicians' performance. It is therefore not surprising that some information brokers, including the *U.S. News and World Report* and many city magazines like the *Washingtonian*, provide ratings of "top doctors," often based mostly on reputation, warranted or not.

However, this focus on the individual is flawed for most measures of quality and presents substantial technical challenges. Systems-based care is emerging as a key value within health care and a vital component of high-quality care, while the notion that an individual health professional can be held accountable for the outcomes of patients in isolation from other health professionals and their work environment is becoming an outdated perspective. For example, better intensive care unit staffing sometimes mitigates the evidence that surgeons who perform more procedures achieve better outcomes.<sup>21</sup> The communication and coordination of services across providers is required to ensure that patients, many of whom have multiple conditions, are assisted through various health care settings.<sup>22</sup> For some aspects of care, such as diagnosis errors and patient experience, measuring at the individual physician level might be considered. Nevertheless, focusing measurement on an individual runs counter to our goals in promoting teamwork and "systemness" as core health care delivery attributes.

For some professionals whose individual performance does matter, such as a surgeon in the operating room, there are rarely meaningful and valid process measures that reflect their individual performance anyway. In contrast, surgical outcomes depend crucially on the performance of the entire surgical team and the facility in which the procedure takes place.

It is also plausible that individuals respond differently to payment incentives than do organizations; assessment and pay-for-performance at the organizational instead of the individual level should be less likely to crowd out health professionals' intrinsic motivations to provide high-quality care.

In addition to the conceptual issues with measuring an individual clinician's performance, technical and statistical issues are also prominent. The attribution of a particular care process or outcome to a particular clinician is often difficult, if not impossible, to make. For example, several specialists, hospitalists, nurses, technicians, and others will typically care for a patient with a heart attack. Good estimates of performance require that the individual or group being evaluated have a sufficient number of observations to make inferences about their performance that are precise enough to be meaningful. Yet, many physicians and other health care professionals often lack sufficient volumes of certain types of patients to permit valid inferences about their performance. By focusing assessment on the organization, hospital unit, or clinic, rather than the individual clinician, measures can assess and promote team-based care while addressing many of the technical issues that can undermine the value of measurements. For virtually every performance measure evaluated (e.g., safety culture, patient experience, hand hygiene, infection rates, process measures) there is usually substantially greater variation among units within a hospital than among hospitals. The unit or clinic is therefore often the most effective focus for improvement.

While measuring at this level is conceptually right and technically easier than measuring a single individual's performance, it nevertheless presents challenges. For example, it makes strategic sense to measure the quality of ACOs, especially to guard against the possibility that ACOs would stint on care as they receive increasing incentives to limit spending. Yet, recently, 31 Pioneer ACOs participating in a major CMS demonstration sent CMS a letter criticizing both the agency's use of measures that "are not yet mature" and the way in which CMS determined the thresholds for acceptable performance.<sup>23</sup> We expect they will work through the differences and arrive at a reasonable result.

Finally, measuring at the level of the organization does not mean that substandard individual performance should be tolerated. CMS and its contractors should aggressively use performance measures to identify such unacceptable performance and sanction or otherwise limit the ability of these practitioners to serve Medicare beneficiaries. But the role of measurement for "policing" the performance of individuals is different from public reporting to inform patient choice or to provide financial incentives to improve performance.

#### **4. Measure patient experience with care and patient-reported outcomes as ends in themselves.**

Performance measurement has too often been plagued by inordinate focus on technical aspects of clinical care—ordering a particular test or prescribing from a class of medication—such that the patient's perspective of the care received may be totally ignored. Moreover, many patients, even with successful treatment, too often feel disrespected. Patients care not only about the outcomes of care but also and their personal experience with care. There is marked heterogeneity in the patient experience, and the quality of attention to patients' needs and values can influence their course, whether or not short-term clinical outcomes are affected. Some patients have rapid recovery of function and strength, and minimal or no symptoms. Other patients may be markedly impaired, living with decreased function, substantial pain, and other symptoms, and with markedly diminished quality of life. It would be remiss to assume that these two groups of patients have similar outcomes just because they have avoided adverse clinical outcomes such as death or readmission.

In recommending a focus on measuring outcomes rather than care processes, we consider surveys or other approaches to obtaining the perspectives of patients on the care they receive to be an essential component of such outcomes. When designed and administered appropriately, patient experience surveys provide robust measures of quality, and can capture patient evaluation of care-focused communication with nurses and physicians.<sup>24</sup> And while patient-reported measures appear to be correlated with better outcomes, we believe they are worth collecting and working to improve in their own right, whether or not better experiences are associated with improved clinical outcomes.<sup>25</sup>

We believe that measuring patient experience is not only important because it can facilitate care that improves clinical outcomes, but also because it represents an important outcome in its own right. If our health system is truly to commit itself to the goal of

delivering patient-centered care, it requires assessment of patients' experiences with the care they receive and self-reported health status and functioning—whether or not they are associated with commonly-measured outcomes such as mortality, complications, errors, and avoidable readmissions. With the growing array of scientifically rigorous surveys of patient experiences with care,<sup>26</sup> we now have the capacity to incorporate standardized assessments of that experience into the measurement enterprise, increasing our sensitivity to the detection of differences in the results that are being achieved by provider organizations, assuming that we can adequately take into account baseline differences in patient characteristics. Given the inevitable gaps in both process and outcome measures for specific areas of clinical care, it is important to realize that patient experience is ubiquitous and can be drawn upon to measure a broad range of performance.

### **5. Use measurement to promote the concept of the rapid-learning health care system.**

Initiatives to promote performance measurement need to be accompanied by support to improve care. Quality measure data should not only be technically correct, but should be organized such that their dissemination is a resource to aid in quality improvement activities. As such, quality measurement should be viewed as just one component of a learning health care system that also includes advancing the science of quality improvement, building providers' capacity to improve care, transparently reporting performance, and creating formal accountability systems.

There are several strategies to make quality measure data more actionable for quality improvement purposes. For example, for publicly reported outcome measures, CMS provides hospitals with lists of the patients who are included in the calculation. Since the outcomes may occur outside the hospital for mortality and for readmissions that are at other hospitals, this information is often beyond what the hospitals already have available to them. These data give providers the ability to investigate care provided to individual patients, which in turn can support a variety of quality improvement efforts.

In addition, collaborative activities among institutions can produce insights that may elude them individually. Measures can help identify top performers, and detailed analysis can identify what distinguishes those who excel. As an example, the marked improvement nationwide in the “door-to-balloon” time it takes patients experiencing symptoms of a heart attack to receive a treatment to open up occluded coronary

arteries was largely a result of relevant and valid measurement of provider-specific timeliness, followed by intense investigation of the features of top performance, and only then a national campaign to transform practice using the best practices uncovered by the top performers – all facilitated by the intrinsic motivation of health professionals on the front lines to improve patient outcomes.

To facilitate a learning health care system, investments are also needed to advance quality improvement sciences and to build capacity among provider organizations to practice these sciences. For example, although root causes analysis is a promising tool, its full potential has not been realized in health care; a likely explanation, at least in part, is that health care is one of the only risky industries in which lawyers and practitioners, rather than safety experts with formal training, investigate adverse events. Promising efforts to improve quality and safety are based on adherence to professional norms and include peer-to-peer review, a technique borrowed from the nuclear industry.<sup>27</sup> In addition, EHR vendors and other medical device manufacturers will need to agree to share their data and open it for analysis.

### **6. Invest in the basic science of measurement development and applications, including an emphasis on anticipating and preventing unintended adverse consequences.**

The unfortunate reality is that there is no body of expertise with responsibility for addressing the science of performance measurement. The National Quality Forum (NQF) comes closest, and while it addresses some scientific issues when deciding whether to endorse a proposed measure, NQF is not mandated to explore broader issues to advance the science of measure development, nor does it have the financial support or structure to do so. An infrastructure is needed to gain national consensus on: what to measure, how to define the measures, how to collect the data and survey for events, what is the accuracy of EHRs as a source of performance, the cost-effectiveness of various measures, how to reduce the costs of data collection, how to define thresholds for measures regarding their accuracy, and how to prioritize the measures collected (informed by the relative value of the information collected and the costs of data collection).

Despite this broad research agenda, there is little research funding to advance the basic science of performance measurement. Given the anticipated broad use of measures throughout the health system, funding can be a public/private partnership modeled after the

Patient-Centered Outcomes Research Institute or a federally-funded initiative, perhaps centered at AHRQ. Given budgetary constraints, finding the funding to support the science of measurement will be a challenge. Yet, the costs of misapplication of measures and incorrect judgments about performance are substantial.

Moreover, the science of performance measurement and improvement needs an academic home. While many medical and health policy societies and associations have sections on quality or quality measurement, no professional society primarily focuses on the science of quality measurement and improvement. Such an entity could set standards for and advance the science of quality measurement, thereby moving the policy discussion from whether measures are good enough to use despite their flaws to a more fundamental discussion of how to achieve good measures, how to assess whether current measures measure up, and whether the costs of attaining good measures are worth the benefits. Professional societies, such as the American Heart Association, have an important role in speaking authoritatively about the science of clinical issues; performance measurement lacks a similar authoritative voice.

Such an endeavor needs to explicitly consider the unintended, yet harmful, consequences of misapplication of performance measures, whether resulting from the measures themselves, in how they are reported and assessed, or in the costs of collecting invalid performance data. There is substantial literature detailing such untoward consequences,<sup>28</sup> some from measures experts who promote the use of performance measurement. For example, some have expressed concern that unless carefully designed, public reporting and pay-for-performance programs will increase racial and ethnic disparities.<sup>29</sup>

**7. Task a single entity with defining standards for measuring and reporting quality and cost data, similar to the role the Securities and Exchange Commission (SEC) serves for the reporting of corporate financial data, to improve the validity, comparability, and transparency of publicly-reported health care quality data.**

There is a plethora of health care quality data being pushed out to the public, yet no rules to assure the accuracy of what is being presented publicly. The health care industry lacks standards for how valid a quality measure should be before it is used in public reporting or pay-for-performance initiatives, although some standards have been proposed. The NQF does a good job of reviewing and approving proposed

measures presented to it, but lacks the authority to establish definitive quantitative standards that would apply broadly to purveyors of performance measures. However, as discussed earlier, many information brokers publically report provider performance without transparency and without meeting basic validity standards. Indeed, even CMS, which helps support NQF financially, has adopted measures for the Physician Quality Reporting System that have not undergone NQF review and approval. Congress now is considering “SGR repeal,” or sustainable growth rate legislation, that would have CMS work directly with specialty societies to develop measures and measurement standards, presumably without requiring NQF review and approval.<sup>30</sup>

Without industry standards, payers, policy makers, and providers often become embroiled in a tug-of-war; with payers and policy-makers asserting that existing measures are good enough, and providers arguing they are not. Most often, neither side has data on how good the contested measures actually are. Most importantly, the public lacks valid information about quality, especially outcomes, and costs.

Indeed, most quality measurement efforts struggle to find measures that are scientifically sound yet feasible to implement with the limited resources available. Unfortunately, too often feasibility trumps sound science. In the absence of valid measures, bias in estimating the quality of care provided will likely increase in proportion to the risks and rewards associated with performance. The result is that the focus of health care organizations may change from improving care to “looking good” to attract business. Further, conscientious efforts to reduce measurement burden have significantly compromised the validity of many quality measures, making some nearly meaningless, or even misleading. Unfortunately, measurement bias often remains invisible because of limited reporting of data collection methods that produce the published results. In short, the measurement of quality in health care is neither standardized nor consistently accurate and reliable.

In short, while the number of performance measures is growing, the health care field lacks an entity to create the rules for reporting quality and cost data; as a result, the great variation in performance measure specifications is slowing efforts to advance quality—at times creating conflict over opposing findings.

The field of quality measurement could advance significantly if providers and policy-makers agreed on validity thresholds and transparently reported the

---

validity of their quality measure data. Before the SEC was created in the aftermath of the Wall Street Crash of 1929, when looking at companies' financial data, the information provided by one business could not be compared to another; there were no standard rules for reporting performance. Congress established the SEC as an independent, nonpartisan government entity to, among other things, help ensure standards in the disclosure of financial information, make financial performance transparent, audit businesses, ensure compliance with rules, and apply penalties for transgressions.

Policy-makers will need to consider whether such an entity should be housed at AHRQ; should be a public-private partnership, such as NQF; or should be a separate, new government entity. Such a commission could promote standardization, transparency, and auditing of the reporting of quality and cost measures. Consistent with First Amendment guarantees of free speech, we would not provide such an entity regulatory authority to require adherence to standards. Rather, we would anticipate that organizations would voluntarily seek to comply with the applicable standards for reporting performance measures. Under this model, this entity would set the rules for the development of measures and the transparent reporting of performance on these measures, analyze progress (with input from clinicians, patients, employers, and insurers), and audit

publicly-reported quality measure data. Private sector information brokers could then conduct secondary analyses of the reports, much like happens in the financial industry through companies like Bloomberg. This SEC-like model would thus ensure that all publicly-reported quality measure data are generated from a common basis in fact and allow apples-to-apples comparisons across provider organizations.

## Conclusion

The interest in promoting a health care system that rewards performance needs to be balanced with the practical challenges faced when measuring performance. Improvement requires substantial investments in the underlying science of measurement, greater care in communicating measurement results, greater attention to the role of measures in quality improvement efforts, and using performance data in more strategic ways. The adoption of flawed measurement approaches that do not accurately discriminate between providers can undermine professional and public support for provider accountability, reward indiscriminately, and divert attention from more appropriate and productive quality improvement efforts.

*The views expressed are those of the authors and should not be attributed to the Robert Wood Johnson Foundation or the Urban Institute, its trustees, or its funders.*

## About the Authors and Acknowledgments

Robert A. Berenson, MD is an institute fellow at the Urban Institute. Peter J. Pronovost, MD, PhD is the director of the Armstrong Institute for Patient Safety and Quality at Johns Hopkins, as well as Johns Hopkins Medicine's senior vice president for patient safety and quality. Harlan M. Krumholz, MD, is the director of the Yale-New Haven Hospital Center for Outcomes Research and Evaluation, director of the Robert Wood Johnson Foundation Clinical Scholars program at Yale University, and the Harold H. Hines, Jr. professor of cardiology, investigative medicine, and public health. The authors thank Lawrence Casalino, MD, PhD, chief of the Division of Outcomes and Effectiveness Research and an associate professor at Weill Cornell Medical College, and Andrea Ducas, MPH and Anne Weiss, MPP of the Robert Wood Johnson Foundation for their helpful comments on this paper. This research was funded by the Robert Wood Johnson Foundation.

## About the Urban Institute

The Urban Institute is a nonprofit, nonpartisan policy research and educational organization that examines the social, economic, and governance problems facing the nation.

## About the Robert Wood Johnson Foundation

The Robert Wood Johnson Foundation focuses on the pressing health and health care issues facing our country. As the nation's largest philanthropy devoted exclusively to health and health care, the Foundation works with a diverse group of organizations and individuals to identify solutions and achieve comprehensive, measurable, and timely change. For 40 years the Foundation has brought experience, commitment, and a rigorous, balanced approach to the problems that affect the health and health care of those it serves. When it comes to helping Americans lead healthier lives and get the care they need, the Foundation expects to make a difference in your lifetime. For more information, visit [www.rwjf.org](http://www.rwjf.org). Follow the Foundation on Twitter [www.rwjf.org/twitter](http://www.rwjf.org/twitter) or Facebook [www.rwjf.org/facebook](http://www.rwjf.org/facebook).

## Central Line-Associated Blood Stream Infections

Central line-associated bloodstream infections (CLABSI) killed nearly 31,000 inpatients in the United States in 2002.<sup>1</sup> In response to growing awareness of this problem, health providers, hospitals, and payers have mounted various activities which together have produced major reductions in mortality rates among intensive care unit (ICU) patients, although not among other inpatients.<sup>2</sup> The major success can be attributed to collaborations among ICU clinicians to adopt evidence-based practices known to prevent such infections. A pilot project in one ICU at Johns Hopkins<sup>3</sup> was expanded to the statewide Keystone collaborative in Michigan and reduced CLABSIs by 66 percent in 103 ICUs.<sup>4,5</sup> Hospital mortality in Michigan decreased significantly once the collaborative was implemented,<sup>6</sup> with an estimated cost savings of \$1.1 million per year.<sup>7</sup> Recent estimates by the Centers for Disease Control and Prevention attribute a 58 percent reduction in ICU-related CLABSIs between 2001 and 2009 to large scale programs, such as the Keystone project, and the spread of the culture and CLABSI interventions to every state. Over 1,100 hospitals participated in this unique AHRQ-funded collaborative effort among Johns Hopkins physicians, the Michigan Hospital Association, the American Hospital Association, and many state affiliates and individual hospitals. Participating hospitals reduced CLABSI rates by 40 percent, achieving a mean infection rate of 1.1 per 1000 catheter days, a rate previously believed to be unattainable.

<sup>1</sup> Klevens RM, Edwards JR, Richards CL Jr, et al. "Estimating Health Care Associated Infections and Deaths in U.S. Hospitals, 2002." *Public Health Reports*, 122(2):160-166, 2007.

<sup>2</sup> Centers for Disease Control and Prevention. "Vital Signs: Central Line Bloodstream Infections—United States, 2008 and 2009." *Morbidity and Mortality Weekly Report*, 60:243-248, 2011.

<sup>3</sup> Brenholz SM, Pronovost PJ, Lipsett PA, et al. "Eliminating Catheter-Related Bloodstream Infections in the Intensive Care Unit." *Critical Care Medicine*, 32(10):2014-2020, 2004.

<sup>4</sup> Pronovost PJ, Needham DM, Berenholz, SM, et al. "An Intervention to Decrease Catheter Bloodstream Infections in the ICU." *New England Journal of Medicine*, 355(26):2725-2732, 2006.

<sup>5</sup> Pronovost PJ, Goeschel CA, Colantuoni E, et al., "Sustaining Reductions in Catheter Related Bloodstream Infections in Michigan Intensive Care Units: Observational Study." *British Medical Journal*, 340:c309, 2010.

<sup>6</sup> Lipitz Snyderman A, Steinwachs D, Needham DM, et al. "Impact of a Statewide Intensive Care Unit Quality Improvement Initiative on Hospital Mortality and Length of Stay: Retrospective Comparative Analysis." *British Medical Journal*, 342:d219, 2011.

<sup>7</sup> Waters HR, Korn R Jr, Colantuoni E, et al., "The Business Case for Quality Economic Analysis of the Michigan Keystone Patient Safety Program in ICUs." *American Journal of Medical Quality*, 26(5):333-339, 2011.

[Go back to the paper](#)

## Notes

- <sup>1</sup> Pronovost PJ, Miller M and Wachter RM. “The GAAP in Quality Measurement and Reporting.” *Journal of the American Medical Association*, 298(15):1800-1802, 2007.
- <sup>2</sup> Farmer SA, Black B and Bonow RO. “Tension Between Quality Measurement, Public Quality Reporting, and Pay for Performance.” *Journal of the American Medical Association*, 309(4):349-350, 2013; *Introduction to Trigger Tools for Identifying Adverse Events*. Cambridge, MA: Institute for Healthcare Improvement, <http://www.ihl.org/knowledge/Pages/Tools/IntrotoTriggerToolsforIdentifyingAEs.aspx> (accessed April 2013).
- <sup>3</sup> Kern LM, Malhotra S, Barrón Y, et al. “Accuracy of Electronically Reported ‘Meaningful Use’ Clinical Quality Measures: A Cross-Sectional Study.” *Annals of Internal Medicine*, 158(2):77-83, 2013.
- <sup>4</sup> Porter ME. “What Is Value in Health Care?” *New England Journal of Medicine*, 363(26): 2477-83, 2010..
- <sup>5</sup> *Patient-Reported Outcomes in Performance Measurement*. Washington: National Quality Forum, [www.qualityforum.org/Projects/n-r/Patient-Reported\\_Outcomes/Patient-Reported\\_Outcomes.aspx](http://www.qualityforum.org/Projects/n-r/Patient-Reported_Outcomes/Patient-Reported_Outcomes.aspx)
- <sup>6</sup> Jencks SF, Williams MV, Coleman EA. “Rehospitalizations Among patients in the Medicare Fee-for-Service Program.” *New England Journal of Medicine*, 360:1418-1428, 2009 [Erratum, *New England Journal of Medicine*, 364:1582, 2011]; Chollet D, Barrett A and Lake T. *Reducing Hospital Readmissions in New York State: A Simulation Analysis of Alternative Payment Incentives*. Princeton, NJ: Mathematica Policy Research, 2011, <http://nyhealthfoundation.org/uploads/resources/reducing-hospital-readmissions-payment-incentives-september-2011.pdf> (accessed April 2013).
- <sup>7</sup> Bindman AB, Blum JD and Kronick R. “Medicare’s Transitional Care Payment—A Step toward the Medical Home.” *New England Journal of Medicine*, 368(8): 692-694, 2013.
- <sup>8</sup> Blum J. “Statement of Jonathan Blum, Acting Principal Deputy Administrator and Director, Center for Medicare, Centers for Medicare & Medicaid Services, On Delivery System Reform: Progress Report from CMS, Before the U.S. Senate Finance Committee.” Feb. 28, 2013, [www.finance.senate.gov/imo/media/doc/CMS%20Delivery%20System%20Reform%20Testimony%202.28.13%20\(J.%20Blum\).pdf](http://www.finance.senate.gov/imo/media/doc/CMS%20Delivery%20System%20Reform%20Testimony%202.28.13%20(J.%20Blum).pdf) (accessed April 2013).
- <sup>9</sup> Abelson R, “Hospitals Question Medicare Rules on Readmissions,” *New York Times*, March 29, 2013.
- <sup>10</sup> Brock J, Mitchell J, Irby K, et al. “Association Between Quality Improvement for Care Transitions in Communities and Rehospitalizations Among Medicare Beneficiaries.” *Journal of the American Medical Association*, 309(4): 381-391, 2013.
- <sup>11</sup> Berenson RA, Paulus RA and Kalman NS. “Medicare’s Readmissions-Reduction Program—A Positive Alternative.” *New England Journal of Medicine*, 366: 1364-1366, 2012.
- <sup>12</sup> Abelson, 2013.
- <sup>13</sup> Pronovost PJ and Hudson DW. “Improving Healthcare Quality Through Organisational Peer-to-Peer Assessment: Lessons from the Nuclear Power Industry.” *BMJ Quality and Safety*, 21(10):872-875, 2012.
- <sup>14</sup> *About the Partnership for Patients*. Baltimore: Centers for Medicare and Medicaid Services, <http://partnershipforpatients.cms.gov/about-the-partnership/aboutthepartnershipforpatients.html> (accessed April 2013).
- <sup>15</sup> *Partnership for Patients*. Baltimore: Centers for Medicare and Medicaid Services, <http://partnershipforpatients.cms.gov/about-the-partnership/what-is-the-partnership-about/lpwhat-the-partnership-is-about.html> (accessed April 2013).
- <sup>16</sup> *2011 National and State Healthcare-associated Infections Standardized Infection Ratio Report*. Atlanta: Centers for Disease Control and Prevention, [www.cdc.gov/hai/national-annual-sir/index.html](http://www.cdc.gov/hai/national-annual-sir/index.html) (accessed April 2013).
- <sup>17</sup> Birkmeyer NJO and Birkmeyer JD. “Strategies for Improving Surgical Quality—Should Payers Reward Excellence or Effort?” *New England Journal of Medicine*, 354(8): 864-870, 2006.
- <sup>18</sup> *Roles of Regional Health Improvement Collaboratives: Measuring Healthcare Performance*. Pittsburgh, PA: Network for Regional Healthcare Improvement, [www.nrhi.org/performancemeasurement.html](http://www.nrhi.org/performancemeasurement.html) (accessed April 2013).
- <sup>19</sup> Ferris TG, Vogeli C, Marder J, et al. “Physician Specialty Societies And The Development Of Physician Performance Measures.” *Health Affairs*, 26(6): 1712-1719, 2007.
- <sup>20</sup> Iglehart JK and Baron RB. “Ensuring Physicians' Competence — Is Maintenance of Certification the Answer?” *New England Journal of Medicine*, 367: 2543-2549, 2012.
- <sup>21</sup> Pronovost PJ, Jenckes MW and Dorman T. “Organizational Characteristics of Intensive Care Units Related to Outcomes of Abdominal Aortic Surgery.” *Journal of the American Medical Association*, 281(14): 1310-1317, 1999.

---

<sup>22</sup> Pham HH, Schrag D, O'Malley AS, et al. "Care Patterns in Medicare and Their Implications for Pay for Performance." *New England Journal of Medicine*, 356: 1130-1139, 2007.

<sup>23</sup> Allina Health, Atrius Health, Banner Health Network, et al. "Letter to Rick Gilfillan and Hoangmai Pham, Center for Medicare and Medicaid Innovation." Feb. 25, 2013, [www.washingtonpost.com/blogs/wonkblog/files/2013/03/2013-Quality-Benchmarks.pdf](http://www.washingtonpost.com/blogs/wonkblog/files/2013/03/2013-Quality-Benchmarks.pdf) (accessed April 2013).

<sup>24</sup> Manary MP, Boulding, Staelin R, et al., "The Patient Experience and Health Outcomes." *New England Journal of Medicine*, 368:201-203, 2013, [http://podcast.nejm.org/nejm\\_audio\\_interview.xml](http://podcast.nejm.org/nejm_audio_interview.xml).

<sup>25</sup> Sorian R. *Measuring, Reporting, and Rewarding Performance in Health Care*. New York: The Commonwealth Fund, 2006, [www.commonwealthfund.org/~media/Files/Publications/Fund%20Report/2006/Mar/Measuring%20Reporting%20and%20Rewarding%20Performance%20in%20Health%20Care/Sorian\\_measuringreporting\\_912%20pdf.pdf](http://www.commonwealthfund.org/~media/Files/Publications/Fund%20Report/2006/Mar/Measuring%20Reporting%20and%20Rewarding%20Performance%20in%20Health%20Care/Sorian_measuringreporting_912%20pdf.pdf) (accessed April 2013); Fenton JJ, Jerant AF, Bertakis KD, et al. "The Cost of Satisfaction: A National Study of Patient Satisfaction, Health Care Utilization, Expenditures, and Mortality." *Archives of Internal Medicine*, 172(5): 405-411, 2012.

<sup>26</sup> Clancy C, Brach C and Abrams M (eds). "Assessing Patient Experiences of Providers' Cultural Competence and Health Literacy Practices: CAHPS® Item Sets." *Medical Care*, 50(9), Supplement 2: i-ii, S1-S79, 2012.

<sup>27</sup> Pronovost and Hudson, 2012.

<sup>28</sup> Casalino 1999; Curtis JR and Levy M. "Improving the Science and Politics of Quality Improvement." *Journal of the American Medical Association*, 305(4): 406-407, 2011; Baker DW and Qaseem A. "Evidence-Based Performance Measures: Preventing Unintended Consequences of Quality Measurement." *Annals of Internal Medicine*, 155(9): 638-640, 2011; Pogach L and Aron DC. "Sudden Acceleration of Diabetes Quality Measures." *Journal of the American Medical Association*, 305(7): 709-710, 2011; Wachter, 2006.

<sup>29</sup> Casalino LP, Elster A, Eisenberg A, et al. "Will Pay-For-Performance and Quality Reporting Affect Health Care Disparities?" *Health Affairs*, 26(3): w405-w414, 2007; Chien, et al, 2011.

<sup>30</sup> *Overview of the SGR Repeal and Reform Proposal*. Washington, DC: Majority Staff of the U.S. House of Representatives' Ways and Means Committee and Energy and Commerce Committee, [http://waysandmeans.house.gov/uploadedfiles/sgr\\_reform\\_short\\_summary\\_2013.pdf](http://waysandmeans.house.gov/uploadedfiles/sgr_reform_short_summary_2013.pdf) (accessed April 2013).