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By Matlin Gilman, E. Kathleen Adams, Jason M. Hockenberry, Ira B. Wilson, Arnold S. Milstein, and Edmund R. Becker

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California Safety-Net Hospitals Likely To Be Penalized By ACA Value, Readmission, And Meaningful-Use Programs

Matlin Gilman is a research assistant in the Department of Health Policy and Management Rollins School of Public Health, at Emory University, in Atlanta, Georgia.

E. Kathleen Adams is a professor in the Department of Health Policy and Management, Rollins School of Public Health.

Jason M. Hockenberry is an assistant professor in the Department of Health Policy and Management, Rollins School of Public Health, and a faculty research fellow in the National Bureau of Economic Research in Cambridge, Massachusetts.

Ira B. Wilson is a professor of community health at the Brown University School of Public Health, in Providence, Rhode Island.

Arnold S. Milstein is director of the Clinical Excellence Research Center and a professor of medicine at the Stanford University School of Medicine, in California.

Edmund R. Becker (ebeck01@sph.emory.edu) is a professor in the Department of Health Policy and Management, Rollins School of Public Health.

ABSTRACT The Affordable Care Act includes provisions to increase the value obtained from health care spending. A growing concern among health policy experts is that new Medicare policies designed to improve the quality and efficiency of hospital care, such as value-based purchasing (VBP), the Hospital Readmissions Reduction Program (HRRP), and electronic health record (EHR) meaningful-use criteria, will disproportionately affect safety-net hospitals, which are already facing reduced disproportionate-share hospital (DSH) payments under both Medicare and Medicaid. We examined hospitals in California to determine whether safety-net institutions were more likely than others to incur penalties under these programs. To assess quality, we also examined whether mortality outcomes were different at these hospitals. Our study found that compared to non-safety-net hospitals, safety-net institutions had lower thirty-day risk-adjusted mortality rates in the period 2009–11 for acute myocardial infarction, heart failure, and pneumonia and marginally lower adjusted Medicare costs. Nonetheless, safety-net hospitals were more likely than others to be penalized under the VBP program and the HRRP and more likely not to meet EHR meaningful-use criteria. The combined effects of Medicare value-based payment policies on the financial viability of safety-net hospitals need to be considered along with DSH payment cuts as national policy makers further incorporate performance measures into the overall payment system.

Key provisions of the Affordable Care Act (ACA) redistribute prospective payments under Medicare to reward higher hospital performance and, ultimately, penalize lower-performing hospitals. These provisions include value-based purchasing (VBP), the Hospital Readmissions Reduction Program (HRRP), and criteria for the meaningful use of electronic health records (EHRs).

Given the prospect of financial penalties under these programs, there is growing concern among health policy experts that vulnerable safe-

ty-net hospitals could be adversely affected, because they are likely to perform worse on the quality measures that are used to determine payment adjustments. Simultaneously, other provisions of the ACA will reduce the additional payments—known as disproportionate-share hospital (DSH) payments—that these safety-net hospitals receive from Medicare and Medicaid for treating disproportionately high proportions of patients covered by these insurance programs.

New payment reform policies are an effort to improve the quality of and reduce spending on

hospital care. Creating such policies requires deciding how to define and measure quality and which aspects of cost to target. Consequently, the approaches used in the ACA, as in any major legislation that encompasses multiple policy programs, are complex and research based. Nevertheless, they have the potential to produce undesirable consequences.

Current debate on hospital performance centers on the relative importance of performance scores that measure processes and the patient experience of care versus scores that measure health outcomes. In its first year (fiscal year 2013) the VBP program used both scores measuring process of care and those measuring patient experience. In fiscal year 2014 the program also used mortality scores.

Process scores are assumed to be within hospitals' control and can be evaluated relatively easily.¹ Yet their use may not result in improved outcomes, which patients value most.^{2,3} In contrast, using health outcomes as a metric is problematic because illness severity and social challenges that affect health—an especially important issue at safety-net hospitals—might not be fully captured in the financial models that are designed to reallocate a proportion of payments between hospitals to reward quality.³

Measures of patient experience could bridge the gap between process and outcomes in this respect. This gap has led to appeals for patient-centered measures of quality and is reflected in the creation of the Patient-Centered Outcomes Research Institute.³ However, safety-net hospitals could still be disproportionately penalized if measures of patient experience reflected non-clinical dimensions of quality, even if outcomes and costs are similar at safety-net and other hospitals.

Despite the coverage expansions in the ACA, almost thirty million people are projected to remain uninsured because they will be exempt from the coverage mandate, refuse to enroll for benefits, or be excluded because of their legal status or their residence in states that are not currently expanding Medicaid.⁴ Safety-net hospitals are likely to remain the provider of choice for uninsured people, and possibly those who are newly covered under the Medicaid expansion, because of the hospitals' historical missions, cultural competencies, and experience in serving lower-income populations. In Massachusetts the demand for safety-net hospital services continues to rise even after health reform. Most safety-net patients reported using these hospitals because they were convenient, were affordable, and offered preferred services.⁵

Medicare's hospital inpatient VBP program, the HRRP, and the EHR meaningful-use criteria

are now in place.⁶⁻⁹ Since safety-net hospitals tend to have lower scores on processes and the patient experience of care, they are likely to be disproportionately hurt under the VBP program, which relies on those measures.¹⁰⁻¹⁴ Safety-net hospitals' worse performance on VBP measures such as scores of patient experience, rates of readmission,^{12,13} and rates of meaningful use of EHRs^{15,16} could reflect their lack of resources to invest in these areas.^{10,11,17-20} Therefore, these programs, coupled with planned cuts to DSH payments, may exacerbate the financial pressures that these hospitals already face by virtue of serving higher proportions of poorer patients.^{11,21,22}

In this article we examine whether safety-net hospitals are disproportionately penalized under these programs and whether this trend might be warranted because these hospitals have worse outcomes or higher costs. We compared safety-net hospitals' performance to that of non-safety-net hospitals in terms of health outcomes, costs, and exposure to penalties under recently enacted Medicare payment policies.

We focused on hospitals in California as a bellwether of these effects nationwide. California's Medicaid DSH program makes payments to only a small percentage of hospitals,²³ and state efforts to track and improve hospital quality are extensive. Thus, if safety-net hospitals in California are more likely than others in the state to be penalized under these various Medicare value-based incentive programs, this may suggest even worse consequences for safety-net hospitals in other states, where Medicaid DSH payments are not targeting the hospitals that are most in need.

We note that Medicaid DSH payments have been larger than Medicare DSH payments in recent years. However, a key difference is that Medicare makes DSH payments directly to hospitals, while Medicaid DSH allotments are made to the states, which then make payments to hospitals.

Policies' Consequences For Hospital Payment

The VBP program, the HRRP, and the EHR meaningful-use program have important consequences for hospital payment.

VALUE-BASED PURCHASING PROGRAM The VBP program shifts financial incentives away from a supply-driven paradigm to patient-centered health care based on value to the patient. Specifically, incentive payments are based on thirteen scores related to processes of care (for example, the percentage of heart attacks in which the physician responds quickly) or patients' experiences (such as the percentage of patients who report good communication with their doctor).

Starting in October 2012 Medicare payments to hospitals were reduced by 1 percent to create a pool that would be used to fund these payments. Each hospital's VBP score was calculated relative to the overall mean. A score of 0.9945 meant that the hospital received 99.45 percent of its usual payment per discharge; values above 1.00 led to percentage increases. In 2012, 1,557 hospitals qualified for higher Medicare payment rates under the VBP program, and 1,427 hospitals received reduced Medicare payment rates.

HOSPITAL READMISSIONS REDUCTION PROGRAM The HRRP, also launched in October 2012, levies financial penalties against hospitals with readmission rates that are deemed to be excessive. For each hospital, the Centers for Medicare and Medicaid Services (CMS) calculates the expected readmission rates for all acute myocardial infarction (AMI), congestive heart failure, and pneumonia hospitalizations, adjusting for patients' characteristics and coexisting conditions. The rates are compared with actual readmission rates in a given period to derive an adjustment factor. Penalties are assessed when the observed rate exceeds the expected rate.

CMS set the penalty cap at 1 percent of its reimbursement for Medicare patients in fiscal year 2012. The penalty cap increased to a maximum of 3 percent for fiscal year 2014. In 2012 approximately two-thirds of hospitals were assessed a penalty under the HRRP.

MEANINGFUL USE Finally, "meaningful use" is the federal standard of eligibility for physicians and hospitals to receive incentive payments from CMS for adopting and using an EHR. The Health Information Technology for Economic and Clinical Health (HITECH) Act, enacted as part of the American Recovery and Reinvestment Act of 2009, set aside nearly \$30 billion for direct incentives for providers to start using EHRs. Stage 1 of this program was meant to incentivize providers to move key clinical data into electronic formats. Stage 2, initiated in 2014, raised the bar by tying EHR adoption more closely to improvements in patient care.

Study Data And Methods

We used five primary data sources to assemble the measures needed for our analysis: the Medicare Impact File for 2013; a CMS list of hospitals that received payment from Medicare in March 2013; Hospital Compare data for 2011; the California Office of Statewide Health Planning and Development; and data on hospital referral regions from the Dartmouth Institute. We describe these data sources below.

SAMPLE Our hospital sample was drawn from the general acute care hospitals in California that

New payment reform policies are an effort to improve the quality of and reduce spending on hospital care.

were paid prospectively under Medicare. California is one of the few states where financial data were available to allow us to calculate hospitals' Medicaid DSH payments (net of provider taxes that are paid to the state) and examine their effect on hospitals' operating margins. Each state uses its own methods to tax and distribute Medicaid DSH funds; in contrast, Medicare DSH payments are based on a common formula.

We excluded critical-access hospitals, which are paid by CMS using different formulas. We also excluded Kaiser Permanente hospitals, which do not report financial data to California and are not classified as general acute care hospitals in the annual financial data of the California Office of Statewide Health Planning and Development.

Of the remaining 263 general acute care hospitals in California, we excluded 17 (mostly small) hospitals with no Medicare provider charge data for 2011 or with fewer than a hundred discharges. We also excluded four hospitals whose mortality rates were not recorded in the Hospital Compare data for 2011.

Our final sample of 242 hospitals provided inpatient care to 98 percent of all discharges from general acute care prospective payment hospitals in California—or 85 percent of the discharges when all Kaiser Permanente hospitals were included. The 242 hospitals also constituted 91 percent of the prospective payment hospitals in California with mortality rates in the Hospital Compare data for 2011. The hospitals that had mortality rates but were not included in our sample tended to be Kaiser hospitals or institutions with fewer than a hundred Medicare discharges among the top hundred diagnosis-related groups nationally.

SAFETY-NET HOSPITALS There is no standard definition of a *safety-net hospital*. The use of three common measures—Medicaid caseloads, uncompensated care burden, and facility characteristics—to define safety-net hospitals is known to

The EHR incentive program could be redesigned to avoid further dividing hospitals into haves and have-nots.

result in different quality rankings by safety-net status.²⁴

We used a variant of the Medicaid caseload measure: the Medicare DSH patient percentage. This percentage is the sum of the proportion of a hospital's hospital days used by elderly patients receiving Supplemental Security Income and its proportion of nonelderly Medicaid patient days. Specifically, we defined *safety-net hospitals* as those hospitals whose Medicare DSH patient percentages were in the highest quartile among the 242 hospitals in our sample.

A major advantage of using the DSH patient percentage as opposed to just Medicaid caseloads is that it identifies poor patients regardless of their age.¹⁰ Using only the Medicaid caseloads fails to identify elderly patients who are poor and whose hospital charges are covered by Medicare.¹⁰ Our approach allowed us to place our results in the context of both VBP and Medi-Cal (California Medicaid) DSH payment policy.

The advantages of using the DSH patient percentage instead of uncompensated care as a share of total expenses to identify safety-net hospitals are twofold. First, since there are wider differences across hospitals in the DSH patient percentage than in the ratio of uncompensated care to expenses, the DSH patient percentage is better able to identify hospitals that serve a large share of poor patients. Second, since hospitals serve more Medicaid patients than uninsured patients, the revenue involved in providing care for Medicaid patients is a much larger share of the hospitals' revenue than that involved in providing uncompensated care. We calculated the number of low-income Medicaid or Medicare patients that a hospital cares for, relative to the other hospitals in its hospital referral region. If a hospital's DSH patient percentage was higher than expected given the average percentage in its region, this measure was greater than 1.0.

All safety-net hospitals had a value of greater

than 1.0 on this measure. This indicates that in addition to having larger low-income patient caseloads than other hospitals did, safety-net hospitals also served a disproportionate share of low-income patients relative to the other hospitals in their referral region.

VALUE-BASED PURCHASING Using the Medicare Impact File for 2013, we obtained hospital-specific data on the combined (process-of-care and patient experience scores) payment adjustments for the VBP program for fiscal year 2013. Using VBP performance data from CMS, we also compared the average safety-net hospital's VBP process-of-care and patient experience scores for 2013 with those of the average non-safety-net institution.

READMISSIONS PENALTY The HRRP adjustments were obtained from the 2013 Medicare Impact file. As explained above, hospitals were penalized if their observed readmission rates were higher than the expected rates.

EHR INCENTIVES AND PENALTIES To measure the proportion of safety-net and non-safety-net hospitals in California receiving meaningful-use incentive payments, we used data from the CMS list of hospitals that received such payments from Medicare in March 2013. There are currently no penalties for Medicaid providers who fail to demonstrate the meaningful use of an EHR. However, beginning in 2016 all eligible Medicare providers will be required to demonstrate that they meet the stage 3 meaningful-use criteria or face penalties.

HEALTH OUTCOMES Our primary measure for health outcomes was mortality rates. We used Hospital Compare data for 2011 to measure average thirty-day risk-adjusted mortality rates for three major conditions—AMI, heart failure, and pneumonia—averaged across 2009–11. These rates are presented as percentages of discharges in the respective diagnosis categories.

EFFICIENCY To derive measures of the costs of providing services, we followed an approach used by the Medicare Payment Advisory Commission, which adjusts costs for factors beyond the hospital's control that reflect the hospital's financial structure instead of its efficiency.²⁵ This method standardizes Medicare costs by adjusting for Medicare severity diagnosis-related groups' (MS-DRGs') case-mix, wage index, prevalence of outlier payments and transfer cases, and the empirically estimated effects of teaching activity on costs per discharge.²⁵

STATISTICAL ANALYSIS We used chi-square tests to determine if there were significant differences in the proportions of safety-net and non-safety-net hospitals that were rewarded or penalized under the VBP program, the HRRP, and the EHR incentive program. We also used the

Hospital Compare file to derive actual thirty-day risk-adjusted hospital readmission rates for AMI, heart failure, and pneumonia averaged across 2009–11, and we used *t*-tests to assess statistical differences between safety-net and non-safety-net hospitals. Finally, we tested for differences in mean adjusted cost per Medicare discharge.

LIMITATIONS Our study has several limitations. We defined *safety-net hospitals* as the hospitals in the highest quartile of the Medicare DSH patient percentage, but other definitions exist.

In addition, our study examined the proportion of safety-net hospitals at risk of financial penalties under the VBP program, the HRRP, and the EHR incentive program. However, we did not compare the magnitude of the penalties. In other words, it may be that more safety-net hospitals incurred penalties, but their penalties were smaller than those of the non-safety-net hospitals that incurred penalties.

Our analysis did not account for the dynamic effect of CMS's imminent performance-based

payment adjustments, which means that there could be variations across time in which hospitals were classified as safety net under our definition and in which hospitals got penalties. Ashish Jha and coauthors' analysis of dynamic effects suggests that safety-net hospitals respond more effectively to such adjustments than other hospitals do.¹¹

Study Results

HOSPITAL CHARACTERISTICS Of the 242 hospitals in our analyses, 60 were in the highest (fourth) quartile of the Medicare DSH patient percentage and therefore were defined as safety-net hospitals (Exhibit 1). The safety-net hospitals had a lower average operating margin than the non-safety-net hospitals—those in the other three quartiles.

Safety-net hospitals were also much more likely than other hospitals to benefit from Medi-Cal DSH payments. When we excluded Medicaid DSH net payments (that is, accounting for taxes

EXHIBIT 1

Characteristics Of 242 California Hospitals, By Medicare Disproportionate-Share Hospital (DSH) Patient Percentage Quartiles, 2011

Characteristic	Quartile			
	1 (n=61)	2 (n=60)	3 (n=61)	4 (n=60)
Operating margin				
With Medicaid DSH	5.7%	7.4%	4.7%	0.1%
Without Medicaid DSH	5.7	7.4	4.3	-7.8
Bed size				
Small (fewer than 100 beds) ^a	30	30	25	22
Medium (100–299 beds) ^b	56	52	51	52
Large (300 or more beds) ^c	15	18	25	27
Ownership				
City or county ^d	0	0	2	20
District ^e	10	10	16	0
For-profit ^f	20	22	18	47
Nonprofit ^g	70	68	64	33
Teaching				
Yes ^h	2	7	10	18
Setting				
Urban ⁱ	95	93	97	100
Caseload				
Share of Medicare patient days	50	46	43	30
Share of Medicaid patient days	15	22	31	46
DSH patient percentage relative to the average in the HRR	0.5	0.8	1.2	1.6
DSH index ^j (interquartile range)	(0.3, 0.6)	(0.6, 1.0)	(0.9, 1.4)	(1.3, 1.8)

SOURCE Authors' analysis of annual financial data for 2011 from the California Office of Statewide Health Planning and Development, data from the Medicare Impact Files for 2011 and 2013, and data on hospital referral regions (HRRs) from the Dartmouth Institute.

NOTES The Medicare DSH patient percentage is the sum of the proportion of a hospital's hospital days used by elderly patients receiving Supplemental Security Income and its proportion of nonelderly Medicaid patient days. We defined *safety-net hospitals* as those in quartile 4, the highest quartile. Additional analytic details for the exhibit are included in the online Appendix (to access the Appendix, click on the Appendix link in the box to the right of the article online). ^an = 64 (26 percent of the hospitals). ^bn = 127 (52 percent). ^cn = 51 (21 percent). ^dn = 13 (5 percent). ^en = 22 (9 percent). ^fn = 64 (26 percent). ^gn = 143 (59 percent). ^hn = 22 (9 percent). ⁱn = 233 (96 percent). ^jActual over expected.

paid to the state), safety-net hospitals' average operating margin fell from 0.1 percent to -7.8 percent. In contrast, the average operating margin for other hospitals was virtually unchanged.

In addition, safety-net hospitals were more likely than other hospitals to be large and to be either for profit or owned by a city or county. They were also more likely than other hospitals to be teaching hospitals, have lower Medicare caseloads and higher Medicaid caseloads, and have a higher DSH patient percentage relative to the other hospitals in their referral areas.

PENALTIES AND INCENTIVES When we examined the proportion of hospitals that would likely be subject to VBP and HRRP penalties and miss out on EHR meaningful-use incentive payments, we found that safety-net hospitals were at greater risk of experiencing reduced payments than other hospitals (Exhibit 2). We found that 70.0 percent of safety-net hospitals had a VBP final adjustment factor for 2013 that was less than 1.0, compared to 58.2 percent of other hospitals. However, this difference was not significant.

Consistent with this finding, when we compared the average total VBP performance scores for safety-net and non-safety-net hospitals, we found that safety-net hospitals were marginally more likely to have a lower process score, which accounted for 70 percent of a hospital's VBP factor for 2013. Safety-net hospitals were also more likely to have a significantly lower patient experience score, which accounted for the remaining 30 percent of the VBP factor for 2013.

When we examined final payment adjustment factors for the hospital readmissions reduction

program in 2013, we found that 88.3 percent of safety-net hospitals had an HRRP factor of less than 1.0, compared to 68.1 percent of other hospitals (Exhibit 2). Thus, safety-net hospitals were significantly more likely than other hospitals to experience reductions in payments under the HRRP. Similarly, we found that safety-net hospitals were significantly more likely to have higher thirty-day risk-adjusted readmission rates for acute myocardial infarction, heart failure, and pneumonia in 2009-11.

We also found that safety-net hospitals were significantly less likely than non-safety-net hospitals to have received payment from Medicare for having met EHR meaningful-use criteria.

MORTALITY RATES Exhibit 3 shows the average mortality rates for acute myocardial infarction, heart failure, and pneumonia in 2009-11. For acute myocardial infarction, the average mortality rate among safety-net hospitals was 14.5 percent, compared to 15.0 percent among other hospitals ($p = 0.0950$). For heart failure, the average mortality rate among safety-net hospitals was 9.5 percent, compared to 11.2 percent among other hospitals ($p < 0.0001$). For pneumonia, the average mortality rate was 10.9 percent among safety-net hospitals, compared to 11.8 percent among other hospitals ($p = 0.0036$). These differences in condition-specific mortality were significant.

EFFICIENCY The estimated average adjusted Medicare cost per discharge among safety-net hospitals in our sample was \$7,688, compared to \$7,973 among other hospitals. However, this difference was not significant ($p = 0.1413$).

EXHIBIT 2

Impacts Of Value-Based Purchasing (VBP), Hospital Readmissions Reduction Program (HRRP), And Electronic Health Record (EHR) Incentive Programs On Safety-Net And Non-Safety-Net Hospitals, 2013

Impact	Safety-net hospitals (n=60)	Other hospitals (n=182)	p value
Hospitals penalized under VBP	70.0%	58.2%	0.1051
VBP total performance score	45.0	52.2	0.0035
VBP process score	53.8	60.0	0.0615
VBP patient experience score	24.4	34.2	<0.0001
Hospitals penalized under the HRRP	88.3	68.1	0.0022
30-day readmission rate for acute myocardial infarction	19.9	19.2	0.0051
30-day readmission rate for heart failure	25.7	24.1	<0.0001
30-day readmission rate for pneumonia	18.9	18.2	0.0100
Hospitals receiving Medicare payment for demonstrating EHR meaningful use	38.3	55.0	0.0256

SOURCE Authors' analysis of data from the Medicare Impact File for 2013, Hospital Compare for 2011, and VBP performance scores for 2013 from Hospital Compare and the Centers for Medicare and Medicaid Services website. **NOTES** Readmission rates are risk-adjusted. Additional analytic details for the exhibit are included in the online Appendix (to access the Appendix, click on the Appendix link in the box to the right of the article online).

EXHIBIT 3

Thirty-Day Risk-Adjusted Mortality Rates For Acute Myocardial Infarction, Heart Failure, And Pneumonia, 2009–11

	Safety-net hospitals (n=60)	Other hospitals (n=182)	p value
Mortality rate for:			
Acute myocardial infarction	14.5%	15.0%	0.0950
Heart failure	9.5	11.2	<0.0001
Pneumonia	10.9	11.8	0.0036
Mortality rate index (actual over expected)	0.91	1.02	<0.0001
Hospitals with lower-than-expected mortality	66.7	41.2	0.0006

SOURCE Authors' analysis of data from Hospital Compare for 2011 and the Medicare Impact File for 2013. **NOTE** Additional analytic details for the exhibit are included in the online Appendix (to access the Appendix, click on the Appendix link in the box to the right of the article online).

Discussion

Our study of hospitals in California has three key findings. First, safety-net hospitals were more likely than other hospitals to be penalized under the value-based purchasing program, the Hospital Readmissions Reduction Program, and the electronic health record meaningful-use program. Second, thirty-day risk-adjusted mortality outcomes in safety-net hospitals were better than those in other hospitals for patients with acute myocardial infarction, heart failure, or pneumonia. Third, the adjusted cost per Medicare discharge was virtually identical at safety-net and non-safety-net hospitals. Taken together, these results indicate that safety-net hospitals provided better health outcomes than other hospitals at a similar cost level yet were more likely to be penalized under programs that are intended to improve and reward high performance.

Thirty-day risk-adjusted readmission rates for the three conditions listed above were higher in safety-net hospitals than in other hospitals (Exhibit 2). Hence, safety-net hospitals were more likely penalized under the HRRP.

A readmission could represent a high-quality outcome (because a patient survived long enough to be readmitted), a low-quality outcome (because a patient needed to be readmitted), or other factors (such as lack of access to primary care) that are potentially beyond a hospital's control.²⁶ Higher readmission rates could even lead to less costly overall care. This would occur if the per admission cost were lower in hospitals with higher readmission rates.

Reducing readmission rates is costly. Nearly the entire patient population needs to be treated with additional care to prevent readmission because predicting readmission is notoriously difficult, and this cost might be higher than the additional cost of simply allowing the additional readmissions to occur.^{26,27} In addition, the HRRP

algorithm used to adjust for differences in hospitals' patient populations explicitly excludes adjustments for patients' socioeconomic status. This further increases the probability that safety-net hospitals will incur these penalties.²⁴

Policy Adjustments To Protect Safety-Net Hospitals

In 2014 the VBP adjustment will be weighted by 30 percent of the patient experience score, 25 percent of the mortality (survival) score, and 45 percent of the process-of-care score for each hospital participating in Medicare's prospective payment system. A heavier weighting on the mortality outcome could help address the seeming policy disconnect that penalizes hospitals with lower mortality for having higher readmission rates.

Our finding of very low operating margins among safety-net hospitals in California highlights the potential of small adjustments in Medicare payments to adversely affect these hospitals and low-income patients. One issue is that patient experience scores across the entire suite of measures in the Consumer Assessment of Healthcare Providers and Systems survey are not adjusted for low patient income. Such an adjustment could ultimately reduce perceived access to care.^{28,29} However, CMS may wish to resolicit stakeholders' input as consequences for hospitals with such thin margins shift from reputational (that is, patients with generous private insurance often avoid hospitals known as safety-net institutions) to financial.

In addition, the EHR incentive program could be redesigned to avoid further dividing hospitals into haves and have-nots. Unless safety-net hospitals catch up to other hospitals in their meaningful use of EHRs before the penalties go into effect in 2015, safety-net institutions will be more likely than other hospitals to be penalized.

Recent evidence suggests that safety-net hospitals are responding dynamically to EHR adoption incentives by taking advantage of HITECH's "adopt, implement, and upgrade" option to access the capital needed to purchase or upgrade systems. This option allows hospitals with Medicaid patient volumes below 10 percent to receive financial incentives in advance of meeting the criteria.³⁰ This gives hospitals the capital they need to purchase an EHR system.

However, this capital might not be adequate. Productivity losses are common in hospitals during the period of EHR adoption, and upkeep and upgrades needed to meet future meaningful-use criteria can be expensive. The Office of the National Coordinator for Health Information Technology in the Department of Health and Human

Medicare payments have already begun to affect revenues.

Services could consider the adequacy of its ongoing support to encourage EHR adoption by low-margin hospitals before penalties are applied, especially in states where the uninsured population remains high.

Concerns over the effect of these payment policies are compounded by the potential impact on safety-net hospitals of imminent reductions in DSH funding under the ACA.³¹ The ACA incentivizes states to target DSH payments to hospitals that are most in need of Medicaid DSH funding, which may lead some states to redirect payments away from non-safety-net hospitals. However, it is not clear that under the targeting scenario, safety-net hospitals would maintain the same level of DSH payment.

In addition, these targeting incentives are re-

lated to Medicaid expansion. At a minimum, these forces will play out differently in the twenty-seven states (including the District of Columbia) that are now planning to expand Medicaid in 2014, compared to states that are still debating an expansion or have decided not to expand.³²

Conclusion

Safety-net hospitals in California provide better health outcomes than other hospitals at a reasonable cost. This would suggest good performance on the part of safety-net hospitals. However, the value-based purchasing program, the Hospital Readmissions Reduction Program, and the electronic health record meaningful-use program are more likely to penalize these hospitals than non-safety-net institutions. These policies could be reexamined to better align incentives and prevent unintended consequences from placing further financial pressure on safety-net hospitals.

Medicare payments have already begun to affect revenues. Medicare and Medicaid DSH payment reductions are also on the horizon for these hospitals, which will only compound the financial issue. ■

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NOTES

- 1 Jha AK. Measuring hospital quality: what physicians do? How patients fare? Or both? *JAMA*. 2006;296(1):95–7.
- 2 Hackbarth GM. Comment letter on hospital value-based purchasing [Internet]. Washington (DC): Medicare Payment Advisory Commission; 2011 Mar 4 [cited 2014 Jun 17]. Available from: http://www.medpac.gov/documents/03042011_HospitalValueBasedPurchasing_MedPAC_COMMENT.pdf
- 3 Berenson RA, Pronovost PJ, Krumholz HM. Achieving the potential of health care performance measures: timely analysis of immediate health policy issues [Internet]. Washington (DC): Urban Institute; 2013 May [cited 2014 Jun 17]. Available from: <http://www.rwjf.org/content/dam/farm/reports/reports/2013/rwjf406195>
- 4 Nardin R, Zallman L, McCormick D, Woolhandler S, Himmelstein D. The uninsured after implementation of the Affordable Care Act: a demographic and geographic analysis. *Health Affairs Blog* [blog on the Internet]. 2013 Jun 6 [cited 2014 Jun 17]. Available from: <http://healthaffairs.org/blog/2013/06/06/the-uninsured-after-implementation-of-the-affordable-care-act-a-demographic-and-geographic-analysis/>
- 5 Ku L, Jones E, Shin P, Byrne FR, Long SK. Safety-net providers after health care reform: lessons from Massachusetts. *Arch Intern Med*. 2011;171(15):1379–84.
- 6 CMS.gov. Hospital Value-Based Purchasing [Internet]. Baltimore (MD): Centers for Medicare and Medicaid Services; [last modified 2014 May 8; cited 2014 Jun 17]. Available from: <http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/hospital-value-based-purchasing/index.html>
- 7 CMS.gov. Readmissions Reduction Program [Internet]. Baltimore (MD): Centers for Medicare and Medicaid Services [last modified 2014 Apr 30; cited 2014 Jun 17]. Available from: <http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program.html>
- 8 VanLare JM, Conway PH. Value-based purchasing—national programs to move from volume to value. *N Engl J Med*. 2012;367(4):292–5.
- 9 Centers for Medicare and Medicaid Services. Medicare and Medicaid programs: hospital outpatient prospective payment; ambulatory surgical center payment; hospital value-based purchasing program; physician self-referral; and patient notification requirements in provider agreements. Final rule with comment period. *Fed Regist*. 2011; 76(230):74122–584.
- 10 Chatterjee P, Joynt KE, Orav EJ, Jha AK. Patient experience in safety-net hospitals: implications for improving care and value-based purchasing. *Arch Intern Med*. 2012;172(16):1204–10.
- 11 Jha AK, Orav EJ, Epstein AM. The effect of financial incentives on hospitals that serve poor patients. *Ann Intern Med*. 2010;153(5):299–306.
- 12 Joynt KE, Jha AK. Thirty-day readmissions—truth and consequences. *N Engl J Med*. 2012;366(15):1366–9.
- 13 Joynt KE, Orav EJ, Jha AK. Thirty-day readmission rates for Medicare beneficiaries by race and site of care. *JAMA*. 2011;305(7):675–81.
- 14 Neuhausen K, Katz MH. Patient satisfaction and safety-net hospitals: carrots, not sticks, are a better approach. *Arch Intern Med*. 2012;172(16):1202–3.
- 15 Jha AK. Meaningful use of electronic health records: the road ahead. *JAMA*. 2010;304(15):1709–10.
- 16 Jha AK, DesRoches CM, Campbell EG, Donelan K, Rao SR, Ferris TG, et al. Use of electronic health records in U.S. hospitals. *N Engl J Med*. 2009;360(16):1628–38.
- 17 Berenson J, Shih A. Higher readmissions at safety-net hospitals and potential policy solutions [Internet]. New York (NY): Commonwealth Fund; 2012 Dec [cited 2014 Jun 17]. (Issue Brief). Available from: http://www.commonwealthfund.org/~media/files/publications/issue-brief/2012/dec/1647_berenson_higher_readmissions_at_safety_net_hosps_ib.pdf
- 18 Jha AK, DesRoches CM, Shields AE, Miralles PD, Zheng J, Rosenbaum S, et al. Evidence of an emerging digital divide among hospitals that care for the poor. *Health Aff (Millwood)*. 2009;28(6):w1160–70. DOI: 10.1377/hlthaff.28.6.w1160.
- 19 Werner RM, Goldman LE, Dudley RA. Comparison of change in quality of care between safety-net and non-safety-net hospitals. *JAMA*. 2008; 299(18):2180–7.
- 20 Gaskin DJ, Hadley J. Population characteristics of markets of safety-net and non-safety-net hospitals. *J Urban Health*. 1999;76(3):351–70.
- 21 Jha AK, Orav EJ, Li Z, Epstein AM. Concentration and quality of hospitals that care for elderly black patients. *Arch Intern Med*. 2007; 167(11):1177–82.
- 22 Joynt KE, Rosenthal MB. Hospital value-based purchasing: will Medicare's new policy exacerbate disparities? *Circ Cardiovasc Qual Outcomes*. 2012;5(2):148–9.
- 23 Neuhausen K, Spivey M, Kellermann AL. State politics and the fate of the safety net. *N Engl J Med*. 2013; 369(18):1675–7.
- 24 McHugh M, Kang R, Hasnain-Wynia R. Understanding the safety net: inpatient quality of care varies based on how one defines safety-net hospitals. *Med Care Res Rev*. 2009; 66(5):590–605.
- 25 Medicare Payment Advisory Commission. Report to the Congress: Medicare payment policy [Internet]. Washington (DC): MedPAC; 2010 Mar [cited 2014 Jun 17]. Available from: http://medpac.gov/documents/Mar10_EntireReport.pdf
- 26 Burgess JF, Hockenberry JM. Can all cause readmission policy improve quality or lower expenditures? A historical perspective on current initiatives. *Health Econ Policy Law*. 2014;9(2):193–213.
- 27 Hockenberry JM, Burgess JF Jr, Glasgow J, Vaughan-Sarrazin M, Kaboli PJ. Cost of readmission: can the Veterans Health Administration (VHA) experience inform national payment policy? *Med Care*. 2013; 51(1):13–9.
- 28 Chatterjee P, Joynt KE, Orav EJ, Jha AK. Patient experience in safety-net hospitals: implications for improving care and value-based purchasing. *Arch Intern Med*. 2012;172(16):1204–10.
- 29 Kangovi S, Barg FK, Carter T, Long JA, Shannon R, Grande D. Understanding why patients of low socioeconomic status prefer hospitals over ambulatory care. *Health Aff (Millwood)*. 2013;32(7):1196–1203.
- 30 Adler-Milstein J, Furukawa MF, King J, Jha AK. Early results from the hospital Electronic Health Record Incentive Programs. *Am J Manag Care*. 2013;19(7):e273–84.
- 31 Mitchell A. Medicaid disproportionate share hospital payments [Internet]. Washington (DC): Congressional Research Service; 2013 Dec 2 [cited 2104 Jun 24]. Available from: <http://www.fas.org/sgp/crs/misc/R42865.pdf>
- 32 Kaiser Commission on Medicaid and the Uninsured. Analyzing the impact of state Medicaid expansion decisions [Internet]. Washington (DC): KFF; 2013 Jul [cited 2014 Jun 18]. Available from: <http://kaiserfamilyfoundation.files.wordpress.com/2013/07/8458-analyzing-the-impact-of-state-medicare-expansion-decisions2.pdf>