Performance in Federal Value-Based Programs of Hospitals Recognized by the American Heart Association and American College of Cardiology for High-Quality Heart Failure and Acute Myocardial Infarction Care

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IMPORTANCE The US Centers for Medicare & Medicaid Services have implemented national value-based programs that incentivize hospitals to deliver better cardiovascular care. However, it is unclear how hospitals recognized for high-quality cardiovascular care by American Heart Association (AHA) and American College of Cardiology (ACC) national quality improvement initiatives (termed award hospitals) have performed under value-based programs.

OBJECTIVE To determine if hospitals that received awards for high-quality cardiovascular care from the AHA/ACC were less likely to be penalized under the Hospital Readmissions Reduction Program (HRRP) and the Hospital Value-Based Purchasing Program (VBP) compared with other hospitals.

DESIGN, SETTING, AND PARTICIPANTS This national cross-sectional study included data from short-term acute care hospitals in the United States that were participating in the HRRP or VBP in fiscal year 2018.

EXPOSURES Recognition awards for high-quality care from the AHA's Get With The Guidelines–Heart Failure and ACC's Chest Pain–MI (myocardial infarction) Registry national quality improvement initiatives.

MAIN OUTCOMES AND MEASURES Proportion of hospitals that received a financial penalty or financial reward under the HRRP or VBP, median payment adjustments, and hospital-level 30-day mortality rates.

RESULTS This study included 3175 hospitals participating in the HRRP and 2781 hospitals participating in the VBP in fiscal year 2018. Under the HRRP, a higher proportion of award hospitals received financial penalties compared with other hospitals (419 [85.5%] vs 2112 [78.7%]; P < .001), although payment reductions were similar (median, 0.39% [interquartile range (IQR), 0.08%-0.84%] vs 0.33% [IQR, 0.03%-0.89%]; P = .17). Under the VBP, a higher proportion of award hospitals received penalties compared with other hospitals (250 [51.7%] vs 950 [41.4%]; P < .001), and fewer award hospitals received financial rewards (234 [48.4%] vs 1347 [58.6%]; P < .001). Median payment reductions were higher for award hospitals than other hospitals (0.01% [IQR, 0.00%-0.38%] vs 0.0% [IQR, 0.00%-0.28%]; P < .001), and median payment increases were lower (0.0% [IQR, 0.00%-0.34%] vs 0.13% [IQR, 0.00%-0.60%]; P < .001). Thirty-day mortality at award hospitals was similar (acute myocardial infarction, 13.2% vs 13.2%; P = .76) or slightly lower (heart failure, 11.3% vs 11.7%; P = .001) compared with other hospitals.

CONCLUSIONS AND RELEVANCE Hospitals that received awards for high-quality cardiovascular care from the AHA/ACC were more likely to be penalized and less likely to be financially rewarded by federal value-based programs. These findings highlight the potential need to standardize measurement of cardiovascular care quality.

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Since the passage of the Affordable Care Act, the US Centers for Medicare & Medicaid Services (CMS) have implemented national value-based programs that aim to incentivize the delivery of higher-value care. The Hospital Readmissions Reduction Program (HRRP) was enacted in 2010 and imposes financial penalties on hospitals with higher-than-expected 30-day readmission rates. In addition, the Hospital Value-Based Purchasing Program (VBP), a pay-for-performance initiative, rewards or penalizes hospitals based on their performance on multiple domains of care, including 30-day mortality. Both programs have focused on heart failure (HF) and acute myocardial infarction (AMI), in part because of their clinical and financial burden.

Despite early enthusiasm for value-based programs, mounting evidence suggests that the HRRP and VBP may have not meaningfully improved care or outcomes for patients with HF or MI and may have had unintended consequences. Recently, there is growing concern that components of these programs may be unfair and inequitable. Recent analyses suggest that quality of care does not differ at hospitals with high or low HF and AMI readmission rates. In addition, much of the variation in readmissions among US hospitals may be explained by differences in the medical and social complexity of their patient populations. As a result, some clinicians and policy makers have raised concerns that value-based programs may penalize hospitals for serving patients who are poorer and more severely ill rather than for providing a worse quality of care.

However, clearly defining high-quality care has been challenging and inconsistent in the current landscape. The American Heart Association (AHA) Get With The Guidelines–Heart Failure and American College of Cardiology’s (ACC) Chest Pain–MI Registry programs are national quality improvement initiatives that publicly award participating hospitals that provide high-quality HF and AMI care, based on granular data about whether they deliver guideline-recommended care during hospitalization and provide appropriate postdischarge care. Understanding how these hospitals, termed award hospitals, perform in value-based programs offers a unique opportunity to compare assessment of quality between a national disease-specific quality improvement initiative (focused on performance and process measures) and federal programs (focused on claims-based, risk-adjusted outcome measures).

Therefore, in this study, we aimed to answer 3 questions. First, are hospitals that receive awards for high-quality cardiovascular care from the AHA/ACC less likely to be penalized by the HRRP compared with other hospitals? Second, are these hospitals more likely to receive financial rewards and less likely to be penalized under the VBP? Third, are financial rewards or penalties imposed by these value-based programs larger or smaller for award hospitals compared with other hospitals?

**Methods**

**Study Cohort**

All short-term, acute care hospitals participating in the HRRP and the VBP for fiscal year 2018 (October 2017 to September 2018) were identified using publicly available files on CMS’s Hospital Compare. Of these hospitals, we identified hospitals that were recognized for high-quality cardiovascular care (award hospitals) by the AHA Get With The Guidelines–Heart Failure and ACC Chest Pain–MI programs in 2018. Recognition as an award hospital is determined based on sustained, top-level performance in the delivery of guideline-recommended therapies (eg, evidence-based β-blocker use), defect-free care, and postdischarge care (Box). All remaining hospitals were considered to be in the other hospital category. Characteristics of award hospitals and other hospitals were obtained from the American Hospital Association’s Annual Survey. Because the analysis used publicly available de-identified data, institutional review board review at Beth Israel Deaconess Medical Center was waived and informed consent procedures were not needed.

**Value-Based Program Payment Adjustments and Hospital-Level Outcomes**

We used publicly available CMS data to identify hospitals that received financial penalties under the HRRP in fiscal year 2018. These files also show adjustments made to hospitals’ Medicare payments (ranging from −3.0% to 0.0%). Similarly, hospitals that were financially penalized or rewarded under the VBP in fiscal year 2018 and their respective payment adjustments (ranging from −3.0% to 3.0%) were also identified using these data. Domains used to determine penalties (or rewards) for each program are shown in the Box. Thirty-day risk-standardized mortality and readmission rates for HF and AMI for award and other hospitals were obtained from the CMS Hospital Compare data set.

**Statistical Analysis**

Characteristics of award and other hospitals participating in each value-based program were compared using the Wilcoxon rank sum test for continuous variables and Mantel-Haenszel χ² test for categorical variables. Next, we compared the proportion of award hospitals and other hospitals that received a financial penalty or reward under each value-based program with the Wilcoxon rank sum test. The median payment adjustment for award vs other hospitals under each program was also characterized. Risk-standardized 30-day mortality and readmission rates for HF...
Federal Value-Based Performance of Hospitals With High-Quality Heart Failure and AMI Care

Box. Measures Used to Evaluate Hospital Performance in American Heart Association/American College of Cardiology National Quality Improvement Programs* and Centers for Medicare and Medicaid Services Value-Based Programs

American Heart Association Get With The Guidelines–Heart Failure
Evidence-based β-blocker use at discharge
Use of an ACE-I or ARB for a left ventricular ejection fraction of less than 40% at discharge
Assessment of left ventricular ejection fraction before arrival, during hospitalization, or planned after discharge
Follow-up appointments scheduled and documented
Alcohol antagonist use at discharge
Angiotensin-receptor-neprilysin inhibitor use at discharge
Hydralazine nitrate use at discharge
A CRT-defibrillator or CRT-pacemaker placed or prescribed at discharge
Implantable cardioverter-defibrillator counseling or implanted cardiac pacemaker placed or prescribed at discharge
Pneumococcal vaccination
Anticoagulation for atrial fibrillation or atrial flutter
Deep-vein thrombosis prophylaxis
Influenza vaccination during flu season
Follow-up visit within 7 d or fewer
American College of Cardiology Chest Pain-MI (for STEMI and NSTEMI)
Aspirin at arrival
Door-to-needle time of 30 min or less (STEMI only)
Door-to-balloon time of 90 min or less (STEMI only)
Aspirin at discharge
Discharge with a β-blocker
Discharge with an ACE-I/ARB
Discharge with a statin
Smoking cessation counseling
Cardiac rehabilitation
Reperfusion therapy (STEMI only)
Evaluation of left ventricular systolic function
Defect-free care
Hospital Readmissions Reduction Program
Acute myocardial infarction
Heart failure
Coronary artery bypass graft surgery
Pneumonia
Chronic obstructive pulmonary disease
Elective total hip and/or knee arthroplasty
Hospital Value-Based Purchasing Program
Clinical care: 30-d mortality rates for heart failure, acute myocardial infarction, and pneumonia (25%)
Safety (25%)
Patient care experience (25%)
Efficiency and cost reduction (25%)

Box. (continued)

Abbreviations: ACE-I, angiotensin-converting enzyme inhibitor; ARB, angiotensin-receptor blocker; CRT, cardiac resynchronization therapy; NSTEMI, non-ST elevation myocardial infarction; STEMI, ST-elevation myocardial infarction.

* Performance on individual measures are among eligible patients without contraindications.

b Award hospitals achieve scores of 85% or more for at least 12 consecutive months for these 4 main measures.

c Additional recognition is provided to hospitals that also achieve scores of 75% or more for at least 12 consecutive months on the 4 main measures and any 4 of these additional measures.

d Award hospitals achieve a score of 90% or more for STEMI/NSTEMI measures for at least 4 quarters and a score of 75% or more on the defect-free care measure for at least 4 quarters.

e Defect-free care is a National Quality Forum–endorsed measure that evaluates the proportion of patients receiving all performance measure opportunities for which they are eligible.

f The program evaluates hospital performance on 30-day risk-standardized unplanned readmissions for each of the listed 6 conditions. The US Centers for Medicare & Medicaid Services reduces up to 3% of all Medicare fee-for-service based operating diagnosis-related group payments to hospitals based on performance.

g Hospitals receive a total performance score for achievement and improvement based on these 4 domains, each of which contributes 25% to a total score. The higher of these 2 scores is used to determine whether hospitals receive value-based incentive payments or have up to 2% of Medicare payments withheld.

Results

Baseline Hospital Characteristics
In fiscal year 2018, there were 3175 hospitals that participated in the HRRP. Of these, 490 (15.4%) were award hospitals. Hospital characteristic information was missing for 4 award hospitals and 44 other hospitals participating in the HRRP, resulting in data for 486 award hospitals and 2641 other hospitals. Among the 2781 that participated in the VBP, 484 (17.4%) were award hospitals.

Award hospitals in the HRRP, compared with other hospitals, were larger (mean [SD], 361.5 [256.8] beds vs 189.5 [200.0] beds; P < .001) and more frequently nonprofit (355 of 484 [73.8%] vs 292 of 2641 [11.0%]; P < .001) or teaching hospitals (323 [66.5%] vs 947 [35.9%]; P < .001; Table 1). Similarly, hospitals in the VBP, compared with other hospitals, were larger (mean [SD], 360.9 [256.4] beds vs 211.0 [204.6] beds; P < .001) and more frequently nonprofit (355 of 484 [73.8%] vs 1461 of 2297 [64.1%]; P < .001) and teaching hospitals (319 [66.3%] vs 1841 [80.7%]; P < .001; eTable 1 in the Supplement). In addition, award hospitals were less likely to be located in rural areas (HRRP: award hospitals, 3 [0.6%] vs other hospitals, 244 [9.2%]; P < .001; VBP: award hospitals, 3 [0.6%] vs other hospitals, 12 [0.5%]; P < .001).
vs other hospitals, 171 [7.5%]; P < .001). The geographic location of award vs. other hospitals are also shown for the HRRP in Table 1 and for the VBP in eTable 1 of the Supplement.

### Payment Adjustments Under Value-Based Programs

A higher proportion of award hospitals received penalties under the HRRP compared with other hospitals (419 of 490 [85.5%] vs 2112 of 2685 [78.7%]; P < .001). Examining penalized hospitals, median payment reductions were similar for award hospitals (0.50% [interquartile range (IQR), 0.20%-0.94%]) compared with other hospitals (0.52% [IQR, 0.20%-1.09%]; P = .16 for median reduction difference). Among all hospitals, median payment reductions were similar between award hospitals (0.39% [IQR, 0.08%-0.84%]) and other hospitals (0.33% [IQR, 0.03%-0.89%]; P = .17; Table 2).

Under the VBP, a higher proportion of award hospitals received penalties compared with other hospitals (250 of 484 [51.7%] vs 950 of 2297 [41.4%]; P < .001), and fewer award hospitals received financial rewards (234 [48.4%] vs 1347 [58.6%]; P < .001). Among penalized hospitals, median payment reductions were similar for award and other hospitals (0.37% [IQR, 0.18%-0.60%] vs 0.37% [IQR, 0.17%-0.60%]; P = .92). Among rewarded hospitals, median payment increases (rewards) were lower for award hospitals (0.37% [IQR, 0.15%-0.68%]) than other hospitals (0.50% [IQR, 0.22%-0.90%]; P < .001). Examining all hospitals, median payment reductions were higher for award hospitals (0.01% [IQR, 0.00%-0.38%] vs 0.00% [IQR, 0.00%-0.28%]; P < .001), and median payment increases were lower for award than other hospitals (0.0% [IQR, 0.00%-0.34%] vs 0.13% [IQR, 0.00%-0.60%]; P < .001; Table 3).

### Clinical Outcomes

Among hospitals participating in the HRRP, mean (SD) hospital-level 30-day risk-standardized mortality rates for HF were lower at HF award hospitals compared with other hospitals (11.3% [1.6%] vs 11.7% [1.7%]; P = .001), and mean (SD) 30-day risk-standardized readmission rates did not significantly differ (21.6% [2.0%] vs 21.8% [1.7%]; P = .12). For AMI, mean (SD) 30-day risk-standardized mortality rates were similar at AMI award hospitals and other hospitals (13.2% [1.3%] vs 13.2% [1.2%]; P = .76), and 30-day risk standardized readmission rates were lower at award hospitals (15.7% [1.1%] vs 16.1% [1.1%]; P < .001 Figure). These patterns were similar among hospital participating in the VBP (eTable 2 in the Supplement).

### Discussion

In this study of hospitals that received awards for high-quality cardiovascular care from AHA/ACC national quality improvement initiatives, we observed several findings about their performance in national value-based programs. Hospitals recognized for high-quality care by the AHA/ACC were more likely to be penalized by the HRRP. In addition, award hospitals were more likely to be financially penalized and less likely to receive financial rewards (payment increases) under the VBP. Median payment reductions were higher for award hospitals than other hospitals under the VBP, and median payment increases were lower. Lastly, 30-day risk-standardized mortality rates were similar for AMI but slightly lower for HF at award hospitals compared with other hospitals.

Our findings highlight that evaluations of hospital quality differ between AHA/ACC national quality improvement initiatives and federal value-based programs. One potential explanation may be that AHA/ACC award hospitals are disproportionately penalized by value-based programs for factors not associated with the quality of care they deliver, particularly given that these hospitals have similar or slightly lower 30-day mortality rates for AMI and HF, respectively, than other hospitals.14,23 Award hospitals

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**Table 1. Characteristics of Hospitals Participating in the Hospital Readmissions Reduction Program**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Hospitals, No. (%)</th>
<th>Award (n = 490)</th>
<th>Other (n = 2685)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital size, mean (SD, beds)</td>
<td>361.5 (256.8)</td>
<td>189.5 (200.0)</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>Ownership</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For profit</td>
<td>65 (13.4)</td>
<td>695 (26.3)</td>
<td></td>
<td>.10</td>
</tr>
<tr>
<td>Private nonprofit</td>
<td>358 (73.7)</td>
<td>1557 (59.0)</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>63 (13.0)</td>
<td>389 (14.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching</td>
<td>323 (66.5)</td>
<td>947 (35.9)</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>Joint commission accreditation</td>
<td>429 (88.3)</td>
<td>2014 (76.3)</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>Region</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northeast</td>
<td>90 (18.5)</td>
<td>390 (14.8)</td>
<td></td>
<td>.10</td>
</tr>
<tr>
<td>Midwest</td>
<td>89 (18.3)</td>
<td>459 (17.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South</td>
<td>226 (46.5)</td>
<td>1266 (47.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>West</td>
<td>81 (16.7)</td>
<td>526 (19.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>3 (0.6)</td>
<td>244 (9.2)</td>
<td>&lt;.001</td>
<td></td>
</tr>
</tbody>
</table>

* Hospital characteristics from the American Hospital Association Survey were not available for 4 award hospitals and 44 other hospitals.

**Table 2. Hospital Receiving Penalties Under the Hospital Readmissions Reduction Program**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Hospitals, Median (Interquartile Range)</th>
<th>Award (n = 490)</th>
<th>Other (n = 2685)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals penalized, No. (%)</td>
<td>419 (85.5)</td>
<td>2112 (78.7)</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>Payment reduction, %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Penalized hospitals</td>
<td>0.50 (0.20-0.94)</td>
<td>0.52 (0.20-1.09)</td>
<td>.16</td>
<td></td>
</tr>
<tr>
<td>All hospitals</td>
<td>0.39 (0.08-0.84)</td>
<td>0.33 (0.03-0.89)</td>
<td>.17</td>
<td></td>
</tr>
</tbody>
</table>

**Table 3. Hospitals Receiving Rewards or Penalties Under the Hospital Value-Based Purchasing Program**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Hospitals, Median (Interquartile Range)</th>
<th>Award (n = 484)</th>
<th>Other (n = 2297)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals penalized, No. (%)</td>
<td>250 (51.7)</td>
<td>950 (41.4)</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>Payment reduction, %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Penalized hospitals</td>
<td>0.37 (0.18-0.60)</td>
<td>0.37 (0.17-0.60)</td>
<td>.92</td>
<td></td>
</tr>
<tr>
<td>All hospitals</td>
<td>0.01 (0.00-0.38)</td>
<td>0.00 (0.00-0.28)</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>Hospitals rewarded, No. (%)</td>
<td>234 (48.4)</td>
<td>1347 (58.6)</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>Payment increase, %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rewarded hospitals</td>
<td>0.37 (0.15-0.68)</td>
<td>0.50 (0.22-0.90)</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>All hospitals</td>
<td>0.00 (0.00-0.34)</td>
<td>0.13 (0.00-0.60)</td>
<td>&lt;.001</td>
<td></td>
</tr>
</tbody>
</table>
Federal Value-Based Performance of Hospitals With High-Quality Heart Failure and AMI Care

Original Investigation Research

Figure. Hospital-Level Outcomes for Heart Failure and Acute Myocardial Infarction (MI) Under the Hospital Readmissions Reduction Program

A Heart failure

- Award hospitals (n = 490)
- Other hospitals (n = 2685)

P = .12

Event Rate, %

P = .001

30-d Mortality 30-d Readmission

B Acute MI

- Award hospitals (n = 490)
- Other hospitals (n = 2685)

P = .76

P < .001

Event Rate, %

30-d Mortality 30-d Readmission

Outcomes shown are for hospitals mandated to participate in the Hospital Readmissions Reduction Program. Hospital-level heart failure mortality and readmission rates reported for heart failure award hospitals; hospital-level acute myocardial infarction mortality and readmission rates reported for acute myocardial infarction award hospitals.

Limitations

This study has limitations. First, we defined high-quality hospitals as those receiving awards from AHA/ACC quality improvement initiatives based on inpatient and postdischarge cardiovascular performance measures. We chose this approach because these performance measures reflect care delivered by hospitals, and prior studies have shown that superior performance on these measures are associated with lower risk-adjusted mortality rates. Second, the designation of AHA/ACC award status was based on the quality of care delivered to all adults with HF and AMI at participating hospitals regardless of insurance payer, while performance under the value-based programs is based on outcomes among Medicare fee-for-service beneficiaries aged 65 years or older. Third, it is possible that award hosp-
Conclusions

In summary, hospitals that received awards from AHA/ACC quality improvement initiatives for the delivery of high-quality AMI and HF care fared worse under value-based programs than other hospitals. Award hospitals were more likely to be penalized by both the HRRP and VBP and were also less likely to be rewarded by VBP compared with other hospitals. These findings highlight the differences between using quality measures vs outcomes to assess hospital quality of care for cardiovascular conditions and suggest a potential need to standardize quality measurement for cardiovascular care. As the shift to value-based care continues in the United States and hospital systems are simultaneously appraised by multiple bodies, efforts are needed to promote fair, equitable, and standardized measurement of cardiovascular care quality.

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Conflict of Interest Disclosures: Dr Wadhera previously served as a consultant for Regeneron outside the submitted work. Dr Vaduganathan serves on advisory boards for Amgen, AstraZeneca, Baxter Healthcare, Bayer AG, Boehringer Ingelheim, and Relypsa and participates on clinical endpoint committees for studies sponsored by Novartis and the National Health Institute. Dr Bhatt discloses the following relationships: advisory board membership with Cardax, Cereno Scientific, Elsevier Practice Update Cardiology, Medscape Cardiology, PhaseBio, and Regado Biosciences; membership on boards of directors with the Boston VA Research Institute, Society of Cardiovascular Patient Care, and TobeSoft; service as a chairperson for the American Heart Association Quality Oversight Committee; service on data monitoring committees for Baim Institute for Clinical Research (formerly Harvard Clinical Research Institute); for a trial funded by St Jude Medical and now Abbott; Cleveland Clinic (including for a trial funded by Edwards), Duke Clinical Research Institute, Mayo Clinic, Mount Sinai School of Medicine (for a trial funded by Daichi Sankyo), and the Population Health Research Institute; and receipt of honoraria from the American College of Cardiology (senior associate editor, Clinical Trials and News, ACC.org; vice-chair, American College of Cardiology Accreditation Committee), Baim Institute for Clinical Research (formerly Harvard Clinical Research Institute, for a clinical trial steering committee funded by Boehringer Ingelheim and an executive committee for a trial funded by CSL Behring), Belvoir Publications (editor in chief, Harvard Heart Letter), Duke Clinical Research Institute (clinical trial steering committees, including for a trial, funded by Ferring Pharmaceuticals), HMP Global (editor in chief, Journal of Invasive Cardiology), Journal of the American College of Cardiology (guest editor and associate editor), Medtelligence/ReachMD (continuing medical education steering committees), Population Health Research Institute (for a trial operations committee, publications committee, steering committee, and US national coleader, funded by Bayer), Slack Publications (chief medical editor, Cardiology Today’s Intervention), Society of Cardiovascular Patient Care (secretary/treasurer), and WebMD (continuing medical education steering committees). In addition, Dr Bhatt has associations with Clinical Cardiology (deputy editor), National Cardiovascular Data Registry-ACtion Registry-GWTG Steering Committee (chair), and VA Clinical Assessment, Reporting and Tracking System for Cath Labs (CART) Research Publications Committee (Chair) and has received research funding from Abbott, Afinimmune, Amarin, Amgen, AstraZeneca, Bayer, Boehringer Ingelheim, Bristol-Myers Squibb, Chiesi, CSL Behring, Eisai, Ethicon, Ferrering Pharmaceuticals, Forest Laboratories, Fractyl, Idorsia, Ironwood, Ischemix, Lilly, Medtronic, PhaseBio, Pfizer, Regeneron, Roche, Sanofi Aventis, Synaptic, and The Medicines Company and royalties from Elsevier (as editor of Cardiovascular Intervention: A Companion to Braunwald’s Heart Disease); he has also served as a site co-investigator for Biotronik, Boston Scientific, St Jude Medical (now Abbott), and Svelte and as a trustee for the American College of Cardiology and has completed unfunded research with FlowCo, Merck, Novo Nordisk, PLx Pharma, and Takeda. Dr Yeh receives research support from the Richard A. and Susan F. Smith Center for Outcomes Research in Cardiology and has received grants from Abomed and AstraZeneca, grants and personal fees from Boston Scientific, and personal fees from Asahi Intecc, Medtronic, and Teleflex outside the submitted work. Dr Fonarow reported personal fees from Abbott, Amgen, CHF Solutions, Janssen, Medtronic, Merck, and Novartis outside the submitted work; and former status as a chairperson of National Cardiovascular Data Registry–ACTION-Registry-GWTG Steering Committee and the American Heart Association–Get With The Guidelines steering committee. No other disclosures were reported.

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Disclaimer: Dr Fonarow is a section editor for JAMA Cardiology, but he was not involved in any of the decisions regarding review of the manuscript or its acceptance.

REFERENCES

2. Ohy C, Maill L, Dafny LS, Grabowski DC, Cutler DM. Decreases in readmissions credited to Medicare’s program to reduce hospital readmissions have been...