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OFFICE OF INSPECTOR GENERAL

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The Centers for Medicare & Medicaid Services Could Improve Its Wage Index Adjustment for Hospitals in Areas With the Lowest Wages

This data brief is the product of an audit that began prior to the emergence of coronavirus disease 2019 (COVID-19) in the United States. As a result of the pandemic, hospitals are facing additional financial stressors. Although we do not know if it was pandemic-related, certain bottom quartile hospitals closed while we were conducting this audit.

What Is the Hospital Wage Index? What Is “Circularity”?

The Centers for Medicare & Medicaid Services (CMS) calculates area wage indexes (AWIs) annually and uses those AWIs to adjust Medicare standard payments to hospitals in the inpatient and outpatient prospective payment systems (IPPS and OPPI) to reflect the prices hospitals face in their local labor markets. Researchers and stakeholders use the term “circularity” to refer to the fact that CMS calculates the current year’s AWIs based on wage data submitted by hospitals in their Medicare cost reports. Those wage data are approximately 4 years old when used by CMS to calculate wage indexes. Critics of circularity (or rather of circularity combined with that 4-year time lag) assert that it can prevent some hospitals from raising wages.¹ In the prospective payment systems, reimbursements are intended to cover hospitals’ expected reasonable costs for providing Medicare services; Medicare reimbursements are not designed to provide additional money for future raises. If reimbursements do not exceed current costs, and if hospitals do not have other income or assets with which to fund new raises or cannot cut other expenses to free up funds, then the hospitals cannot raise wages. If those hospitals cannot raise wages today, this will be reflected in their wage indexes 4 years from now.

¹ Federal fiscal year (FFY) 2020 IPPS Proposed Rule, 84 Fed. Reg. 19158, 19394 (May 3, 2019).

What Is the Bottom Quartile Wage Index Adjustment?

For 2020 (Federal fiscal year (FFY) for inpatient claims and calendar year (CY) for outpatient claims), CMS raised AWIs in the bottom quartile (the lowest 25 percent) to bring them closer to the 25th percentile wage index.² CMS did this because, in its opinion, the wage index system had previously been perpetuating and exacerbating low wage indexes because of circularity combined with the 4-year time lag, as described above. Accordingly, CMS has stated that it intends to employ this new tactic of raising the wage indexes in the bottom quartile each year for at least 4 years, with the expectation that the hospitals in the bottom quartile will use the opportunity afforded by higher Medicare payments to raise wages. (CMS is using a budget neutrality factor to make the bottom quartile adjustment budget neutral for the Medicare program. That is, CMS is maintaining budget neutrality by adjusting the standardized payment amount for all hospitals downward to balance the bottom quartile hospitals having their wage indexes (and final payments) raised.)

Why We Did This Audit

CMS has characterized the bottom quartile adjustment as a way to increase the accuracy of the wage index system. We are issuing this data brief because wage index accuracy is essential to the primary objective of the IPPS and OPSS, which is to create incentives for hospitals to operate efficiently, while ensuring that payments are adequate to compensate hospitals for the reasonable costs of high-quality, necessary care. If hospitals are undercompensated, that puts them under financial stress, which could lead to a variety of adverse outcomes, up to and including closure. (Appendix B contains more background information on the IPPS and OPSS.)

We are providing the results of this audit in the form of a data brief to best present our results at this stage in the anticipated 4-year period during which CMS plans to adjust the wage indexes in the bottom quartile.

Objective

The objective of this audit is to analyze certain characteristics of the hospitals with AWIs in the bottom quartile for 2020 to provide information to CMS and other stakeholders during the implementation of CMS's new bottom quartile wage index adjustment.

We Found That:

- Of rural hospitals in the IPPS, 55 percent had wage indexes in the bottom quartile for FFY 2020.

² FFY 2020 IPPS Final Rule, 84 Fed. Reg. 42044 (Aug. 16, 2019) and CY 2020 OPSS Final Rule, 84 Fed. Reg. 61142 (Nov. 12, 2019). See also the FFY 2020 IPPS Final Rule Correction Notice, 84 Fed. Reg. 53603 (Oct. 8, 2019).

- Of bottom quartile hospitals, 53 percent were rural.
- Bottom quartile hospitals tended to be smaller and lower-volume hospitals.
- Bottom quartile hospitals were located in 24 States overall, but 41 percent of bottom quartile hospitals were located in just 6 States.
- Most States that did not expand Medicaid under the provisions of the Affordable Care Act (ACA)³ had hospitals in the bottom quartile.
- Most States with hospitals in the bottom quartile had the lowest possible State minimum wage.
- The profit margins of hospitals in the bottom quartile varied significantly.
- The average hourly wages of hospitals in the same area sometimes varied significantly. (That is, some hospitals already were paying significantly higher wages than other hospitals in the same area prior to the bottom quartile wage index adjustment.)

Key Take-Away

We recognize that CMS’s initiative to minimize hospital burden during the pandemic could make it difficult for CMS to focus on new initiatives. However, when post-pandemic conditions allow for new initiatives, CMS could consider focusing the bottom quartile wage index adjustment more precisely toward the hospitals that are the least able to raise wages without that adjustment. Those hospitals are the ones with low or negative profit margins rather than higher, positive profit margins. CMS could also consider studying the question of why some hospitals in a particular area were able to pay higher wages than other hospitals in the same area prior to the implementation of the bottom quartile wage index adjustment. More information might enable CMS to focus the adjustment even more precisely.

Background

In Appendix B, we provide detailed background on the hospital wage index system. Appendix B also includes information on how the issue of rural hospital closures relates to CMS’s bottom quartile adjustment.

³ The Patient Protection and Affordable Care Act, P.L. No. 111-148 (Mar. 23, 2010), as amended by the Health Care and Education Reconciliation Act of 2010, P.L. No. 111-152 (Mar. 30, 2010), is known as the Affordable Care Act.

How We Conducted This Audit

To complete this audit, we reviewed and analyzed the sections of the proposed, final, and corrected final rules for the FFY 2020 IPPS that related to the bottom quartile wage index adjustment. We reviewed and analyzed CMS's publicly available FFY 2020 wage index development files and FFY 2016 Medicare cost report files, which contained data on hospital characteristics. We obtained publicly available information about State minimum wages and Medicaid expansion under the ACA. We analyzed characteristics of the 3,483 hospitals in the IPPS, focusing on the 866 hospitals with wage indexes in the bottom quartile. (The number of hospitals in each quartile varies slightly because hospitals in the same area, having the same AWI, are kept together in one quartile rather than being split across two.) We discuss our scope and methodology in Appendix A.

Characteristics of Hospitals With Wage Indexes in the Bottom Quartile

55 Percent of Rural Hospitals in the IPPS Were in the Bottom Quartile, and 53 Percent of Bottom Quartile Hospitals Were Rural Hospitals

As described further in Appendix B, rural hospital closures are a concern to numerous stakeholders. In the FFY 2020 IPPS Final Rule, CMS stated that “addressing this systemic issue [circularity plus the 4-year time lag] does not need to wait for comprehensive wage index reform given the growing disparities between low and high wage index hospitals, including rural hospitals that may be in financial distress and facing potential closure.”⁴

CMS's FFY 2020 Correction Notice (CN) Table 2⁵ showed 3,483 hospitals participating in the IPPS, including 836 rural hospitals.⁶ There were 866 hospitals with wage indexes in the bottom quartile. The 836 rural IPPS hospitals represented 24 percent of the total of 3,483 IPPS hospitals in CMS's CN Table 2. However, those rural hospitals were not evenly distributed among the wage-index quartiles (Figure 1 on the next page).

⁴ FFY 2020 IPPS Final Rule, 84 Fed. Reg. 42044, 42326 (Aug. 16, 2019).

⁵ Table 2 is entitled, “Case Mix Index and Wage Index Table by [CMS Certification Number (CCN)] FY 2020 Correction Notice.”

⁶ Approximately one-third of rural hospitals are paid through the IPPS and two-thirds are paid through the critical access hospital payment system. (See Appendix B.)

Figure 1: Distribution of Rural Hospitals by Quartile

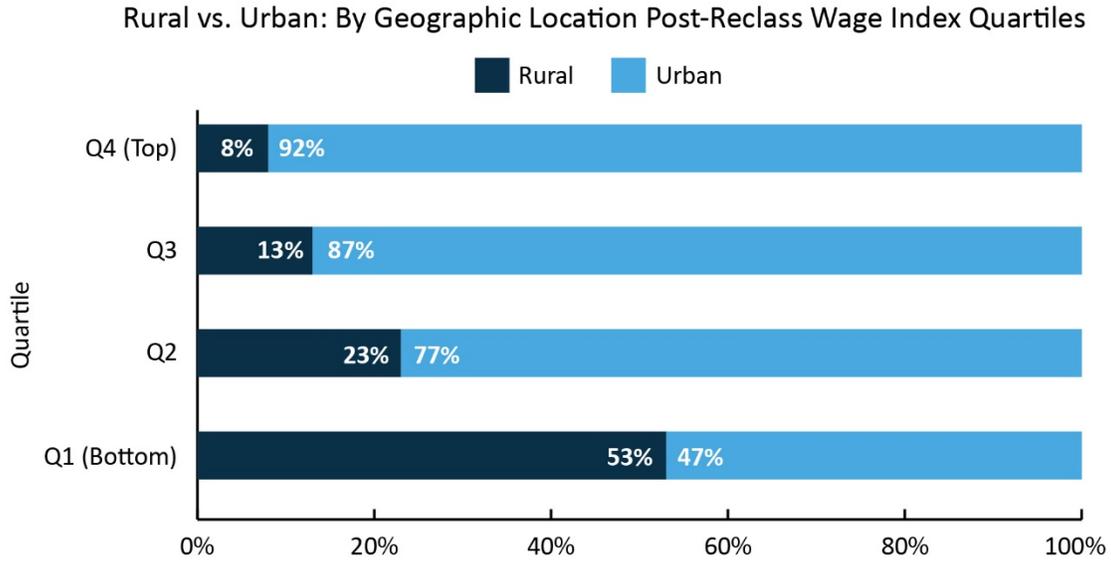


Figure 1 categorizes hospitals as rural or urban based on their geographic locations, not the areas into which they may have reclassified via the Medicare Geographic Classification Review Board (MGCRB) process. That is, a rural hospital that reclassified to an urban area is represented in one of the dark blue bars above. Appendix C contains more information on “exceptions” within the current wage index system, such as geographic reclassification, and the effect of those exceptions on the make-up of the bottom quartile.

Overall, 55 percent of rural IPPS hospitals were in the bottom quartile, and 53 percent of hospitals in the bottom quartile were rural hospitals.

Bottom Quartile Hospitals Tended To Be Smaller and Lower-Volume Hospitals

Table 1 summarizes data from CMS’s FFY 2020 “Impact File.”⁷

Table 1: Select Characteristics of Bottom Quartile Hospitals*

FFY 2020 Quartile	Maximum # of Beds	Average # of Beds	Average of Average Daily Inpatient Censuses	Percentage of Hospitals Receiving Low-Volume Hospital Adjustment	Average # of Medicare Cases for the Year	Average Medicare Days to Inpatient Days Percentage
Q4	1,942	231	145	9%	3,321	33.34%
Q3	1,498	204	123	11%	2,972	34.55%
Q2	1,928	202	120	16%	3,102	37.48%
Q1 (Bottom)	1,493	129	65	40%	1,700	41.01%

* Appendix D contains a glossary of terms for this table.

Although some individual bottom quartile hospitals were large (one had 1,493 beds), as a group compared to the other quartile groups, bottom quartile hospitals had on average a lower number of beds, a lower average daily inpatient census, and a lower number of Medicare cases in a year. A higher percentage of bottom quartile hospitals were low-volume hospitals. However, bottom quartile hospitals had on average a higher percentage of Medicare days.

⁷ The Impact File included data on 3,315 hospitals, rather than the total of 3,483 hospitals in CMS’s CN Table 2 file. We analyzed the available data.

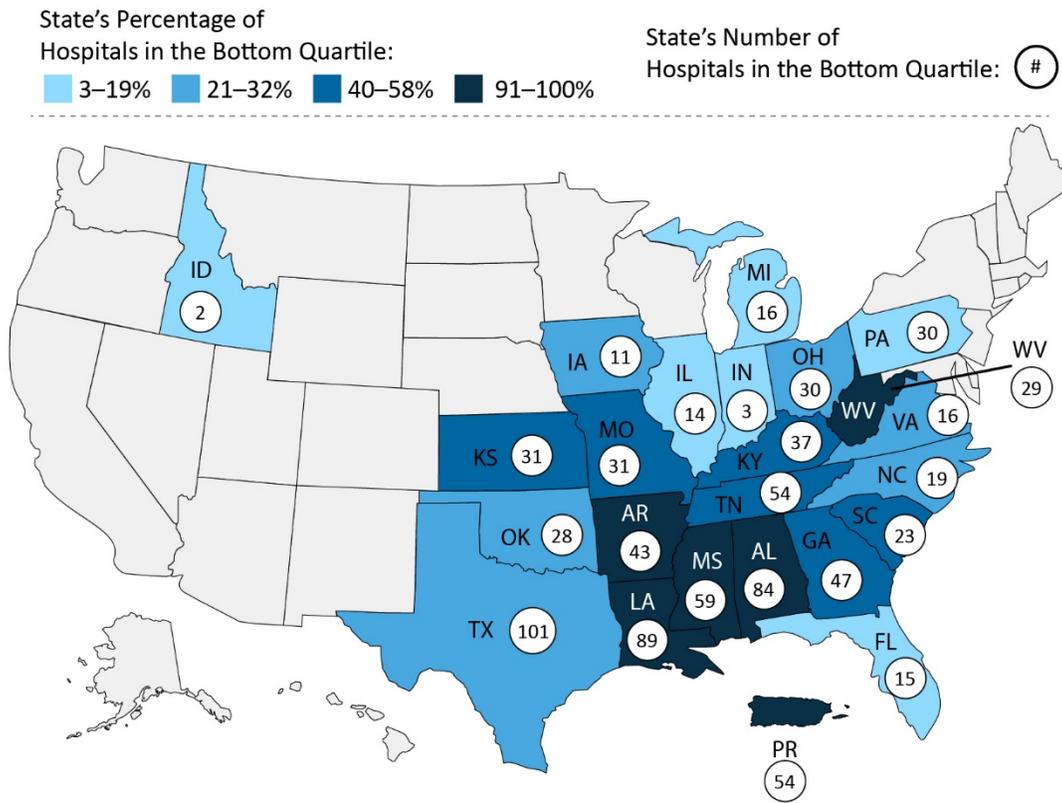
41 Percent of Bottom Quartile Hospitals Were Located in 6 States

The bottom quartile hospitals were located in 24 States (including Puerto Rico as a State). Six States had more than 90 percent of their hospitals in the bottom quartile. A large percentage (41 percent) of bottom quartile hospitals were located in those six States. There was a significant difference between the States ranked sixth (West Virginia, 91 percent) and seventh (Kansas, 58 percent). Table 2 shows all 24 States with hospitals in the bottom quartile.

Table 2: States With Hospitals in the Bottom Quartile

Rank by Percentage of Hospitals in Bottom Quartile	State	Percentage of Hospitals in State in Bottom Quartile	Number of Hospitals in State in Bottom Quartile
1	Puerto Rico	100%	54
2	Alabama	98%	84
3	Louisiana	93%	89
4	Mississippi	92%	59
5	Arkansas	91%	43
6	West Virginia	91%	29
7	Kansas	58%	31
8	Tennessee	56%	54
9	Kentucky	55%	37
10	Georgia	44%	47
11	Missouri	41%	31
12	South Carolina	40%	23
13	Oklahoma	32%	28
14	Iowa	31%	11
15	Texas	30%	101
16	Ohio	22%	30
17	North Carolina	22%	19
18	Virginia	21%	16
19	Pennsylvania	19%	30
20	Michigan	17%	16
21	Idaho	13%	2
22	Illinois	11%	14
23	Florida	8%	15
24	Indiana	3%	3
		Total	866

Figure 2: States' Percentages and Numbers of Hospitals in the Bottom Quartile

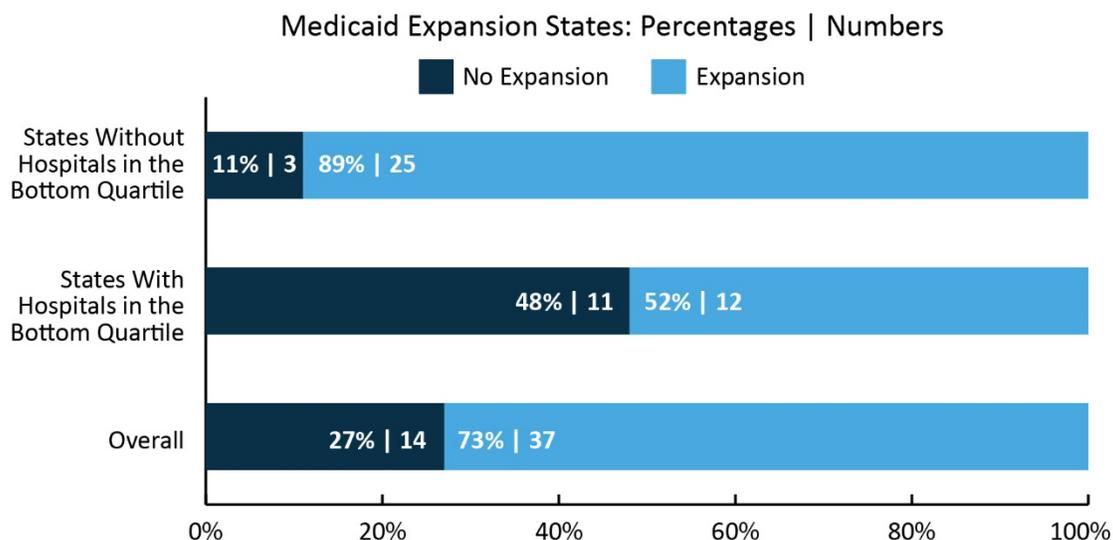


Most States That Did Not Expand Medicaid Had Hospitals in the Bottom Quartile

Overall, 14 out of 51 States have not expanded Medicaid as allowed under the ACA.⁸ (The total of 51 includes Washington, DC, but not Puerto Rico, because Puerto Rico was not eligible for the same Medicaid expansion.)

As shown in Figure 3, most States that did not expand Medicaid had hospitals in the bottom quartile (11 out of 14).

Figure 3: Medicaid Expansion States and Wage Index Quartiles



Of the five States with 90 percent or more of their hospitals in the bottom quartile (leaving out Puerto Rico as the sixth), two (Arkansas and West Virginia) expanded Medicaid at the earliest possible date (January 1, 2014), one (Louisiana) expanded Medicaid starting July 1, 2016, and two (Alabama and Mississippi) did not expand Medicaid.

Of the 866 hospitals in the bottom quartile, 57 percent were located in States that did not expand Medicaid. Theoretically, the availability of Medicaid can affect hospital revenues. For example, the expansion of Medicaid could result in previously uninsured patients becoming Medicaid-insured, and that could affect the patients' decision to seek treatment or the hospitals' payments for providing treatment.

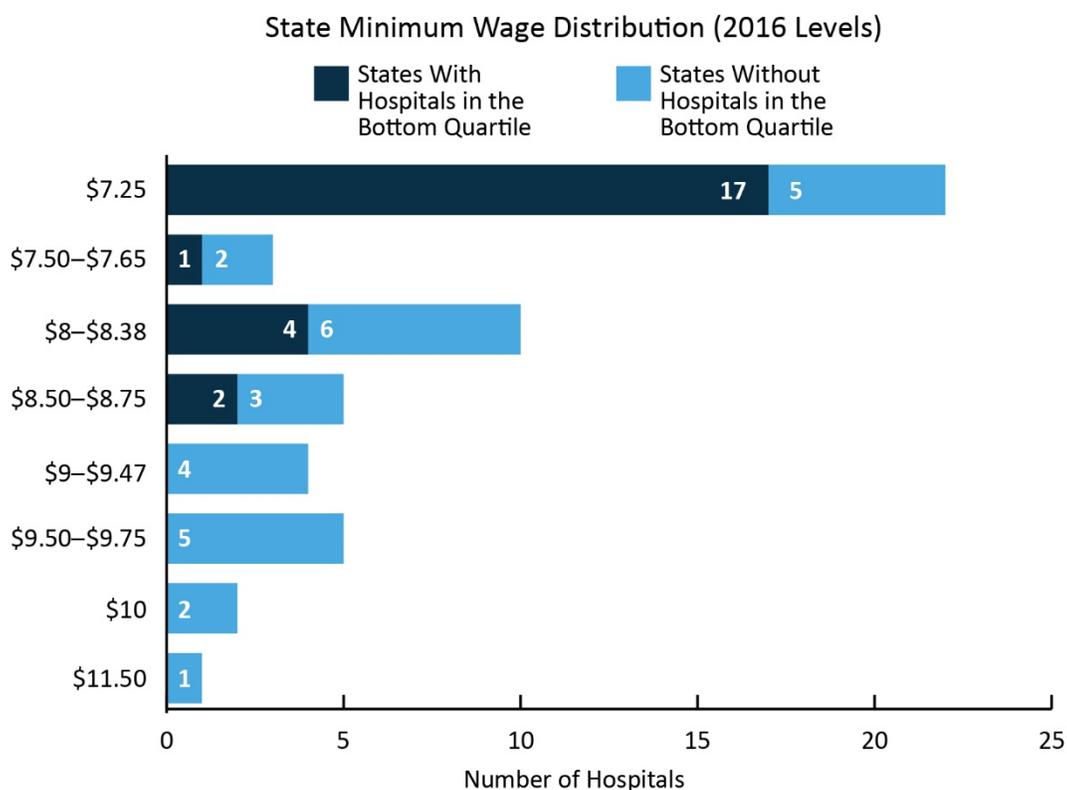
⁸ During the summer of 2020, Oklahoma and Missouri voters approved ballot questions that will lead each of those States to expand Medicaid. That leaves 12 States that have not expanded Medicaid.

Most States With Hospitals in the Bottom Quartile Had the Lowest Possible State Minimum Wage

Twenty-two States have a State minimum wage equal to the Federal minimum wage (\$7.25 from July 2009 to the present). Thirty States have a minimum wage set above the Federal minimum wage. (The total of 52 includes Washington, DC, and Puerto Rico.)

As shown in Figure 4, of the 22 States that had a State minimum wage equal to the Federal minimum wage, 17 had hospitals in the wage index bottom quartile. Those 17 States represent 71 percent of the 24 States with hospitals in the bottom quartile.

Figure 4: State Minimum Wage Distribution (2016)



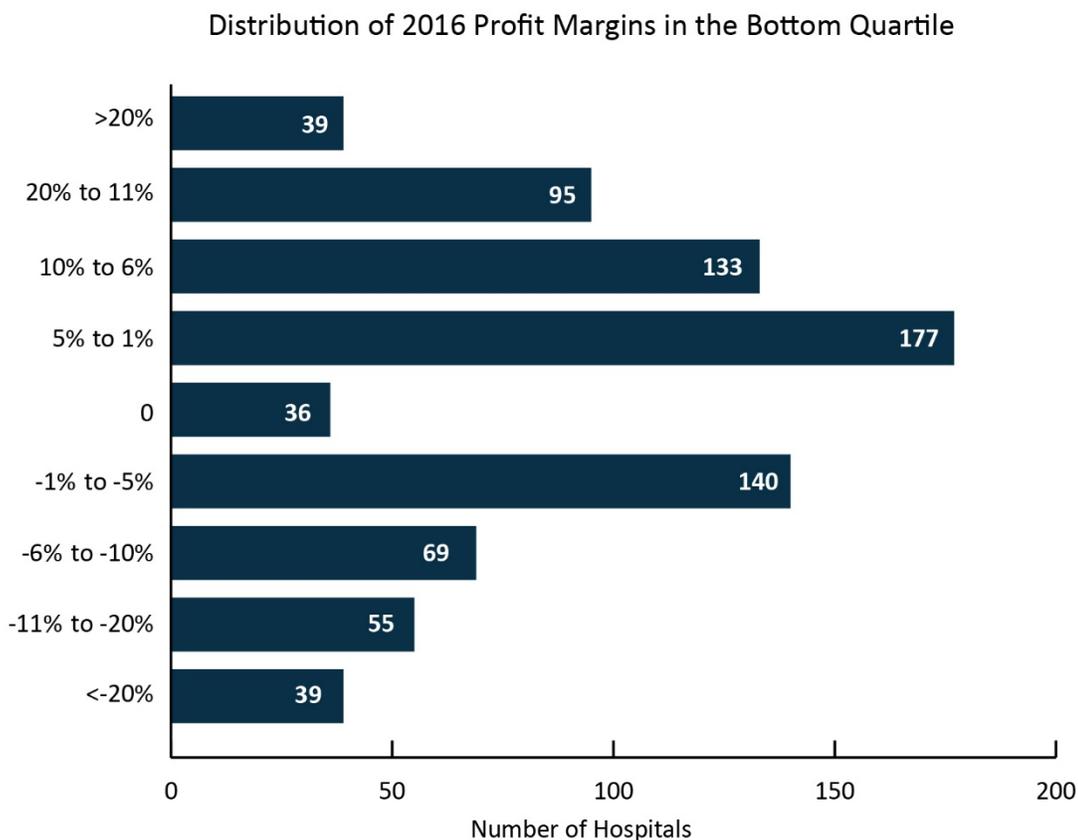
The Profit Margins of Hospitals in the Bottom Quartile Varied Significantly

Using 2016 Medicare cost report data (the same cost report year used to compute the AWIs), we were able to compute overall profit margins for 783 of the 866 bottom quartile hospitals.⁹

⁹ We did not verify the accuracy of the data submitted by the hospitals, but we did discard data for reporting periods of less than 12 months and lines of data from a few hospitals that were missing most of the fields. We did not compute profit margins for hospitals when we discarded their data. We did not compute profit margins when a hospital had no cost report data in the file at all. For the hospitals with data that we did not discard, we computed the profit margins as net income or loss for the period divided by total hospital revenues.

The bottom quartile profit margins ranged from a low of –133 percent to a high of 47 percent. The distribution of profit margins is shown in Figure 5 below.¹⁰ (Numbers are rounded to the nearest integer.) Of the 783 hospitals for which we had data, 303 had negative profit margins. We do not know if these 2016 profit margins reflect these hospitals’ current profit margins as of the start of FFY 2020.

Figure 5: Distribution of 2016 Profit Margins in the Bottom Quartile



Some Areas Had a Large Variation in Individual Hospital Average Hourly Wages

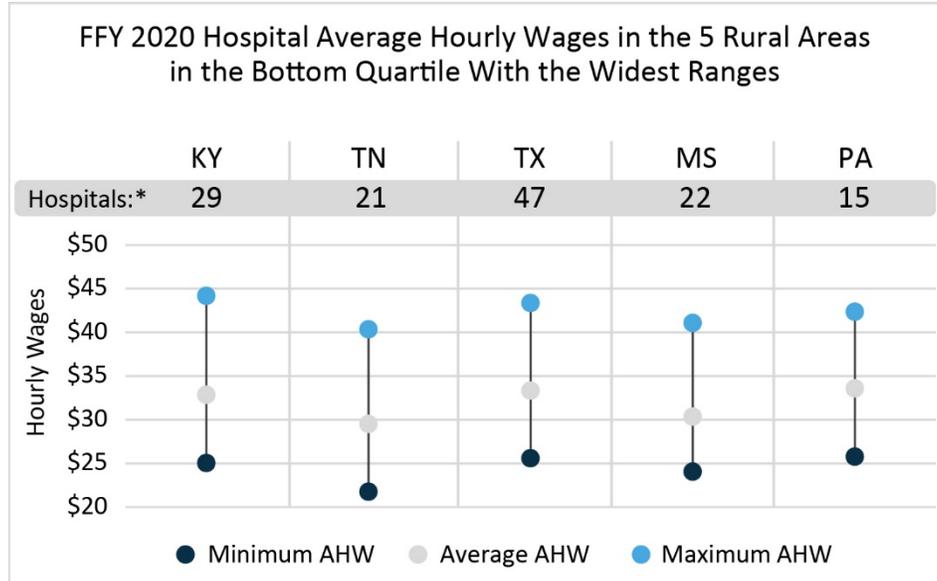
CMS determines each AWI by dividing the occupational-mix-adjusted (OMA) average hourly wage (AHW) for acute-care hospitals in the area by the national OMA AHW for acute-care hospitals. (Appendix B contains an explanation of the OMA AHW.) The national OMA AHW for 2020 was \$44.15. The AHW of individual hospitals within an area can vary significantly; some hospitals in an area pay higher wages than others within the same area.

Figure 6 (on the next page) shows the five bottom quartile statewide rural area wage indexes that had the largest differences between the highest and lowest hospital AHWs. (A State’s rural

¹⁰ Profit margins also varied within wage index areas (urban areas and statewide rural areas), but we are not presenting charts for specific areas in this data brief.

wage index is based on wages for all its rural hospitals, and those hospitals are not necessarily located in the same area of the State.)

Figure 6: Five Rural Areas With Widely Ranging AHWs

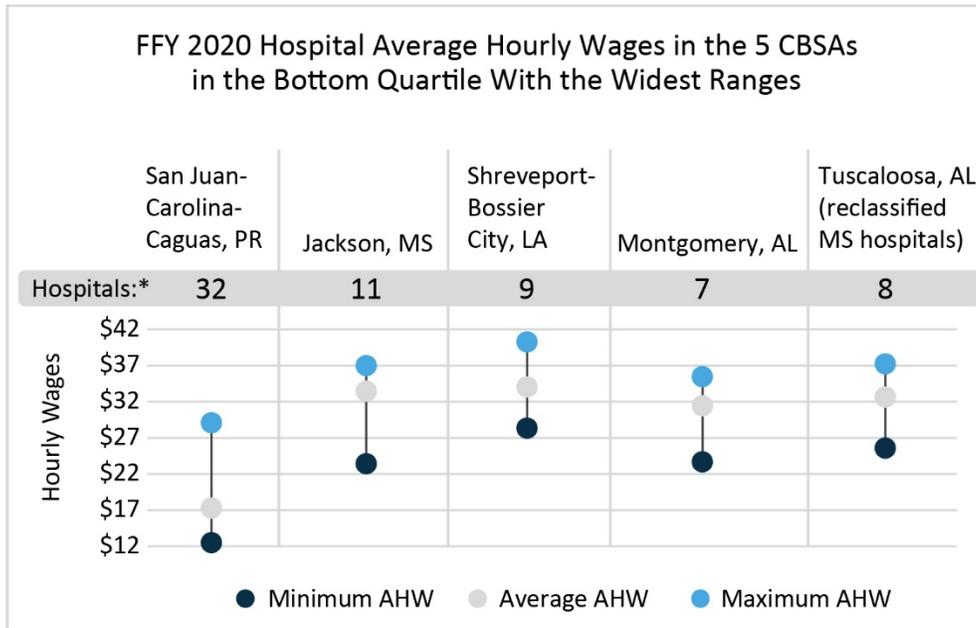


* The number of hospitals is the total number of hospitals in the rural wage index that had FFY 2020 AHWs in CMS's FFY 2020 CN Table 2.

Figure 7 (on the next page) shows the five bottom quartile urban areas¹¹ that had the largest differences between the highest and lowest hospital AHWs.

¹¹ The urban areas are “core-based statistical areas” (CBSAs) defined by the Office of Management and Budget. See Appendix B.

Figure 7: Five CBSAs With Widely Ranging AHWs



* The number of hospitals is the total number of hospitals in the CBSA that had FFY 2020 AHWs in CMS's FFY 2020 CN Table 2.

Conclusion

Although this data brief does not discuss all possible factors affecting the bottom quartile, we have presented some characteristics of bottom quartile hospitals that may be useful for CMS and of interest to stakeholders. We offer this conclusion section for CMS's consideration.

CMS has stated that it agrees with respondents to a prior request for information:

[S]ome current wage index policies create barriers to hospitals with low wage index values from being able to increase employee compensation due to the lag between when hospitals increase the compensation and when those increases are reflected in the calculation of the wage index. (We note that this lag results from the fact that the wage index calculations rely on historical data.) . . . Therefore, in response to these concerns, we are proposing a policy that would provide certain low wage index hospitals with an opportunity to increase employee compensation without the usual lag in those increases being reflected in the calculation of the wage index.¹²

We note that all hospitals participating in the IPPS and OPPI are subject to circularity plus the 4-year time lag, including those with the highest wage indexes. Logically, circularity within the Medicare wage index system is one of multiple factors influencing wages at hospitals. Our data brief has shown that some low wage index areas had a large variation in individual hospital

¹² FFY 2020 IPPS Final Rule, 84 Fed. Reg. 42044, 42326 (Aug. 16, 2019).

average hourly wages. CMS could consider studying why some hospitals in a particular area were able to pay higher wages than other hospitals in the same area, prior to the implementation of the bottom quartile wage index adjustment. More information might enable CMS to focus the adjustment more precisely on the hospitals most needing the adjustment (those that are least able to raise wages).

Meanwhile, rather than treating all bottom quartile hospitals equally, CMS could consider focusing the bottom quartile adjustment in subsequent years more precisely towards hospitals with low or negative profit margins, because they are especially vulnerable to the negative effects of circularity. (Hospitals that have high enough profit margins and revenues can raise wages and overcome the effects of circularity.) This data brief shows that profit margins (net income or loss divided by revenues) varied from very high to very low within the bottom quartile and often within wage index areas in the bottom quartile. Although we used the 4-year old data for our analysis, CMS could consider using profit margin data from a Medicare cost report year closer in time to the wage index year or another data source entirely.

Finally, we note that CMS should consider closely monitoring bottom quartile hospitals' wage data over the next few years to determine whether the anticipated increases to wages are occurring. However, we realize the effect of the adjustment may be difficult to determine in 2020 data given the effects of the COVID-19 pandemic.

CMS Comments and OIG Response

CMS provided technical comments on our draft data brief which we addressed as appropriate. CMS did not submit comments other than those technical comments.

APPENDIX A: SCOPE AND METHODOLOGY

SCOPE

We analyzed characteristics of the 3,483 hospitals in CMS's FFY 2020 Wage Index Table. Those hospitals were located in all 50 States, Puerto Rico, and Washington, DC. We focused on the 866 hospitals with wage indexes in the bottom quartile of wages indexes for FFY 2020, but sometimes compared the characteristics of the bottom quartile hospitals to the characteristics of hospitals in the other quartiles.

METHODOLOGY

To achieve our objective, we:

- reviewed and analyzed the sections of the proposed, final, and corrected final rules for the FFY 2020 IPPS that related to the bottom quartile wage index adjustment;
- reviewed and analyzed CMS's publicly available FFY 2020 wage index development files and FFY 2016 Medicare cost report files;
- validated CMS's identification of the bottom quartile AWIs;
- obtained publicly available data on State minimum wages and Medicaid expansion; and
- used the above-referenced data to create the tables and charts in our findings.

We did not consider CMS's internal controls to be significant to the objective of this audit and accordingly we did not review CMS's overall internal control structure or its controls over the AWI development process.

We conducted this performance audit 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.

Data Reliability Assessment

Hospitals are responsible for submitting accurate cost report and occupational mix data. During wage index development, hospitals, Medicare administrative contractors (MACs), and CMS have the opportunity to identify and correct inaccurate wage data. CMS sets deadlines for

correction requests. Except in certain very limited circumstances,¹³ if inaccurate wage data are not identified by the specified deadlines before the payment year starts, the original data are used by CMS to calculate wage indexes for the payment year. In more than 40 audits of individual hospitals' wage data, with reports issued in 2004 through 2019, OIG found that hospitals submitted inaccurate wage data that was not identified by the MACs or CMS during the wage index development process.

We reviewed the CMS data we used for reasonability (that is, we performed logical tests to see whether the data looked accurate). We discarded individual lines of data that appeared unreasonable or incomplete.

Based on our prior experience with Medicare cost report wage data, our assessment is that there could be undetected errors in the data we used, but that these errors are unlikely to be so severe or so widespread as to affect the overall accuracy of our findings and recommendations. For example, we believe it unlikely that a significant number of hospitals would be assigned to incorrect areas in the CMS files and not alert CMS or their MACs to the errors. (The existence of widespread error could cause us to erroneously count urban hospitals as rural, for example.) With respect to the Worksheet G-3 income and expense data that we used to calculate profit margins, these data are common financial statement data (for example, total revenues), not needing manipulation to fit special Medicare cost reporting categories. Accordingly, we assessed a comparatively low risk of error relating to the reporting of the income and expense data.

¹³ Federal regulations specify that CMS may make a prospective midyear correction to a hospital's wage index only if the hospital shows that its MAC or CMS made an error in tabulating its data and that the hospital either could not have known about the error or did not have the opportunity to correct the error before the beginning of the Federal fiscal year (42 CFR § 412.64(k)).

APPENDIX B: BACKGROUND

Medicare Inpatient and Outpatient Prospective Payment Systems¹⁴

According to CMS, the primary objective of the IPPS and OPSS is to create incentives for hospitals to operate efficiently, while ensuring that payments are adequate to compensate hospitals for their reasonable costs in furnishing necessary high-quality care to Medicare beneficiaries. Rather than paying hospitals for their retrospectively reported reasonable costs for each claim, the IPPS and OPSS prospectively determine what a reasonably efficient hospital's costs would be. Under the IPPS, Medicare pays hospitals predetermined, diagnosis-related rates for patient discharges. Under the OPSS, Medicare pays hospitals predetermined amounts for individual services. CMS uses AWIs to adjust those standard Medicare payments to reflect prices in local labor markets. Both the IPPS and OPSS allow for outlier payments to hospitals in cases that are extraordinarily costly (that is, in cases where actual reasonable costs are much higher than the costs predicted by the PPS). The IPPS also modifies payments for patient characteristics (for example, comorbidities) and facility characteristics (for example, being a teaching hospital) that would contribute to higher costs for a particular discharge.

Wage Data and Wage Indexes

CMS calculates AWIs from wage data submitted by hospitals annually on their Medicare cost reports. CMS uses hospital wage data from 4 years earlier to allow time for the collection of complete cost report data from all IPPS/OPSS hospitals and for reviews of the wage data by MACs. In addition, CMS collects occupational mix survey data from hospitals every 3 years and uses those data to adjust the annual wage data and AWIs for management's staffing decisions.¹⁵

CMS determines a wage index by dividing the OMA AHW for acute-care hospitals in a geographic area by the national OMA AHW for acute-care hospitals. CMS adjusts IPPS and OPSS payments upward for areas with wage indexes greater than one (local AHWs higher than the national AHW) and downward for areas with wage indexes lower than one (local AHWs lower than the national AHW). CMS uses the wage index to adjust only a portion of the standard payment amounts. Another portion of payments is considered to be unrelated to labor.

¹⁴ FFY 2020 IPPS Final Rule, 84 Fed. Reg. 42044 (Aug. 16, 2019) and CY 2020 OPSS Final Rule, 84 Fed. Reg. 61142 (Nov. 12, 2019).

¹⁵ The occupational mix adjustment controls for the effect of hospitals' employment choices on AWIs. For example, to provide nursing care, hospitals choose to employ different combinations of registered nurses, licensed practical nurses, nursing aides, and medical assistants. The varying labor costs associated with these choices reflect hospital management decisions rather than geographic differences in the price of labor.

Urban and Rural Area Wage Indexes

CMS calculates AWIs for the core-based statistical areas (CBSAs) designated by the U.S. Office of Management and Budget. In general, a CBSA consists of one or more counties (or equivalents) oriented around an urban center of 10,000 people or more, together with adjacent communities having a high degree of economic and social integration with that urban core.

In addition to calculating AWIs for CBSAs, CMS calculates one rural wage index for each State, based on the wage data of all the State's rural hospitals (regardless of whether they are in a contiguous rural area).

Budget Neutrality

For the annual update based on the latest finalized Medicare cost reports, CMS must update wage indexes in a manner that ensures that aggregate payments to hospitals are not affected by changes in the indexes (that is, wage index adjustments must be “budget neutral” on a nationwide basis). Some “exceptions” within the wage index system (Appendix C) are legally required to be budget neutral (for example, MGCRB reclassifications) and some are not (for example, outmigration adjustments).

Rural Hospitals and Rural Hospital Closures

In 2017, 64 percent of rural hospital were paid through the critical access hospital (CAH) payment system, which generally pays CAHs 101 percent of their allowable costs for most services. The remaining 36 percent of rural hospitals were paid through the IPPS, with 13 percent being paid under the standard IPPS system, and 6 and 17 percent being paid under the IPPS programs for Medicare-dependent, small rural hospitals (MDHs) and sole community hospitals (SCH),¹⁶ respectively. Hospitals that qualify for the MDH or SCH designation may receive some cost-based payment of inpatient services only.¹⁷

The North Carolina Rural Health Research Program tracks rural hospital closures in the United States.¹⁸ The program has tallied 170 rural hospital closures from 2005 through July 2020, with

¹⁶ To qualify as a SCH, a hospital must be rural or be located at least 35 miles from any other short-term acute-care hospital paid under the IPPS or CAH payment system.

¹⁷ As summarized by the Medicare Payment Advisory Commission (MedPAC), “SCHs receive the higher of either (a) standard inpatient prospective payment rates or (b) payments based on the hospital's costs in a base year updated to the current year and adjusted for changes in their case mix. MDHs are similar to SCHs, but they are eligible for a prospective payment rate based on a blend of current PPS rates (25 percent) and their historical costs (75 percent).” Critical Access Hospitals Payment System Basics, http://medpac.gov/docs/default-source/payment-basics/medpac_payment_basics_19_cah_final_sec.pdf. MedPAC goes on to describe how MDH and SCH payments differ from payments under the CAH payment system.

¹⁸ This program is located at the Cecil G. Sheps Center for Health Services Research at the University of North Carolina.

2019 being the calendar year with the most closures (18). The program defines closure as a facility ceasing to provide inpatient services. Some closures represent facilities that have ceased to provide any services, while other closures represent acute-care inpatient hospitals that have converted to new provider types (for example, outpatient and emergency department services only).

Rural hospital closures are a concern to numerous stakeholders. In the FFY 2020 IPPS Final Rule, CMS stated that the bottom quartile adjustment would help mitigate “the growing disparities between low and high wage index hospitals, including rural hospitals that may be in financial distress and facing potential closure.”¹⁹

Rural hospital closures are a subset of overall short-term acute-care hospital closures. According to the Medicare Payment Advisory Commission, a total of 46 short-term acute-care hospitals closed in FFY 2019, including hospitals in the IPPS and critical access hospital payment system.

In 2020, the COVID-19 pandemic has placed an additional strain on hospitals. Congress passed relief measures intended to assist hospitals through the pandemic.

As we prepared this data brief for publication, there were media reports of the closures of several bottom quartile hospitals in 2020. These closures highlight the changing environment in which CMS’s wage index work takes place.

¹⁹ FFY 2020 IPPS Final Rule, 84 Fed. Reg. 42044,42326 (Aug. 16, 2019).

APPENDIX C: HOSPITAL WAGE INDEX SYSTEM EXCEPTIONS AND THE BOTTOM QUARTILE

Exceptions Within the Wage Index System

Congress has created certain “exceptions” within the wage index system that allow qualifying hospitals to have higher AWIs than they would otherwise be entitled to under the regular operation of the system. In a 2012 report, the Institute of Medicine (now the National Academy of Medicine), found that almost 40 percent of eligible hospitals reclassified to receive a higher wage index.²⁰

Medicare Geographic Classification Review Board Reclassifications

Under section 1886(d)(10) of the Social Security Act (the Act), a hospital may apply to the MGCRB for reclassification from its geographical area to another area to receive a higher wage index, if it meets certain criteria related to AHW and proximity to the target area.

Urban-to-Rural Hospital Redesignation

Under section 1886(d)(8)(E) of the Act and 42 CFR § 412.103, an urban hospital that meets certain criteria may apply to CMS for rural status for Medicare payment purposes.

“Lugar Hospitals”

Section 1886(d)(8)(B) of the Act requires a hospital located in a rural county adjacent to one or more urban areas to receive the wage index of the urban area under certain circumstances relating to commuting patterns. These rural counties and hospitals are commonly referred to as “Lugar counties” and “Lugar hospitals.”

Outmigration Adjustment

Under Section 1886(d)(13) of the Act, a hospital may apply for an “outmigration” adjustment to higher wage index if the hospital is in a county where a relatively high percentage of hospital employees live in the county but work in another county with a higher wage index.

Rural Floor Wage Index

Section 4410 of the Balanced Budget Act of 1997 established the rural floor wage index. This provision requires that wage indexes applied to urban hospitals in a State cannot be lower than the rural area wage index for that State.

²⁰ Institute of Medicine, *Geographic Adjustment in Medicare Payment: Phase I: Improving Accuracy*, second edition, 2012.

Frontier Floor Wage Index

Section 10324 of the ACA established a hospital wage index floor in frontier States, which it defined as those states in which at least 50 percent of counties have a population of fewer than 6 people per square mile. The frontier floor wage index for hospitals in those areas was set at 1.0, meaning hospitals in those states could receive a wage index no lower than 1.0.

Indian Health Service Hospital Wage Indexes

Indian Health Service hospitals are assigned a higher wage index by CMS.

170 Hospitals Avoided the Bottom Quartile by Use of Exceptions

We include the following information so that stakeholders can consider the interaction of the existing exceptions and CMS's new bottom quartile adjustment.

In 2020, 170 hospitals avoided the bottom quartile of wage indexes by application of the following exceptions (see Table 3):

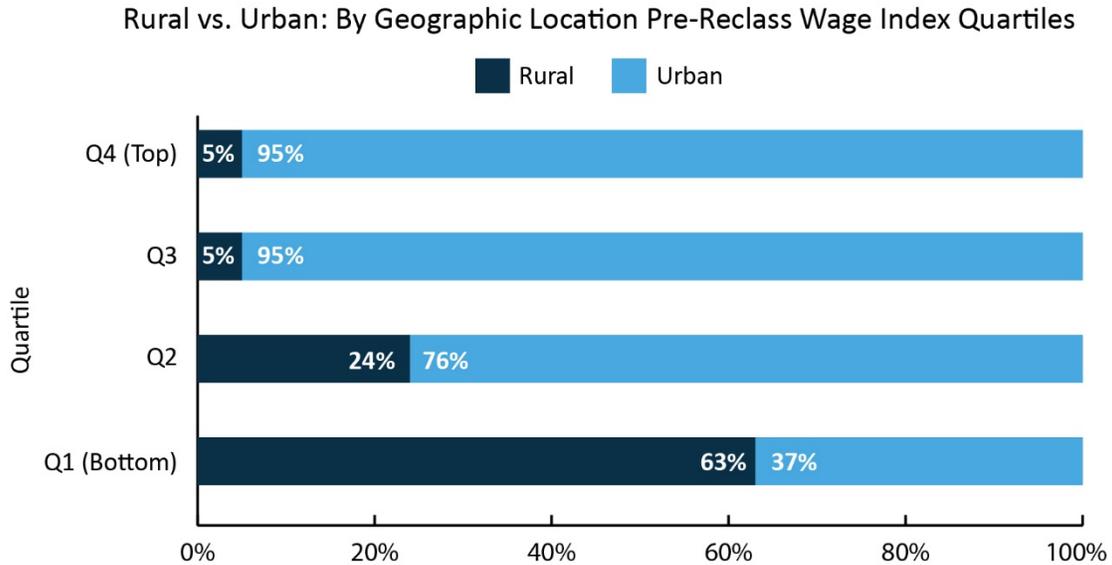
Table 3: Exceptions That Lifted Some Hospitals Out Of The Bottom Quartile

Exception	Type of Reclassification or Redesignation (if applicable)	Number of Hospitals
MGCRB reclassification	Urban area to rural area	1
MGCRB reclassification	Rural area to urban area	88
MGCRB reclassification	Rural area to rural area	1
MGCRB reclassification	Urban area to urban area	29
Urban hospital to rural hospital redesignation under 42 CFR Sec. 412.103	Urban area to rural area	1
"Lugar hospitals"		16
Outmigration adjustment		5
Frontier floor wage index		17
Rural floor wage index		3
Indian Health Service Hospital Wage Index		9
	Total	170

These 170 hospitals received higher AWIs than they would have without the application of these exceptions. The upward movement of these hospitals caused 170 other hospitals to drop into the bottom quartile. The bottom quartile has 866 hospitals, so 170 represents approximately 20 percent.

Figure 8 below shows what the rural/urban breakdown by quartile would have been had those 170 hospitals not been able to benefit from the exceptions in the AWI system.

Figure 8: Rural and Urban Wage Index Quartiles



Of the 170 hospitals that used exceptions to move out of the bottom quartile, 133 were geographically rural hospitals. However, 46 other rural hospitals dropped into the final, postexception bottom quartile. Rural hospitals made up 63 percent of the preexception bottom quartile (Figure 8 above) and 53 percent of the postexception bottom quartile (Figure 1 on page 5).

APPENDIX D: GLOSSARY OF TERMS FOR TABLE 1

Average Daily Inpatient Census: The average daily inpatient census for each hospital is the total number of acute inpatient days divided by the total days in the cost reporting period. CMS calculated each hospital's average daily inpatient census. OIG calculated the average, for each quartile, of its hospitals' average daily inpatient censuses. For example, on average, hospitals in the bottom quartile had an average daily census of 65 inpatients.

Low-Volume Hospital Adjustment: Section 1886(d)(12) of the Social Security Act provides for an additional payment to each qualifying low-volume hospital under the IPPS beginning in FFY 2005. In FFY 2020, a hospital qualifies as a low-volume hospital if it is more than 15 road miles from another IPPS hospital and has less than 3,800 total discharges during the fiscal year.

Medicare Cases for the Year: This is each hospital's total number of Medicare cases for the year from the FFY 2018 Medicare Provider Analysis and Review, March 2019 update. OIG calculated the average Medicare cases for the year for the hospitals in each quartile.

Medicare Days to Inpatient Days Percentage: This is each hospital's total number of Medicare inpatient days for the reporting period divided by its total number of inpatient days. The percentage of Medicare days is an indicator of each hospital's dependence on Medicare as a payor. OIG calculated the average Medicare days to inpatient days percentage for the hospitals in each quartile.