



June 2017

# HOSPITAL VALUE- BASED PURCHASING

## CMS Should Take Steps to Ensure Lower Quality Hospitals Do Not Qualify for Bonuses

# GAO Highlights

Highlights of [GAO-17-551](#), a report to congressional committees

## Why GAO Did This Study

The HVBP program, enacted as part of the Patient Protection and Affordable Care Act (PPACA), evaluates hospital performance on quality and efficiency (Medicare spending per beneficiary) measures. Based on those results, CMS adjusts Medicare payments, leading to bonuses or penalties for hospitals. The first HVBP payment adjustments started in fiscal year 2013.

PPACA included a provision for GAO to assess the HVBP program's impact on Medicare quality and efficiency, including the effects on safety net, small rural, and small urban hospitals. This report addresses (1) hospitals' performance in quality and efficiency categories; (2) how hospitals' payment adjustments have changed over time; and (3) the effect, if any, of efficiency scores on payment adjustments.

GAO analyzed CMS documentation and data on performance scores and payment adjustments in each year for all hospitals participating in fiscal years 2013 through 2017. GAO also analyzed results for safety net, small rural, and small urban hospitals and interviewed CMS officials.

## What GAO Recommends

So that lower quality hospitals do not receive bonuses, GAO recommends that CMS revise (1) the methodology used to calculate total performance scores and (2) its method of accounting for missing quality scores. In its written comments, HHS indicated that it would consider revising these two methodologies.

View [GAO-17-551](#). For more information, contact James Cosgrove at (202) 512-7114 or [cosgrovej@gao.gov](mailto:cosgrovej@gao.gov).

June 2017

# HOSPITAL VALUE-BASED PURCHASING

## CMS Should Take Steps to Ensure Lower Quality Hospitals Do Not Qualify for Bonuses

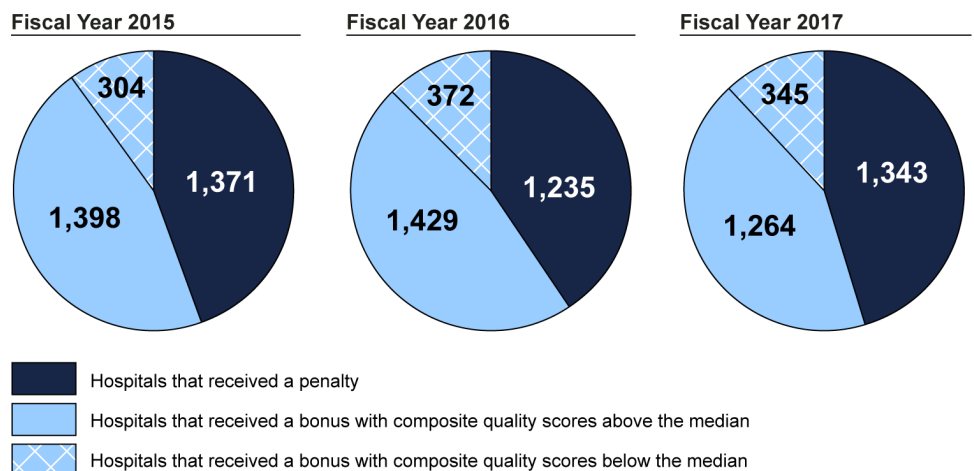
### What GAO Found

The Hospital Value-based Purchasing (HVBP) program aims to improve quality of care and efficiency by creating financial incentives for about 3,000 participating hospitals. From fiscal years 2013 through 2017, performance on quality and efficiency measures varied by hospital type. Safety net hospitals—those that serve a high proportion of low-income patients—generally scored lower in quality compared to all participating hospitals. In contrast, small rural and small urban hospitals—those with 100 or fewer acute care beds—scored higher on efficiency compared to all hospitals.

Payment adjustments—bonuses or penalties, announced prior to each fiscal year—have varied over time for all hospitals. In four out of the five years of GAO's analysis, small rural and small urban hospitals were more likely to receive a bonus compared to all participating hospitals, while safety net hospitals were more likely to receive a penalty. While a majority of all hospitals received a bonus or a penalty of less than 0.5 percent each year, the percentage of hospitals receiving a bonus greater than 0.5 percent increased from 4 percent to 29 percent from fiscal year 2013 to 2017. In dollar terms, most hospitals had a bonus or penalty of less than \$100,000 in fiscal year 2017.

Some hospitals with high efficiency scores received bonuses, despite having relatively low quality scores, which contradicts the Centers for Medicare & Medicaid Service's (CMS) stated intention to reward hospitals providing high-quality care at a lower cost. Further, among hospitals that were missing one or more quality scores, the efficiency score had a greater effect on the total performance score because of the methodology used by CMS. This methodology compensated for the missing scores by increasing the weights of all of the non-missing scores. Consequently, hospitals with missing scores were more likely to receive bonuses than hospitals with complete scores.

### Bonus or Penalty Status of Hospitals Participating in the Hospital Value-based Purchasing Program, Fiscal Years 2015 through 2017



Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-17-551

---

# Contents

---

---

Letter		1
	Background	5
	Quality Scores Were Generally Lower for Safety Net Hospitals Compared to All Hospitals, while Small Rural and Urban Hospitals Generally Had Higher Quality and Efficiency Scores	9
	HVBP Payment Adjustments Have Varied over Time, but Safety Net Hospitals Generally Had Lower Payment Adjustments Compared to the Other Hospital Types	16
	Since Fiscal Year 2015, High Efficiency Scores Have Resulted in Bonuses for Some Lower Quality Hospitals	19
	Conclusions	24
	Recommendations for Executive Action	25
	Agency Comments	25
Appendix I	Quality and Efficiency Measures in the Hospital Value-based Purchasing Program, Fiscal Years 2013 through 2017	28
Appendix II	Hospital Types Participating in the Hospital Value-based Purchasing Program	30
Appendix III	Comments from the Department of Health & Human Services	31
Appendix IV	GAO Contact and Staff Acknowledgments	34
Related GAO Products		35
Tables		
	Table 1: Hospital Value-based Purchasing (HVBP) Program Domains and Percentage Weighting, Fiscal Years 2013 through 2017	6
	Table 2: Median Payment Adjustments for Selected Hospital Types, Fiscal Years 2013 through 2017	16

---

---

Table 3: Median Bonuses and Penalties for All Hospitals, Fiscal Years 2013 through 2017	18
Table 4: Number and Percentage of Hospitals with Bonuses and Composite Quality Scores below the Median, Fiscal Years 2015 through 2017	20
Table 5: Comparison of Domain Scores for Two Hospitals Participating in the Hospital Value-based Purchasing Program, Fiscal Year 2017	21
Table 6: Proportional Redistribution of Domain Scores for Four Hospitals Participating in the Hospital Value-based Purchasing Program for Select Hospitals, Fiscal Year 2017 <sup>23</sup>	
Table 7: Quality Measures Included in the Hospital Value-based Purchasing Program, Fiscal Years 2013 through 2017	28
Table 8: Number and Types of Hospitals Participating in the Hospital Value-based Purchasing Program, Fiscal Years 2013 through 2017	30

---

## Figures

Figure 1: Effect of Hospital Value-based Purchasing (HVBP) Bonuses and Penalties on Medicare Payments for One Patient Stay for Two Hypothetical Hospitals	8
Figure 2: Median Clinical Processes Domain Scores by Hospital Type, Fiscal Years 2013 through 2017	10
Figure 3: Median Patient Experience Domain Scores by Hospital Type, Fiscal Years 2013 through 2017	11
Figure 4: Median Patient Outcome Domain Scores by Hospital Type, Fiscal Years 2014 through 2017	12
Figure 5: Median Efficiency Domain Scores by Hospital Type, Fiscal Years 2015 through 2017	14
Figure 6: Median Total Performance Scores by Hospital Type, Fiscal Years 2015 through 2017	15
Figure 7: Bonuses and Penalties under Hospital Value-based Purchasing by Hospital Type, Fiscal Years 2013 through 2017	17

---

---

  
**Abbreviations**

CMS	Centers for Medicare & Medicaid Services
HHS	Department of Health and Human Services
HVBP	Hospital Value-based Purchasing
IQR	Inpatient Quality Reporting
PPACA	Patient Protection and Affordable Care Act

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.



June 30, 2017

Congressional Committees

The Hospital Value-based Purchasing (HVBP) program, which was created in 2010 by the Patient Protection and Affordable Care Act (PPACA), aims to improve hospital quality and efficiency by creating financial incentives through Medicare’s traditional fee-for-service payments to hospitals.<sup>1</sup> Under HVBP, the Centers for Medicare & Medicaid Services (CMS), an agency within the Department of Health and Human Services (HHS), adjusts Medicare payments to hospitals based on a formula that takes into account each hospital’s performance on a designated set of quality and efficiency measures. Higher performing hospitals, relative to other hospitals, receive an increase in future Medicare payments, while the lower performing hospitals have a decrease in their payments. HVBP is one example of a range of efforts initiated under PPACA to induce providers to improve their quality of care and become more cost efficient.

PPACA also included a provision that we assess the impact of the HVBP program on Medicare hospital quality and payments, including the quality of care among safety net hospitals, which provide a significant amount of care to the poor, and small rural and small urban hospitals, which have fewer than 100 acute care beds.<sup>2</sup> The provision called for an interim report to be issued by October 1, 2015, and a final report by July 1, 2017. The interim report examined how the financial incentives created under HVBP may have affected hospitals’ quality of care as well as their efforts to improve quality in the first years of the program’s implementation from fiscal year 2013 through fiscal year 2015, including the effects of the program on safety net, small rural, and small urban hospitals.<sup>3</sup>

---

<sup>1</sup>Pub. L. No. 111-148, § 3001, 124 Stat. 119, 353 (2010); 42 U.S.C. § 1395ww(o). Medicare is the federally financed health insurance program for persons aged 65 and over, certain individuals with disabilities, and individuals with end-stage renal disease. Medicare fee-for-service, or original Medicare, consists of Medicare Part A—which covers hospital and other inpatient stays—and Medicare Part B—which is optional insurance and covers physician, outpatient hospital, home health care, and certain other services.

<sup>2</sup>Pub. L. No. 111-148, § 3001(a)(4).

<sup>3</sup>GAO, *Hospital Value-based Purchasing: Initial Results Show Modest Effects on Medicare Payments and No Apparent Change in Quality-of-Care Trends*, [GAO-16-9](#) (Washington, D.C.: Oct. 1, 2015).

---

This final report addresses three questions for the hospitals participating in the HVBP program:

1. Relative to all hospitals, how have safety net, small rural, and small urban hospitals performed in the HVBP quality and efficiency performance categories used for payment in fiscal years 2013 through 2017?
2. How have payment adjustments under HVBP changed over time for safety net, small rural, small urban, and other hospitals?
3. What effect, if any, has the inclusion of the efficiency score beginning in 2015 had on payment adjustments?

To determine how safety net, small rural, and small urban hospitals performed relative to all participating hospitals in the HVBP quality and efficiency performance categories used for payment, we analyzed CMS data on these performance categories, or domains, collected from 2013 through 2017 for approximately 3,000 hospitals.<sup>4</sup> (See app. I for a list of the measures associated with each domain each year.) Specifically, we analyzed HVBP hospital domain scores, which, for the purposes of our reporting, we divided into two groups: (1) quality domains, which include the clinical processes, patient experiences, patient outcomes, and safety domains; and (2) an efficiency domain, which contains a single cost metric—Medicare spending per beneficiary.<sup>5</sup> Not all of the domains were included in the HVBP program each year, and the individual measures that make up the domains changed year over year. As a result, we did not compare the performance scores of hospitals from one year to the next. We compared the median hospital domain scores and total performance scores—the sum of the quality and efficiency domains after they are weighted, which serves as the basis for the HVBP payment adjustments—for fiscal years 2013 through 2017 for all hospitals participating in the HVBP program (“all hospitals”) with other types of participating hospitals within a given year. We therefore compared the median scores of all hospitals to those of safety net, small rural, and small

---

<sup>4</sup>Each domain score is based on a hospital’s performance on a variety of measures and may comprise points for achievement, improvement, or consistency during a specified performance period for a maximum total score of 100 points.

<sup>5</sup>CMS has approved additional measures for the efficiency domain beginning in fiscal year 2021. In the final calculation of hospitals’ scores, domains are weighted and summed to reflect CMS’s concept of quality and the relative depth and maturity of the measures in each domain. Our analysis of hospitals’ scores was performed before they were weighted, unless otherwise noted.

---

urban hospitals in each year. We identified safety net hospitals as those in the top 10 percent of a composite ranking based on Medicare disproportionate patient percentage—a measure of hospitals’ Medicaid and low-income Medicare patients—and hospitals’ proportion of uncompensated care, which we obtained from annual Medicare cost reports.<sup>6</sup> For this report, we defined small hospitals as those with 100 or fewer acute care beds using data from an American Hospital Association survey and identified rural or urban hospitals using CMS data.<sup>7</sup> Because CMS does not differentiate between hospital types when evaluating hospitals’ performance, our “all hospital” category included each of the different hospital types as well as hospitals that were not safety net, small rural, or small urban hospitals.<sup>8</sup> (For information on the number and types of hospitals participating in the HVBP program each fiscal year of our review, see app. II.)

To describe how payment adjustments under the HVBP program have changed over time for safety net, small rural, small urban, and all participating hospitals, we analyzed data provided by CMS on payment adjustments—the hospitals’ bonuses or penalties—which are made prior to each fiscal year. We examined these adjustments for each of the hospital types, as described above, during fiscal years 2013 through 2017.<sup>9</sup> We analyzed hospital payment adjustments to determine what changes, if any, occurred over time and what differences, if any, existed

---

<sup>6</sup>In our selection of safety net hospitals, we included Pickle hospitals, as defined under section 1886(d)(5)(F)(i) of the Social Security Act, which are eligible for a specific Medicare disproportionate share hospital adjustment if they meet certain criteria to obtain the adjustment. Specifically, the hospitals must be located in an urban area; have 100 or more beds; and demonstrate that more than 30 percent of their total net inpatient care revenues come from state and local government sources for indigent care (other than Medicare or Medicaid).

<sup>7</sup>We used the fiscal year 2014 American Hospital Association Annual Survey Database™, which contains information on a variety of hospital characteristics.

<sup>8</sup>Depending on the year, approximately 10 percent of hospitals participating in HVBP were safety net hospitals, between 17 and 20 percent were small rural hospitals, and between 14 and 18 percent were small urban hospitals. Between 61 and 67 percent of the hospitals participating in the HVBP program were not a safety net, small rural, or small urban hospital each year. Safety net hospitals may also be a small hospital; in fiscal year 2017, about 15 percent of the small rural and 6 percent of the small urban hospitals were also safety net hospitals. Hospitals that were both a safety net hospital and a small hospital were analyzed and reported in both categories.

<sup>9</sup>CMS informs hospitals of their payment adjustment percentages, which determine hospitals’ bonus or penalty levels under the HVBP program, prior to each fiscal year.



---

in payment adjustments for hospitals overall as compared to safety net, small rural, and small urban hospitals.

To determine what effect, if any, the inclusion of the efficiency domain score beginning in fiscal year 2015 had on payment adjustments, we compared these adjustments, efficiency scores, and weighted composite quality scores of our different hospital types. We made these comparisons by specific year for those hospitals that had an efficiency score during fiscal year 2015, 2016, or 2017. To develop a weighted composite quality score for each hospital, we subtracted hospitals' weighted efficiency scores from their total performance scores to calculate a median composite quality score for all hospitals for fiscal years 2015 through 2017. Hospitals with composite quality scores above the median were considered higher quality, while hospitals with composite quality scores below the median were considered lower quality. Regardless of hospital type, the all-hospital median was used as the point of comparison, since CMS does not distinguish by hospital type when determining payment adjustments. After developing a composite quality score, we then analyzed the weighted and unweighted efficiency scores of the hospitals that received a bonus to determine how those scores may have impacted hospitals' payment adjustments during fiscal years 2015 through 2017. Since a complete set of domain scores was not required to participate in the HVBP program after 2015, we also analyzed the impact missing domain scores had on weighted composite quality scores, efficiency scores, total performance scores, and payment adjustments.

To determine the reliability of the HVBP data, we reviewed related documentation including CMS guidance for the program, CMS fact sheets, CMS reports, and federal register notices, and we interviewed CMS officials regarding the program and the completeness and accuracy of the data provided to us. We also reviewed the data for outliers and compared the data to information in other published reports. For the American Hospital Association data, we reviewed previous assessments of these data used for our prior reports. We determined that all data were sufficiently reliable for our reporting objectives.

We conducted this performance audit from August 2016 to June 2017 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that

---

the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

---

## Background

Each year, CMS evaluates approximately 3,000 acute care hospitals participating in HVBP on their performance in prior years on a series of quality and efficiency measures.<sup>10</sup> Prior to the HVBP program, hospitals received slightly higher Medicare payments for submitting data on measures within CMS's public Inpatient Quality Reporting (IQR).<sup>11</sup> Beginning in fiscal year 2013, the HVBP program provided new bonuses and penalties that were based on each hospital's performance on a subset of these measures.

Each individual hospital's performance is calculated for each measure within a domain using a baseline period and a performance period, both of which are in prior years. For each of the HVBP measures, CMS considers both the results of a hospital's absolute performance—awarding achievement points if performance on a measure was at or above the median for all participating hospitals—and improvements in its performance over time—awarding improvement points if current performance had improved. CMS uses the higher of these points as the hospital's score on each measure. Related measures are grouped into specific performance categories, called domains. The domain scores are weighted to develop a total performance score for each hospital. The measures that constitute each domain, the number of domains, and the weighting of the domain scores have changed over the years of the

---

<sup>10</sup>According to the American Hospital Association, there were about 5,564 hospitals registered in the United States in 2015. Hospitals are included in the HVBP program if they are paid through Medicare's Inpatient Prospective Payment System. Hospitals not paid through this system, such as critical access hospitals, are not subject to payment adjustments by the HVBP program. Hospitals classified as critical access hospitals typically are very small (25 inpatient beds or fewer) and operate in rural areas.

<sup>11</sup>We have previously examined the strengths and limitations of the quality measures selected for the IQR program, as well as CMS's processes for collecting the data the measures require and reporting on the performance of hospitals based on these measures. For a list of our relevant reports, see the Related GAO Products page at the end of this report.

program (see table 1).<sup>12</sup> In fiscal year 2013, HVBP had two quality domains—clinical processes and patient experience; by 2017, two additional quality domains—patient outcomes and safety—and one efficiency domain were added to the program.<sup>13</sup>

**Table 1: Hospital Value-based Purchasing (HVBP) Program Domains and Percentage Weighting, Fiscal Years 2013 through 2017**

Domain	2013	2014	2015	2016	2017
Clinical processes	70%	45%	20%	10%	5% <sup>a</sup>
Patient experience	30	30	30	25	25
Patient outcomes	N/A	25	30	40	25 <sup>a</sup>
Safety	N/A	N/A	N/A	N/A	20
Efficiency	N/A	N/A	20	25	25

Legend: N/A=not applicable

Source: Centers for Medicare & Medicaid Services information. | GAO-17-551

Note: Measures may have been moved across domains in the different fiscal years, in particular due to program realignment in fiscal year 2017.

<sup>a</sup>In fiscal year 2017, the clinical processes domain was combined with the patient outcomes domain. Both were renamed: clinical processes became “clinical care–process” and outcomes became “clinical care–outcome.”

<sup>12</sup>According to CMS documentation, measure sets should evolve and reflect the most important areas of service and quality improvement for hospitals while maintaining a core set of measure concepts that align across all provider types and settings. In addition, the performance periods and baseline periods for each domain vary. For example, in fiscal year 2017, the patient experience domain scoring was based on a calendar year 2013 baseline period and a calendar year 2015 performance period. In contrast, the patient outcomes domain had a baseline period from October 2010 through June 2012 and a performance period from October 2013 through June 2015.

<sup>13</sup>Prior to fiscal year 2017, the clinical processes of care and outcome domains were standalone domains. In fiscal year 2017, they were combined within the clinical processes domain, but retained separate weighting. Clinical processes measures show whether providers correctly follow steps, or processes of care, that have been proven to benefit patients. Patient outcomes measures report the actual results that occur after care is provided, such as mortality rates. Patient experience measures record patients’ perspectives on their care, typically obtained through surveys. Safety measures include rates of infections and other complications. Efficiency measures assess the amount of resources used to provide care to patients.

---

By law, the HVBP program is budget neutral, which means that the total amount of payment increases, or bonuses, awarded to hospitals deemed to provide higher quality of care must equal the total amount of payment reductions, or penalties, applied to hospitals deemed to provide lower quality of care. To fund the HVBP program, CMS first applies an initial fixed percentage reduction to the amount of each hospital's Medicare reimbursements for its patients that fiscal year. The initial percentage reduction was 1 percent in fiscal year 2013 and has grown by 0.25 percent each year to the maximum of 2 percent for fiscal year 2017 and beyond, as specified in PPACA.

CMS determines each hospital's payment adjustment based on the hospital's total performance score relative to all participating hospitals. Hospitals with payment adjustments that exceed the initial reduction receive a net increase, or bonus. Hospitals with a payment adjustment less than the initial reduction have a net decrease, or a penalty. (For two hypothetical examples using the initial percentage reduction for fiscal year 2017, see fig. 1.) These payment adjustments are applied to the inpatient Medicare payment for each discharged patient throughout the upcoming fiscal year.<sup>14</sup>

---

<sup>14</sup>For example, CMS informed each hospital of its HVBP program bonus or penalty for fiscal year 2017 prior to the fiscal year, and each Medicare claim during the fiscal year is adjusted up or down based on the size of the hospital's bonus or penalty. The HVBP bonus or penalty does not alter certain add-on payments, such as those that compensate hospitals for serving a disproportionate share of low-income patients or for providing medical education. As a result, hospitals caring for large proportions of low-income Medicare or Medicaid patients and major teaching hospitals have a lower proportion of their total Medicare payments affected by their HVBP bonus or penalty compared to other hospitals that do not receive these add-on payments.

**Figure 1: Effect of Hospital Value-based Purchasing (HVBP) Bonuses and Penalties on Medicare Payments for One Patient Stay for Two Hypothetical Hospitals**



Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-17-551

Note: Hospitals with payment adjustments that exceed the initial reduction receive a net increase, or bonus. Hospitals with a payment adjustment less than the initial reduction have a net decrease, or a penalty. The initial reductions and payment adjustments are applied at the same time, so their net effect increases or decreases hospital payments for each hospital stay. Hospitals are informed prior to each fiscal year what their HVBP adjustment will be on eligible Medicare claims submitted during the next 12 months.

---

In October 2015, we reported on certain HVBP performance measures prior to and after the implementation of the HVBP program.<sup>15</sup> We found that trends in performance for many of these measures were unchanged since the implementation of the HVBP program. This report included information from interviews with officials from selected hospitals who noted that the HVBP program reinforced ongoing quality improvement efforts but did not lead to major changes in focus. Hospital officials also indicated that there were patient population and community barriers to their quality improvement efforts. In a related report on the HVBP program, HHS noted challenges that rural hospitals face that affect their performance on quality measures and the reliability of their outcome measurements, including lower occupancy rates, higher percentages of uncompensated care, and lower operating margins than urban hospitals.<sup>16</sup>

---

## Quality Scores Were Generally Lower for Safety Net Hospitals Compared to All Hospitals, while Small Rural and Urban Hospitals Generally Had Higher Quality and Efficiency Scores

Safety net hospitals generally had lower median quality domain scores in comparison to all hospitals, while small rural and small urban hospitals generally scored higher on quality and efficiency domains during fiscal years 2013 through 2017. Median scores for each of the separate quality domains—clinical processes, patient experience, patient outcomes, and safety—were consistently lower for safety net hospitals and were generally higher for small rural and small urban hospitals than for hospitals overall during fiscal years 2013 through 2017. Specifically, for the four quality domains, we found the following:

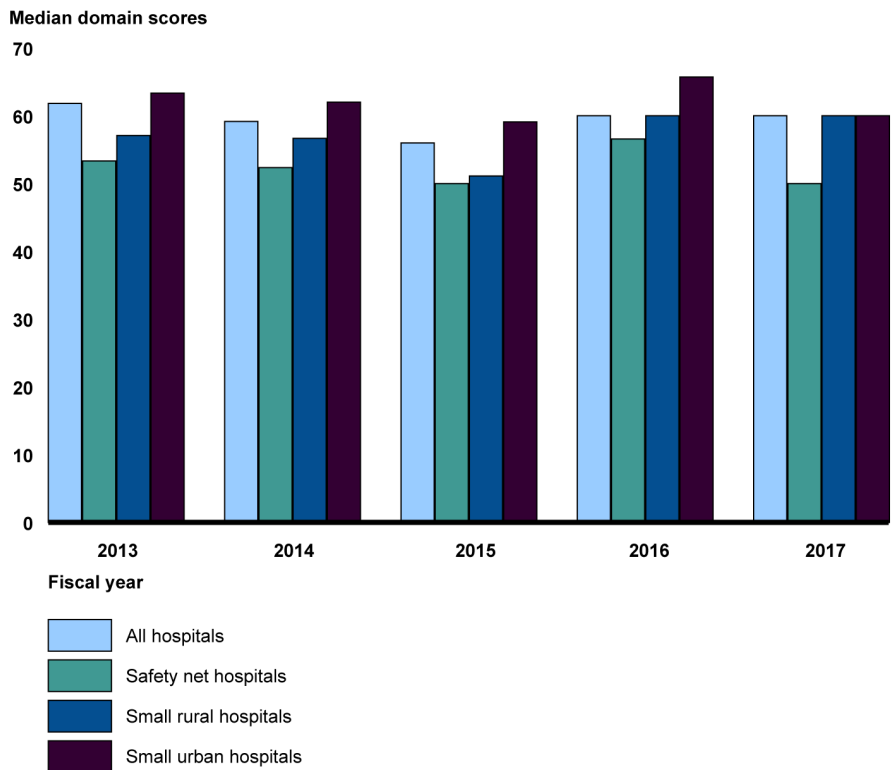
---

<sup>15</sup>[GAO-16-9](#).

<sup>16</sup>Karen E. Joynt et al., Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, *Issue Brief: Rural Hospital Participation and Performance in Value-based Purchasing and Other Delivery System Reform Initiatives* (Washington, D.C.: Oct. 19, 2016).

- Clinical processes:** The clinical processes median domain scores—which summarize measures for preventive or routine care—were lower for safety net hospitals and generally higher for small urban hospitals than for all hospitals during fiscal years 2013 through 2017. Median clinical processes scores for small rural hospitals were generally lower—between 4 and 9 percent—than for hospitals overall in fiscal years 2013 through 2015 (see fig. 2).

**Figure 2: Median Clinical Processes Domain Scores by Hospital Type, Fiscal Years 2013 through 2017**

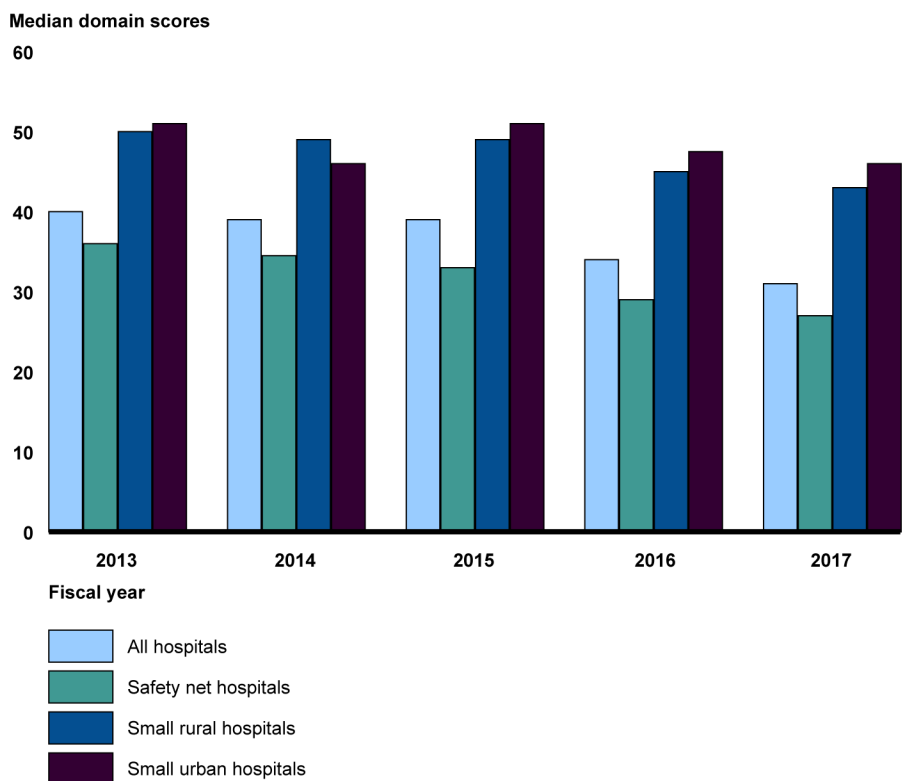


Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-17-551

Note: Hospital scores for the clinical processes domain can range from 0 to 100, and measures differed or were moved to different domains in different fiscal years due to program changes.

- **Patient experience:** Small hospitals consistently had higher patient experience scores—which consist of measures for communication and responsiveness—than hospitals overall, while safety net hospitals had the lowest scores of any of the hospital types (see fig. 3).

**Figure 3: Median Patient Experience Domain Scores by Hospital Type, Fiscal Years 2013 through 2017**



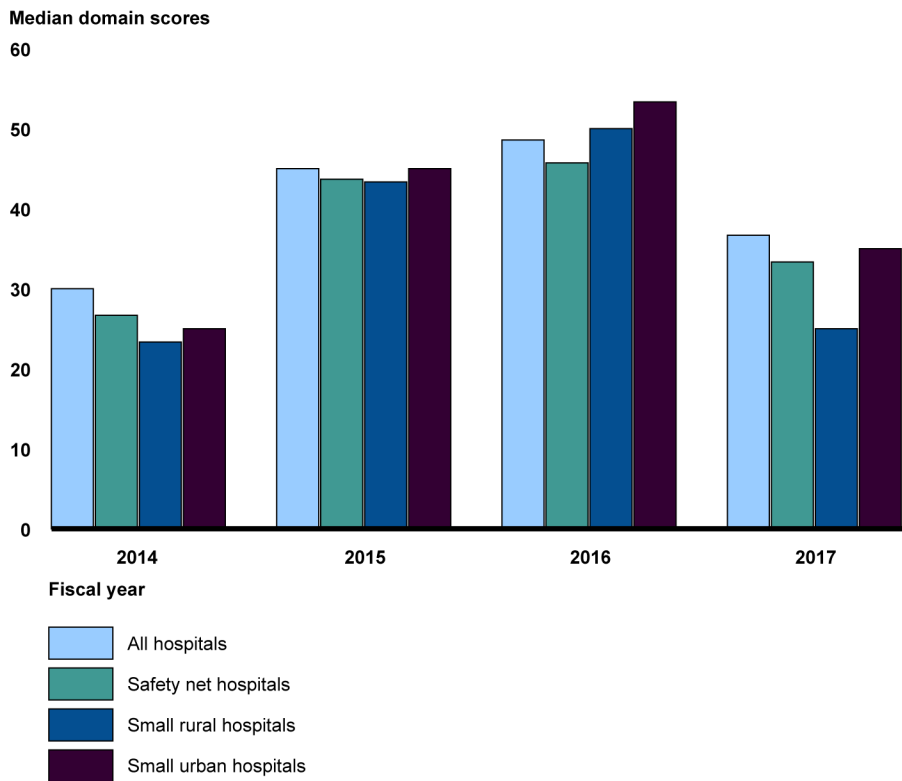
Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-17-551

Note: Hospital scores for the patient experience domain can range from 0 to 100.



- Patient outcomes:** Median scores for the patient outcomes domain—which comprises measures for mortality rates and other results and was added in fiscal year 2014—were generally lowest for small rural hospitals in each year of our analysis, except for fiscal year 2016, when compared to hospitals overall (see fig. 4). Safety net hospitals and small urban hospitals—with the exception of fiscal year 2016—also did not perform as well as all hospitals in the years of our analysis.

**Figure 4: Median Patient Outcome Domain Scores by Hospital Type, Fiscal Years 2014 through 2017**



Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-17-551

Note: Hospital scores for the patient outcome domain can range from 0 to 100, and measures differed or were moved to different domains in different fiscal years due to program changes.

- 
- **Safety:** Safety scores—which were added in fiscal year 2017 and include measures for infection rates and other complications—were lowest for safety net hospitals and higher for small rural and small urban hospitals than the median scores for hospitals overall. The median score for the safety net hospitals was about 11 percent lower than the median score for all hospitals. Small rural hospitals had the highest median score and small urban hospitals also had a higher median score than hospitals overall. However, 21 percent of all hospitals were missing scores for this new domain in fiscal year 2017.<sup>17</sup>

Trends for the efficiency domain, which contains the single cost measure—Medicare spending per beneficiary—were similar to the quality domains in that small hospitals tended to perform better than safety net hospitals and better than hospitals overall from fiscal year 2015, when the domain was added, through fiscal year 2017 (see fig. 5).<sup>18</sup> Safety net hospitals have had the same median efficiency scores as for hospitals overall during the 3 years it has been included in the program. However, over 40 percent of all hospitals had an efficiency score of 0 during these years due to CMS's methodology for calculating scores.<sup>19</sup> This methodology resulted in a low median score of 10 for all hospitals, though many hospitals had considerably higher efficiency scores.

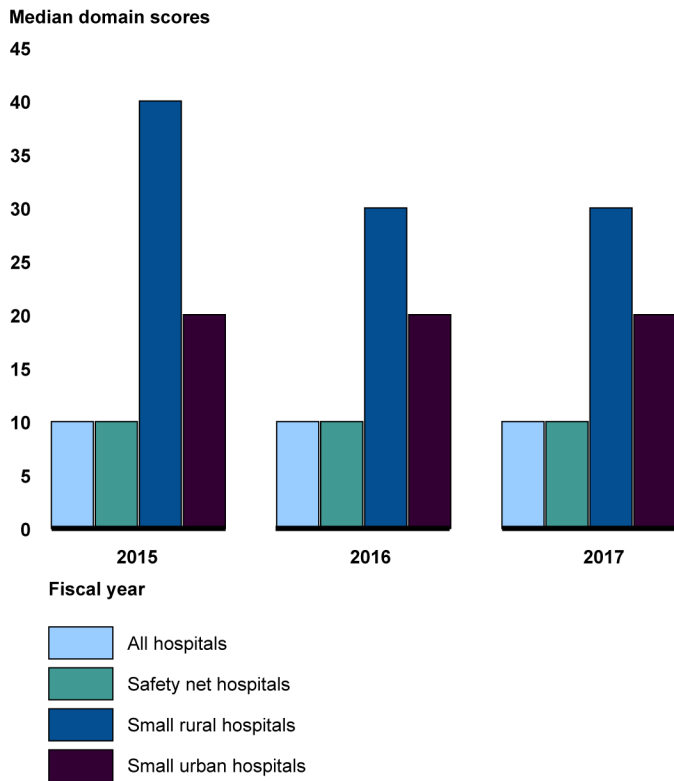
---

<sup>17</sup>Beginning in fiscal year 2015, CMS allowed hospitals to participate in the HVBP program without a full set of domain scores.

<sup>18</sup>Payments used in the Medicare spending per beneficiary measure are price-standardized for geographic payment differences and risk-adjusted for patient age and health condition.

<sup>19</sup>CMS's methodology required hospitals to have scores above the median for this single measure of Medicare spending per beneficiary during the performance period in order to receive any achievement points for the efficiency domain. Alternatively, hospitals could earn improvement points if they had improved their scores on the spending measure from the baseline period. Forty-one percent of all hospitals in fiscal year 2015 and 42 percent in 2016 and 2017 received an efficiency score of 0, indicating that they did not receive any achievement or improvement points.

**Figure 5: Median Efficiency Domain Scores by Hospital Type, Fiscal Years 2015 through 2017**

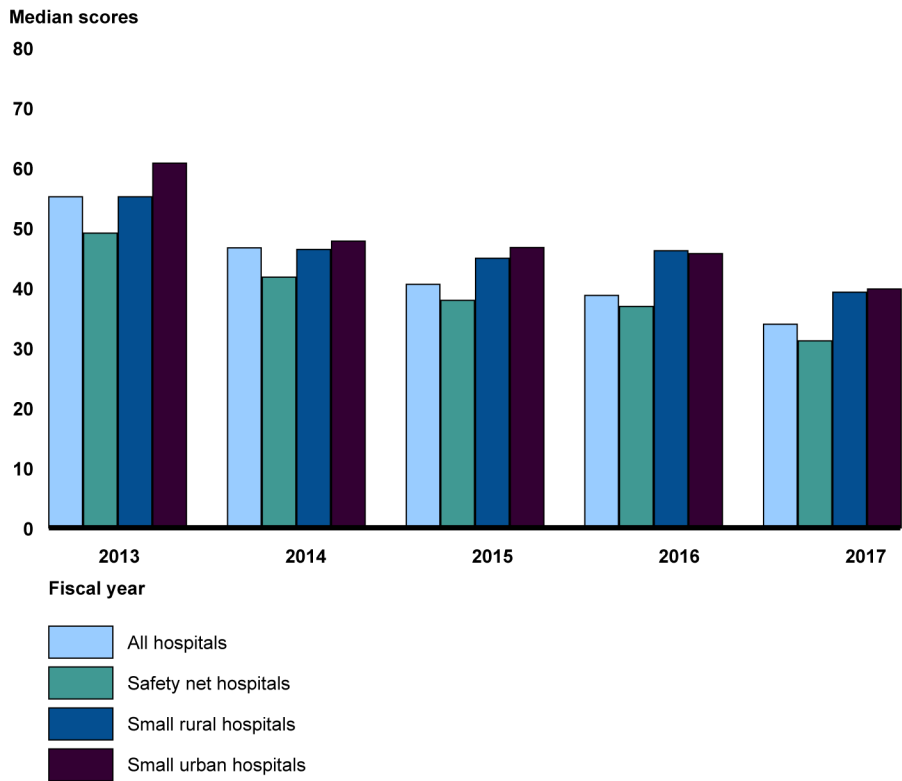


Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-17-551

Note: Hospital scores for the efficiency domain can range from 0 to 100.

Hospitals' total performance scores were consistent with the trends in the quality and efficiency domain scores. Specifically, when compared to all hospitals, total performance scores were lowest for safety net hospitals and generally highest for small urban hospitals during fiscal years 2013 through 2017 (see fig. 6).

**Figure 6: Median Total Performance Scores by Hospital Type, Fiscal Years 2015 through 2017**



Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-17-551

Note: Hospital total performance scores can range from 0 to 100.

## HVBP Payment Adjustments Have Varied over Time, but Safety Net Hospitals Generally Had Lower Payment Adjustments Compared to the Other Hospital Types

Median payment adjustments generally have varied for all hospitals, and small rural and small urban hospitals, since the program began; however, in most years, the median payment adjustment for safety net hospitals has been a penalty—that is, a negative payment adjustment.<sup>20</sup> In contrast, the small hospitals, as well as hospitals overall, generally had positive payment adjustments, indicating a bonus, with the exception of fiscal year 2014. Small urban hospitals consistently received higher payment adjustments than all hospitals—between 0.03 and 0.36 percentage points higher—every fiscal year. (See table 2.)

**Table 2: Median Payment Adjustments for Selected Hospital Types, Fiscal Years 2013 through 2017**

Numbers in percent

Fiscal year	All hospitals	Safety net	Small rural	Small urban
2013	0.01	-0.10	0.01	0.12
2014	-0.03	-0.16	-0.04	0.00
2015	0.07	-0.03	0.24	0.31
2016	0.13	0.04	0.49	0.47
2017	0.08	-0.09	0.41	0.44

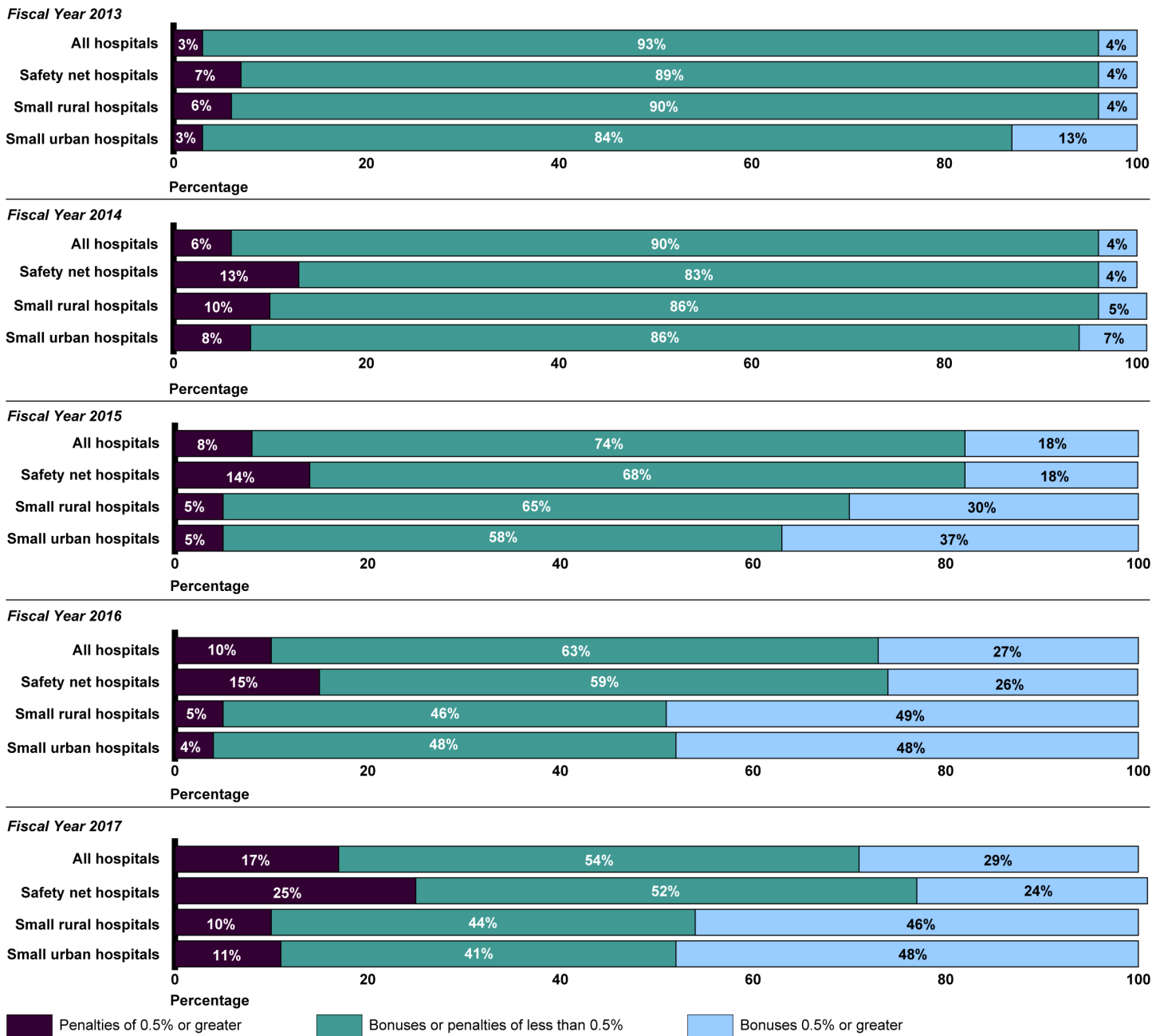
Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-17-551

Note: A negative number indicates a penalty; a positive number indicates a bonus.

The majority of all hospitals received a bonus or a penalty of less than 0.5 percent each year of the program (see fig. 7). However, over time, an increasing percentage of hospitals received bonuses of more than 0.5 percent, and by fiscal year 2016, more than one-quarter of all participating hospitals received a bonus of more than 0.5 percent. Compared to all hospitals, a higher percentage of small rural and small urban hospitals received bonuses of more than 0.5 percent, and this disparity has grown as the program continues. An increasing percentage of hospitals have also received penalties of greater than 0.5 percent over time, and safety net hospitals consistently had the highest percentage of penalties of 0.5 percent or more when compared to all hospitals, small rural hospitals, and small urban hospitals.

<sup>20</sup>The percentage of all hospitals that received a bonus has fluctuated during our analysis. The percentage for fiscal years 2013 through 2017, respectively were 52 percent, 46 percent, 56 percent, 59 percent, and 55 percent.

**Figure 7: Bonuses and Penalties under Hospital Value-based Purchasing by Hospital Type, Fiscal Years 2013 through 2017**



Source: GAO analysis of Centers of Medicare & Medicaid Services data. | GAO-17-551

Note: Percentages may not total to 100 due to rounding.

In part, the size of the bonuses and penalties, in dollar terms, has been increasing due to the increase in the initial reduction from 1 percent in fiscal year 2013 to 2 percent in fiscal year 2017 (see table 3). In addition, as more hospitals receive bonuses in excess of 0.5 percent, the difference between the bonuses and penalties has been increasing. For example, in fiscal year 2013, the median bonus and penalty for all hospitals was nearly identical. Over the years, the median bonus has more than doubled, but the median penalty has nearly tripled. For most hospitals, the annual bonus or penalty is less than \$100,000, and by the end of the fiscal year 2017, over \$690 million will have been redistributed from hospitals that received penalties to hospitals that received bonuses.<sup>21</sup>

**Table 3: Median Bonuses and Penalties for All Hospitals, Fiscal Years 2013 through 2017**

Fiscal year	Median bonus	Median penalty
2013	\$30,352.61	-\$30,352.47
2014	\$38,507.69	-\$37,650.43
2015	\$39,064.28	-\$56,432.05
2016	\$46,823.22	-\$66,656.27
2017	\$67,511.90	-\$84,017.14

Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-17-551

Note: The size of the bonuses and penalties, in dollar terms, has been increasing due to the gradual increase in the initial reduction from 1 percent in fiscal year 2013 to 2 percent in fiscal year 2017.

Safety net hospitals received a smaller percentage of the bonuses and paid a greater share of the penalties than small rural and small urban hospitals. For example, safety net hospitals have received about 5 percent of the bonus dollars and paid approximately 10 percent of the penalty dollars each year. In contrast, small rural and urban hospitals have received an average of about 9 and 12 percent of the bonus dollars, respectively, and both groups of these small hospitals paid about 5 percent or less of the penalties dollars during fiscal years 2013 through 2017.

<sup>21</sup>For context, CMS estimates that the amount available for value-based incentive payments for fiscal year 2017 is approximately \$1.8 billion.

---

---

## Since Fiscal Year 2015, High Efficiency Scores Have Resulted in Bonuses for Some Lower Quality Hospitals

---

### About 20 Percent of All Hospitals Receiving Bonuses Had Composite Quality Scores below the Median and Received Bonuses Because of High Efficiency Scores

Since the efficiency score was added to the HVBP program in fiscal year 2015, about 20 percent of the hospitals that received bonuses each year had weighted composite quality scores below the median for all hospitals in fiscal years 2015 through 2017 (see table 4).<sup>22</sup> For each fiscal year, a higher percentage of safety net and small rural hospitals received bonuses (between 26 and 36 percent) when compared to all hospitals, despite having quality scores below the median score for all hospitals.<sup>23</sup> The median payment adjustments for the hospitals that received a bonus with lower quality scores were less than median bonuses overall. For example, in fiscal year 2015, the median bonus for all hospitals was 0.32 percent, and the median bonus for the hospitals that received a bonus with composite quality scores below the median was 0.17 percent.

---

<sup>22</sup>Hospitals' payment adjustments—bonuses or penalties—are based on their total performance scores, which are determined by weighting the individual quality and efficiency domain scores and then adding them together. CMS allocates weights for each domain score; thus, to determine the impact of the efficiency metric on hospitals' payment adjustments, we analyzed weighted scores. In some cases, we also compared the unweighted and the weighted domain scores to illustrate how weighting affects total performance scores and payment adjustments. Prior to the addition of the efficiency score in fiscal year 2015, very few hospitals received a bonus with a composite quality score below the median, specifically, 64 hospitals (4 percent) in fiscal year 2013 and no hospitals in fiscal year 2014.

<sup>23</sup>PPACA prohibits CMS from establishing minimum performance standards for determining hospitals' performance scores. As a result, hospitals can receive a bonus as long as their total performance scores—a combination of the weighted quality and efficiency domains—are high enough relative to other hospitals.



**Table 4: Number and Percentage of Hospitals with Bonuses and Composite Quality Scores below the Median, Fiscal Years 2015 through 2017**

	All hospitals	Safety net	Small rural	Small urban
<b>2015</b>				
Total number of hospitals	3,073	300	615	524
Hospitals that received a bonus (percent)	1,702 (55)	142 (47)	441 (72)	370 (71)
Hospitals that received a bonus with composite quality score below the median (percent)	304 (18)	41 (29)	122 (28)	55 (15)
<b>2016</b>				
Total number of hospitals	3,036	295	620	531
Hospitals that received a bonus (percent)	1,801 (59)	156 (53)	486 (78)	409 (77)
Hospitals that received a bonus with composite quality score below the median (percent)	372 (21)	41 (26)	133 (27)	58 (14)
<b>2017</b>				
Total number of hospitals	2,952	288	536	521
Hospitals that received a bonus (percent)	1,609 (55)	131 (46)	372 (69)	366 (70)
Hospitals that received a bonus with composite quality score below the median (percent)	345 (21)	47 (36)	124 (33)	67 (18)

Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-17-551

Note: Depending on the year, the composite quality scores include clinical processes, patient outcomes, patient experience, and safety domains that were used to adjust hospital payments as part of the Centers for Medicare & Medicaid Service's Hospital Value-based Purchasing program.

Hospitals that received a bonus despite having composite quality scores below the median for all hospitals had sufficiently high efficiency scores to achieve total performance scores that made them eligible for bonuses. Across all hospital types and years, the median efficiency scores for these hospitals ranged from 1.50 and 6.00 times higher than the median efficiency scores for hospitals overall. For example, in fiscal year 2017, the overall median efficiency score for small rural hospitals was 30.00. In contrast, the median efficiency score for small rural hospitals that received a bonus with a composite quality score below the all-hospital median was more than twice as high at 70.00. Table 5 compares two actual hospitals—both of which received a bonus—with similar total performance scores but different composite quality scores. Hospital A outperformed Hospital B in every quality domain except safety and received a composite quality score of 40.00, well above the median of

29.03. While both hospitals had an efficiency score above the median of 10.00, Hospital B's high efficiency score results in a total performance score above that of the higher quality Hospital A.

**Table 5: Comparison of Domain Scores for Two Hospitals Participating in the Hospital Value-based Purchasing Program, Fiscal Year 2017**

	Clinical processes unweighted score (weighted score)	Patient experience unweighted score (weighted score)	Patient outcomes unweighted score (weighted score)	Safety unweighted score (weighted score)	Composite weighted quality score	Efficiency unweighted score (weighted score)	Total performance score
Hospital A	85.00 (4.25)	31.00 (7.75)	60.00 (15.00)	65.00 (13.00)	40.00	20.00 (5.00)	<b>45.00</b>
Hospital B	35.00 (1.75)	15.00 (3.75)	0.00 (0.00)	100.00 (20.00)	25.50	80.00 (20.00)	<b>45.50</b>

Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-17-551

Note: These are actual scores of hospitals participating in the Hospital Value-based Purchasing program in fiscal year 2017. The median composite quality score in 2017 was 29.03 and the median unweighted efficiency score was 10. Once weighted, the median efficiency score was 2.5.

According to CMS documentation, the agency developed the weighting formula to ensure that the Medicare spending per beneficiary measure—the sole measure in the efficiency domain—would make up only a portion of the total performance score and that the remainder would be based on hospitals' performance on the other measures.<sup>24</sup> The same documentation stated that the distinct measure of cost, independent of quality, would enable the agency to identify—and subsequently reward through payment adjustments—hospitals involved in the provision of high-quality care at a lower cost to Medicare. However, CMS's formula for weighting the domain scores to determine a total performance score has created a system that, in some cases, rewards lower quality hospitals that provide care at a lower cost. In a November 2016 report to Congress, CMS indicated that it was aware of reports that the added efficiency metric resulted in some lower quality hospitals receiving bonus HVBP payments in 2015. However, in the report CMS reiterated that its scoring methodology—the weighting of quality domains at 75 percent and the efficiency domain at 25—provided balanced consideration for quality and efficiency and would ensure that high-quality hospitals were being

<sup>24</sup>See 77 Fed. Reg. 53586 (Aug. 31, 2012).

---

rewarded.<sup>25</sup> Our work shows that CMS has not achieved this balanced consideration as it intended, thereby rewarding some lower quality hospitals due to their high efficiency scores.

---

### Efficiency Scores Carry More Weight for Hospitals with Missing Quality Domain Scores, and Hospitals with Missing Domains Are More Likely to Receive a Bonus

CMS did not require a complete set of domain scores to participate in the HVBP program after 2015, but instead proportionately redistributed the missing scores' domain weights to the other domains, including efficiency.<sup>26</sup> As a result, the efficiency score can carry even more than its assigned weight, and hospitals with missing domain scores had efficiency scores that were weighted higher than those of the other participating hospitals. This amplified the contribution of the efficiency domain to hospitals' total performance scores. The assigned weight for the efficiency score was 20 percent in fiscal year 2015 and 25 percent in fiscal years 2016 and 2017. However, due to the proportional redistribution, a hospital's efficiency score could be weighted between 25 and 50 percent—rather than the original 20 percent—in fiscal year 2015 and between 26 and 71 percent—rather than the original 25 percent—in fiscal years 2016 and 2017, depending on how many and which domains were missing.

Table 6 illustrates the impact of redistributed domain weights on hospitals in fiscal year 2017. Hospital A, the same hospital noted in table 5, is considered a higher quality hospital, with a composite quality score well above the median of 29.03 for all hospitals in 2017. Three other actual hospitals—hospitals C through E—show how the proportional redistribution of weights can dramatically increase the effect that a

---

<sup>25</sup>In the 2016 report, CMS did acknowledge that it may consider refinements to the HVBP payment methodology with the goal of low-quality hospitals not being rewarded with positive net payment solely due to their efficiency score. See Department of Health and Human Services, *Report to Congress: Results and Performance of the Hospital Value-based Purchasing Program* (Washington, D.C.: November 2016). See also Anup Das et al., "Adding a Spending Metric to Medicare's Value-based Purchasing Program Rewarded Low-quality Hospitals," *Health Affairs*, vol. 35, no. 5 (2016).

<sup>26</sup>According to CMS documentation, the agency stopped requiring a full set of domain scores in order to include as many hospitals as possible in the HVBP program, to offer quality incentives to as many hospitals as possible, and to encourage quality improvement as broadly as possible. Hospitals may be missing domain scores for various reasons, such as not having a sufficient number of patients to calculate one or more individual measures within a domain. The number of domains required in order to participate in the HVBP program varied each year. In fiscal years 2015 and 2016, hospitals needed scores in at least two domains. In fiscal year 2017, hospitals needed scores in at least three domains.

hospital's efficiency score can have on its total performance score. Hospital C is missing two domains, together worth 45 percent of the total performance score. The 45 percent is then proportionally redistributed to the other domains so that the clinical processes domain weight increases from 5.00 percent to 9.10 percent and the weights of the patient experience and efficiency domains each increase from 25 percent to 45.45 percent.

**Table 6: Proportional Redistribution of Domain Scores for Four Hospitals Participating in the Hospital Value-based Purchasing Program for Select Hospitals, Fiscal Year 2017**

	Clinical processes unweighted score (weighted score)	Patient experience unweighted score (weighted score)	Patient outcomes unweighted score (weighted score)	Safety unweighted score (weighted score)	Composite weighted quality score	Efficiency unweighted score (weighted score)	Total performance score
Standard weighting for each domain	5 percent	25 percent	25 percent	20 percent	N/A	25 percent	N/A
Hospital A	85.00 (4.25)	31.00 (7.75)	60.00 (15.00)	65.00 (13.00)	40.00	20.00 (5.00)	<b>45.00</b>
Hospital C	60.00 (5.45)	32.00 (14.55)	Missing	Missing	20.00	100.00 (45.45)	<b>65.45</b>
Hospital D	50.00 (3.13)	39.00 (12.19)	15.00 (4.69)	Missing	20.00	100.00 (31.25)	<b>51.25</b>
Hospital E	40.00 (2.67)	10.00 (3.33)	Missing	60.00 (16.00)	22.00	80.00 (28.67)	<b>48.67</b>

Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-17-551

Note: These are actual scores of hospitals participating in the Hospital Value-based Purchasing program in fiscal year 2017. The median composite quality score in 2017 was 29.03 and the median unweighted efficiency score was 10. Once weighted, the median efficiency score was 2.5.

We also found that hospitals with missing domain scores were more likely to receive a bonus than hospitals with all domain scores. Specifically, in fiscal year 2017, 68 percent of hospitals with missing domain scores received a bonus, compared to 50 percent of hospitals with all domain scores. Of the approximately 20 percent of hospitals that received a bonus with a quality score below the median described earlier, many were also missing domain scores. For example, in fiscal year 2017, 182 of the 345 lower quality hospitals that received a bonus (53 percent) were missing at least one quality domain score.<sup>27</sup>

<sup>27</sup> Missing domain scores accounted for about 14 percent of all hospitals in our analysis in fiscal year 2015 and about 10 percent and 25 percent in fiscal years 2016 and 2017, respectively.

---

Hospitals with missing domain scores had bonuses that grew to exceed the median bonus payment adjustment for all hospitals. In fiscal 2015, the median bonus adjustment for all hospitals was 0.32 percent. For lower quality hospitals with missing domain scores, the median bonus adjustment that year was slightly lower at 0.31 percent. However, by fiscal year 2017, lower quality hospitals with missing domain scores that received bonuses had a bonus adjustment of 0.74 percent, considerably higher than the median bonus adjustment of 0.54 percent for hospitals overall.

CMS decided to proportionally redistribute missing domain scores in order to maintain the relative weights of each remaining domain and reliably score hospitals on their performance.<sup>28</sup> However, the issues we identified with the weighting formula—in that it results in some lower quality hospitals receiving bonuses—are exacerbated for hospitals with missing domain scores. As a result, hospitals with missing domain scores are more likely to get a bonus, and, in some cases, those bonuses are greater than median bonuses overall. Additionally, while CMS intended to keep the efficiency metric independent of quality, the effective weight of the efficiency measure depends on the extent to which hospitals report quality measures. As a result, the balance the agency tried to achieve in the total performance score—allocating 75 percent of the score to the quality domains and 25 percent of the score to the efficiency domain—is no longer achieved.

---

## Conclusions

The aim of the HVBP program is to improve hospital quality and efficiency by providing incentives for hospitals to improve their quality of care and to become more cost efficient. Throughout the 5 years of the program, CMS has made modifications to meet these goals by changing quality performance domains and domain weighting from year to year. With the addition of the efficiency domain in fiscal year 2015, CMS signaled the importance of hospitals' providing care at a lower cost to Medicare, and, in its weighting formula, the agency tried to find balanced consideration for quality and cost. Rather than achieving this balance—which would have allowed the agency to identify and reward higher quality and lower cost hospitals—CMS's weighting formula has resulted in bonuses for some lower quality hospitals, solely due to their cost efficiency. Because the program is budget neutral, bonuses for lower quality hospitals may

---

<sup>28</sup>See 77 Fed. Reg. 53606–53607 (Aug. 31, 2012).

---

result in smaller bonuses for hospitals that are performing well across all domains. The issue is especially stark for between 10 and 25 percent of the hospitals that were missing domain scores in fiscal years 2015 through 2017, which has also contributed to the awarding of bonuses to lower quality hospitals. If CMS continues to use the current formula, it will continue to reward hospitals that do not score well on quality and efficiency metrics.

---

## Recommendations for Executive Action

To ensure that the HVBP program accomplishes its goal to balance quality and efficiency and to ensure that it minimizes the payment of bonuses to hospitals with lower quality scores, we recommend that the Administrator of CMS take the following two actions:

- Revise the formula for the calculation of hospitals' total performance score or take other actions so that the efficiency score does not have a disproportionate effect on the total performance score.
- Revise the practice of proportional redistribution used to correct for missing domain scores so that it no longer facilitates the awarding of bonuses to hospitals with lower quality scores.

---

## Agency Comments

We provided a draft of this report to HHS for comment, and its written comments are reprinted in appendix III. The department indicated that it would examine the formula used for calculating hospitals' total performance scores and would explore alternatives to the practice of proportional redistribution. While HHS stated it would consider revisions to these practices, it indicated that any changes to the weights of the domains, or the distribution of weights for missing domains, would be evaluated for potential negative impacts and would be subject to notice and comment rulemaking. HHS also provided technical comments, which we incorporated as appropriate.

---

We are sending copies of this report to the appropriate congressional committees, the Secretary of Health and Human Services, the CMS Administrator, and other interested parties. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staffs have any questions about this report, please contact me at (202) 512-7114 or [cosgrovej@gao.gov](mailto:cosgrovej@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on

---

the last page of this report. GAO staff who made key contributions to this report are listed in appendix IV.

A handwritten signature in black ink, appearing to read 'James Cosgrove', with a large, stylized flourish at the end.

James Cosgrove  
Director, Health Care

---

*List of Committees*

The Honorable Orrin G. Hatch  
Chairman

The Honorable Ron Wyden  
Ranking Member  
Committee on Finance  
United States Senate

The Honorable Lamar Alexander  
Chairman

The Honorable Patty Murray  
Ranking Member  
Committee on Health, Education, Labor, and Pensions  
United States Senate

The Honorable Greg Walden  
Chairman

The Honorable Frank Pallone, Jr.  
Ranking Member  
Committee on Energy and Commerce  
House of Representatives

The Honorable Kevin Brady  
Chairman

The Honorable Richard Neal  
Ranking Member  
Committee on Ways and Means  
House of Representatives



# Appendix I: Quality and Efficiency Measures in the Hospital Value-based Purchasing Program, Fiscal Years 2013 through 2017

Table 7 lists the Inpatient Quality Reporting program measures that the Centers for Medicare & Medicaid Services (CMS) used to analyze hospitals' performance in the Hospital Value-based Purchasing program during fiscal years 2013 through 2017. This table identifies the domain associated with each measure, which measures were used to calculate domain scores each year, the measure code, and a description of each measure.

**Table 7: Quality Measures Included in the Hospital Value-based Purchasing Program, Fiscal Years 2013 through 2017**

Domain	Measure included in fiscal year					Measure code <sup>a</sup>	Description
	2013	2014	2015	2016	2017		
Clinical processes <sup>b</sup>	X	X	X	X	X	AMI-7a	Heart attack patients received fibrinolytic agent within 30 minutes of hospital arrival
	X	X	X	N/A	N/A	AMI-8a	Heart attack patients received percutaneous coronary intervention within 90 minutes of hospital arrival
	X	X	X	N/A	N/A	HF-1	Heart failure patients received discharge instructions
	X	X	X	N/A	N/A	PN-3b	Blood culture performed in the emergency department prior to first antibiotic received in hospital for pneumonia patients
	X	X	X	X	N/A	PN-6	Appropriate initial antibiotic selection for community-acquired pneumonia patient
	X	X	X	N/A	N/A	SCIP-INF-1	Prophylactic antibiotic received within 1 hour prior to surgical incision
	X	X	X	X	N/A	SCIP-INF-2	Received prophylactic antibiotic consistent with recommendations for surgical patients
	X	X	X	X	N/A	SCIP-INF-3	Prophylactic antibiotics discontinued within 24 hours after surgery end time (48 hours for cardiac surgery)
	X	X	X	N/A	N/A	SCIP-INF-4	Cardiac surgery patients with controlled 6 a.m. postoperative serum glucose
	N/A	X	X	X	N/A	SCIP-INF-9	Postoperative urinary catheter removal on postoperative day 1 or 2
	X	X	X	X	N/A	SCIP-CARD-2	Surgery patients on a beta blocker prior to arrival who received a beta blocker during the perioperative period
	X	X	N/A	N/A	N/A	SCIP-VTE-1	Recommended venous thromboembolism prophylaxis ordered for surgery patients during admission
	X	X	X	X	N/A	SCIP-VTE-2	Surgery patients who received appropriate venous thromboembolism prophylaxis within 24 hours pre-/post-surgery
N/A	N/A	N/A	X	X	IMM-2	Influenza immunization	

**Appendix I: Quality and Efficiency Measures in  
the Hospital Value-based Purchasing Program,  
Fiscal Years 2013 through 2017**

Domain	Measure included in fiscal year					Measure code <sup>a</sup>	Description
	2013	2014	2015	2016	2017		
	N/A	N/A	N/A	N/A	X	PC-01	Elective delivery prior to 39 completed weeks of gestation
Patient experience	X	X	X	X	X	H-COMP-1-A-P	Effectiveness of nurse communication
	X	X	X	X	X	H-COMP-2-A-P	Effectiveness of doctor communication
	X	X	X	X	X	H-COMP-3-A-P	Responsiveness of hospital staff
	X	X	X	X	X	H-COMP-4-A-P	Effectiveness of pain management
	X	X	X	X	X	H-COMP-5-A-P	Effectiveness of communication about medicines
	X	X	X	X	X	H-COMP-6-Y-P	Provision of discharge information
	X	X	X	X	X	H-CLEAN-HSP-A-P	Cleanliness of hospital environment
	X	X	X	X	X	H-QUIET-HSP-A-P	Quietness of hospital environment
Patient outcomes (2014-2017)	N/A	X	X	X	X	MORT-30-AMI	Acute myocardial infarction 30-day mortality rate
	N/A	X	X	X	X	MORT-30-HF	Heart failure 30-day mortality rate
	N/A	X	X	X	X	MORT-30-PN	Pneumonia 30-day mortality rate
Patient outcomes (2015-2016) Safety (2017)	N/A	N/A	X	X	X	PSI-90-SAFETY	Composite rate for 8 serious complications
	N/A	N/A	X	X	X	HAI-1	Central line-associated bloodstream infection rate
	N/A	N/A	N/A	X	X	HAI-2	Catheter-associated urinary tract infection rate
	N/A	N/A	N/A	X	X	HAI-3	Surgical site infection rate—colon surgery
	N/A	N/A	N/A	X	X	HAI-4	Surgical site infection rate—abdominal hysterectomy
	N/A	N/A	N/A	N/A	X	HAI-5	Methicillin-resistant staphylococcus aureus blood infection rate
	N/A	N/A	N/A	N/A	X	HAI-6	Clostridium difficile infection rate
Efficiency	N/A	N/A	X	X	X	MSPB-1	Medicare spending per beneficiary

Legend: N/A=not applicable

Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-17-551

<sup>a</sup>Measure code refers to the identifier used for specific quality measures in the Inpatient Quality Reporting program. All measures used in the Hospital Value-based Purchasing program are from this program.

<sup>b</sup>In fiscal year 2017, the clinical processes domain was combined with the outcomes domain. Both were renamed: clinical processes of care became “clinical care–process” and outcomes became “clinical care–outcome.”

# Appendix II: Hospital Types Participating in the Hospital Value-based Purchasing Program

**Table 8: Number and Types of Hospitals Participating in the Hospital Value-based Purchasing Program, Fiscal Years 2013 through 2017**

Fiscal year	All hospitals	Safety net	Small rural	Small urban
2013	2,985	299	520	497
2014	2,728	264	485	369
2015	3,084	300	615	533
2016	3,041	295	620	536
2017	2,955	288	536	522

Source: GAO analysis of Centers for Medicare & Medicaid Services (CMS) data. | GAO-17-551

Note: Some small rural or small urban hospitals may also be safety net hospitals. To identify safety net hospitals, we used a methodology that matched our previous report on the Hospital Value-based Purchasing program ([GAO-16-9](#)), but our methodology may differ from that used by other organizations, including CMS.

# Appendix III: Comments from the Department of Health & Human Services



DEPARTMENT OF HEALTH & HUMAN SERVICES

OFFICE OF THE SECRETARY

Assistant Secretary for Legislation  
Washington, DC 20201

JUN 5 2017

James Cosgrove  
Director, Health Care  
U.S. Government Accountability Office  
441 G Street NW  
Washington, DC 20548

Dear Mr. Cosgrove:

Attached are comments on the U.S. Government Accountability Office's (GAO) report entitled, "*HOSPITAL VALUE-BASED PURCHASING: CMS Should Take Steps to Ensure Lower Quality Hospitals Do Not Qualify for Bonuses*" (GAO-17-551).

The Department appreciates the opportunity to review this report prior to publication.

Sincerely,

A handwritten signature in cursive script that reads "Barbara Pisaro Clark".

Barbara Pisaro Clark  
Acting Assistant Secretary for Legislation

Attachment

**GENERAL COMMENTS OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES (HHS) ON THE GOVERNMENT ACCOUNTABILITY OFFICE'S DRAFT REPORT ENTITLED: HOSPITAL VALUE-BASED PURCHASING: CMS SHOULD TAKE STEPS TO ENSURE LOWER QUALITY HOSPITALS DO NOT QUALIFY FOR BONUSES (GAO-17-551)**

The Department of Health and Human Services (HHS) appreciates the opportunity to review and comment on the Government Accountability Office's (GAO) draft report. HHS is committed to improving the quality of care across settings while also improving the efficiency of care and patient experience.

The Hospital Value-Based Purchasing (HVBP) program is part of HHS' ongoing work to structure Medicare's payment system to reward providers for the quality, and not just the quantity, of care they provide. The HVBP program encourages hospitals to improve the quality and safety of care received during hospital stays by: eliminating or reducing the occurrence of healthcare errors, adopting evidence-based care standards and protocols, putting hospital processes in place that improve patient experience of care, and improving care efficiency and care coordination to reduce unnecessary care and avoidable costs.

The HVBP program is a budget neutral program funded by reducing participating hospitals' base operating Medicare payments for inpatient hospital services by two percent. The available pool of funds is then redistributed to hospitals based on their performance in four quality domains: clinical care, patient and caregiver centered experience of care/care coordination, safety, and efficiency and cost reduction. Efficiency measures, including Medicare spending per beneficiary, are required by statute to be included in the HVBP program.<sup>1</sup>

Each of the four domains includes performance measures and HHS scores these based on how well the hospital measured up to their peers during a performance period (commonly referred to as an "achievement" score) as well as how much the hospital improved over time (commonly referred to as an "improvement" score). HHS uses the higher of the achievement and improvement scores as the hospital's score on each measure. The domain scores are calculated based on the measures within those domains and are then weighted to calculate the Total Performance Score (TPS), which determines each hospital's overall positive or negative adjustment.

The HVBP program is continuously evolving to better identify hospitals that are improving the quality and safety of care as well as the efficiency of care by refining both the measures used to calculate each domain score as well as the weighting methodology to determine hospitals' TPS scores. For example, recent rulemaking finalized the inclusion of two new cost measures into the efficiency domain for FY 2021.<sup>2</sup> In addition, proposed regulations include the consideration of an additional cost measure into the efficiency domain for FY 2022.<sup>3</sup>

HHS also recognizes that some hospitals may be missing domain scores for various reasons, such as not having a sufficient number of patients to calculate enough measures within a domain for the domain to be included in their TPS. Starting in FY 2015, in order to include as many

<sup>1</sup> Social Security Act section 1886(o)(2)(B)(ii)

<sup>2</sup> 81 FR 56981-94

<sup>3</sup> 82 FR 19975-6

**GENERAL COMMENTS OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES (HHS) ON THE GOVERNMENT ACCOUNTABILITY OFFICE'S DRAFT REPORT ENTITLED: HOSPITAL VALUE-BASED PURCHASING: CMS SHOULD TAKE STEPS TO ENSURE LOWER QUALITY HOSPITALS DO NOT QUALIFY FOR BONUSES (GAO-17-551)**

hospitals as possible in the HVBP program and to offer incentives to as many hospitals as possible, HHS required hospitals to receive scores in at least two of the four domains in order to be included in the program and receive a TPS. In FY 2017, HHS adjusted this policy and required hospitals to receive scores in at least three domains. This change was made to be as inclusive as possible but also to ensure that the TPSs of the included hospitals are sufficiently reliable. As measures are added and removed from the program over time, HHS anticipates that the approach to domain weighting, minimum measure requirements, and minimum domain requirements may be revisited.

Finally, it is important to note that HHS must follow the statutory provisions in structuring the program. The statute requires that the HVBP program be structured in a way to include efficiency measures in the program, including Medicare spending per beneficiary. The program must take into account both achievement and improvement on quality measures for scoring. Further, the statute does not allow HHS to establish a minimum TPS performance standard that would qualify a hospital for bonus payments. GAO's recommendations and HHS' responses are below.

**GAO Recommendation**

GAO recommends that HHS revise the formula for the calculation of hospitals' total performance score or take other actions so that the efficiency score does not have a disproportionate effect on the total performance score.

**HHS Response**

HHS will examine alternatives and consider revising the formula for the calculation of hospitals' TPS consistent with relevant statutory guidance, and in a way to reduce the effect of the efficiency domain on the TPS. Any change to the domain weighting would have to be analyzed for potential negative impact. Stakeholder feedback is important in determining if changes should be made to the HVBP. Any changes to the formula would require notice and comment rulemaking.

**GAO Recommendation**

GAO recommends that HHS revise the practice of proportional redistribution used to correct for missing domain scores so that it no longer facilitates the awarding of bonuses to hospitals with lower quality scores.

**HHS Response**

HHS will explore alternatives and consider revising the practice of proportional redistribution used to correct for missing domain scores while also being mindful of any potential unintended consequences. Any change to the distribution of weight for missing domains would have to be analyzed for potential negative impact. Stakeholder feedback is important in determining if changes should be made to the HVBP. Any changes to the formula would require notice and comment rulemaking.

---

# Appendix IV: GAO Contact and Staff Acknowledgments

---

---

## GAO Contact

James Cosgrove, (202) 512-7114 or [cosgrovej@gao.gov](mailto:cosgrovej@gao.gov)

---

## Staff Acknowledgments

In addition to the contact named above, Martin T. Gahart (Assistant Director), Erin C. Henderson (Analyst-in-Charge), Zhi Boon, Kye Briesath, and Elizabeth Morrison made key contributions to this report. Also contributing were Muriel Brown and Jacquelyn Hamilton.

---

# Related GAO Products

---

*Medicare Value-based Payment Models: Participation Challenges and Available Assistance for Small and Rural Practices.* [GAO-17-55](#). Washington, D.C.: December 9, 2016.

*Health Care Quality: HHS Should Set Priorities and Comprehensively Plan Its Efforts to Better Align Health Quality Measures.* [GAO-17-5](#). Washington, D.C.: October 13, 2016.

*Patient Safety: Hospitals Face Challenges Implementing Evidence-based Practices.* [GAO-16-308](#). Washington, D.C.: February 25, 2016.

*Hospital Value-based Purchasing: Initial Results Show Modest Effects on Medicare Payments and No Apparent Change in Quality-of-Care Trends.* [GAO-16-9](#). Washington, D.C.: October 1, 2015.

*Health Care Transparency: Actions Needed to Improve Cost and Quality Information for Consumers.* [GAO-15-11](#). Washington, D.C.: October 20, 2014.

*Electronic Health Record Programs: Participation Has Increased, but Action Needed to Achieve Goals, Including Improved Quality of Care.* [GAO-14-207](#). Washington, D.C.: March 6, 2014.

*Health Care Quality Measurement: HHS Should Address Contractor Performance and Plan for Needed Measures.* [GAO-12-136](#). Washington, D.C.: January 13, 2012.

*Hospital Quality Data: Issues and Challenges Related to How Hospitals Submit Data and How CMS Ensures Data Reliability.* [GAO-08-555T](#). Washington, D.C.: March 6, 2008.



---

---

## GAO's Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

---

## Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's website (<http://www.gao.gov>). Each weekday afternoon, GAO posts on its website newly released reports, testimony, and correspondence. To have GAO e-mail you a list of newly posted products, go to <http://www.gao.gov> and select "E-mail Updates."

---

## Order by Phone

The price of each GAO publication reflects GAO's actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO's website, <http://www.gao.gov/ordering.htm>.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

---

## Connect with GAO

Connect with GAO on [Facebook](#), [Flickr](#), [LinkedIn](#), [Twitter](#), and [YouTube](#). Subscribe to our [RSS Feeds](#) or [E-mail Updates](#). Listen to our [Podcasts](#). Visit GAO on the web at [www.gao.gov](http://www.gao.gov) and read [The Watchblog](#).

---

## To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Website: <http://www.gao.gov/fraudnet/fraudnet.htm>

E-mail: [fraudnet@gao.gov](mailto:fraudnet@gao.gov)

Automated answering system: (800) 424-5454 or (202) 512-7470

---

## Congressional Relations

Katherine Siggerud, Managing Director, [siggerudk@gao.gov](mailto:siggerudk@gao.gov), (202) 512-4400, U.S. Government Accountability Office, 441 G Street NW, Room 7125, Washington, DC 20548

---

## Public Affairs

Chuck Young, Managing Director, [youngc1@gao.gov](mailto:youngc1@gao.gov), (202) 512-4800, U.S. Government Accountability Office, 441 G Street NW, Room 7149, Washington, DC 20548

---

## Strategic Planning and External Liaison

James-Christian Blockwood, Managing Director, [spel@gao.gov](mailto:spel@gao.gov), (202) 512-4707, U.S. Government Accountability Office, 441 G Street NW, Room 7814, Washington, DC 20548



Please Print on Recycled Paper.