

Thinking About Clinical Outcomes in Medicaid

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Abstract: As Medicaid expands in scope and influence, it is evolving toward being a “purchaser” of quality health care. This commentary discusses measurement and incentivization of clinical outcomes in Medicaid. Advantages and disadvantages of outcome versus process measures are discussed. Distinctions are drawn between the roles of Medicare and Medicaid, including the implications of the growth in Medicaid managed care. Medicaid’s influence is particularly notable for obstetric, pediatric, newborn, and long-term care. We provide data on 3 Medicaid outcomes: potentially preventable hospital admissions, readmissions, and complications. The commentary concludes with suggestions for choosing and implementing outcome-oriented value-based purchasing initiatives in Medicaid. **Key words:** *cross infection; diagnosis-related groups; Medicaid; Medicare; outcome and process assessment (health care); patient readmission; quality indicators, health care; reimbursement, incentive; reimbursement mechanisms; value-based purchasing*

MEDICAID—now the largest health insurance program in America—continues its evolution from reimbursing to payer to purchaser. The program once derided as a “poor program for poor people” has marked its golden anniversary, outpaced Medicare to now cover 72 million people, (CMS, 2015), achieved recognition for its achievements in maternal and child health and long-term

care (Iglehart, 2015), and solidified its role as a cost-effective way to expand coverage (Sparer, 2015).

As reimbursers of charges and costs for much of their history, Medicaid agencies often seemed content whenever they could keep to a dull roar the howls of providers about low rates. In the 1990s, Medicaid took more control over payment through the use of fee schedules and authorization requirements, but still remained aloof from what care was provided and how. Now, states such as New York, Texas, and others have become purchasers. The word begs the question “of what?” The typical answer is “access to quality care” (Quinn, 2007). In 2015 and 2016, 37 states are either adopting or expanding initiatives to control costs, reward quality, and encourage integrated care (Smith et al., 2015).

These initiatives reflect the recognition that the US health care system does not provide sufficient value for the enormous sums of money it consumes (Squires & Anderson, 2015). Reformers also take courage from several successes: the sustained reduction in nosocomial infections within intensive care units (Pronovost et al., 2015), the decline in elective early childbirth from 17% in 2010 to

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3% in 2014 (Castlight Health, 2014), and approximately 150 000 fewer Medicare readmissions per year (Blumenthal et al., 2015). Medicaid's interest in value purchasing reflects the program's growing importance and, yes, its growing self-confidence.

In their keynote article in this issue of the journal, Richard Averill, Richard Fuller, Elizabeth McCullough, and Jack Hughes urge the Medicare program to shift its quality focus from numerous process measures toward a few outcomes (Averill et al., 2016). We offer supplementary discussion of outcomes in Medicaid.

EVOLVING APPROACHES TO QUALITY

Considering the centuries of medical progress, it was not long ago—1988—that Avedis Donabedian summarized the prevailing view that quality was “something of a mystery: real, capable of being perceived and appreciated, but not subject to measurement” (Donabedian, 1988). His disagreement with that view ranks among the most-cited articles in medicine. In measuring quality, Donabedian differentiated structure, process, and

outcome. For diabetes, for example, structure is establishing a performance improvement project, process is measuring hemoglobin A1c levels, and outcome is the percentage of patients with hemoglobin A1c (HbA1c) less than 7.0%. Note that “outcome” means a clinical outcome. It is not a synonym for the result of a structure or process measure.

Donabedian also argued that outcomes include not only mortality, readmissions, and similar measures but also patient satisfaction. That he had to provide a voice for patients underscores the traditional provider-centric view of quality.

Over recent decades—and with the added impetus of the similarly famous *To Err Is Human* (Institute of Medicine, 1999)—we have seen an evolution in views of clinical quality. With some exaggeration to sharpen contrast, Table 1 compares the traditional view with an alternative approach that seems increasingly well accepted.

These days, everyone talks about quality. As of December 2015, the National Quality Measures Clearinghouse listed 1279 measures, most of them process measures (AHRQ, n.d.). Indeed, concern is growing that

Table 1. Contrasting Approaches to Measuring and Improving Clinical Outcomes

Traditional Approach	Alternative Approach
<p>“This should never happen” Focus on bad quality More provider centric Single out individual offenders Focus on individual patients</p> <p>Processes: “name/blame/shame,” litigation, disciplinary action Payment: deny or reduce payment for specific services Examples: Medicare/Medicaid hospital-acquired conditions (initial implementation), frank medical errors, never events, denying payment for specific readmissions</p>	<p>“This has happened too often”^a Focus on quality that is less than excellent More patient centric “Good people in bad systems” mentality^b Focus on population-wide rates, casemix-adjusted Processes: transparency, continuous quality improvement, teamwork Payment: increase or decrease payment across a broad range of services Examples: initiatives to reduce ICU infections, 3M potentially preventable complications, Medicare readmission measurement, 3M potentially preventable readmissions, Medicare HAC Reduction Program</p>

^aFuller et al. (2009).

^bClifton (2009).

measures “are proliferating at an astonishing rate,” causing confusion, cost, and lack of focus (Blumental & McGinnus, 2015). Leaders in the quality movement have called on payers to “align with other payers on a smaller required set of high-impact and outcome-oriented measures” (Cassel et al., 2014).

Following that prescription, the article by Averill and colleagues and this commentary focus on outcomes. As Donabedian noted, neither process nor outcome measures are inherently superior; much depends on the scientific validity of the linkage between the 2. The importance of immunization rates—a classic process measure—is well established, for example (Zhou et al., 2014).

Outcomes have advantages over process measures. Most patients care more about the goal—preserving life, avoiding infection, maximizing functional status—than about the steps along the way. Providers and health plans are motivated to choose the best path toward the goal. For example, will discharge planning be more effective as a check box on a process form—or when the hospital pays penalties for high readmission rates?

That said, outcomes have challenges that process measures do not. Clinicians are often resistant; interventional cardiologists, for example, fear that performing angioplasty on high-risk patients will make their outcomes look bad (Narins et al., 2005). In Medicaid, rewarding managed care organizations (MCOs) for positive birth outcomes could impede access for women with high-risk pregnancies. Casemix adjustment is the all-purpose answer, but in the real world casemix measurement is imperfect and complex (Lee, 2015). Whether and how to adjust for sociodemographic factors is especially contentious (NQF, 2014). The issue affects both comparisons of Medicaid with other populations (Frakt et al., 2011) and within the increasingly diverse Medicaid population (MACPAC, 2012).

MEASURING CLINICAL OUTCOMES IN MEDICAID

Traditionally, Medicaid programs and other payers paid scant attention to quality of care.

The measures were structural, and basic at that—such as requiring licensure. To be sure, 20 years ago Rhode Island and other pioneers in Medicaid managed care tracked immunization rates and patient satisfaction scores while Medicare contractors monitored early discharges from hospital. But as a general statement, payers were hands-off.

In the past decade, the federal government, under both Democratic and Republican leadership, has propelled quality initiatives under rubrics such as value-based purchasing. As is typical, Medicare has been the chosen lever for moving the world of health care. Less typically, Washington broadened its focus to include Medicaid. On their own initiative, several states also pioneered value purchasing initiatives.

Medicaid is not Medicare, a point still underappreciated. The 2 programs serve different populations and have different spheres of influence. Medicare measures such as heart attack readmissions and postoperative hip fractures do little to address Medicaid priorities.

What are those priorities? Looking first at acute care, Figure 1 shows inpatient market shares as a proxy for acute care in general. Medicaid pays for about 20% of all hospital stays nationwide, but for obstetric, pediatric, and newborn care its share is more like half. For adult mental health, the Medicaid share is 25% and higher still for particularly vulnerable patients. Medicaid also covers more than 40% of stays for HIV/AIDS, sickle cell anemia, asthma, and congenital heart defects.

In 2014, the Centers for Medicare and Medicaid Services (CMS) published its fifth annual report on the quality of pediatric care in Medicaid (CMS, 2014a). Of the 24 core measures, we count 6 outcomes: low-birthweight babies, central-line infections, body mass index, cesarean delivery rates, emergency department visits, and patient satisfaction. A task force convened by the National Quality Forum (NQF) has recommended that the CMS develop an additional outcome measure for pediatric readmissions (NQF, 2015a).

In 2014, the CMS also published its first report on quality of care for Medicaid adults (CMS, 2014b). Of the 26 core measures, we

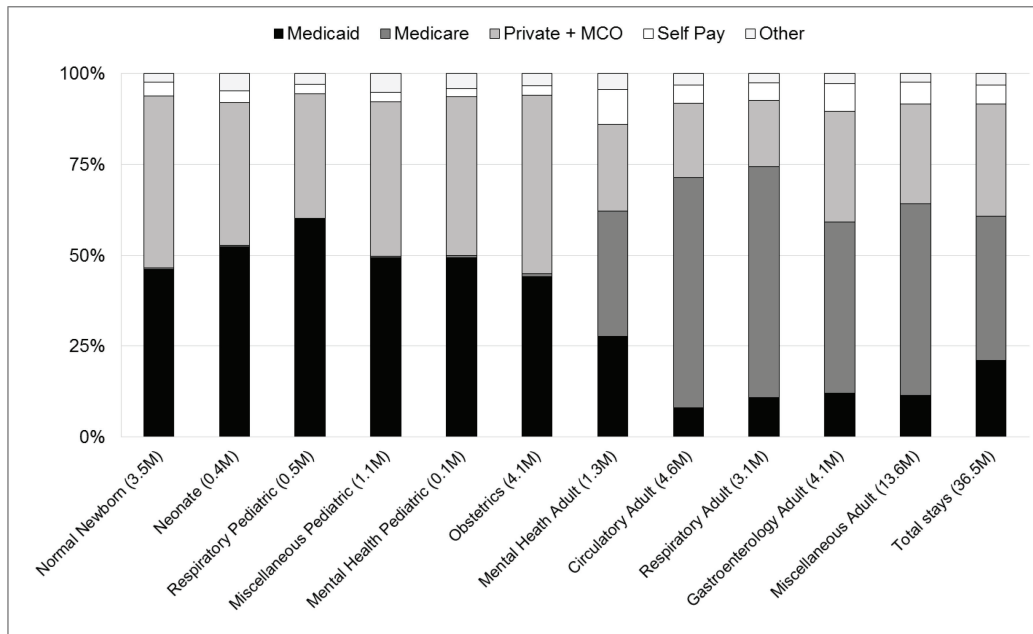


Figure 1. Market shares by payer by care category, US hospital admissions, 2012. Source: Authors' analysis of 2012 National Inpatient Sample. Notes: Numbers in parentheses are total stays by care category. The total count of 36.5 million stays also includes 49,835 uncategorized stays. Because the "Private + MCO" payer category may include some stays paid by Medicaid managed care organizations, the "Medicaid" payer shares are lower-bound estimates. "Pediatric" is defined as age 17 years and under. "Neonate" refers to sick newborns.

count 10 outcomes: elective early childbirth; admission rates for diabetes, heart failure, asthma, chronic obstructive pulmonary disease; control of hypertension; all-cause readmissions; HIV viral load suppression; HbA1c values; and patient satisfaction. Results from an ambitious satisfaction survey of Medicaid adults are expected in 2016. For the future, an NQF task force recommended an outcome measure for controlling hypertension in people with serious mental illness (NQF, 2015b).

Turning to long-term care, Medicaid provides 61% of funding, with the second-highest "payer" being individuals and families at 22% (O'Shaughnessy, 2014). Although Medicare pays for many nursing facility and home health services, the short-term and postacute needs of its patients are quite different from those Medicaid patients who often need services and supports for years. An NQF committee is now preparing recommendations to the

CMS for a quality strategy for home and community-based services.

Over time, Medicaid has steadily expanded its use of managed care. What is different today is not just the growing numbers of MCO enrollees—20 states plan expansions in FY 2015 or FY 2016 (Smith et al., 2015)—but also the shift to enroll people with complex needs. Simultaneously, states are paying more attention to MCO quality. In FY 2015, 21 states implemented new or expanded quality initiatives and 19 states plan to do so in FY 2016. These include public reporting of quality metrics, pay for performance, capitation withhold, performance bonuses or penalties, and special quality initiatives and performance improvement projects (Smith et al., 2015).

The growth of managed care has 3 implications for Medicaid outcomes. First, measuring outcomes may show off the great advantage that managed care has over fee-for-service Medicaid, namely flexibility in

how care is provided and paid for. Second, managing the care of patients with complex needs—think of a homebound person with little income, heart failure, diabetes, arthritis, and depression—raises real concerns about access and quality. Just 5% of the Medicaid population accounts for 48% of Medicaid spending (GAO, 2015). Because casemix adjusters explain, at best, 20% of the cost variation among MCO enrollees (Schone & Brown, 2013), MCOs have a strong financial incentive to stint on access and quality for the most vulnerable patients. Measuring outcomes is one among several steps that states can take to prevent problems. Third, the number of Medicaid MCOs—now 275 nationwide (Kaiser Family Foundation, 2015)—makes it harder to say there is “one Medicaid program” in each state. Influence will be fragmented unless Medicaid programs coordinate initiatives within, and perhaps across, states.

EXAMPLES OF CLINICAL OUTCOMES IN MEDICAID

We now discuss 3 outcomes in a Medicaid population: hospital admissions, readmissions, and inpatient complications. In each case, our analysis compares measures developed by the federal government with the “potentially preventable event” approach developed by 3M Health Information Systems (Goldfield et al., 2012). (Neither we nor our employer has a financial interest in any of the measures discussed.) We chose to discuss admissions, readmissions, and complications because of their importance, the opportunity to compare approaches, and the opportunity to summarize findings from analyses by ourselves and others. Other outcomes such as patient satisfaction, early elective deliveries, low-birthweight babies, mortality, emergency department visits, and functional measures also apply to Medicaid, but are beyond the scope of this commentary.

Preventable hospital admissions

For conditions such as asthma, pneumonia, and diabetes, hospitalization rates often reflect the quality of care in the commu-

nity. The 2 main measures are prevention quality indicators developed by the Agency for Healthcare Research and Quality (AHRQ, 2015) and potentially preventable admissions (PPAs) developed by 3M. The algorithms are similar in their incidence, but differ in casemix adjustment.

In the PPA algorithm, 25 of the 314 All Patient Refined Diagnosis Related Groups are considered PPAs. Using the National Inpatient Sample, we measured PPA incidence in the Medicaid population in 2012 (Table 2). For an estimated 1.1 million PPAs, hospitals levied charges of \$26.8 billion and incurred costs of \$7.6 billion. Although many admissions cannot be prevented, even a 10% reduction would represent \$758 million in reduced hospital cost, not to mention the benefits for patients.

Prevention quality indicators and potentially preventable admissions can be used to evaluate the performance of MCOs and of Medicaid programs overall. They also reflect the quality of long-term care, where an estimated three-fifths of hospitalizations from nursing facilities are potentially preventable (eg, infections, injuries, and heart failure) (Spector et al., 2013).

When comparing populations, casemix adjustment is essential for fairness and to minimize access problems for the sickest patients. Prevention quality indicators handle casemix adjustment by excluding patients with certain comorbidities and then standardizing rates by age and sex. Potentially preventable admissions adjust for patient-specific admission risk using the Clinical Risk Groups algorithm that categorizes individuals by health status.

Preventable hospital readmissions

Readmissions have been described as “one of those magical occasions in which better care can both save money and improve outcomes” (Jencks, 2010). Certainly, randomized controlled trials have shown that readmissions can be reduced (Jack et al., 2009). The obstacle has been the lack of a business model. In running a successful program to reduce heart failure readmissions 10 years ago, Park Nicollet Health Services in Minnesota cut

Table 2. Potentially Preventable Admissions in the Medicaid Population, United States, 2012

Pediatric			Adult		
APR DRG	Stays	Rank	APR DRG	Stays	Rank
141 Asthma	68 715	2	140 Chronic obstructive pulmonary disease	95 245	3
139 Other pneumonia	59 335	3	383 Cellulitis and other bacterial skin infections	74 985	6
053 Seizure	33 645	4	139 Other pneumonia	66 560	7
383 Cellulitis and other bacterial skin infections	31 250	5	194 Heart failure	66 055	8
113 Infections of upper respiratory tract	29 040	6	420 Diabetes	61 790	9
249 Nonbacterial gastroenteritis, N&V	27 530	8	463 Kidney and urinary tract infections	47 100	12
463 Kidney and urinary tract infections	23 370	10	053 Seizure	44 430	14
722 Fever	15 150	12	203 Chest pain	40 160	17
420 Diabetes	13 420	15	249 Nonbacterial gastroenteritis, N&V	35 120	19
422 Hypovolemia and related electrolyte disorders	11 380	17	198 Angina pectoris and coronary atherosclerosis	31 895	22
Other 15 PPA DRGs	29 865		Other 15 PPA DRGs	216 425	
Total PPA stays	342 700		Total PPA stays	779 766	
Total stays (Note 3)	903 681		Total stays (Note 3)	3 041 778	
PPA stays as percent of total	38%		PPA stays as percent of total	26%	

Abbreviations: APR DRG, All Patient Refined Diagnosis Related Group; N&V, nausea and vomiting; PPA, potentially preventable admissions.

Notes:

1. "Pediatric" and "adult" definitions are consistent with the care categories shown in Figure 1. Stays in the normal newborn, neonate, and obstetric care categories were excluded from this table. Including all care categories, the total number of Medicaid stays was 7 620 265.
2. "Rank" refers to the frequency of this DRG relative to all DRGs in the Medicaid pediatric and adult populations, respectively.
3. "Total stays" is for pediatric and adult care categories, excluding the newborn, neonate, and obstetric categories.
4. 2975 Medicaid stays did not have a patient age and are excluded from totals shown.
5. Because the "Private + MCO" payer category may include some stays paid by Medicaid managed care organizations, the counts of "Medicaid" stays are lower-bound estimates.

Source: Authors' analysis of 2012 National Inpatient Sample, using the list of potentially preventable admission APR-DRGs developed by 3M Health Information Systems.

its own revenue (Abelson, 2009). "We've kept it up out of a sense of moral obligation to these patients, but we're getting killed," the hospital's chief executive said. "We will totally run out of gas."

To provide that business model, Medicare, several state Medicaid programs, and other payers now link payment to readmission rates. As of October 2015, 17 states had incentives or policies to reduce readmissions. Another

10 had plans to do likewise (Smith et al., 2015).

The Medicare initiative targets Medicare conditions such as heart failure and joint arthroplasty. In non-Medicare populations, these conditions are important but just part of the story. New York, Texas, and several other states therefore apply the 3M potentially preventable readmission (PPR) algorithm, which covers almost all conditions. (Newborns are the most important exception.) Table 3, for example, shows that psychiatric readmissions are a much bigger issue in

Medicaid than cardiac readmissions. While Medicare's sophisticated regression model implicitly assumes that all readmissions are potentially preventable, the PPR approach counts only readmissions with a plausible clinical connection to the initial admission. It is also a categorical model that provides a reason why each readmission was or was not potentially preventable.

Potentially preventable complications

Great attention has been focused on inpatient complications, and with good reason.

Table 3. Findings From Outcome Studies of Potentially Preventable Readmissions (3M Algorithm)

- Of Medicaid admissions, about 4% were followed by a potentially preventable readmission (PPR) within 15 d and about 5% by a PPR within 30 d.^a When obstetric stays were excluded, PPR rates were in the range of 6% (within 15 d)^a and 9%-11% (within 30 d)^{b,c}
- Of all-payer admissions, about 7%-8% were followed by a PPR within 15 d and about 7%-11% by a PPR within 30 d.^{d,e}
- In comparing readmission rates, casemix adjustment is essential. PPR risk varies predictably with the reason for admission, the severity of illness, patient age, and the presence of a mental health and substance abuse (MH/SA) comorbidity for medical and surgical stays^{a,d}
- Conditions with the highest risk of a PPR included psychiatric and liver diseases, with PPR rates approaching 20%. Obstetric conditions were notable for low PPR risk (<1%)^{a,b,d}
- In Medicaid, the most frequent readmission category is MH/SA, accounting for 25%-35% of all PPRs and, among care categories, the highest risk of a PPR.^{a,b} Adult circulatory (ie, cardiovascular) PPRs accounted for 8%-15% of all PPRs^{a,b}
- The risk of readmission peaks 2-3 d after discharge and then falls steadily over time^{a,d}
- Very few readmissions appear to reflect frank medical error. The most common reasons for readmission were continuation or recurrence of the original medical or MH/SA reason for admission. Only about 2% of PPRs were for postsurgical complications^{a,d}
- Hospitals exhibit considerable range in casemix-adjusted performance, indicating opportunities for improvement^{a,c}
- A hospital's PPR performance in 1 y is roughly correlated with its performance in the following year^{a,d}
- About 60%-75% of PPRs are to the same hospital as the original discharge.^{a,c,d} The proportion is higher for surgical readmissions and lower for MH/SA readmissions^a
- Of all readmissions for any cause, about 60% are counted as "potentially preventable" in the 3M PPR algorithm^f

^aTexas Health and Human Services Commission (2013a). The study population comprised Medicaid fee-for-service and managed care stays. Significant exclusions were newborns and undocumented aliens.

^bLindsey et al. (n.d.). The study population comprised Medicaid fee-for-service and managed care stays. Significant exclusions were newborns and obstetrics.

^cIllinois Department of Healthcare and Family Services (2015). The study population comprised Medicaid stays in 2010. Significant exclusions were obstetrics, newborns, and managed care.

^dGoldfield et al. (2008). The study population comprised all-payer stays in Florida in 2004 and 2005. A significant exclusion was newborns.

^eUtah Department of Health (2010). The study population comprised stays in 2005 to 2007. Significant exclusions were maternity, newborns, and pediatrics.

^fGoldfield et al. (2012).

In 2010, adult inpatients experienced an estimated 4.8 million adverse events nationwide, or 145 events per 1000 discharges. These included harmful medication errors, nosocomial infections, pressure ulcers, falls, and others (AHRQ, 2014). In a separate study of Medicare inpatients, physician reviewers judged that nearly half of these types of complications were clearly or likely preventable (DHHS OIG, 2010).

Medicare initially addressed the problem using the “traditional approach,” as described in Table 1. Starting in 2008, Medicare (and, later, Medicaid) reduced payment for specific stays that included a “never event” or an HAC. The lists were drawn narrowly so that an incident was almost always in and of itself evidence of bad care. Although much publicity was generated, the initiatives had minimal impact, with never events and HACs identified in just 0.6% and 1.0%, respectively, of Medicare stays (with some overlap) (DHHS OIG, 2010). Because Medicare pays hospitals by diagnosis-related group, the percentage impacts on payment were smaller still.

Meanwhile, Maryland, Texas, and New York were applying an alternative approach, measuring hospital-wide rates of potentially preventable complications (PPCs—not to be confused with other meanings for this acronym) (Hughes et al., 2006). The PPC list includes not only pneumonia, cellulitis, septicemia, and other infections but also kidney failure, heart failure, dysrhythmias, and other common sequelae of serious illness. As with PPRs, the assumption was that many complications are potentially preventable, even if many complications are not (Table 4).

Maryland’s unique all-payer system has had notable success. By measuring PPC incidence, comparing hospital performance on a risk-adjusted basis, and setting financial incentives, the state achieved a 15% reduction in PPC incidence from 2009 to 2011, reducing hospital cost by \$111 million or 0.6% (Calikoglu et al., 2012). Improvement has continued; a recent report showed double-digit declines between 2013 and 2014 in the incidence of many PPCs (Patel et al., 2015).

Table 4. Findings From Outcome Studies of Potentially Preventable Complications (3M Algorithm)

- Of Medicaid admissions, about 5% included at least one potentially preventable complication (PPC)^a
- In comparing complication rates, casemix adjustment is essential. PPC risk varies predictably with the reason for admission and the severity of illness^{a,b,d}
- In Medicaid, the most common PPCs include obstetric hemorrhage, obstetric lacerations, renal failure, and urinary tract infections^a
- In Medicaid, the most costly PPCs include septicemia, shock, urinary tract infections, renal failure, and respiratory failure^a
- In an all-payer population, common PPCs include renal failure, respiratory failure, and urinary tract infections^d
- As a percentage of hospital cost, PPCs accounted for about 4% of the cost of treating Medicaid patients^a and about 10% of the cost of treating all patients^c
- Hospitals exhibit considerable range in casemix-adjusted performance. The implication is that opportunities for improvement exist^{a,d}
- The PPC algorithm is more suitable for adults than for pediatric patients^a

^aTexas Health and Human Services Commission (2013b). The study population comprised Medicaid fee-for-service and managed care stays. Significant exclusions were newborns and pediatrics.

^bHughes et al. (2006). The study population comprised all-payer California stays from 1999 and 2000.

^cFuller et al. (2009). The study populations comprised all-payer California stays from FY 2006 and all-payer Maryland stays from FY 2008.

^dMaryland Health Services Cost Review Commission (2015). The study population comprised all-payer Maryland stays.

Under the Affordable Care Act of 2010, Medicare added a new program, which also (confusingly) refers to hospital-acquired conditions. The list is broader and the approach changed to look at hospital-wide rates (not individual stays), with infection rates casemix adjusted (Cassidy, 2015). Effective October 1, 2014, low-performing hospitals have seen 1% cuts in Medicare inpatient payments.

In both the Medicare HAC and 3M PPC approaches, monitoring hospital reporting is essential, lest payment cuts fall unfairly on the hospitals that are most diligent about reporting complications.

NEXT STEPS FOR MEDICAID

Should Medicaid even be in the business of measuring, judging, and incentivizing quality of care? Payment methods, however, cannot be neutral on quality (Quinn, 2015). By encouraging or discouraging the provision of care overall and in specific situations, every payment method affects quality of care. Paying hospitals for preventable readmissions undercuts efforts to reduce readmissions, for example.

In deciding where to focus Medicaid's famously scarce resources, we suggest 5 criteria. First, does Medicaid have influence? This criterion supports initiatives in pediatrics, obstetrics, mental health, and long-term care. Second, does the measure matter? Third, is there sufficient performance variation to allow room for improvement? Fourth—and particularly relevant—do current financial incen-

tives undermine quality improvement efforts (Averill et al., 2011)? Readmissions are a leading example. Fifth, can Medicaid leverage the efforts of others? Developing a new measure costs an estimated \$500,000 (NCQA, n.d.); plus, providers already complain about too many disparate measures.

Outcome initiatives that may meet these criteria include admissions, readmissions, complications, pressure ulcers and use of restraints in long-term care settings, transfers from long-term care to hospital, patient and family satisfaction in all settings but perhaps especially in long-term care, early elective childbirth, and birthweight.

Because few people enjoy being judged on quality and having their pay adjusted as a result, skillful implementation matters. Suggestions include carefully balancing discussion of quality improvement and financial savings; genuine collaboration with stakeholders, including other payers wherever possible; a staged approach of design, then measurement, then financial incentives; careful attention to casemix adjustment; and close monitoring of potentially adverse impacts.

Over the past 30 years, payment policy worldwide has been revolutionized by the adoption of prospective payment systems, sparked by Medicare's 1983 implementation of payment by diagnosis-related group (Quinn, 2014). Many people think the next revolution will be paying for quality. Although the technical and political challenges are formidable, that is a worthy goal, for the health care system and for Medicaid.

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