Revision of Medicare Wage Index

Final Report

Part II

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EXECUTIVE SUMMARY

The Medicare statute requires that per-discharge payments to hospitals in the inpatient prospective payment system (IPPS) reflect geographic differences in the cost of labor. As a result, Medicare's IPPS payments are adjusted by a hospital wage index that seeks to reflect the average price of labor facing each hospital. To construct the index, Medicare clusters hospitals into metropolitan statistical areas (MSAs) and residual areas ("balance-of-state" or "rest of state"). These geographical areas approximate hospital labor markets, and average wages are calculated for each using wage data from an annual survey of IPPS hospitals' labor costs. However, accurately representing a hospital labor market is not a simple task, and inaccurately specifying a hospital labor market can create two problems.

The first problem occurs when hospitals in the same MSA (or county) but located a significant distance from each other receive the same wage index value, even though they face different labor costs. In this situation, the hospital that faces higher labor costs is at a disadvantage. The second problem, called a "cliff" or "boundary" problem, occurs when neighboring hospitals face the same labor prices but receive significantly different wage index values because they are located in different MSAs. For example, these hospitals could be on opposite sides of the same street yet in different MSAs. In this case, the hospital with the lower wage index value is at a disadvantage relative to its neighboring hospital.

These two situations lead to a problem of incentives: in each case the disadvantaged hospital will have an incentive to seek reclassification or an exception that increases the hospital's wage index value. These reclassifications and exceptions aim to compensate for the wage index inaccuracies resulting from using MSAs and balance-of-state areas as representative hospital labor markets. Although reclassification and exceptions may in many cases improve the match between the wage index value and the prevailing average wage in a geographic area, there is no guarantee. Since most current reclassifications and exceptions still rely on wage index values determined by imprecise approximations of hospitals' labor markets, many hospitals may obtain increases in their wage index values in excess of what would correspond to the adjustment based on accurate labor market definitions. Further, with as many as one-third of IPPS hospitals receiving adjustments of one kind or another that increase their wage index values, the overlay of

the existing patchwork of reclassifications and adjustments on the wage index has created a very complicated and convoluted system. In the Tax Relief and Health Care Act of 2006 (TRHCA), Congress required the Medicare Payment Advisory Commission (MedPAC) to develop recommendations for revising the wage index and required the Secretary of Health and Human Services to respond to these recommendations.

In June 2007, MedPAC recommended repeal of the existing wage index statute, including the elimination of reclassification and exceptions, and proposed an alternative index.[1] MedPAC's proposed hospital compensation index changed both the data used to construct the hospital wage index and the method of its construction. In an earlier report, "Revision of Medicare Wage Index: Final Report, Part I" (April 2009), Acumen evaluated the Bureau of Labor Statistics (BLS) occupational wage survey data proposed by MedPAC. In this report, "Revision of Medicare Wage Index: Final Report, Part II", we analyze MedPAC's proposed method of improving upon the definition of the wage areas used in the current Medicare wage index. This method first averages or "blends" MSA and county-level wages and then implements a "smoothing" step which eliminates large differences in index values among neighboring hospitals. As proposed by MedPAC, smoothing would limit differences in wage index values between adjacent counties to no more than 10%.

Since it is possible to separately analyze MedPAC's method of defining wage areas and the wage data, Acumen applied the blending and smoothing methodology to both a wage index that uses current Medicare wage data and another that uses BLS wage data. We isolated the effects of the blending and smoothing method on the two sets of underlying wage data. This approach gives a detailed assessment of the advantages and disadvantages of MedPAC's blending and smoothing method. This analysis is described in Section 3.

Section 4 of the report contains impact analyses for different groups of hospitals that compare a Medicare wage index adjusted using MedPAC's blending and smoothing methodology with the current Medicare hospital wage index. Impacts were estimated for the current Medicare index both with and without reclassifications and exceptions.[2] Comparing the

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[1] Medicare Payment Advisory Commission, "An alternative method to compute the wage index" in Report to the Congress: Promoting Greater Efficiency in Medicare, June 2007, pages 122-154.

[2] All reclassifications and exceptions were modeled except for "hold harmless," Section 508 adjustments, and special exceptions, which are for limited periods of time.

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blended and smoothed Medicare index to the Medicare index without reclassification and exceptions isolates the hospital level impacts of the MedPAC blending and smoothing process. The companion analysis for the Medicare index that includes current reclassifications and exceptions indicates the changes hospitals would face in moving from the Medicare index as currently implemented to a Medicare index that adopts MedPAC's method in place of reclassifications and exceptions. Parallel analyses were also conducted for the impact of MedPAC's blending and smoothing method using a wage index constructed with BLS data.

Following a short review of a wide variety of existing and prior efforts to empirically define labor market areas (described more fully in Section 2 of the report), we summarize the main findings of Sections 3 and 4. We conclude with a recommendation for future exploration of labor market definitions.

Historical Wage Area Definitions

Wage areas ideally should be defined to encompass one geographic area within a single labor market. Although wage areas have been defined in numerous ways, we can categorize these methods into four distinct groups, based on:

1. Political or institutional entities, e.g., states, counties, or ZIP codes;

2. Aggregates of political entities according to economic activity, e.g., MSAs, Labor Market Areas (LMAs) as defined by the Bureau of Labor Statistics, or Economic Areas (EAs) as defined by the Bureau of Economic Analysis;

3. Aggregates of political entities according to health-related activities, e.g., Health Care Commuting Areas (HCCAs) and Health Service Areas (HSAs);

4. Hospital-specific factors, such as the location of the hospital relative to other hospitals or relative to its patients or employees, the commuting time or distance incurred by the employees of the hospital, etc.

Defining a wage area on the basis of political boundaries is relatively simple and sometimes the only feasible approach with available data, but political boundaries rarely reflect true labor market boundaries. Labor markets based on economic or health-related activity more accurately portray the true labor market, but still suffer from problems such as cliffs. These problems arise because the more appropriate units of economic or health-related activity are usually aggregations of political or institutional units. Indices based on hospital-specific factors

rather than groupings of hospitals or political boundaries attenuate the problems resulting from inaccurate representations of labor markets. However, they have not managed to eliminate them. Further, many of these models are complex and difficult to implement.

Evaluation of MedPAC's Blending and Smoothing Methodology

MedPAC's index begins at the same place as does the Medicare index: with MSA-level wage areas. Recognizing that these areas are likely overly broad representations of labor markets, MedPAC first adjusts the MSA-level index with county-level census wage data to create a blended wage index whose values vary by county within an MSA. County borders may allow a greater level of precision in defining labor markets in some settings, but this blending step is calculated mechanically: the MSA and county-level wage information are given equal weight in calculating blended index values.

The blended index is subsequently adjusted by a smoothing algorithm to eliminate large differences in index values across county boundaries. This form of smoothing ensures that the index value for any one county does not differ from those of its neighbors by more than a pre-selected percentage limit. (MedPAC proposed a limit of 10%, but Acumen also analyzed limits of 5% and 15%.) Analysts iterate the process until the difference in index values between neighboring counties no longer exceeds the limit. For example, if the difference is more than 10%, the county with the lower index value is assigned a compensation index equal to 90% of its highest neighbor. This process is repeated until all differences in the index values of adjacent counties meet this threshold. With this smoothing algorithm, counties can only be adjusted upward toward the wage index value of adjacent counties. To ensure that these upward wage index adjustments do not affect aggregate Medicare payments, MedPAC reduces all the post-smoothing wage index values to achieve budget neutrality.[3]

One characteristic of MedPAC's smoothing adjustment is that it creates "ripple effects." Ripple effects occur when the smoothing algorithm affects the wage index value of additional

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[3] In the IPPS, adjustments for wage index budget neutrality have generally been applied to the standard payment amount rather than the wage index. However, Acumen's analysis applies budget neutrality adjustments to the wage index. This approach simplifies the analysis in that all wage index effects can be demonstrated in terms of the wage index without requiring a full analysis of payment effects. Wage index effects are very similar, but not necessarily identical, to payment impacts. The main reason for potential differences is correlation between wage index values and other payment adjustors.

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counties not affected by the first smoothing adjustment. Ripple effects change the index values of wage areas that originally were not subject to smoothing. The more ripple effects occur, the greater the required budget neutrality adjustment and the larger the number of hospitals whose wage indexes are only (negatively) affected by budget neutrality. In other words, the ripple effect penalizes those hospitals that are not subject to smoothing.

The key findings of Acumen's analysis of applying MedPAC's blending and smoothing method to the Medicare wage data are as follows:

- The blending step or county-level adjustment to the Medicare wage data increases the number of contiguous counties with differences in wage index values, but reduces the average cliff size. The average cliff size under the Medicare blended wage index smoothed at the 5%, 10%, and 15% thresholds is smaller than the average cliff size observed in the current Medicare wage index. The size of "large" cliffs when smoothing at the 5%, 10%, and 15% thresholds is also smaller compared with the size of large cliffs under the Medicare wage index. Reducing the size of cliffs reduces the potential for reclassifications and exceptions, but the associated increase in the number of county boundaries may create additional reclassifications and exceptions that to some extent offset the benefits of the reduced cliff size.

- Regardless of the smoothing threshold, for 50% of hospitals, the blended and smoothed wage index values are lower than the pre-reclassification Medicare wage index values. These declines are the result of the negative adjustments needed to maintain budget neutrality. The size of the impacts is larger the lower the smoothing threshold. Hospitals with wage indexes that are negatively affected by the budget neutrality adjustment are likely to find this result arbitrary and unfair.

- Overall, there is a tradeoff between choosing a lower threshold or a higher threshold. The tighter threshold reduces the size of cliffs to a greater extent, but leads to more ripple effects and changes in hospital wage index values. In addition, budget-neutralizing affects all hospitals, and negatively affects some hospitals that received a smoothing adjustment and *all* hospitals that were not smoothed. The decrease in wage index values for hospitals that did not receive a smoothing adjustment is larger the lower the smoothing threshold. A lower smoothing threshold would reduce potential

reclassifications and exceptions, but, by increasing the magnitude of the ripple effects, could also increase other potential reclassifications and exceptions.

- Applying the MedPAC blending and smoothing method to the BLS hospital wage index yields a similar set of conclusions. That is, this method appears to reduce the size of cliffs between adjacent counties, but creates the same problems observed when this methodology is applied to the Medicare wage index (e.g., an increase in the number of cliffs and ripple effects, and decreases in the wage index values of hospitals only affected by the budget neutrality adjustment). Nonetheless, increases and decreases in wage index values are smaller when applying the blending and smoothing methodology to the BLS data. This is because of the BLS data displays less variability than the Medicare wage data.

Although MedPAC's method diminishes the size of cliffs between adjacent counties, it does not guarantee an accurate representation of a hospital labor market. With this method all hospitals in a given county have identical index values, even though some may be located in different labor markets.

Hospital Impacts of Blending and Smoothing Wage Index Values

Acumen examined the impact of the MedPAC blending and smoothing method on different types of hospitals, including hospitals that currently receive reclassifications and/or exceptions. We examined the effects of moving to a blended and smoothed index using current Medicare wage data from both (1) the 2008 pre-reclassification, pre-rural floor Medicare wage index and (2) the final post-reclassification Medicare wage index. The first comparison shows the types of hospitals that would tend to benefit (or lose) from the blending and smoothing method in the absence of reclassifications and exceptions. The second analysis shows how hospitals would be affected if the blending and smoothing process were to replace the current reclassifications and exceptions.

Hospitals that face large cliffs in their pre-reclassification wage index values tend to experience wage index increases when moving to the blended and smoothed index from the pre-reclassification Medicare wage index. Hospitals that tend to see negative effects are those that did not face large cliffs and therefore did not receive any smoothing adjustments. These

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hospitals would only receive negative adjustments for budget neutrality. When calculating the percent difference of moving to the Medicare blended and smoothed wage index from the *pre-reclassification* Medicare wage index, we found that:

- Rural hospitals and Mountain, Pacific, and Middle Atlantic urban hospitals tend to see increases, while other hospitals tend to see decreases in their wage index values. These types of hospitals are more likely than others to benefit from the reduction in large cliffs in the pre-reclassification wage index.

- The median hospital sees a small decline in its index value while the average hospital experiences a small increase in its wage index value. About 17% of hospitals will experience a 1–5% decline in wage index values, and 15% of hospitals will experience a 1–5% increase in wage index values (change calculated as a percentage of the pre-reclassification Medicare wage index).

When calculating the percent difference of moving to the Medicare blended and smoothed wage index from the *post-reclassification* Medicare wage index:

- Urban hospitals generally, and Mountain, Pacific, and Middle Atlantic urban hospitals specifically, tend to receive positive adjustments. In contrast to the pre-reclassification comparison described above, the wage index values of rural hospitals do not show positive changes from blending and smoothing relative to the post-reclassification index. The explanation is that overall they benefit more than do urban hospitals from the current system of reclassifications and exceptions. The fact that urban hospitals in the Mountain, Pacific, and Middle Atlantic regions benefit in both comparisons implies that they derive less benefit from the current system of reclassifications and exceptions than do urban hospitals in other regions.

- More than 50% of hospitals will see more than a 1.5% increase in index values. More than 13% of hospitals will experience a 5% or greater decline in wage index values, and an additional 23% will experience declines of between 1% and 5%. Roughly 42% of hospitals will experience an increase in their wage index values of between 1% and 10% (change calculated as a percentage of the post-reclassification Medicare wage index).

Acumen's analysis suggests that the majority of hospitals that currently receive reclassifications and exceptions would benefit less from the MedPAC blending and smoothing method than they do from the current system of reclassifications and exceptions. It is important to note that this result does not imply that the current system of reclassification and exceptions necessarily does a better job than the MedPAC blending and smoothing method of matching hospitals' wage index values and the prevailing wages in their labor market areas. Specific findings regarding the impact of adopting MedPAC's methodology on hospitals currently receiving reclassifications and exceptions are as follows:

- Approximately 36% of all reclassified hospitals experience increases of 1% or more in wage index values when moving to the Medicare blended and smoothed wage index from the Medicare wage index prior to reclassifications and exceptions. However, relative to the post-reclassification Medicare wage index, more than 60% of all currently reclassified hospitals experience decreases of at least 1%.

- When moving to the Medicare blended and smoothed wage index from the Medicare post-reclassification index, the percentage of hospitals experiencing declines of at least 1% in wage index values is significantly higher than the percentage of hospitals experiencing increases of at least 1% in wage index values.

- This pattern is true for all types of reclassifications and exceptions, except for Section 401, which allows hospitals to be classified as rural even though they are located in an urban area. More than one-half of the hospitals receiving Section 401 reclassifications experience an increase in wage index values, which implies that these hospitals benefit more from the blending and smoothing process than from reclassification. The reason is that while blending and smoothing may increase a Section 401 hospital's rural wage index value, no increase in the wage index results directly from Section 401 reclassification (the rural floor provision ensures that no urban hospital receives a lower wage index value than any rural hospital in the same state).

- Among reclassified hospitals, rural hospitals are more likely than urban hospitals to experience a decline in wage index values in moving to the blended and smoothed Medicare index from the current system with reclassifications and exceptions. This

situation is most likely when there is a large cliff between adjacent rural and urban areas and rural hospitals can reclassify to the urban wage area.

Conclusion and Recommendations

Acumen recommends further exploration of labor market definitions using a wage area framework based on hospital-specific characteristics, such as the commuting times from hospitals to population centers, to construct a more accurate hospital wage index. We think that such an approach offers the greatest potential for replacing or greatly reducing the need for hospital reclassifications and exceptions.

However, it would be naïve on our part to believe that all hospitals would eagerly embrace a wage index that significantly improves the accuracy of the wage index. Our analysis suggests that some hospitals would experience declines in their wage index values as a result of more accurately defining labor markets. Certain hospitals, especially rural hospitals, benefit more from the existing reclassifications and exceptions than they would if their wage index values were more accurate.

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1 INTRODUCTION

The Medicare statute requires that per-discharge payments to inpatient prospective payment system (IPPS) hospitals reflect geographic differences in the cost of labor. On the basis of the statutory provisions, the Centers for Medicare & Medicaid Services (CMS) adjust Medicare's IPPS payments for labor costs with a hospital wage index. This wage index seeks to reflect the average price of labor that each hospital faces. To construct the index, Medicare uses wage data from an annual survey of IPPS hospitals' labor costs and clusters hospitals into clearly demarcated geographic areas defined as metropolitan statistical areas (MSAs) and residual or "rest-of-state" areas. These areas are used to represent hospital labor markets, and average wages are calculated for each of these areas. However, accurately representing a hospital labor market is not a simple task, and an inaccurate specification of a hospital labor market can create two problems.

The first problem arises when hospitals that are in different labor markets, and thus face different labor costs, are given the same wage index value because they are located in the same geographic wage area or MSA. The second problem, called a "boundary" or cliff problem, is when neighboring hospitals that are in the same labor market, and thus face the same labor prices, are given different wage index values because they are located in different MSAs.

These problems can be illustrated by the following two examples. Suppose that two hospitals are located a significant distance away from each other but in the same MSA (or county). Given their location, both hospitals draw their workers from different labor pools and thus face different labor prices. If one constructs hospital wage areas at an MSA (or county) level, these two hospitals will receive the same wage index value despite their different labor prices. Now suppose that two hospitals are on opposite sides of the same street, but located in different MSAs (or counties). If the hospital wage area is constructed at an MSA (or county) level, these two hospitals will have different wage index values even though their work force is drawn from the same labor pool, and thus they both face equal labor prices. In this example, the hospital with the lowest wage index value is at a disadvantage relative to its neighboring hospital. These two situations lead to a problem of incentives: the hospital that is given a low wage index relative to the prices of labor it faces or relative to the compensation received by its

neighboring hospitals will have an incentive to ask for a "reclassification" or wage index adjustment.

Under the current system, a number of exceptions, or reclassifications, have been established that allow hospitals to receive another wage index value than the one originally assigned. These exceptions or reclassifications aim to fix the wage index inaccuracies resulting from the use of MSAs and balance-of-state areas as representations of hospital labor markets. Reclassification may be a reasonable way to improve the match between the wage index value and the prevailing wage in a geographic area. Allowing reclassification, however, creates a time-consuming and complex appeals process. Not allowing reclassification would maintain the integrity of the wage index and eliminate the costs associated with the appeals process. Without reclassification, however, many hospitals may receive wage index values that do not accurately reflect their local labor costs.

The problems caused by an inaccurate representation of hospitals' labor markets have been an enduring issue. Under the current system, roughly one-third of IPPS hospitals reclassify and acquire a different index value than the one originally assigned. Neither reclassifying nor refusing to reclassify is an entirely attractive option. To address these problems, Congress in the Tax Relief and Health Care Act of 2006 (TRHCA) instructed the Medicare Payment Advisory Commission (MedPAC) to develop recommendations for revising the wage index and required the Secretary of Health and Human Services to respond to these recommendations. In June 2007, MedPAC submitted a report with recommendations for revising the Medicare wage index. In this report, MedPAC proposes an alternative wage index that "blends" MSA and county-level occupational wages and then implements a "smoothing" algorithm in an attempt to diminish large differences in index values, also called "cliffs," between adjacent counties.

The goals of this report are as follows: (i) to review the historical definitions of labor markets and provide a context for evaluating current efforts to construct a wage index that accurately reflects the prices of labor faced by hospitals; (ii) to evaluate MedPAC's blending and smoothing methodology and its application to the current Medicare wage index and the modeled Bureau of Labor Statistics (BLS) wage index; and (iii) to analyze the results of a change from the current hospital wage index (with and without reclassifications) to a Medicare wage index that

has been adjusted with MedPAC's methodology.[1] All the indices referred to in this report are constructed as follows:

1. Medicare wage index (also referenced to as the pre-reclassification Medicare wage index)
   - Constructed at the MSA-level using 2004 IPPS hospital cost report data.
   - This index does not contain any type of reclassification or rural floor.

2. Medicare blended wage index
   - Constructed at the county-level using 2004 IPPS hospital cost report data.
   - Blended with the Medicare wage index (with 50/50 weighting of each index)
   - This index does not contain any type of reclassification or rural floor.

3. Post-reclassification Medicare wage index
   - This 2008 index is used by CMS to adjust the base payment for IPPS hospitals.
   - Provided by the CMS public use files
   - Compared to the Medicare wage index, this index has reclassifications and rural floor.
   - Reclassification breakdown is from public files and also appended to by CMS.

4. BLS wage index
   - This MSA-level index is constructed using BLS-OES occupational wage data.
   - This index is constructed following the MedPAC methodology, with the following exceptions: it is not at the county level (no county-level adjustment), does not contain the benefits adjustment, and does not implement MedPAC's budget neutrality adjustment.

5. MedPAC blended wage index
   - Constructed a county specific wage index using census 2000 county-level data.
   - Weighted above county index as well as a MSA-level index (the BLS wage index) with occupation wage shares.
   - Produced a ratio of these two indices described in the above step, and multiplied the BLS wage index by this ratio.
   - Produced weighted sum of last step above and the BLS wage index (at 50/50 weight)
   - This is constructed following MedPAC's methodology, except it does not contain the benefits adjustment.

To budget neutralize, we weight all the above indices by hospital discharges.

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[1] Throughout this report we refer to this index as the Medicare "blended" and smoothed wage index. The word "blended" derives from the step where county-level and MSA-level wage data are combined.

The report is divided into five sections, including this introduction (Section 1). Section 2 reviews historical efforts to define labor markets. Wage areas ideally should be defined to encompass one geographic area within a single labor market. Although wage areas have been defined in numerous ways, we can categorize these methods into four distinct groups, based on:

1. Political or institutional entities, e.g., states, counties, or ZIP codes;

2. Aggregates of political entities according to economic activity, e.g., MSAs, Labor Market Areas (LMAs) as defined by the Bureau of Labor Statistics, or Economic Areas (EAs) as defined by the Bureau of Economic Analysis;

3. Aggregates of political entities according to health-related activities, e.g., Health Care Commuting Areas (HCCAs) and Health Service Areas (HSAs);

4. Hospital-specific factors, such as the location of the hospital relative to other hospitals or relative to its patients or employees, the commuting time or distance incurred by the employees of the hospital, etc.

Defining a wage area on the basis of political boundaries is simple and is often constructed with available data, but political boundaries rarely reflect true labor market boundaries. Labor markets based on economic or health-related activity more accurately portray the true labor market, but still suffer from issues such as boundary or cliff problems. On the other hand, indices based on wage areas that are defined uniquely by one hospital and its characteristics, instead of by groupings of hospitals or political boundaries, attenuate the problems stemming from inaccurate definitions, but do not eliminate them. Further, many of these models are complex and difficult to implement.

Section 3 describes MedPAC's blending and smoothing methodology in detail and evaluates the feasibility and impact of applying it to IPPS hospital cost-report data and to BLS-OES occupational wage data. In particular, this section assesses whether this methodology is able to decrease the size of cliffs and diminish the problems associated with an inaccurate representation of a hospital labor market; it analyzes whether the effects of MedPAC's approach differ when applying it to hospital cost-report data compared with BLS-OES data. It also evaluates the magnitude of the "ripple effects" problem. Ripple effects occur when the smoothing algorithm designed to reduce the magnitude of cliffs also affects the wage index value of nonadjacent counties.

Section 4 analyzes the impact of applying MedPAC's methodology to either the current pre-reclassification, pre-rural floor Medicare wage index or the post-reclassification, post-rural

floor Medicare wage index. It explores the impact on a variety of hospitals, such as urban versus rural hospitals; hospitals of different sizes, status, type of ownership, or geographic location; and hospitals with reclassifications.

Finally, Section 5 concludes with a summary of results and Acumen's recommendations regarding the application of MedPAC's methodology to the Medicare wage index.

2 REVIEW OF HISTORICAL WAGE AREA DEFINITIONS

Fairly compensating hospitals for disparities in wages is important from both the Medicare and hospital perspectives, and adjusting for different area wage levels is required by law under 1886(d)(3)(E). Determining a set of discrete geographic boundaries to define hospital wage, however, is a complex task. Hospitals choose to locate facilities for a variety of reasons, including access to both workers and consumers. Few, if any, of these concerns are driven by the need to respect the confines of county or Metropolitan Statistical Area (MSA) boundaries. Yet in many instances, data sets used to examine questions about areas of economic interest (e.g., wage areas) aggregate the hospital or individual information into county or MSA levels. Even if a data set were defined at a finer level of detail, such as Medicare's inpatient prospective payment system (IPPS) data (collected at the hospital level), this information does not correspond to or reflect the geographic market of interest. Further, it is unlikely that each hospital has its own unique labor market.

One consequence of this mismatch between the hospital's labor market and available data is that attempts to define a functional hospital wage area are either overly broad or too narrow. Broad wage areas bring together hospitals that belong to neighboring markets. Narrow wage areas exclude relevant hospitals and areas.   Regardless of whether the wage area definition is broad or narrow, both methods have the potential to create problems of inaccuracy in the wage index.

The theoretical underpinnings of a wage area (or labor market) have been examined and tested by many labor economists.[2] In theory, the extent of a hospital's wage area is limited both by the level of compensation it offers its workers, the compensation offered by its neighboring hospitals, and the wage workers require to provide their services. Given its location, the hospital's level of compensation will attract workers who live up to some distance away. The wage area boundary can be defined by the location of workers who are indifferent, at a given wage (or compensation) level, between commuting to a hospital in a particular wage area or to a

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[2] A number of different branches of labor economics focus on the theory of and empirical evidence for job search, reservation wages, and wage formation. See, for example, Mortensen and Pissarides, 1994; and Hall and Krueger, 2008, and the references therein.

hospital in a neighboring wage area. With this boundary as the outer edge of the labor market, we can trace the physical area that includes the hospital to define the hospital's wage area or labor market literally.

Attempts to put this theory into operation have been made by many different entities, including federal and state agencies, courts, and academics. Government agencies may be interested in defining wage areas to analyze the effectiveness of certain policy decisions or to dispense federal funds, courts may focus on antitrust issues, and academics may define wage areas to test theoretical predictions. Despite these varied interests, all of these entities struggle with the same issues surrounding the empirical treatment of wage areas.

Below we provide a summary of the methods currently used to define wage or labor market areas, as well as other conceptions of "local" areas. We also examine the wage area currently used to construct the Medicare wage index.

2.1 Historical Wage Area Definitions

Wage areas should be defined to encompass one geographic area within a single labor market. While wage areas have been defined in numerous ways for a variety of purposes, for this paper, we can categorize these methodologies into four distinct groups. These wage areas can be based on:

1. Political or institutional entities,
2. Aggregates of political entities according to economic activity,
3. Aggregates of political entities according to health-related activities, or
4. Hospital-specific factors.

Below we discuss each wage area definition in turn. Appendix Table A.1 lists each wage area measure, including a brief description.

2.1.1. Political or Institutional Boundaries

Most wage areas are defined by political or institutional boundaries. State, county, and city boundaries are popular, but detailed accurate information is possible using smaller groupings such as ZIP codes. Because data are often collected according to political boundaries, measuring wage areas by county or by city levels is very convenient. However, many county-based wage areas are not very accurate. Many counties, particularly in the West, are very large and may

encompass many labor markets. Further, labor markets can cross county lines, making frequent reclassification necessary.

There are other federally defined wage areas that we do not discuss here because they are defined using units larger than counties. For example, Medicare uses geographic practice cost indices (GPCIs) to adjust payments to physicians for their services. The entire country is divided up into only 89 GPCIs, 34 of which are statewide. As a point of reference, there are more than 3,000 counties nationwide.

2.1.2. *Aggregating by Economic Activity*

One of the most popular means of creating a wage area is to group political entities (e.g., counties, cities, ZIP codes) by some measure of economic activity. One of the most commonly used units to define a wage area is the MSA. In the early 1900s, many different agencies developed their own concept of a suitable geographic unit with which to measure economic activity. In 1948, the county was chosen as the building block of metropolitan areas in order to standardize the data collection efforts of numerous agencies. The county was chosen despite the fact that "[t]he metropolitan county arose as a mere approximation to the… (metropolitan) district (a sub-county unit). The use of smaller territorial units than metropolitan counties…leads to a much more precise analysis of labor and housing market."[3] Since 1950, the Office of Management and Budget (OMB) has defined the metropolitan area, composed of counties, as the major geographic unit of analysis, and many other federal agencies have used it as such. The OMB continually reviews the definition to take account of changes in population distribution, commuting patterns, and other measures of economic and social cohesion. The current definition of an MSA attempts to construct a statistical area that represents economically important groupings of people. Along with commuting patterns, these definitions also stress the presence of jobs relative to population density. In its most recent version, OMB still employs counties as the building blocks for its statistical areas, despite the "well known disadvantages of using counties…the large geographic size of some counties and resultant lack of geographic

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[3] Interagency Committee on Standard Metropolitan Areas (1948) cited in *Federal Register* Vol.63, No.244, p. 70525-70561, December 21, 1998.

precision that follows from their use."[4] These units are used because "they are available nationwide, have stable boundaries, and are familiar geographic entities."[5]

Current incarnations of MSAs are designed to represent labor market areas with at least one urbanized area of 50,000 or more people (a "core area") and adjacent communities highly integrated both economically and socially to that core. In practice, they are largely defined by commuting patterns. MSAs typically represent one or more counties. Larger metropolitan areas often have multiple MSAs, which are grouped as "combined statistical areas." For example, the New York-Newark-Bridgeport combined statistical area includes seven MSAs, which straddle four states.

Although the MSA is one of the most popular definitions of a wage area, other agencies also group counties by economic activity criteria in order to construct a wage area. For example, the BLS uses counties to define Labor Market Areas (LMAs) in a way that takes the "local" population as the focal point of the area. An LMA describes a geographic area in which people live and find jobs within a reasonable distance or can easily change jobs without relocating. LMAs are constructed with the county or county equivalents as their fundamental unit, but LMAs can and do cross state boundaries. In urban areas, the metropolitan or micropolitan boundaries are used to determine which counties are included and excluded in each LMA.[6] But in less-populated areas that are not categorized as metropolitan or micropolitan, small labor market areas are formed by combining counties on the basis of commuting data. BLS uses these data, along with requirements for contiguity, to determine if small LMAs are single- or multi-county units. LMAs are non-overlapping and geographically exhaustive and BLS uses them to report local unemployment figures.

The Bureau of Economic Analysis (BEA) uses another definition of economic activity to define wage areas called "economic areas" (EAs). In delineating EAs, BEA identifies economic nodes that consist of 310 MSAs and primary metropolitan statistical areas (PMSA)[7] plus 38

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[4] See *Federal Register* Vol.63, No.244, p.70525-70561, December 21, 1998.

[5] Ibid.

[6] Micropolitan areas are urban areas based around a core city or town with a population of 10,000 to 49,999 that describe growing population centers that are not close to large cities. OMB created this designation in 2003.

[7] PMSA refers to the census term that describes a major urban area within a consolidated metropolitan statistical area. A PMSA is an urbanized county or set of counties with strong social and economic ties to neighboring communities. PMSAs are identified within areas of one million-plus population.

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nonmetropolitan counties. Each county not included in these nodes is analyzed to determine the node with which it is most closely associated. Economic measures such as commuting patterns in MSAs and regional newspaper circulation in less-urbanized areas are used to aggregate counties into "component economic areas," which are then aggregated to form the final EAs. EAs are county based, non-overlapping, and geographically exhaustive. These areas delineate local labor markets and are used to report geographically detailed economic data and for regional economic analysis.

2.1.3. Aggregating by Health-Related Activity

Although the existing Medicare wage area groups hospitals by their MSA and rest-of-state status, a recent refinement to the process suggests an interest in using commuting costs to group hospitals. Section 505 of the Medicare Prescription Drug, Improvement, and Modernization Act (MMA) of 2003 requires CMS to offer a possible wage index adjustment based on hospital employee commuter traffic. In particular, a hospital can apply for a wage index adjustment if at least 10% of hospital employees who reside in the hospital's county commute to an MSA (or MSAs) with a higher wage index (or wage indices). Hospitals can also qualify for the "commuting adjustment" if the three-year average hourly wage of the hospital in the county equals or exceeds the three-year average hourly wage of all hospitals in the MSA or rest-of-state area in which the county is located.

State agencies have also experimented with health-related measures to construct wage areas. In Maryland, a state exempt from the Medicare Inpatient Prospective Payment System, the Maryland Health Services Cost Review Commission (HSCRC) uses an index of labor market adjustors to modify charges for differential labor market costs among hospitals, in order to analyze their relative efficiency.[8] In response to hospital criticism of the use of county-based wage areas, HSCRC restructured labor market adjustors using employee ZIP code information for each hospital to more accurately reflect labor costs. In place of county data, HSCRC calculated total market hours and compensation for each job category by ZIP code using statewide data. Using information at the ZIP code level allowed regulators to base rate adjustments on a closer approximation of labor market costs across hospitals.

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[8] See Maryland Health Services Cost Review Commission, 2003.

Health care worker data can be used to construct a wage area, but so can patient demand data. For example, in the 1970s, Transaction Systems, Inc., developed the concept of health care commuting areas (HCCA). HCCAs are defined by grouping counties based on natality, mortality, and commuting data.[9] This process resulted in the creation of 780 HCCAs nationwide. The National Center for Health Statistics (part of the Centers for Disease Control and Prevention) has an updated version of the HCCA, called the Health Service Areas (HSAs). HSAs measure patient access to health care by evaluating the flow of patient hospital stays between counties. Research into the construction of these areas highlights the fact that patients often travel beyond their county of residence for hospital care.[10]

Because the HSA is county-based, it encounters similar boundary problems as wage areas based on any other political boundary. To address this county boundary problem, the Dartmouth Institute for Health Policy and Clinical Practice developed a refinement of the HSA technique, *the primary care service area* (PCSA), which is defined to describe market areas for primary care. These areas are constructed by linking the ZIP code of each primary care provider and the ZIP code representing the plurality of patients receiving care from that provider. These links lead to roughly 6,500 PCSAs nationwide. This standardized geographic unit can be used for the analysis of primary care utilization for populations that reside in subcounty units.

Another measure of a "medical" market highlights areas in which residents experience limited access to medical care. To help allocate physician resources, the Health Professional Shortage Area (HPSA) was defined by the Department of Health and Human Services in the late 1970s. This designation can define a distinct geographic area (e.g., a county, a portion of a county, or groups of counties), a specific population group within an area (e.g., low income individuals or migrant workers), or a facility (e.g., a health care center or a correctional facility). As of 2005, there were approximately 5,500 HPSAs designated throughout the country. Roughly one-half of these areas refer to geographic areas or population groups, and the rest refer to facilities. HPSAs are defined using a number of criteria including the ratio of population to the number of primary care physicians. The methodology used to designate HPSAs has been criticized for a number of reasons, including the fact that the county of residence is not an

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[9] See Makuc et al., 1985.

[10] See Makuc et al., 1991; Goodman et al., 2003.

accurate measure of access to primary care, as many patients travel outside county boundaries for medical care.[11]

2.1.4. *Hospital Specific Wage Areas*

Most wage area specifications seek to group hospitals together; the process of defining a hospital specific wage area, however, allows for each hospital wage area to be unique. Antitrust cases have set many of the precedents for allowing wage areas to vary by hospital. In particular, hospital mergers have attracted the attention of agencies such as the Department of Justice and the Federal Trade Commission. To assess whether potential mergers may hamper competition, these agencies must define the geographic markets in which hospitals compete. In the antitrust context, defining a hospital's market has followed many different approaches, including MSA/county boundaries, city populations, and/or health service areas.[12] Of most interest, however, is the introduction of hospital specific wage areas in antitrust cases.

These wage area methodologies include: (1) the "shipment data" method, (2) the "fixed radius" method, and (3) the "variable radius" method. The shipment data method refers to the use of patient discharge data linked to hospitals to trace the inflow and outflow of patients in the area surrounding the hospitals considering a merger. Geographic market boundaries are expanded — encompassing more hospitals — until flows in and out of the area reach a predetermined cutoff. In this way, this method defines the set of hospitals that share the market.[13] The fixed radius method considers radii of 5, 10, or 15 miles around the hospital to define the market area.[14] This concept was based on the theory that "most hospital patients are admitted by community-based physicians with whom the hospital has an ongoing relationship,"[15] and that travel time is an important predictor of hospital choice.[16] Similarly, the variable radius method circumscribes the hospital's market as one defined by a weighted average of fixed radii.[17] The weights reflect hospital characteristics and patient market share by ZIP

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[11] See GAO, 2006.

[12] See Manheim et al., 2005.

[13] See Zwanziger et al., 1994, Elzinga and Hogarty, 1973, Capps et al., 2001.

[14] See Robinson and Luft, 1985.

[15] See Garnick et al., 1987, p.72.

[16] See Luft and Maerki, 1984.

[17] See Gruber, 1992, and Phibbs and Robinson, 1993.

code.[18]   Each method is characterized by its own details, but all share an interest in the travel time associated with procuring services at each hospital. These examples highlight the sense in which hospital markets are essentially "local" for many services.

Almost from the outset of the Medicare inpatient prospective payment system (IPPS), there has also been considerable interest in, and analysis of, alternative wages area definitions. Starting in 1985, the Prospective Payment Assessment Commission (ProPAC)[19] recommended modifications to the labor market definition used for the purpose of reimbursing IPPS hospitals no less than five times (in 1985, 1986, 1987, 1992, and 1993). In its reports to Congress published in the 1980s, ProPAC recognized and reported on the substantial differences in labor costs across wage areas, in particular the differences that urban and rural hospitals faced.[20] These reports also documented the variation in labor costs within MSAs and rest-of-state wage areas. For example, the report from 1987 specifically delineates differences between the cost of labor in urban cores versus the suburban ring of an MSA. Rural areas were also subdivided according to their proximity (or adjacency) to MSAs and the size of the rural population.

In 1993, ProPAC proposed a method, titled "nearest neighbor," which called for hospital-specific labor market areas that used each participating hospital as its own focal point, and included the wage data of proximate hospitals. The number of "neighboring" hospitals included and the ultimate size of the wage area were allowed to vary in this description, but the initial position was to accept the ten nearest neighbors within a 50-mile radius of the hospital in question. The idea behind this method is that the hospital does in some sense define its own labor market, but that "nearby" hospitals would also draw from the same labor pool. In essence this suggestion would turn the existing set of wage areas — almost 400 — into roughly 5,000 wage areas, one for each hospital. The nearest neighbor approach was noteworthy as the first attempt to improve the definition of Medicare wage areas that was not based on a refinement of MSAs or counties (e.g., core versus ring MSA counties or adjacency of non-MSA counties to MSA counties).

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[18] For a revised version of the variable radius method that splits the sample into "urban" and "rural" hospitals, with different radii, see Gresenz and Escarce, 2004.

[19] In 1997, as part of the Balanced Budget Act, ProPAC — which was responsible for Part A reimbursement — was merged with the Physician Payment Review Commission (PPRC) — which was responsible for Part B payments to physicians and other providers of Part B services — to form MedPAC.

[20] See ProPAC 1985, 1986, and 1987.

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In 1993, CMS (then the Health Care Financing Administration or HCFA) solicited comments from interested parties in response to ProPAC's nearest neighbor proposal.[21] Few of the comments received voiced support for this revised IPPS wage index. Many comments argued for either a larger or smaller radius. Others expressed a belief that commuting patterns rather than distance better represented the labor market.

In the FY 1995 proposed rule,[22] CMS took earlier comments into account and evaluated nine versions of the nearest-neighbor proposal on the basis of three dimensions. These criteria included: (i) the variance in the wage index, (ii) whether hospitals facing similar labor markets are grouped into different areas (i.e., the boundary problem); and (iii) how each system would change hospital payments from the status quo. These nine hospital-specific wage indexes, based on the nearest neighbor and fixed radius approach, varied in their radius and number of neighbors. CMS also researched seven MSA-based indexes, which involve subdividing MSAs or statewide rural areas into two to four areas using counties.[23] Using the three criteria listed above, CMS decided that none of the nearest-neighbor or MSA-based alternative options provided a consistent improvement over the existing wage area definitions.

In light of this, CMS went on to describe in the same 1994 *Federal Register* (59 FR 27707-27930) an alternative that "blended" hospital-specific relative wages with those of nearby hospitals and combined both nearest neighbor and current MSA definitions. This method starts with the current MSA system but gives more weight to the hospital's own wage. For example, the "Minimum 25" wage index puts at minimum 25% weight on the hospital's own average hourly wage and a 75% weight on that of the other hospitals in the same MSA or statewide rural area. If the hospital's hours are greater than 25% of the MSA total hours, that higher weight would be used instead.[24]

Given this weighted MSA index, the option of a nearest neighbor approach is given through CMS's "simple" reclassification. Eligibility requires that a hospital's average hourly

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[21] See *Federal Register* Vol. 58, No. 100, p. 30457, May 26, 1993. CMS's response to the collected comments was then published in Federal Register Vol. 59, No.102, p. 27707-27930, May 27, 1994.

[22] See *Federal Register* Vol. 59, No.102, p. 27707-27930, May 27, 1994.

[23] For other definitions that treat urban and rural areas uniquely see De Lew, 1992.

[24] This numerator is then divided by the national hourly average wage to produce the final wage index value. CMS also proposed a similar "Minimum 50" wage index, which uses a minimum 50% weighting instead of the 25%.

wage is still 1) aberrantly high[25] compared with that of the MSA, and 2) comparable to that of its nearest ten neighbors.[26] Then, given that the average hourly wage of the nearest ten neighbors[27] exceeds the average hourly wage of the other hospitals in the MSA, the former would replace the latter in the "Minimum 25%" numerator calculation.

CMS also included a "refined" reclassification, which incorporates a hospital's own hours in the ten nearest neighbors approach. This is intended for hospitals that constitute a large portion of the total hours when combined with its nearest ten neighbors. In addition to the second criterion for the "simple reclassification" (on comparable AHW to its neighbors, described above), two additional criteria are imposed: 1) a hospital's share of the total hours when combined with its nearest ten neighbors must exceed its hours weight in its MSA/statewide rural labor market, and 2) using this nearest neighbors' hours weight must increase the AHW of the numerator of its wage index value. If so, this nearest neighbors' hours weight is used to calculate the index. The "refined" and "simple" reclassifications can be used separately or together, depending on which of the criteria are met, to substitute in the wage index the AHW of the nearest neighbors, or the nearest neighbors' hours weight, or both in the wage index calculation.

Beyond applications for Medicare, academics have also explored methods to define "local" areas, with empirical tests to examine the predictions of theory. For example, economists who have studied the dynamics of unemployment cycles and of welfare receipt, changes in the minimum wage, and changes in crime rates have all relied on some working definition of a local labor market.[28] In many of these papers, economists have depended on the available data, which usually amounts to a reliance on county-level statistics.

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[25] For the "Minimum 25," for example, this is defined as a hospital's AHW equaling at least 107% of the weighted average hourly wage used to develop its wage index.

[26] The ratio of each hospital's AHW to the average hourly wage of its nearest ten neighbors must exceed a threshold of 83%.

[27] This is described in the 1994 proposed *Federal Register* as "a hospital's nearest 10 neighbors (with a minimum of at least 2 neighbor hospitals within 20 miles or all hospitals within 35 miles."

[28] For an example that considers unemployment, see Mills, 2000; for an example that considers welfare dependency, see Fitzgerald, 1995; for an example that looks at the relationship between unemployment and crime, see Gould et al., 2002.

There is, however, growing empirical evidence that the analysis of data at a more refined level provides a better understanding of real world dynamics.[29] More detailed data have been used in studies of very different phenomena, from welfare dependency to consumer purchases, to the job search practices of people looking for work. The use of "neighborhood-level" data — whether defined by ZIP code or census block — in these empirical investigations allows for a closer examination of the mechanisms that drive different types of behavior that were either absent or weakly present in studies that relied on more aggregated data. For example, Hoynes (1996) documents that no significant relationships were found when using state- or county-level data to empirically link local labor market conditions with the duration of welfare receipt. However, using data at the ZIP code level not only allows for a better measure of neighborhood, but also finds empirical support that local labor market conditions affect how long welfare recipients receive these benefits. In a similar vein, Bayer et al. (2008) study the influence of neighbors on labor market outcomes by looking at census-block-level data. These papers reflect the fact that achieving the correct match between theory and data can lead to powerful results.

2.2   Current Wage Area Definitions and Problems with This Approach

The assessment of alternative Medicare wage area definitions in the mid-1990s resulted in no change, and the Medicare wage index continues to define hospital wage areas using MSAs and state boundaries as building blocks. Hospitals located within an MSA use MSA boundaries to delineate their wage areas. Hospitals outside MSAs are in wage areas defined by the "balance of the state." This includes all the areas within the state but outside of MSAs. As mentioned above, a recent refinement to this wage area definition attempts to account for local competition between hospitals in different counties by measuring commuting activity in the hospital's own county relative to neighboring counties.

The boundaries of Medicare wage areas are defined without regard for the specific relationships between hospitals and the areas they occupy. The hospital's reach extends to the border of the MSA or the balance of the state boundary. Because the Medicare index defines the boundaries of the wage area with political boundaries, any distinct labor markets within an MSA

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[29] Some specific papers that show the benefits of highly detailed data include: Katz et al., 2001, who uses individual-level and census tract information to study neighborhood effects, and Grinblatt et al., 2007, who examines the car buying patterns of neighbors.

are included in their entirety. Even labor markets that are not relevant to a particular hospital are considered part of the viable labor market by virtue of their existence within the MSA boundary. The commuting refinement in the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 addresses the fact that workers can find jobs outside their county of residence. This may allow for a more realistic depiction of the labor markets that hospitals face. Ultimately, however, maintaining an MSA-based system of wage areas that can be adjusted using county-level data does not obviously alleviate the issues in using aggregated hospital-level data to define the extent of a hospital's labor market.

By establishing index values at the MSA or balance-of-state level, the Medicare hospital wage index methodology creates boundary conditions in which two hospitals that are very close together but on different sides of an MSA boundary can be assigned different index values which result in different payments. Over time, a series of exceptions have been put in place to address concerns about specific types of boundary conditions or even for specific providers. These include:

- o Individual hospital "proximity" adjustments, including Medicare Geographic Classification Review Board (MGCRB) decisions as specified by Medicare law and regulation, for hospitals in close proximity to a border and comparable wage costs;
- o Individual hospital rural/urban adjustments, including Section 401 which allows hospitals to be classified as rural even though they are in an urban area, and hold harmless provisions which allowed hospitals reclassified as rural to temporarily retain their former MSA designation;
- o Reclassifications based on commuting patterns, either allowing counties to "join" adjacent MSAs based on commuting patterns ("Lugar Counties") or blending rates for lower index areas with those of higher index areas in proportion to the out-commuting of hospital workers;
- o The "rural floor," which requires any MSA wage index in a state to be at least equal to the rural/rest-of-state wage index in that state, even if not supported by the wage data;
- o Section 508, part of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, established a one-time appeals process for classification for hospitals to select another area within the state (or at the discretion of the Secretary of HHS to a contiguous state); and
- o Other special exceptions for hospitals that do not meet other criteria.

Together, these exceptions and reclassifications comprise the Medicare post-reclassification wage index. As a result, up to one-third of hospitals have wage index values different from the base Medicare hospital wage index, a key problem with the current system. The next section evaluates whether the county-level adjustment and smoothing methodology proposed by MedPAC is a viable approach to addressing large wage index differences across nearby areas, which may provide an incentive for reclassifications. We explore whether this methodology could be applied to the current Medicare wage index.

3 EVALUATION OF THE MEDPAC BLENDING AND SMOOTHING METHOD

One impetus for reclassifications and special exceptions stems from the large differences in index values (i.e., "cliffs") that may exist between hospitals that are located near each other but in different Metropolitan Statistical Areas (MSAs). Large differences in wage index values between nearby wage areas are problematic to the extent that they do not reflect true differences in underlying labor costs across the areas and because they provide hospitals with an incentive to seek a reclassification into the higher wage index area. If the wage index system could be modified to mitigate the size of cliffs, the need for reclassifications would be lessened or even eliminated.

Another motivation for reclassifications is that a wage area encompasses multiple labor markets with different wages, but all hospitals within the wage area receive the same wage index value. To the extent that there are several distinct labor markets within existing wage areas (that are based on MSAs and state-residual areas), there may be underlying differences in labor costs within wage areas that should be reflected in the wage index.

MedPAC's proposal seeks to address both these problems by allowing wage index values to vary by county within an MSA. MedPAC accomplishes this by reducing the size of the wage area from the MSA to the county, and by adjusting wage index values such that the size of cliffs between adjacent counties cannot exceed a specified threshold. The key innovations in the MedPAC methodology are that i) it combines an MSA-based wage index with county-level wage index (i.e., the "blending" step), and ii) it incorporates a "smoothing" algorithm to reduce large differences in the wage index values of adjacent counties. However, on the basis of the analyses presented in this section, it is the assessment of Acumen that the MedPAC blending and smoothing method is unlikely to be an adequate replacement for the reclassifications and exceptions in the current wage index system.

There are several reasons for this. First, allowing the wage index values to vary at the county level (the blending step) creates additional cliffs and, therefore, increases the potential demand for reclassifications. Second, the proposed smoothing method relies on the choice of a maximum cliff size (or a "threshold"). There is no clear or objective way to choose this

threshold given the tradeoff between reducing the size of cliffs by lowering the threshold and the degree to which reducing the threshold leads to more hospitals (that did not have a cliff problem to begin with) being adversely affected by ripple effects and a larger budget neutrality adjustment.[30] Third, whatever the choice of the smoothing threshold, hospitals with wage index values that decline owing to ripple effects and budget neutrality are likely to perceive that the impact of the blending and smoothing method is arbitrary and unfair and may demand reclassification. These problems exist whether the blending and smoothing method is applied to the Medicare wage data or to the Bureau of Labor Statistics (BLS) wage index. However, the greater variability of the Medicare wage data means that for a given choice of the smoothing threshold, a relatively large number of hospitals would be adversely affected.

Below, we first describe the MedPAC method in more detail and illustrate how it works. Second, we discuss how the MedPAC approach might be applied to the current Medicare wage index system and the challenges of this approach. Third, we quantitatively evaluate the application of MedPAC's approach to the current Medicare wage index. Finally, we evaluate the MedPAC method as originally conceived, as applied to a fixed-weight hospital wage index constructed from BLS occupational wage data.

The main findings of this section are as follows:

- The blending step or county-level adjustment to the Medicare wage data increases the number of contiguous counties with differences in wage index values, but reduces the average cliff size. The average cliff size under the Medicare blended wage index smoothed at the 5%, 10%, and 15% thresholds is smaller than the average cliff size observed in the current Medicare wage index. The size of "large" cliffs when smoothing at the 5%, 10%, and 15% thresholds is also smaller compared with the size of large cliffs under the Medicare wage index. Reducing the size of cliffs reduces the potential for reclassifications and exceptions, but the associated increase in the number of county boundaries may create additional reclassifications and exceptions that to some extent offset the benefits of the reduced cliff size.

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[30] This happens because MedPAC's smoothing algorithm only increases wage index values, but when the index is adjusted to maintain budget neutrality, all hospitals that did not receive a smoothing adjustment observe decreases in their wage index values.

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- Regardless of the smoothing threshold, for 50% of hospitals, the blended and smoothed wage index values are lower than the unadjusted Medicare wage index values. These declines are the result of the negative adjustments needed to maintain budget neutrality. The size of the impacts is larger the lower the smoothing threshold. Hospitals with wage indexes that are negatively affected by the budget neutrality adjustment are likely to find this result arbitrary and unfair.

- The impacts of the blending and smoothing method are sensitive to the choice of the smoothing threshold (5%, 10% or 15%). Thus, there is a tradeoff between choosing a tight (5%) threshold or a looser (10% or 15%) threshold. The tighter threshold reduces the size of cliffs to a greater extent, but leads to more ripple effects and changes in hospital wage index values. In addition, the budget-neutralizing adjustment is necessarily larger when using a tighter threshold. This adjustment affects all hospitals, negatively affects some hospitals that received a smoothing adjustment, and negatively affects *all* hospitals that were not smoothed. A tighter smoothing threshold would reduce some potential reclassifications and exceptions, but, by increasing the magnitude of the ripple effects, could also increase other potential reclassifications and exceptions.

- Applying the MedPAC blending and smoothing method to the BLS hospital wage index yields a similar set of conclusions. That is, this method appears to reduce the size of cliffs between adjacent counties, but creates the same problems observed when this methodology is applied to the Medicare wage index (e.g., an increase in the number of cliffs and ripple effects, and decreases in the wage index values of hospitals only affected by the budget neutrality adjustment). Nonetheless, increases and decreases in wage index values are smaller when applying the blending and smoothing methodology to the BLS data. This is because the BLS data displays less variability than the Medicare wage data.

Thus, MedPAC's method diminishes the size of cliffs between adjacent counties, but creates the number of contiguous counties with wage index value differences and leads to negative adjustments for many wage areas because of the need to maintain to budget neutrality. Moreover, as it is not obvious what level of smoothing threshold (5%, 10%, or 15%) to use, it is a concern that the impacts of the method are sensitive to this choice. In particular, a tighter threshold leads to greater reductions in cliff sizes between adjacent counties, but necessitates

larger budget neutrality adjustments. Finally, this method does not guarantee that the resulting wage areas reflect an accurate representation of hospital labor markets. For example, with this method all hospitals in a given county have identical index values, even though some may be located in different labor markets.

3.1   The MedPAC Blending and Smoothing Method

To comply with Section 106 of the Tax Relief and Health Care Act of 2006 (TRHCA), MedPAC was asked to prepare a report on revising the existing hospital wage index and recommend alternatives for computing the geographic boundaries used to create the index. In its 2007 report,[31] MedPAC developed an alternative approach to defining wage areas. The wage areas used in the MedPAC index are defined using a two-step process that includes blending information from hospitals' host Metropolitan Statistical Areas (MSAs) and counties and using a smoothing technique to help mitigate large differences in index values across adjacent counties.

The MedPAC index begins at the same place that the Medicare index does: with MSA-level wage areas. Recognizing that these areas are likely overly broad as representations of wage areas, MedPAC adjusts the MSA-level index with county-level census wage data. County borders may allow a greater level of precision in defining labor markets in some settings, but this adjustment is calculated mechanically, by equally weighting the MSA-level wage index and a county-adjusted wage index. In this way MedPAC describes its process as blending MSA and county wage data.[32]

This blended index is subsequently adjusted to disallow large differences in index values across county boundaries. This form of smoothing is done to reduce the size of cliffs and ensure that the index value for any one county does not differ "too much" from those of its neighbors. An iterative process is used until the difference in index values between neighboring counties no longer exceeds 10%. If the difference is more than 10%, the county with the lower index value is assigned a compensation index equal to 90% of its highest neighbor. This process is repeated iteratively until all differences in the index values of adjacent counties meet this threshold.

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[31] See "An Alternative Method to Compute the Wage Index." In *Report to the Congress: Promoting Greater Efficiency in Medicare* (MedPAC, June 2007).
[32] Throughout the document, we refer to this 50-50 county-level adjustment as the blending method.

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According to the smoothing algorithm, counties can only be adjusted upwards toward the wage index value of adjacent counties. Increasing the wage index upward would significantly increase CMS payments to individual hospitals. To ensure the wage index adjustment does not affect aggregate CMS payments, MedPAC adjusts the post-smoothing values for budget neutrality. The budget neutrality adjustment is based on MedPAC's own simulation methodology.

The following five steps summarize the MedPAC blending and smoothing method:

1. Calculate an MSA-level wage index,
2. Calculate a county-specific wage index,[33]
3. Estimate a weighted sum of the MSA-level and the county-specific wage indices,[34]
4. Smooth the blended wage index values in (3),
5. Adjust the smoothed wage index values in (4) to maintain budget neutrality.

In what follows, we present an example of how the MedPAC smoothing algorithm and budget neutrality adjustment (i.e., steps 4 and 5) work.

3.1.1. Illustration of How MedPAC Smoothing Method Mitigates Large Cliffs

This section and the accompanying Figure 1 illustrate how the MedPAC approach works. This illustration assumes that the blending process (i.e., steps 1 to 3 in the five-step process) has already been applied, and only describes the smoothing step and the budget neutrality adjustment (i.e., steps 4 and 5).

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[33] To estimate the county-specific wage index, MedPAC first creates a county-to-MSA wage ratio using census data and then multiplies this ratio by the MSA-level wage index (constructed with BLS-OES data). The result is a county-specific wage index. For more detail see, "Appendix: An Alternative Method to Compute the Wage Index." In *Report to the Congress: Promoting Greater Efficiency in Medicare* (MedPAC, June 2007.)

[34] Both MSA and county indices are weighted equally. We refer to this step as the "blending" step or county-level adjustment and we refer to the resultant index as the "blended" index.

Figure 1: How the MedPAC Smoothing Method Mitigates Large Cliffs*
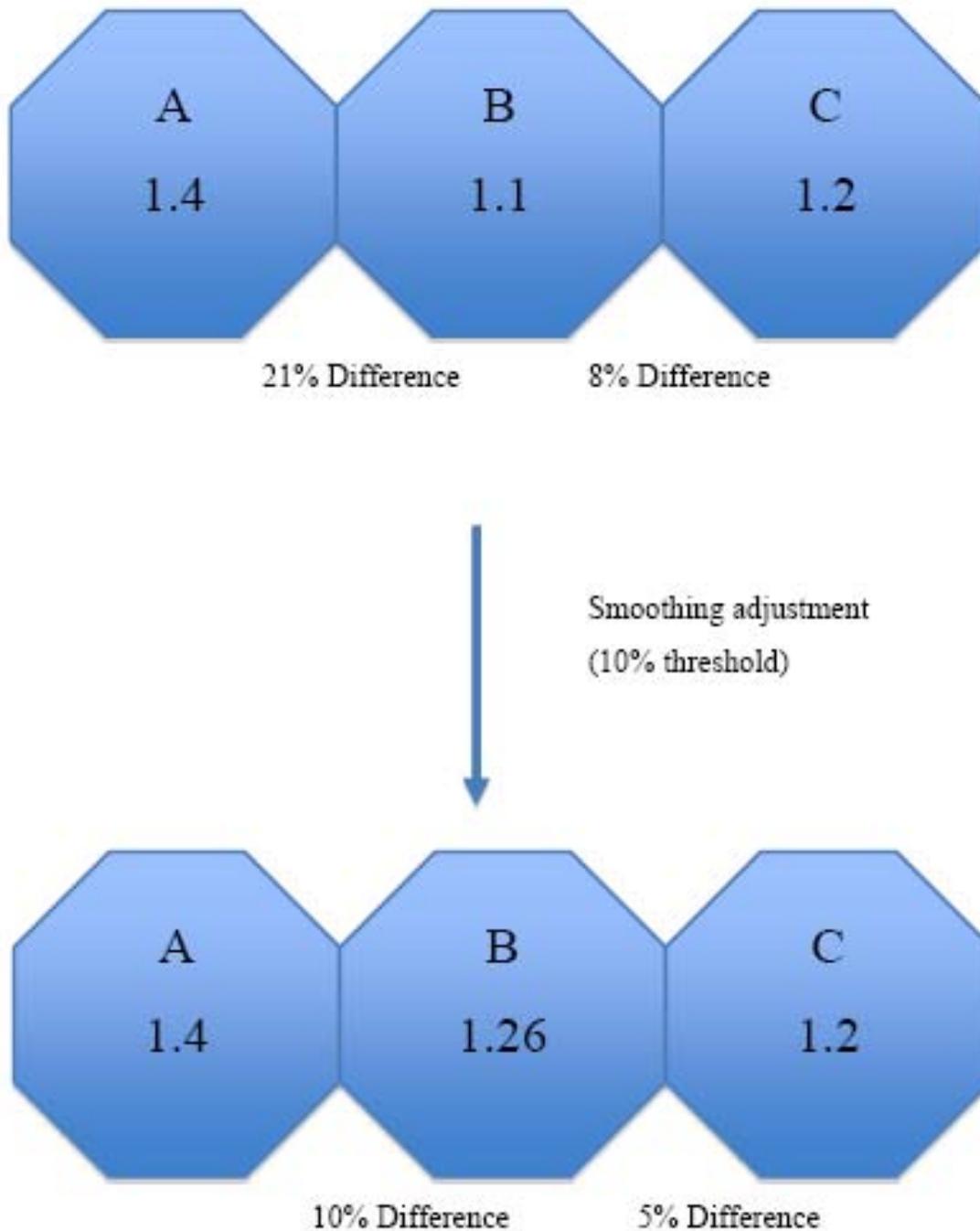
* All percent differences between a pair of contiguous counties are taken with respect to the county with the greater index value.

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In Figure 1, there are three equally sized, sequentially contiguous counties, county A, B, and C, which have unsmoothed wage index values of 1.4, 1.1, and 1.2, respectively. To reduce the differences between contiguous counties to be no more than 10% (i.e., applying a 10% threshold), a data set is created pairing each county with each county that adjoins it. The difference in compensation indices for each county pair is then computed and the pair with the greatest difference for each county is chosen. An alternate wage index value is calculated for each county at 90% of this highest index value of its contiguous counties' index values. If this alternate wage index value is greater than the present index value, the alternate is adopted. This process is iterated until no more changes can be made, i.e., there is no difference greater than 10% between contiguous counties.[35]

Thus the wage index of county B is 21% less than that of county A and 8% less than that of county C. (Counties A and C are not contiguous.) Applying a 10% threshold means the wage index value of county B would be raised so that the wage index of county B is only 10% less than that of county A. To do this, county B would be given a wage index value of 1.26. The resulting difference between county A and B is 10% and that between county C and B is 5%.

3.1.2. Illustration of the Ripple Effect

Ripple effects can occur because once county B's wage index value is adjusted to reduce the size of its cliff vis-à-vis county A, a difference larger than 10% could now exist vis-à-vis another county (see Figure 2).

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[35] Due to this, in the figures, all percent differences between a pair of contiguous counties are taken with respect to the county with the greater index value — i.e., that the lesser index value county is 10% less than the greater index value county.

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Figure 2: Ripple Effects*
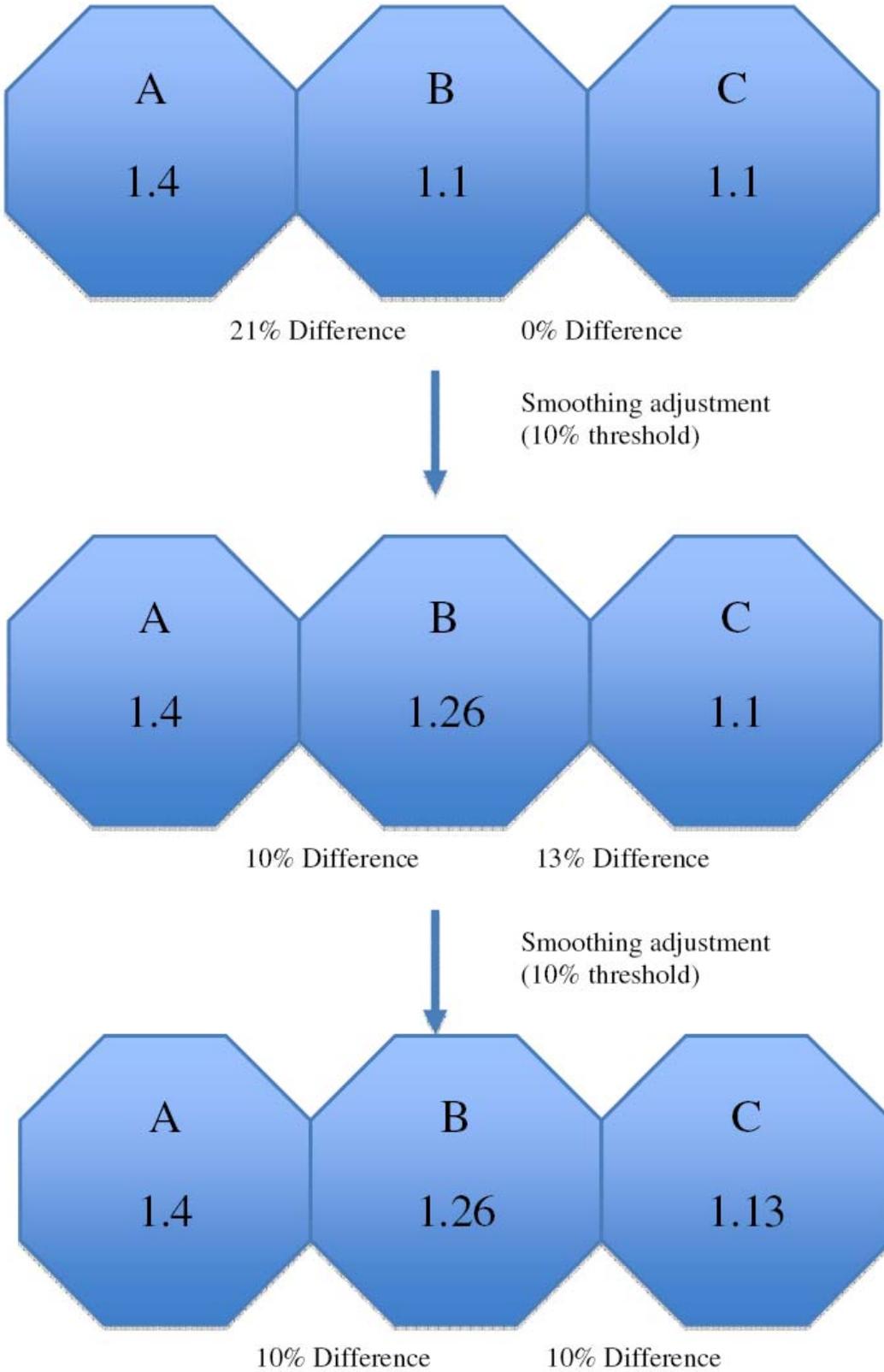
| A | B | C |
| 1.4 | 1.1 | 1.1 |

21% Difference   0% Difference

Smoothing adjustment
(10% threshold)

| A | B | C |
| 1.4 | 1.26 | 1.1 |

10% Difference   13% Difference

Smoothing adjustment
(10% threshold)

| A | B | C |
| 1.4 | 1.26 | 1.13 |

10% Difference   10% Difference

*All percent differences between a pair of contiguous counties are taken with respect to the county with the greater index value.

In Figure 2, we illustrate how these ripple effects could occur. Suppose that county C's wage index value is 1.1. After the initial smoothing adjustment, the county C's index value is 13% less than that of county B, which triggers another adjustment. County C's wage index value has to be raised to 1.134 so that the county C's index value is now only 10% less than that of county B.

3.1.3. Illustration of the Budget Neutrality Adjustment

To keep the smoothing adjustment budget neutral, the wage index values for all counties must be adjusted downward, including those of counties that did not receive a smoothing adjustment. The greater the number of counties that receive smoothing adjustments (either initially or through ripple effects) and the larger these adjustments are, the greater the budget neutrality adjustment will be (see Figure 3).

Figure 3: Adjustments for Budget Neutrality*
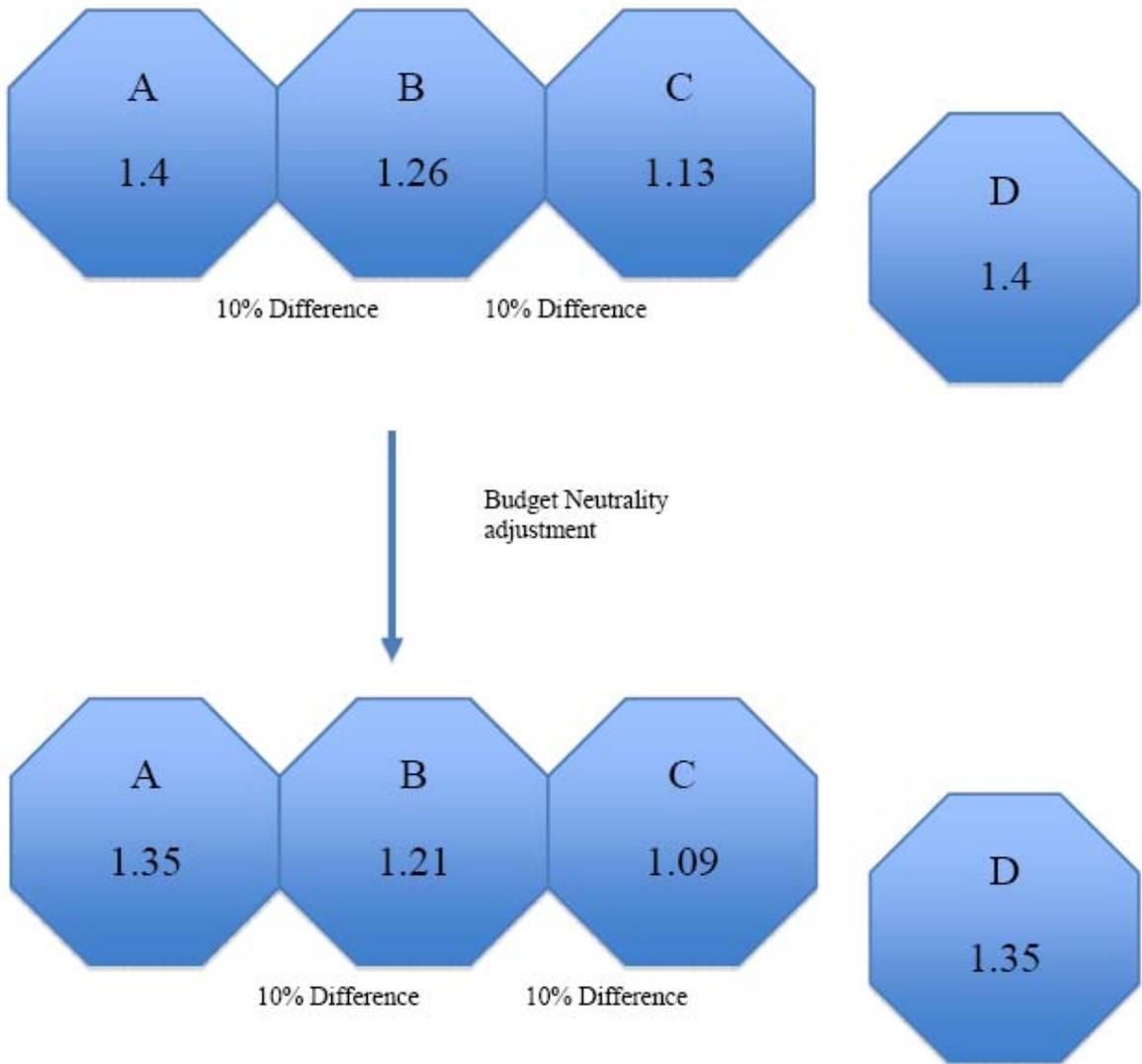
* All percent differences between a pair of contiguous counties are taken with respect to the county with the greater index value.

Figure 3 illustrates how this budget neutrality adjustment might work. Suppose that to keep the smoothing adjustment budget neutral, we must maintain the original average wage index value. Consider county D, with a wage index value of 1.4, which is not contiguous to any other counties and does not receive a smoothing adjustment. To keep the average of the wage index at its pre-smoothed value of (1.4 + 1.1 + 1.1 + 1.4) / 4 = 1.25, all wage areas would need to have their wage index values reduced by 3.735%, including county D (recall we are assuming the counties are equally sized for simplicity). County A, therefore, has its wage index value reduced by 0.05 (from 1.4 to 1.35), county B has its wage index value reduced by 0.05 (from 1.26 to 1.21), and county C has its wage index value reduced by 0.04 (from 1.13 to 1.09). Thus, with this method, the wage index values of hospitals located in counties where no smoothing adjustment was made (such as county D) still get negatively affected.

The above illustrations describe how the MedPAC's smoothing method and budget neutrality adjustment work and the impact they have on wage index values. The following sections describe the challenges and effects of applying the MedPAC blending and smoothing method to the Medicare wage index.

3.2 Challenges of Applying the MedPAC Blending and Smoothing Method to the Existing Medicare Wage Index

One way to potentially mitigate the size of cliffs in wage index values among neighboring hospitals is to apply the MedPAC blending and smoothing approach to the existing Medicare hospital wage index. As mentioned above, MedPAC makes a county adjustment to its MSA-level wage index, that is, it constructs a blended wage index with MSA and county-level wage data and then performs a smoothing algorithm to reduce large differences across adjacent counties. The application of this method to Medicare wage data is straightforward.[36]

First, we construct average hourly wages at the county level with 2004 inpatient prospective payment system (IPPS) hospital cost report wage data in the same fashion as we construct the MSA-level average hourly wages used in constructing the Medicare wage index.[37] The average hourly wage, ω_r, in county r, with j hospitals is calculated as:

$$\omega_r = \frac{\sum_{j=1}^{N} Earnings_{jr}}{\sum_{j=1}^{N} Hours_{jr}}$$

Next, to estimate the blended wage index, we calculate a weighted sum of the county average hourly wages and the MSA-level hourly wages. We weight both county and MSA wages equally (i.e., 50% each).[38] From these blended wage data, we construct a version of the Medicare wage index in which wage index values vary by county within the MSA just as they do in the MedPAC wage index. We refer to this index as the Medicare blended wage index.[39] Finally, we apply the MedPAC smoothing algorithm described in Section 3.1 to this index in order to mitigate large differences in index values between adjacent counties.

Although constructing a Medicare blended wage index with hospital cost report data and subsequently smoothing it with the MedPAC smoothing algorithm seems like a straightforward

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[36] To isolate the effect of methodology, this section focuses on applying the MedPAC method to the current data source of IPPS hospital cost reports. MedPAC proposes using BLS data. Accordingly, section 3.4 explores the use of BLS data.

[37] These wages are occupational mix-adjusted and do not contain any reclassifications (including rural floor). Thus, when we refer to the Medicare wage index, we refer to the pre-reclassification, pre-rural floor wage index.

[38] To follow MedPAC's methodology the total adjustment possible when blending the county and MSA wages is capped at 5% above or below the Medicare MSA-level wages.

[39] This and all subsequent wage indexes used in this report are summarized in the Introduction (p. 3).

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approach, it is problematic for several reasons. First, one-half of the blended wage index relies on a county-level wage index, which is constructed using IPPS hospitals cost report data in a similar manner as the current Medicare wage index. As discussed in depth in Part I of this report,[40] these data have several disadvantages compared with the BLS-OES data. Almost 65% of all counties with IPPS hospitals only have one hospital (see Table 3.1). Thus, in these counties, at least 50% of the value of the Medicare blended index is based solely on the wages of one hospital. This reliance on hospitals' own cost reports in constructing its wage index likely results in exacerbated circularity and volatility problems similar to those observed in the current Medicare wage index. In addition, not all counties have IPPS hospitals — and therefore have no wage data — so not all areas are assigned a wage index value.

Table 3.1: Frequency of Contiguous Counties Both Containing Hospitals

Row		Count
1	Total number of hospitals*	3,404
2	Total number of counties containing hospitals	1,602
3	Average number of hospitals per county with at least one hospital	2.125
4	Number of counties containing exactly one hospital	1,031
5	Number of hospitals with a hospital in a contiguous county	3,287
6	Number of counties containing a hospital with at least one contiguous county also containing a hospital	1,519

* Hospitals for which Acumen has hospital wage data from the FY 2008 Final Rule PUF S-3 Wage and Occupational Mix Data file (i.e. wage data from cost reports for 2004) and that are in the CMS 2008 impact file.

3.3 Evaluation of the Blending and Smoothing Method Applied to Medicare Wage Index

To determine the effectiveness of the MedPAC blending and smoothing approach as applied to the existing Medicare wage index, we first demonstrate how the distribution of the differences in wage index values between adjacent counties changes as we apply the MedPAC blending and smoothing method to the Medicare wage index. In particular, we explore whether the size of cliffs (i.e., large differences between the index values of contiguous counties) is reduced. Second, we show how individual hospitals' wage index values change as we apply these adjustments. Third, we show the extent of ripple effects as a result of the smoothing method. Fourth and finally, we show how the changes in individual hospitals' wage index

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[40] See MaCurdy et al., 2009.

values differ for those hospitals that initially faced large cliffs and required smoothing, those that were smoothed only as a result of rippling effects, and those that were affected only by the budget-neutrality adjustment.

3.3.1. *The Effect of Blending and Smoothing on the Number and Size of Wage Index Value Cliffs*

Under the current Medicare wage index system, counties located within the same MSA receive the same wage index value regardless of whether there are distinct labor markets within that wage area. Thus, only contiguous counties in different MSAs can have differences in wage index. The following analyses show that blending and smoothing increases the number of contiguous counties with differences, but decreases the size of these differences.

Table 3.2 presents the distributions of the differences, in absolute value, between the Medicare wage indices of contiguous counties (including differences of size zero).[41] Between 25% and 50% of adjacent counties have no differences (see Table 3.2, row 1), consistent with the fact that Medicare wage index values do not vary across counties within wage areas.[42] The maximum difference or cliff in the Medicare wage index is over 44.46 index points. That is, the maximum difference in absolute terms between the wage index values of a pair of adjacent counties is just over 44% (relative to the mean wage index value, which is 1.00).[43]

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[41] The Medicare wage index prior to reclassifications and other adjustments has a mean value of 1.00 when weighted by discharges. The distributions of the different indices are presented in the appendix (see Table A.2).

[42] It is important to stress that Tables 3.2 and 3.3 present absolute differences in wage index values between adjacent counties and not absolute *percentage* differences. This is why we observe, for example, that when smoothing with a 5% threshold, the maximum absolute difference between two adjacent counties is 0.0778 (see tables 3.2 and 3.3, row 3, last column). These numbers, however, do not indicate that the *percentage* difference between adjacent counties is higher than 5%. The following example can elucidate this better: A pair of adjacent counties that creates the maximum difference of 0.0778 (see row 3, last column) for the wage index smoothed with 5% threshold is San Benito County, CA, and Santa Cruz County, CA. The 5%-threshold smoothed, budget-neutralized wage indexes are 1.47901 and 1.55685, respectively. |1.47901 - 1.55685| = 0.0778, the value shown in the table, but |1.47901 - 1.55685| / 1.55685 = 0.05, the threshold used in creating the index.

[43] To avoid having to refer to the differences with small fractional values, we express them in terms of *index points*. A difference of 1 index point means a difference of .01 in the wage index values.

Table 3.2: Distribution of Differences (in Absolute Value) between Medicare Wage Indices of Contiguous Counties, Including Differences of Size Zero

	N	Mean	Std Dev	Min	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Max
Medicare wage index	2,874	0.0410	0.0595	0.0000	0.0000	0.0000	0.0086	0.0660	0.1292	0.4446
Medicare blended wage index (unsmoothed)	2,874	0.0539	0.0508	0.0000	0.0061	0.0170	0.0415	0.0742	0.1219	0.4014
Medicare blended wage index smoothed with a 5% threshold	2,874	0.0289	0.0197	0.0000	0.0000	0.0100	0.0313	0.0454	0.0516	0.0778
Medicare blended wage index smoothed with a 10% threshold	2,874	0.0439	0.0337	0.0000	0.0047	0.0156	0.0375	0.0667	0.0942	0.1565
Medicare blended wage index smoothed with a 15% threshold	2,874	0.0507	0.0437	0.0000	0.0056	0.0162	0.0403	0.0726	0.1191	0.2358

Prior to blending and smoothing, the Medicare wage index has an average difference between contiguous counties of 4.10 index points (see Table 3.2, row 1). However, this statistic understates the extent of large differences, or cliffs, given that, as we mentioned, the Medicare wage index only varies at the wage-area level and not the county level within wage areas. After applying the blending step, the average difference increases to 5.39 index points (see Table 3.2, row 2). However, this increase is just the result of including the zero sized differences in the distribution. When the blending step is applied, contiguous counties located within the same MSA that previously had no differences in their wage index now have differences larger than zero. This explains why the average cliff size of the Medicare blended wage index increased. However, if we exclude the differences of size zero between contiguous counties from the distributions (see Table 3.3), the average cliff size of the Medicare wage index (prior to blending) is 7.67 index points (see Table 3.3, row 1), and after applying the blending step, the average cliff size is reduced to 5.52 points (see Table 3.3, row 2). Thus, although the blending step increases the *number* of differences between contiguous counties, it actually reduces their size.

The effects that blending and smoothing have on the number of contiguous counties with differences larger than zero can be seen in Table 3.3. Prior to blending, there are 1,536 adjacent counties that have differences (in absolute value) larger than zero under the Medicare wage

index.[44] After blending, the number of contiguous counties with differences larger than zero increases from 1,536 to 2,807 (see Table 3.3, rows 1 and 2). As explained, this increase in the number of adjacent counties with differences occurs because the blending step allows contiguous counties located in the same MSA to receive different index values.

Table 3.3: Distribution of Differences (in Absolute Value) between Medicare Wage Indices of Contiguous Counties, Excluding Differences of Size Zero

	N	Mean	Std Dev	Min	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Max
Medicare wage index	1,536	0.0767	0.0623	0.0000	0.0123	0.0298	0.0610	0.1126	0.1605	0.4446
Medicare blended wage index (unsmoothed)	2,807	0.0552	0.0507	0.0000	0.0073	0.0186	0.0426	0.0754	0.1233	0.4014
Medicare blended wage index smoothed with a 5% threshold	2,536	0.0328	0.0177	0.0000	0.0065	0.0173	0.0375	0.0461	0.0525	0.0778
Medicare blended wage index smoothed with a 10% threshold	2,747	0.0460	0.0331	0.0000	0.0072	0.0180	0.0401	0.0683	0.0952	0.1565
Medicare blended wage index smoothed with a 15% threshold	2,798	0.0521	0.0435	0.0000	0.0072	0.0180	0.0417	0.0740	0.1207	0.2358

Smoothing the Medicare blended wage index reduces the number of differences between contiguous counties, but the number of differences larger than zero remains high compared with the Medicare wage index. However, smoothing the Medicare blended wage index, whether using a 15%, 10%, or 5% threshold, reduces the average cliff size (see Table 3.3, rows 3, 4, and 5). For example, using a 15% threshold reduces the average cliff size to 5.21 index points and reduces the 90th percentile cliff size to 12.07 index points (see Table 3.3, row 5). Using tighter thresholds reduces the size of the cliffs to a greater extent. A 10% threshold reduces the average cliff to 4.6 index points, while a 5% threshold reduces the average cliff to 3.28 index points, and the 90th percentile cliff to 5.25 index points (see Table 3.3, rows 3 and 4).

The blending and smoothing method substantially reduces the number of adjacent counties (and thus of hospitals) with large differences in wage index values. However, this approach does not completely eliminate these differences. The maximum difference will depend on the choice of threshold. In addition, the blending step introduces new differences in wage index values where none existed. This last effect may increase the demand for reclassifications,

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[44] Even though the minimum absolute difference appears as 0.0000, this is only because we only present four decimals. However, by construction, all absolute differences in table 3.3 are greater than zero.

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particularly when nearby hospitals that face the same labor prices receive different wage index values as a result of being located in different counties.

3.3.2. *Effects of Blending and Smoothing on Hospital Wage Index Values*

A large percentage of individual hospitals would experience changed index values by applying the MedPAC blending (i.e., county-level adjustment) and smoothing method. In Table 3.4, we report the impact distribution of the hospital-level changes in wage index values in response to blending MSA- and county-level wages (i.e., applying MedPAC's county-level adjustment)[45] and smoothing with three different thresholds (5%, 10%, and 15%). Specifically, Table 3.4 presents the impact on hospital wage index values when moving from the Medicare budget neutralized wage index to the Medicare blended, budget-neutralized wage indices smoothed at the 5%, 10%, and 15% thresholds.

Table 3.4: Distributions of Changes in Wage Index Values: Moving from Medicare Wage Index to Medicare Blended Wage Index Smoothed with Different Thresholds*

	Mean	Std Dev	Min	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Max
Change from Medicare wage index to Medicare blended wage index smoothed: 5% threshold	0.0061	0.0611	-0.1036	-0.0438	-0.0280	-0.0167	0.0245	0.0813	0.5222
Change from Medicare wage index to Medicare blended wage index smoothed: 10% threshold	-0.0003	0.0356	-0.0878	-0.0384	-0.0104	-0.0049	0.0068	0.0344	0.4085
Change from Medicare wage index to Medicare blended wage index smoothed: 15% threshold	-0.0024	0.0265	-0.0815	-0.0402	-0.0115	-0.0012	0.0049	0.0238	0.2763

* All wage indices have been budget neutralized.

A potentially large fraction of hospitals would experience substantial changes in their wage index values when adopting both the blending and smoothing method. Table 3.4 summarizes these changes for each threshold modeled. For example, applying the blending and smoothing method using a 5% threshold would lead to 10% of hospitals experiencing at least a 4.3 index point decline in their wage index values and 10% of hospitals experiencing an 8.1 index point increase in their wage index values (see Table 3.4, row 1). The median hospital would experience a 1.7 index point decline in its wage index value.

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[45] When we refer to applying a "county-level adjustment" we refer to blending the MSA and county-level wages.

As one increases the threshold for the maximum allowed percentage difference between neighboring hospitals, the fraction of hospitals affected by the smoothing method is reduced.[46] This is because only 10% of adjacent hospitals have differences larger than 10% in their Medicare blended wage index values compared with 25% of hospitals that have differences larger than 5% (see Table 3.4, row 2). Thus, the higher the maximum allowed percentage difference between neighboring hospitals, the smaller the number of hospitals having these differences.

In the appendix, we present the impact on hospital wage index values from moving from the unsmoothed Medicare blended wage index to the smoothed blended wage index (see appendix Table A.3). These distributions isolate the impact of applying the smoothing algorithm and exclude the effects of the county-level adjustment or "blending."

Isolating the impact that the smoothing method has on wage index values also leads to a large percentage of hospitals experiencing substantial changes in their wage index values (see appendix Table A.3). With a 5% smoothing threshold, 10% of hospitals would see their wage index values reduced by at least 3.0 index points, and 10% of hospitals would see their wage index values rise by 8.4 index points (see appendix Table A.3, row 1). As with the impact of both the combined county-level adjustment and smoothing method, the size of these changes diminishes as the smoothing threshold is raised to 10% or to 15%.

3.3.3. *Ripple Effects and Effects on Non-smoothed Hospitals*

The MedPAC smoothing method can lead to ripple effects. That is, changing the value of one county will necessarily affect relative wage index values compared with neighboring counties, which may lead to further adjustments.

Prior to adjustments for budget neutrality (which affects the wage index values of all hospitals), a potentially large fraction of hospitals can have their wage index values changed due to ripple effects. Prior to the smoothing method being applied, 36.8% of hospitals faced a cliff of at least 5%, 13.5% faced a cliff of at least 10%, and 4.9% faced a cliff of at least 15%

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[46] This is without considering budget neutralization that affects all hospitals regardless of whether they are smoothed or not.

(see Table 3.5).[47] Thus, in the initial rounds of smoothing, 36.8% of hospitals would receive an adjustment under a 5% threshold, 13.5% would receive adjustments under a 10% threshold, and 4.9% would receive adjustments under a 15% threshold. Once these initial adjustments have been made, some large cliffs may have been created and will require adjustment. These and all other subsequent adjustments are the result of ripple effects. These ripple effects are relatively common under a 5% threshold, but are rarer under a 10% or 15% threshold. Under a 5% threshold, an additional 13.5% of hospitals would require an adjustment due to ripple effects (representing roughly 25% of all hospitals that receive a smoothing adjustment). Under a 10% threshold, only an additional 1.9% of hospitals would receive an adjustment due to ripple effects (representing 12% of all hospitals receiving a smoothing adjustment), and only 0.21% of hospitals would receive a smoothing adjustment due to ripple effects under a 15% threshold (representing only 4% of all hospitals receiving a smoothing adjustment).

Table 3.5: Extent of Ripple Effects in the Medicare Blended Wage Index

Row		Hospitals		Counties	
		N	Percent	N	Percent
1	**Was wage index changed (before budget neutralization) by smoothing with a 5% threshold?** Yes: before smoothing index was less than 95% of index in a contiguous county	1,251	36.75	763	47.63
2	Yes: by ripple effect only	460	13.51	185	11.55
3	No	1,693	49.74	654	40.82
4	**Was wage index changed (before budget neutralization) by smoothing with a 10% threshold?** Yes: before smoothing index was less than 90% of index in a contiguous county	461	13.54	317	19.79
5	Yes: by ripple effect only	64	1.88	39	2.43
6	No	2,879	84.58	1,246	77.78
7	**Was wage index changed (before budget neutralization) by smoothing with a 15% threshold?** Yes: before smoothing index was less than 85% of index in a contiguous county	168	4.94	115	7.18
8	Yes: by ripple effect only	7	0.21	3	0.19
9	No	3,229	94.86	1,484	92.63

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[47] In this context, by "facing a cliff" we mean that a hospital has a wage index value that was 10% (for example) lower than that of a neighboring hospital. This is because only the hospital with the lower wage index value received an adjustment under the smoothing method.

Similarly large fractions of counties are affected by ripple effects from the smoothing method.

A second issue with the MedPAC smoothing method is that, because only positive smoothing adjustments are made, the adjustment for budget neutrality will necessarily be negative for all hospitals. As a result, non-smoothed hospitals (including hospitals that do not face cliffs with their neighboring hospitals) will receive negative wage index adjustments relative to smoothed hospitals. That is, non-smoothed hospitals are also affected by this smoothing process.

To illustrate this effect, we stratify the distributions of changes in hospitals' wage index values that result from the smoothing method into three groups: hospitals with wage index values that were adjusted initially (these had cliffs prior to applying the smoothing algorithm), hospitals with wage index values that were adjusted as the result of rippling effects (had no cliffs prior to applying the smoothing algorithm but developed cliffs in the smoothing process), and hospitals with wage index values that were adjusted solely because of the budget neutrality adjustment (see Table 3.6). Some hospitals that experience increases in their wage index values from smoothing (both initially and as a result of ripple effects) may ultimately face a lower wage index value if the budget neutrality adjustment more than offsets the increase from smoothing. All hospitals that received no increase in their wage index value from smoothing ultimately receive a lower wage index value because of the budget neutrality adjustment.

Table 3.6: Distributions of Changes in the Medicare Blended Wage Index Values from Applying Smoothing Method by Subgroup Weighted by Discharges

	Row	Mean	Std Dev	Min	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Max
Change from MedPAC blended, budget neutralized, non-smoothed wage index to MedPAC blended, budget neutralized wage index smoothed with a 5% threshold										
Changed before budget neutralization: index was less than 95% of contiguous county index before smoothing	1	0.0409	0.0665	-0.0353	-0.0202	-0.0079	0.0202	0.0659	0.125	0.5220
Changed before budget neutralization by ripple effect only	2	0.0384	0.0548	-0.0335	-0.0156	-0.0048	0.0201	0.0811	0.1112	0.2283
Not changed before budget neutralization	3	-0.0280	0.0041	-0.0441	-0.0337	-0.0295	-0.0272	-0.0255	-0.0240	-0.0195
Change from MedPAC blended, budget neutralized, non-smoothed wage index to MedPAC blended, budget neutralized wage index smoothed with a 10% threshold										
Changed before budget neutralization: index was less than 90% of contiguous county index before smoothing	4	0.0482	0.0537	-0.0072	-0.001	0.0148	0.0364	0.0624	0.1026	0.4083
Changed before budget neutralization by ripple effect only	5	0.0532	0.0440	-0.0029	0.0005	0.0233	0.0605	0.0608	0.0886	0.1603
Not changed before budget neutralization	6	-0.0057	0.0008	-0.0090	-0.0067	-0.0061	-0.0055	-0.0051	-0.0047	-0.0040
Change from MedPAC blended, budget neutralized, non-smoothed wage index to MedPAC blended, budget neutralized wage index smoothed with a 10% threshold										
Changed before budget neutralization: index was less than 85% of contiguous county index before smoothing	7	0.0474	0.0523	-0.0014	0.0014	0.0084	0.0248	0.0580	0.1392	0.2761
Changed before budget neutralization by ripple effect only	8	0.0218	0.0137	0.0063	0.0063	0.0063	0.0247	0.0349	0.0349	0.0349
Not changed before budget neutralization	9	-0.0015	0.0002	-0.0024	-0.0017	-0.0016	-0.0014	-0.0013	-0.0012	-0.0010

Under a 5% threshold, both hospitals that receive smoothing adjustments initially and hospitals that receive smoothing adjustments as the result of rippling effects tend to have similarly sized adjustments (see Table 3.6, rows 1 and 2). Roughly 10% of each group would see their wage index values reduced by 2 index points, and roughly 10% would see their wage index values increased by 12 index points. Hospitals that do not receive smoothing adjustments all experience negative budget-neutrality adjustments to their wage index values. Some of these adjustments can be quite large: 10% of these hospitals would experience declines in their wage index values of at least 3.4 index points, and both the mean and median would decline by roughly 2.7 index points (see Table 3.6, row 3).

The size of the adjustments owing to ripple effects and budget neutrality is substantially smaller when using a 10% or 15% threshold (see Table 3.6, rows 4 through 6). As a result, applying the MedPAC smoothing method to the CMS data presents a tradeoff between reducing the size of the cliffs and introducing a sizable ripple effect and (negative) adjustments for budget neutrality. Using a 10% or 15% threshold reduces the size of cliffs only minimally, while using a 5% threshold has a large impact on the size of cliffs. However, ripple effects and negative adjustments to achieve budget neutrality are substantially larger under a 5% threshold.

Appendix Table A.4 presents the same stratified distributions as those shown in Table 3.6. However, in the appendix, we compare the Medicare blended, unsmoothed, budget-neutralized wage index with the blended smoothed, *non-budget-neutralized* wage index. By doing so, we exclude the effects that budget neutralization has on final wage index values. These distributions show that without applying the final budget neutralization, all hospitals that receive a smoothing adjustment (regardless of whether they receive it as a result of ripple effects or prior cliff problem) experience increased wage index values. On average, the lower the smoothing threshold, the larger the impact on wage index values. Without budget-neutralization, hospitals with no smoothing adjustments see no change in their wage index values.

3.3.4. *Implications of Applying the MedPAC Blending and Smoothing Method to the Medicare Wage Index*

The MedPAC blending and smoothing method has several advantages over the current system. First, index values are no longer constant within an MSA but vary between the MSA's counties. Allowing wage index values to vary within MSAs (i.e., reducing the size of the wage

area from MSA to county) may provide a more accurate representation of hospital labor markets, particularly in cases in which MSAs are large and contain multiple labor markets. Second, the size of the cliffs between geographic areas (e.g., counties), is capped at a specific threshold. For example, under the MedPAC proposal, the maximum size of the cliff between any adjacent counties would be 10%. The decline in the magnitude of cliffs should also somewhat reduce the incentive to reclassify.

However, in addition to the particular challenges that arise from applying the MedPAC approach to IPPS hospital cost report data, one can observe from the above results that this methodology has some drawbacks. First, the blending step increases the *number* of contiguous counties with differences in wage index values larger than zero. This is because adjacent counties located within an MSA acquire different index values. This increase in the number of adjacent counties with differences in their index values could potentially lead to more reclassifications.

Second, the algorithm for smoothing cliffs produces ripple effects. For instance, most counties have more than one neighboring county. Thus, changing the value of one county will necessarily affect relative wage index values compared with neighboring counties. Also, a high value of one county in one state can affect the index value of a county in another state through their linked county neighbors. This occurs despite the fact that the distance that separates hospitals makes them unlikely competitors. Increasing the index value of one county can set off a chain reaction, creating another difference in wage index values large enough to require smoothing with a third county. Specifically, when the difference in wage index values between adjacent counties is greater than 10%, the wage index value of the county with the lower index value is increased until the difference in index values between adjacent counties is not larger than 10%. After the "lower" county's index value is increased, its neighbors could be affected. For instance, counties that previously had similar wage index values to this "lower" county could potentially experience a difference of greater than 10% between their wage index value and this newly "smoothed" county. We confirm this by tracing the ripple effects of the smoothing of one boundary on other areas.

Third, the MedPAC approach does not eliminate large differences in wage index values between neighboring hospitals, but just limits them. Two hospitals that are very close, but on

opposite sides of a county boundary, can have wage index values that are as much as 10% different. Thus, hospitals may still seek to reclassify to receive an increase in their wage index values.

Fourth, choosing a smoothing threshold is problematic. A lower smoothing threshold (e.g., 5%) would reduce reclassifications further, but would increase the magnitude of the ripple effect. This means that the likelihood of affecting the index value of counties that originally did not have large differences in index values with their neighboring counties increases. A high smoothing threshold (e.g., 15%) would attenuate the ripple effect, but allow greater differences in index values between neighboring hospitals, which potentially could lead to more reclassifications.

Fifth, because this multi-step process uses an iterative algorithm to smooth wage index values, it is difficult to say how the final index relates to the size of the labor pool in the area, the commute that links labor areas to hospitals, or the prevailing wage in the labor markets.

Sixth, budget neutrality assures that even "non-smoothed" counties are affected by this technique. As a result of index values only being increased in areas affected by the smoothing process, areas not affected by the smoothing process end up having their index values decreased so as to keep the wage index budget neutral. This can create distortions between the prices of labor hospitals face in the "non-smoothed" areas and the wage index they receive.

Finally, although the MedPAC blending and smoothing method reduces the size of cliffs between adjacent counties, it does not solve all the problems that arise from using county boundaries to define the hospital labor market. For example, with this method all hospitals in a given county have identical index values and that may be inappropriate. Within a very large county it would be better to assign different index values to two hospitals that are located far apart and face different labor markets.

Applying the MedPAC blending and smoothing method to the Medicare wage index is problematic and only partially solves the problems that stem from constructing a wage index using wage areas that do not accurately reflect hospital labor markets. In the next section, we present and evaluate the results of applying MedPAC's approach to the BLS wage index. This application closer resembles MedPAC's proposal when compared to section 3.3, since MedPAC proposes using BLS wage data instead of hospital cost report data. However, this index does not

include benefits costs.[48] A detailed exploration comparing using different data sources for wage and benefits information in constructing the wage index can be found in Acumen's earlier report: "Revision to Medicare Wage Index, Final Report: Part I."

3.4 Evaluation of the Blending and Smoothing Method Applied to BLS Wage Index

To determine the effectiveness of the MedPAC blending and smoothing method as applied to the existing fixed-weight BLS wage index, we present the corresponding set of analyses as we did in Section 3.3. That is, we first explain the challenges in applying this method to the BLS wage data. Second, we demonstrate how the distribution of the differences in absolute values between the wage indices of adjacent counties (the size and number of these differences) changes as we apply the MedPAC blending and smoothing method. Third, we show how individual hospitals' wage index values change as we apply these two steps. Fourth, we show the extent of ripple effects as a result of applying the smoothing method. Finally, we show how the changes in individual hospitals' wage index values differ for those that initially faced large cliffs and required smoothing, those that were smoothed only as a result of rippling effects, and those that were affected only by the adjustment to keep the index budget neutral.

3.4.1. *Challenges in Applying the MedPAC Blending and Smoothing Method to BLS Data*

The purpose of this section is to evaluate the effects of MedPAC's blending and smoothing methodology on the BLS wage index. This involves adjusting the BLS wage index (which is constructed at the MSA-level using BLS-OES occupational wage data) with a county adjustment (the blending step) constructed with Census 2000 county-level occupational wage data. The U.S. Census Bureau provided county-level wages for the same occupation groups used in MedPAC's June 2007 report.

These census categories include information on management; pharmacists; registered nurses (RNs); clinical laboratory technologists and technicians; diagnostic related technologists and technicians; health diagnosing and treating practitioner support technicians; licensed practical and licensed vocational nurses; medical records and health information technicians;

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[48] MedPAC's final step in constructing its final "compensation index" is to benefit-adjust the BLS wage index. MedPAC then applies its blending and smoothing to this compensation index.

miscellaneous health technologists and technicians; other health care practitioners; medical assistants; health care support occupations including home health; opticians (dispensing); protective service occupations; food, building, and personal care services; and office and administrative support. MedPAC's 30 occupations were mapped to these categories.

The 30 occupations and occupational groupings chosen by MedPAC to construct the fixed-occupation weights are among the most prevalent occupations in the hospital industry nationally. Some of these 30 occupations are aggregates of smaller occupations. A clear rule that explains how these 30 occupations were selected, or how they were aggregated into occupational groups, is not specified.

To construct the county adjustment, we first aggregate census county-level wages into MSA and balance of state wages. [49] Second, we clean the census county wages by substituting the county-level wages with census-MSA or rest-of-state wages for occupations (except RNs) with 30 or fewer respondents in the county. For RNs, the threshold is 50 respondents in the county. Third, after cleaning the census county wages, we construct average wages at the county and MSA levels by weighting the census occupational wages by the wage shares used to weight the original BLS wage index. [50] This weight is produced by using the aforementioned mapping

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[49] This construction followed as faithfully as possible the specifications in MedPAC's report to Congress (2007). For more details, please see MedPAC's technical appendix in said report on pages 145–153.

[50] Following MedPAC, we constructed a fixed-weight index, which we refer to as the BLS wage index, that relates the average hourly wages by occupation (excluding benefits) weighted by the national hospital share of wages in a wage area. The BLS hospital wage index can be expressed as:

$$Index_j = \sum_i Z_{iN} \times {w_{ij}}/{w_{iN}},$$

where the fixed national hospital share of wages, $Z_{iN} = s_{iN} \times {w_{iN}}/{w_N}$,

w_{ij} is the average hourly wage in occupation i in all industries in wage area j and w_{iN} is the average hourly wage in occupation i in hospital industries nationally. The fixed weight, Z_{iN}, is estimated by the product of s_{iN}, which is the national employment share of occupation i, times the ratio of the average hourly national wage in occupation i in the hospital industry to w_N, the average hourly wage for all hospital occupations nationally.

$$Index_j = \frac{\sum_i s_{iN} \times w_{ij}}{\sum_i s_{iN} \times w_{iN}}$$

The wage index can be equivalently expressed as _____ . The first expression we use employs occupational wage shares as the national fixed weights. The second employs occupational employment shares as the national fixed weights. However, the two expressions yield identical wage index values. We express the fixed

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between the census occupation categories and MedPAC's 30 occupations. Fourth, we construct a ratio of the weighted census county-level wages and the weighted census MSA-level wages. Fifth, we multiply this ratio by the BLS wage index (constructed from BLS-OES data). This is what MedPAC calls the "county-specific portion of the wage index." Sixth, we produce a weighted sum of this county-specific portion of the wage index and the original BLS wage index, weighting these two parts equally. The total adjustment possible is capped at 5% above or below the BLS-MSA level index value. The resulting index is what we refer to as MedPAC's blended index.[51] As mentioned, this index differs from MedPAC's proposed "compensation index" in that it lacks a benefits adjustment.[52] Finally, we smooth MedPAC's blended index values with MedPAC's algorithm.

There are two challenges in applying the MedPAC smoothing method to BLS-OES data. The first problem lies in the unclear mapping between MedPAC's 30 occupational categories and the Census occupational categories. Some of MedPAC's occupations did not clearly fit into the Census categories according to their census equivalent occupation code.[53]

Second, in some counties (and after aggregating in some MSAs or rest-of-state areas) there is no Census wage data for some occupations. Thus average wages at the county and MSA levels are sometimes constructed with a subset of the Census occupations mentioned above.

3.4.2. *The Effect of Blending and Smoothing on the Number and Size of Wage Index Value Cliffs*

Prior to applying the blending step to the BLS wage index, counties located within the same MSA receive the same wage index value. This, as discussed previously, limits the number of contiguous counties that have cliffs.[54] Table 3.7 presents the distributions of the absolute values of the differences between wage indices of contiguous counties. These distributions include differences of size zero. Consistent with the above analysis, we can observe no

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national weights as hospital share of wages rather than employment shares to be consistent with MedPAC's methodology.

[51] The only differences between this index and the actual MedPAC index is that we do not adjust the wage index for "benefits," and instead of adjusting the index for budget neutrality through a hospital payment simulation model as MedPAC does, we approximate budget neutrality by weighting by relative number of hospital discharges.

[52] For detailed analysis on the inclusion of benefits information in the wage index, see Acumen's earlier report titled "Revision of Medicare Wage Index, Final Report: Part I."

[53] A possible solution to this is to redefine MedPAC's categories as Acumen has done in its earlier report (MaCurdy 2009), along with requesting the creation of additional tabulations from the census.

[54] As mentioned above, we define cliff as a "large" difference between the wage index of contiguous counties.

differences in between 25% and 50% of adjacent counties in the BLS wage index (see Table 3.7, row 1). The maximum cliff in the BLS wage index is more than 36 index points, around 8 index points lower than the maximum cliff observed in the Medicare wage index (see Table 3.2, row 1).[55]

Table 3.7: Distribution of Differences (in Absolute Value) between MedPAC Wage Indices of Contiguous Counties, Including Differences of Size Zero**

	N	Mean	Std Dev	Min	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Max
BLS wage index	2,874	0.0342	0.0504	0.0000*	0.0000*	0.0000*	0.0070	0.0534	0.1047	0.3605
MedPAC blended wage index (unsmoothed)	2,874	0.0447	0.0413	0.0000*	0.0059	0.0147	0.0347	0.0595	0.0972	0.3612
MedPAC blended wage index smoothed with a 5% threshold	2,874	0.0283	0.0191	0.0000*	0.0001	0.0107	0.0296	0.0456	0.0510	0.0724
MedPAC blended wage index smoothed with a 10% threshold	2,874	0.0402	0.0308	0.0000*	0.0048	0.0144	0.0342	0.0589	0.0898	0.1465
MedPAC blended wage index smoothed with a 15% threshold	2,874	0.0435	0.0378	0.0000*	0.0057	0.0144	0.0344	0.0593	0.0959	0.2202

* The minimum absolute difference appears as 0.0000 because we only present 4 decimals. However, by construction, all absolute differences in table 3.8 are greater than zero.

**All indices have been budget neutralized.

Prior to blending and smoothing, the BLS wage index has an average cliff size of 0.0342 (see Table 3.7, row 1).[56] That is, the average difference in absolute terms between the wage index values of adjacent counties is just over 3.4% (relative to the mean wage index value, which is 1.00). In many ways, this statistic understates the size of cliffs given that the BLS wage index only varies at the wage-area level and does not vary at the county level within wage areas. If we exclude differences of zero between contiguous counties from the distribution (see Table 3.8), the size of the average cliff in the BLS wage index increases to 6.44 index points (see Table 3.8, row 1).[57] Applying the blending step, and thus allowing BLS wage index values to vary at the county level within wage areas, introduces differences in wage index values between some

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[55] It is important to stress that Tables 3.7 and 3.8 present the absolute value of the differences in wage index values between adjacent counties and not absolute *percentage* differences. This is why we observe, for example, that when smoothing with a 5% threshold, the maximum difference in absolute terms between two adjacent counties is 0.0724 (see Tables 3.7 and 3.8, row 3). These numbers, however, do not indicate that the *percentage* difference between adjacent counties is higher than 5%.

[56] The BLS wage index has a mean value of 1.00 when weighted by discharges. The distributions of the different indices constructed with BLS-OES data are presented in the appendix (see Table A.5).

[57] Even though the minimum absolute difference appears as 0.0000, this is because we only present 4 decimals. However, by construction, all absolute differences in table 3.8 are greater than zero.

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counties where before there were none. At the same time, introducing county-level variation tends to mitigate the size of large cliffs between counties in different MSAs. Table 3.8 shows that prior to blending, there are 1,525 adjacent counties with differences, in absolute value, larger than zero under the BLS wage index. After applying the blending step, the number of differences increases to 2,840 (see Table 3.8, row 2). The average cliff size is reduced from 6.44 to 4.53 index points (see Table 3.8, rows 1 and 2).

Table 3.8: Distribution of Differences (in Absolute Value) between MedPAC Wage Indices of Contiguous Counties, Excluding Differences of Size Zero*

	N	Mean	Std Dev	Min	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Max
BLS wage index	1,525	0.0644	0.0534	0.0002	0.0110	0.0258	0.0496	0.0873	0.1374	0.3605
MedPAC blended wage index (unsmoothed)	2,840	0.0453	0.0413	0.0000	0.0064	0.0156	0.0352	0.0599	0.0975	0.3612
MedPAC blended wage index smoothed with a 5% threshold	2,592	0.0314	0.0175	0.0000	0.0058	0.0159	0.0339	0.0463	0.0512	0.0724
MedPAC blended wage index smoothed with a 10% threshold	2,797	0.0413	0.0305	0.0001	0.0063	0.0160	0.0356	0.0592	0.0902	0.1465
MedPAC blended wage index smoothed with a 15% threshold	2,833	0.0441	0.0377	0.0000	0.0063	0.0153	0.0352	0.0595	0.0965	0.2202

*All indices have been budget neutralized.

Smoothing the MedPAC blended wage index, whether using a 15%, 10%, or 5% threshold, reduces the average cliff size. For example, using a 15% threshold reduces the average cliff size to 4.41 index points and reduces the 90th percentile cliff size to 9.65 index points (see Table 3.8, row 5). Using tighter thresholds reduces the size of the cliffs to a greater extent. A 10% threshold reduces the average cliff to 4.13 index points, while a 5% threshold reduces the average cliff to 3.14 index points and the 90th percentile cliff to 5.12 index points (see Table 3.8, rows 3 and 4).

As we noted above, the MedPAC blending and smoothing method reduces the number of adjacent counties (and thus of hospitals) with large differences in wage index values but does not completely eliminate these differences. In addition, the blending step introduces new differences where none existed, and this may potentially increase the demand for reclassifications.

3.4.3. *Effects of Smoothing on Hospital Wage Index Values*

Applying the MedPAC blending and smoothing method to the BLS wage index leads to

substantial differences in the index values that individual hospitals would receive. In Table 3.9, we report the distribution of the hospital-level differences in wage index values between the pre-smoothed BLS wage index (without county adjustments) and the MedPAC blended or county-level adjusted wage index, smoothed under three different thresholds (5%, 10%, and 15%).

Table 3.9: **Distributions of Changes in Wage Index Values: Moving from BLS Wage Index to MedPAC Blended Wage Index Smoothed with Different Thresholds***

	Mean	Std Dev	Min	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Max
Change from BLS wage index to MedPAC blended wage index smoothed with a 5% threshold	0.0024	0.0417	-0.0793	-0.0368	-0.0173	-0.0089	0.0122	0.0499	0.2727
Change from BLS wage index to MedPAC blended wage index smoothed with a 10% threshold	-0.0015	0.0270	-0.0657	-0.0361	-0.0102	-0.0028	0.0057	0.0247	0.2098
Change from BLS wage index to MedPAC blended wage index smoothed with a 15% threshold	-0.0026	0.0218	-0.0631	-0.0357	-0.0104	-0.0011	0.0065	0.0195	0.1394

* All wage indices have been budget neutralized.

A large fraction of hospitals have substantial differences in their wage index values after blending and smoothing are applied. For example, 10% of hospitals have differences of at least -3.7 index points or lower, and 10% have differences of at least 4.9 index points or greater when using a 5% threshold with county adjustments (see Table 3.9, row 1). The median difference is -0.89 index points.

As one increases the threshold for the maximum allowed percentage difference between neighboring hospitals, the differences between the pre-smoothed and smoothed wage index values are reduced somewhat. At a 10% threshold with county adjustments, 10% of hospitals have differences of a least -3.6 index points or less and 10% of hospitals have differences of 2.4 index points or more (see Table 3.9, row 2). At a 15% threshold with county adjustments, 10% of hospitals have differences of -3.6 index points or less and 10% have differences of at least 1.9 index points or more (see Table 3.9, row 3). In both cases, the median difference is also reduced.

In the appendix we present the isolated impact of the smoothing method (excluding the effects of the county-level adjustment or blending) on hospital wage index values. We show the change distributions of moving from the unsmoothed MedPAC blended wage index to the smoothed MedPAC blended wage index (see appendix Table A.6). We can see that when only

considering the effects of the smoothing we also observe a large number of differences in wage index values (see appendix Table A.6, rows 1-3). As with the impact of both the combined county-level adjustment and smoothing method, the size of the impact decreases as the smoothing threshold is raised to 10% or to 15%.

3.4.4. *Ripple Effects and Effects on Non-smoothed Hospitals*

Ripple effects are also present when applying the MedPAC smoothing method to the BLS wage index. This is a MSA-level index constructed using BLS-OES occupational wage data.

Prior to adjustments for budget neutrality (which affect the wage index values of all hospitals), a potentially large fraction of hospitals can have their wage index values changed due to ripple effects. Prior to the smoothing method being applied, 32.1% of hospitals faced a cliff of at least 5%, 9.0% faced a cliff of at least 10%, and 2.9% faced a cliff of at least 15% (see Table 3.10, rows 1,4 and 7). These are the hospitals that would receive an adjustment under various thresholds. These initial adjustments may lead to additional large cliffs, due to ripple effects. Under a 5% threshold, an additional 8.6% of hospitals would require an adjustment due to ripple effects (representing roughly 20% of all hospitals that receive a smoothing adjustment). Under a 10% threshold, only an additional 0.9% of hospitals would receive an adjustment due to ripple effects and a trivial percentage of hospitals (0.03%) — only 1 hospital in fact — would receive a smoothing adjustment due to ripple effects under a 15% threshold.

Table 3.10: Extent of Ripple Effects in the MedPAC Blended Wage Index

Row		Hospitals		Counties	
		N	Percent	N	Percent
1	**Was wage index changed (before budget neutralization) by smoothing with a 5% threshold?** Yes: before smoothing index was less than 95% of index in a contiguous county	1,092	32.08	690	43.07
2	Yes: by ripple effect only	293	8.61	158	9.86
3	No	2,019	59.31	754	47.07
4	**Was wage index changed (before budget neutralization) by smoothing with a 10% threshold?** Yes: before smoothing index was less than 90% of index in a contiguous county	307	9.02	203	12.67
5	Yes: by ripple effect only	31	0.91	19	1.19
6	No	3,066	90.07	1,380	86.14
7	**Was wage index changed (before budget neutralization) by smoothing with a 15% threshold?** Yes: before smoothing index was less than 85% of index in a contiguous county	100	2.94	61	3.81
8	Yes: by ripple effect only	1	0.03	1	0.06
9	No	3,303	97.03	1,540	96.13

Adjustments for budget neutrality, which necessarily are negative for all hospitals, are substantial but smaller than what we saw in Section 3.3 when applied to the Medicare wage index that uses IPPS hospital cost report data. As before, non-smoothed hospitals are subject to receiving negative wage index adjustments relative to smoothed hospitals.

To see the effect of the budget neutrality adjustment for the smoothed MedPAC blended wage index, we once again stratify the distributions of changes in hospitals' wage index values that result from the smoothing method into three groups: hospitals whose wage index values were adjusted initially (before rippling effects), hospitals whose wage index values were adjusted as the result of rippling effects, and hospitals whose wage index values were adjusted solely because of the budget neutrality adjustment (see Table 3.11).

Under a 5% threshold, hospitals that receive smoothing adjustments initially tend to have slightly larger adjustments than hospitals that are smoothed as the result of rippling effects (see Table 3.11). Ten percent of hospitals that had a cliff problem before the smoothing process saw declines in their wage index values of 1.05 index points, whereas 50% of hospitals saw increases of at least 1.7 index points (see Table 3.11, row 1). Ten percent of hospitals that received adjustments as a result of ripple effects saw a decline of at least 0.6 index points in their wage index value, and 10% saw increases of 5.93 index points or more. Hospitals that do not receive

smoothing adjustments all experience negative adjustments to their wage index values as a result of the adjustment for budget neutrality. These adjustments are on average -1.5 index points.

The size of the adjustments owing to ripple effects and budget neutrality are substantially smaller when using a 10% or 15% threshold. As a result, when applying the MedPAC smoothing method to the MedPAC blended wage index, a tradeoff once again occurs between reducing the size of the cliffs and introducing a substantial amount of ripple effects and (negative) adjustments for budget neutrality. Using a 10% or 15% threshold has only a small impact on reducing the number of large cliffs while using a 5% threshold has a large impact on cliffs. However, ripple effects and negative adjustments to achieve budget neutrality are substantially larger under a 5% threshold.[58]

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[58] In the appendix we present the same stratified distributions as those shown in Table 3.11, with the difference that we compare the MedPAC "blended", unsmoothed, budget-neutralized wage index to the MedPAC "blended" smoothed, *non-budget-neutralized* wage index to exclude the effects that budget neutralization has on final wage index values (see Table A.7). These distributions show that without applying the final budget neutralization, all hospitals that receive a smoothing adjustment (regardless of whether they receive it as a result of ripple effects or prior cliff problem) increase their wage index values. On average, the lower the smoothing threshold, the greater the size of the impact on wage index values. Without budget-neutralization, hospitals without a smoothing adjustment experience no change in their wage index values.

Table 3.11: Distributions of Changes in the MedPAC Blended Wage Index Values from Applying Smoothing Method by Subgroup Weighted by Discharges

	Row	Mean	Std Dev	Min	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Max
Change from MedPAC blended, budget neutralized, non-smoothed wage index to MedPAC blended, budget neutralized wage index smoothed with a 5% threshold										
Changed before budget neutralization: index was less than 95% of contiguous county index before smoothing	1	0.0324	0.0495	-0.0173	-0.0105	-0.0046	0.0170	0.0539	0.1064	0.2733
Changed before budget neutralization by ripple effect only	2	0.0265	0.0319	-0.0141	-0.0063	0.0047	0.0192	0.0391	0.0593	0.1629
Not changed before budget neutralization	3	-0.0147	0.0017	-0.0213	-0.0172	-0.0160	-0.0144	-0.0134	-0.0127	-0.0109
Change from MedPAC blended, budget neutralized, non-smoothed wage index to MedPAC blended, budget neutralized wage index smoothed with a 10% threshold										
Changed before budget neutralization: index was less than 90% of contiguous county index before smoothing	4	0.0400	0.0416	-0.0029	0.0015	0.0060	0.0250	0.0660	0.1108	0.2105
Changed before budget neutralization by ripple effect only	5	0.0250	0.0225	-0.0021	0.0048	0.0213	0.0231	0.0243	0.0538	0.1532
Not changed before budget neutralization	6	-0.0029	0.0004	-0.0043	-0.0034	-0.0031	-0.0028	-0.0026	-0.0025	-0.0022
Change from MedPAC blended, budget neutralized, non-smoothed wage index to MedPAC blended, budget neutralized wage index smoothed with a 10% threshold										
Changed before budget neutralization: index was less than 85% of contiguous county index before smoothing	7	0.0347	0.0288	-0.0007	0.0015	0.0102	0.0292	0.0593	0.0659	0.1400
Changed before budget neutralization by ripple effect only	8	0.0274	0.0000	0.0274	0.0274	0.0274	0.0274	0.0274	0.0274	0.0274
Not changed before budget neutralization	9	-0.0007	0.0001	-0.0010	-0.0008	-0.0007	-0.0007	-0.0006	-0.0006	-0.0005

*Indices have been budget-naturalized.

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Appendix Table A.7 presents the same stratified distributions as those in Table 3.11, except in the appendix we compare the MedPAC blended, unsmoothed, budget-neutralized wage index with the MedPAC blended, smoothed, *non-budget-neutralized* wage index to exclude the effects that budget neutralization has on final wage index values. These distributions show that without applying the final budget neutralization, all hospitals that receive a smoothing adjustment (regardless of whether they receive it as a result of ripple effects or prior cliff problem) increase their wage index values. On average, the lower the smoothing threshold, the greater the impact on wage index values. Without budget-neutralization, hospitals without any smoothing adjustment observe no change in their wage index values.

3.5   Overview of Findings and Conclusions

The above analyses describe the impact of applying MedPAC's blending and smoothing method to both the Medicare and the BLS wage indices.[59] This section first describes the effects of the method on the Medicare wage index and then compares these to the effects observed when applying the method to the BLS wage index. When applying the blending and smoothing approach to the Medicare wage index, we observe the following:

- The blending step or county-level adjustment to the Medicare wage data increases the number of contiguous counties with differences in wage index values, but reduces the average cliff size. The average cliff size under the Medicare blended wage index smoothed at the 5%, 10%, and 15% thresholds is smaller than the average cliff size observed in the current Medicare wage index. The size of "large" cliffs when smoothing at the 5%, 10%, and 15% thresholds is also smaller compared with the size of large cliffs under the Medicare wage index. Reducing the size of cliffs reduces the potential for reclassifications and exceptions, but the associated increase in the number of county boundaries may create additional reclassifications and exceptions that to some extent offset the benefits of the reduced cliff size.

- Regardless of the smoothing threshold used, 50% of hospitals will see their wage index values decline when shifting from the Medicare wage index to the Medicare blended and

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[59] Again, the Medicare hospital wage index is the MSA-level index constructed with 2004 IPPS hospital cost report data, and does not contain reclassifications. The BLS wage index is a MSA-level index constructed using BLS-OES occupational wage data. Summaries of all indices used in this report can be found in the Introduction (p. 3).

smoothed indices. These declines are the result of the negative adjustments needed to maintain budget neutrality, because the MedPAC blending and smoothing method incorporates only positive adjustments to hospitals' wage indices. The impacts are larger the lower the smoothing threshold.

- Overall, there is a tradeoff between choosing a tight (5%) or looser (10% or 15%) threshold. The tighter threshold reduces the size of cliffs to a greater extent, but leads to more ripple effects and changes in hospital wage index values. In addition, budget-neutralizing affects all hospitals, and negatively affects some hospitals that received a smoothing adjustment and *all* hospitals that were not smoothed. The decrease in wage index values for hospitals with no smoothing adjustment is larger the lower the smoothing threshold.

When comparing the above effects to the impact observed when applying MedPAC's smoothing method to the BLS wage index, we find the following:

- The number of cliffs increases and their average size decreases when blending or making the county-adjustment to the BLS wage index. This effect is similar to that observed when applying this step to the Medicare data. However, average cliff sizes are lower in the BLS wage index than in the Medicare wage index, and the cliff sizes are smaller in the MedPAC blended and smoothed indices than in the Medicare blended and smoothed indices.

- Similar to the impact observed when moving from the current Medicare wage index to a blended and smoothed Medicare hospital wage index, moving from the BLS wage index to the MedPAC blended wage indices results in 50% of all hospitals experiencing declines in their wage index values. As noted, these declines are the result of the negative adjustments needed to maintain budget neutrality. However, the declines in wage index values are smaller in the BLS data than in the Medicare data.

- The percentage of adjacent counties with cliffs is greater in the Medicare blended index than in the MedPAC blended index for all three thresholds.

- Applying the smoothing method to the BLS wage index produces the same tradeoff one observes in the Medicare wage index: the lower the smoothing threshold, the more the cliffs are smoothed, but the bigger the ripple effects, and the higher the negative impact on hospitals that did not receive an adjustment when budget-neutralizing. These effects do not vary between the two data sets.

- In general, both increases and declines in wage index values are larger when applying the blending and smoothing methodology to the Medicare data than to the BLS data. This is due to the greater variability of the Medicare wage data.

Even though the MedPAC blending and smoothing method reduces the size of cliffs, regardless of whether it is applied to the Medicare or BLS wage data, it does not guarantee an accurate representation of a hospital labor market and may present additional problems. First, the blending step creates additional differences between contiguous counties and, thus, the potential for additional reclassifications. Second, choosing a smoothing threshold is problematic given there is a tradeoff between the extent to which the size of cliffs is reduced by choosing a smaller threshold and the negative impact caused by ripple effects and the budget neutrality adjustment. Hospitals that did not have a cliff problem initially but still saw their wage index values decline owing to ripple effects and the budget neutrality adjustment are likely to perceive this method as arbitrary and unfair. Finally, applying MedPAC's approach likely exacerbates the problems of volatility and circularity observed in the Medicare wage data.

To complement the above analyses, the next section presents a detailed impact analysis of applying MedPAC's blending and smoothing methodology to the Medicare wage index. The following analysis explores the effects of moving to a Medicare wage index adjusted with MedPAC's blending and smoothing methodology from either the Medicare wage index without reclassifications or the final Medicare wage index that includes reclassifications. This analysis illustrates the effects of applying this MedPAC blending and smoothing methodology to the wage index values of different sets of hospitals. In particular, it shows the impact that adopting the MedPAC blending and smoothing method would have on currently reclassified hospitals.

This section presents a detailed impact analysis of hospital wage index values that would result from adopting the MedPAC "blending" and "smoothing" methodology. The analysis evaluates the effects of moving to the Medicare blended and smoothed wage index (i.e., the Medicare wage index adjusted with MedPAC's methodology) from either the 2008 pre-reclassification, pre-rural floor Medicare wage index or the final post-reclassification Medicare wage index. In addition, this section pays special focus to the impact on the wage index values of hospitals that currently experience some form of reclassification or other adjustment to their wage index.

Note that in all earlier sections, references to the Medicare wage index were in the context of the pre-reclassification, pre-rural floor wage index. For ease of discussion in this section, we will refer to the pre-reclassification and post-reclassification Medicare wage indices. The pre-reclassification Medicare wage index is constructed at an MSA level using 2004 IPPS hospital cost report data, and does not contain any type of reclassification or rural floor. By contrast, the post-reclassification Medicare wage index is the final 2008 index, and does have reclassifications and rural floor. Please refer to the Introduction (p. 3) for details and an overview of all the indices referred to in this report and their construction. The reclassifications in general are a series of exceptions have been put in place to address concerns about specific types of boundary conditions or even for specific providers. They include reclassifications based on commuting patterns, the rural floor, individual hospital "proximity" adjustments, and individual hospital rural/urban adjustments (for details, please refer to section 2.2, p. 18).

The analysis — presented in subsection 4.1 — isolates and measures the effects that arise purely from applying the MedPAC methodology (county-level adjustment and smoothing at various thresholds), holding any other method for constructing the wage index and the source of wage data constant. It does this by examining the impact of moving to a blended and smoothed version of the Medicare wage index from either the pre-reclassification Medicare wage index or the post-reclassification Medicare wage index. This is in contrast to an alternative analysis measuring the impact stemming from changes in both methodology and in the sources of wage data, which Acumen presented in the report, "Impact Analysis for the 2009 Final Rule: Interim

Report- Revision of Medicare Wage Index."[60] In this analysis, Acumen examined MedPAC's proposed wage index methodology, including substituting BLS-OES cross industry occupational wages for IPPS hospital cost report data.

Groups of hospitals that tend to receive positive wage index adjustments when moving to the smoothed Medicare wage index from the *pre-reclassification* Medicare wage index are those that faced large cliffs in their pre-reclassification wage index values. Groups of hospitals that tend to receive negative adjustments are those that did not face large cliffs and therefore did not receive any smoothing adjustments. These hospitals would have only received adjustments for budget neutrality, which, as we discussed in the previous section, are always negative under the MedPAC blending and smoothing method.

Of course, the pre-reclassification Medicare wage index is not the actual wage index for many hospitals. Therefore, it is useful to also analyze the effect of moving to the smoothed wage index from the *post-reclassification* Medicare wage index (i.e. the 2008 index used by CMS to adjust the base payment for IPPS hospitals). This move better estimates the impact that hospitals would experience should the MedPAC blending and smoothing method be applied to the Medicare wage index. Recall that the Medicare blended and smoothed wage index does not include any reclassifications, as the blending and smoothing is meant to eliminate the need for reclassifications in the first place. However, there is no reason to believe that the two methods for adjusting wage index values (reclassification vs. blending and smoothing) will affect each hospital in the same way. Hospitals may be positively or negatively affected by the blending and smoothing method relative to the current system of reclassifications.

The main findings of this section are as follows:

When calculating the percent difference of moving to the Medicare blended and smoothed wage index from the *pre-reclassification* Medicare wage index (i.e. with change calculated as a percentage of the pre-reclassification Medicare wage index), we found that:

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[60] For more detail, please see the MaCurdy et al., "Impact Analysis for the 2009 Final Rule: Interim Report- Revision of Medicare Wage Index" (Burlingame, CA: Acumen, August 2008), available at http://www.acumenllc.com/reports/cms. In that report, Acumen evaluates the impact of moving from the pre-reclassified and post-reclassified Medicare wage indices to the MedPAC compensation index (which is similar to the MedPAC "blended" wage index described in Section 3, but is adjusted for benefit costs).

- The median hospital sees a small decline in its index value while the average hospital experiences a small increase in its wage index value.

- 17% of hospitals will experience a 1–5% decline in wage index values, and 15% of hospitals will experience a 1–5% increase in wage index values.

- Rural hospitals and Mountain, Pacific, and Middle Atlantic urban hospitals tend to see increases, while other hospitals tend to see decreases in their wage index values.

When calculating the percent difference of moving to the Medicare blended and smoothed wage index from the *post-reclassification* Medicare wage index (i.e. with change calculated as a percentage of the post-reclassification Medicare wage index):

- More than 50% of hospitals will see more than a 1.5% increase in index values.

- More than 13% of hospitals will experience a 5% or greater decline in wage index values, and an additional 23% will experience declines of between 1% and 5%. Roughly 42% of hospitals will experience an increase in their wage index values of between 1% and 10%.

- Urban hospitals generally, and Mountain, Pacific, and Middle Atlantic urban hospitals specifically, tend to receive positive adjustments.

The impact of adopting MedPAC's blending and smoothing methodology on currently reclassified hospitals is as follows:

- Approximately 36% of all reclassified hospitals will experience increases of 1% or more in wage index values when moving to the Medicare blended and smoothed wage index from the pre-reclassified Medicare wage index. However, the effect of moving to the Medicare blended and smoothed index from the post-reclassification Medicare wage index is the opposite. More than 60% of all currently reclassified hospitals will experience decreases of at least 1% if adopting the MedPAC method.

- When moving to the Medicare blended and smoothed index from the Medicare post-reclassification index, the percentage of hospitals experiencing declines of at least 1% in wage index values is significantly higher than the percentage of hospitals experiencing increases of at least 1% in wage index values. This pattern is true for all types of

reclassification, except for Section 401, which allows hospitals to be classified as rural even though they are in an urban area. Under a Section 401 reclassification, more than one-half of the hospitals will experience an increase in wage index values.

- A significant number of urban and rural reclassified hospitals will see declines in their index values when moving to the Medicare blended and smoothed index from the post-reclassification wage index. However, a higher number of reclassified rural hospitals will experience a decline in wage index values relative to the number of reclassified urban hospitals that observe decreases.

4.1   Comparing the Medicare Wage Index Before and After Reclassifications with the Medicare Blended and Smoothed Wage Indices

To first isolate the effect of the MedPAC blending and smoothing methodology, we present the impact on hospitals of moving to the Medicare blended and smoothed wage index from the pre-reclassification Medicare wage index. Second, to determine whether the MedPAC blending and smoothing method is sufficient to replace current reclassification, and to showcase changes of departure from the current status quo, we present the impact of moving to the Medicare blended and smoothed wage index from the post-reclassification Medicare wage index. The last subsection presents the same analysis, but honing in on those hospitals that currently experience reclassification. The first row of Tables 4.1–4.4 reports these statistics for all hospitals while subsequent rows report statistics for various subgroups of hospitals. The first column reports the total number hospitals and the number of hospitals in each subgroup.

4.1.1.   *Impact of Moving to the Medicare Blended and Smoothed Wage Index for All Hospitals*

Table 4.1 presents, for each hospital, the percentage differences in wage index values that result from moving from the pre- and post-reclassification Medicare wage indices to the Medicare blended wage index smoothed at the 10% threshold and following the adjustments for budget neutrality.[61] We report percentage changes in wage indices in this section, to be

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[61] The 10% threshold is the one initially proposed in the MedPAC June 2007 report. Acumen also analyzed the effects of moving to a smoothed index based on either a 5% or 15% threshold. The results of the analyses at the 5% and 15% thresholds are presented in appendix Table A.8 and Table A.9, respectively.

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consistent with Acumen's previous impact analysis.[62] The table contains the mean and median of the distribution of each of these hospital-level percentage changes. In addition to the differences for all hospitals, we also report these differences separately by hospital type. We group the hospitals into the following categories: (i) geographic area (urban hospitals — distinguishing between urban hospitals in areas with populations of more than one million and urban hospitals in areas with populations of less than one million — and rural hospitals); (ii) hospital size (number of beds), (iii) geographic region; (iv) payment classification area (defined as urban or rural with regards to payments)[63]; (v) teaching status (nonteaching, fewer than 100 residents, more than 100 residents); (vi) Disproportionate Share Hospital (DSH) status (non-DSH and DSH by size), non-DSH (Sole Community Hospital (SCH) status, Rural Referral Center (RRC) status, by size), urban teaching and DSH, and special provider type (Medicare Dependent Hospital (MDH) status, RRC status, and SCH status); (vii) type of ownership (government, proprietary, voluntary); (viii) fraction of the hospital caseload composed by Medicare (measured by inpatient days); and (ix) for cardiac specialty hospitals.[65, 66]

Table 4.1: Mean and Median Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

	Row	N*	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			Mean	Median	Mean	Median
All hospitals	1	3,358	0.03%	-0.51%	0.05%	1.54%
Geographic Location						
Urban hospitals	2	2,384	-0.13%	-0.55%	0.60%	1.71%
Large urban areas (populations over 1 million)	3	1,303	-0.53%	-0.46%	0.62%	1.69%
Other urban areas (populations of 1 million or fewer)	4	1,081	0.34%	-0.55%	0.57%	1.76%
Rural hospitals	5	974	0.93%	0.96%	-3.10%	-3.39%
Bed Size (Urban)						
0-99 beds	6	542	-0.63%	-0.55%	0.24%	1.24%

Table 4.1 Continued: Mean and Median Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

	Row	N*	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			Mean	Median	Mean	Median
100-199 beds	7	801	-0.19%	-0.55%	0.03%	0.90%
200-299 beds	8	469	-0.35%	-0.55%	0.44%	1.59%
300-499 beds	9	406	0.12%	-0.44%	0.73%	1.76%
500 or more beds	10	166	-0.01%	-0.30%	1.35%	1.93%
Bed Size (Rural)						
0-49 beds	11	319	-0.01%	-0.57%	-1.54%	-2.03%
50-99 beds	12	370	0.31%	-0.15%	-2.24%	-2.02%
100-149 beds	13	172	1.00%	0.77%	-4.04%	-4.54%
150-199 beds	14	68	1.79%	1.10%	-3.99%	-5.11%
200 or more beds	15	45	2.11%	3.16%	-3.81%	-3.90%
Region (Urban)						
New England	16	120	-0.53%	-0.55%	-2.43%	-2.17%
Middle Atlantic	17	341	0.00%	0.12%	-0.07%	0.68%
South Atlantic	18	376	-0.46%	-0.55%	0.60%	1.62%
East North Central	19	381	-0.40%	-0.46%	0.56%	1.66%
East South Central	20	162	-0.22%	-0.17%	0.79%	1.97%
West North Central	21	154	-0.41%	-0.49%	2.05%	1.83%
West South Central	22	333	-0.34%	-0.42%	1.54%	1.95%
Mountain	23	144	0.38%	-0.55%	1.07%	1.76%
Pacific	24	373	1.23%	-0.55%	1.04%	0.73%
Region (Rural)						
New England	25	23	0.99%	1.72%	-4.90%	-7.53%
Middle Atlantic	26	71	2.63%	1.11%	-3.14%	-3.22%
South Atlantic	27	172	0.65%	0.61%	-3.08%	-3.39%
East North Central	28	121	0.73%	1.05%	-2.74%	-2.63%
East South Central	29	175	0.79%	1.53%	-3.02%	-3.68%
West North Central	30	113	0.39%	1.00%	-3.61%	-3.59%
West South Central	31	188	0.66%	0.92%	-4.26%	-4.07%
Mountain	32	74	1.74%	0.82%	0.51%	-0.08%
Pacific	33	37	2.05%	1.06%	-1.11%	-2.18%
Payment Classification						
Urban hospitals	34	2,412	-0.10%	-0.55%	0.54%	1.70%
Large urban areas (populations over 1 million)	35	1,314	-0.51%	-0.46%	0.59%	1.69%
Other urban areas (populations of 1 million or fewer)	36	1,098	0.39%	-0.55%	0.49%	1.75%
Rural hospitals	37	946	0.76%	0.75%	-2.87%	-3.22%
Teaching Status						
Nonteaching	38	2,323	0.03%	-0.55%	-0.63%	0.23%
Fewer than 100 residents	39	798	0.04%	-0.49%	0.51%	1.71%
100 or more residents	40	237	0.00%	-0.21%	1.11%	1.93%
DSH						
Non-DSH	41	768	-0.24%	-0.54%	-0.04%	1.40%

	Row	N*	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			Mean	Median	Mean	Median
Less than 100 beds	42	1,462	0.01%	-0.54%	0.69%	1.76%
100 or more beds	43	323	-0.60%	-0.55%	-0.33%	0.05%
Non-DSH						
SCH	44	383	-0.19%	-0.69%	-1.07%	-0.83%
RRC	45	203	1.29%	1.40%	-4.63%	-4.95%
Less than 100 beds	46	173	0.94%	0.99%	-1.27%	-1.58%
100 or more beds	47	46	0.52%	0.68%	-2.43%	-2.98%
Urban Teaching and DSH						
Both teaching and DSH	48	791	-0.01%	-0.40%	1.04%	1.76%
Teaching and no DSH	49	183	-0.02%	-0.40%	0.34%	1.70%
No teaching and DSH	50	994	-0.01%	-0.55%	0.03%	1.07%
No teaching and no DSH	51	444	-0.65%	-0.55%	0.12%	1.40%
Special Provider (Rural Hospital) Type						
MDH	52	157	0.36%	-0.02%	-2.68%	-2.93%
RRC	53	194	1.30%	0.18%	-3.89%	-4.04%
SCH	54	465	0.41%	-0.55%	-1.85%	-1.61%
Type of Ownership						
Government	55	584	0.04%	-0.55%	0.09%	1.36%
Proprietary	56	754	0.04%	-0.55%	-0.11%	1.53%
Voluntary	57	2,020	0.02%	-0.47%	0.07%	1.55%
Medicare Utilization as a Percentage of Inpatient Days						
0-25	58	227	0.07%	-0.49%	1.35%	1.78%
25-50	59	1,249	-0.02%	-0.49%	1.04%	1.76%
50-65	60	1,439	0.07%	-0.54%	-0.78%	0.27%
Over 65	61	437	0.00%	-0.55%	-1.30%	-0.61%
Specialty Hospitals						
Cardiac specialty hospitals	62	22	0.61%	-0.21%	2.40%	1.95%

Note: The geographic area category refers to the area in which the hospital actually resides. By contrast, the payment classification area refers to the area in which the hospital is considered to reside in regard to payments.

* The difference of 46 in total providers between the chapter 4 impact analyses and the chapter 3 evaluation of the MedPAC smoothing is intentional: these 46 providers from Maryland are not paid under the IPPS system and thus excluded from the impact analysis. They are included in the hospital wage index since that is used to pay other types of Maryland providers (such as SNFs or home health agencies).

The second and third columns of Table 4.1 present the hospital-level impact of moving to the Medicare blended wage index smoothed at a 10% threshold from the *pre*-reclassification Medicare wage index. Generally, using the blended Medicare wage index smoothed at a 10% threshold generates a slight decline in wage index values, with the median hospital experiencing approximately a one-half percent decline in its index values. However, the mean hospital would

experience a slightly positive change when moving to the Medicare blended and smoothed index. Urban hospitals would tend to receive negative adjustments (roughly a 0.5% decline) while rural hospitals would receive positive adjustments that are greater in magnitude (roughly a 1% increase).

These impacts show that hospitals in rural areas and hospitals in the Mountain, Pacific, and Mid-Atlantic regions tend to face large cliffs in their pre-reclassification wage index values and therefore receive positive smoothing adjustments on average. Interestingly, the median wage index for urban hospitals in almost all regions declines (with the exception of the Middle Atlantic), showing that in general urban hospitals would experience declines due to blending and smoothing. Urban hospitals and hospitals in other regions are much less likely to receive smoothing adjustments and therefore tend not to receive positive adjustments. Because of budget neutrality requirements, the adjustments to wage indices of urban hospitals and hospitals in regions other than the Mountain, Pacific, or Mid-Atlantic regions tend to be negative.

Of all the urban geographic regions, only Mountain, Pacific, and Middle Atlantic hospitals tend to receive positive adjustments as a result of moving to the blended and smoothed wage index from the pre-reclassification wage index (when considering both the mean and median hospitals). For the rural regions, average hospitals across all regions experience positive adjustments. There are relatively few differences among hospitals stratified by other hospital characteristics.

The fourth and fifth columns of Table 4.1 present the hospital-level impact of moving to the Medicare blended wage index smoothed at the 10% threshold from the *post*-reclassification Medicare wage index. Although the analysis is parallel to the earlier columns (representing the move from pre-reclassification to the blended and smoothed), the picture is closer to what hospitals would actually experience. Notably, the impacts are reversed in many cases. Overall, the median hospital would see more than a 1.5% increase in its index values as opposed to a decrease. Urban hospitals would tend to receive positive adjustments instead of negative (roughly 1.5%) while rural hospitals receive negative adjustments that are greater in magnitude (roughly a 3% decline). Urban New England hospitals would experience negative adjustments, and some urban Midwestern (West North Central and West South Central) hospitals would experience large, positive adjustments.

Thus, rural hospitals and urban hospitals in New England would see increases from the smoothing and blending process relative to their pre-reclassification wage index, but these changes are not as large as what they are currently receiving under the current system of reclassifications and other adjustments. Urban hospitals and hospitals in the West North Central and West South Central regions, on the other hand, receive higher wage index values under the system of blending and smoothing than under the current system of reclassifications. We explore this in more detail in the next section, which focuses specifically on hospitals that receive reclassifications.

4.1.2. *Impact of Moving to the Medicare Blended and Smoothed Wage Index for Reclassified Hospitals*

This section delves more deeply into categories of reclassification status, of which there is a broad range. Table 4.2 is an extension of Table 4.1 and is identical in structure. In addition to dividing reclassified hospitals into urban and rural, Table 4.2 also includes information on hospitals reclassified under Section 505, the rural floor, Section 401, Section 1886(d)(8)(B) (Lugar counties), and under the Medicare Geographic Classification Review Board.[67] The reclassification categories we present are mutually exclusive.

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[67] Reclassification categories not included in this report are 1) "hold harmless," 2) Section 508, and 3) special exceptions. All three are temporary and will expire. The "hold harmless" provision is only effective for FY2005–2007. Section 508 is a limited timeframe reclassification created by the Medicare Prescription Drug, Improvement, and Modernization Act of 2003. Special exceptions are at the discretion of the Secretary for certain providers, and will expire when Section 508 expires. For details on all types of reclassifications, including those excluded, please refer to page 128 of the MedPAC June 2007 report.

Table 4.2: Mean and Median Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index, by FY 2008 Reclassification Type

Row	FY 2008 Reclassification	N	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			Mean	Median	Mean	Median
1	All reclassified hospitals	1,307	1.01%	-0.46%	-2.46%	-2.60%
2	All non-reclassified hospitals	2,051	-0.53%	-0.54%	1.47%	1.76%
3	Urban reclassified hospitals	726	0.66%	-0.55%	-1.66%	-1.04%
4	Urban non-reclassified hospitals	1,658	-0.47%	-0.51%	1.56%	1.77%
5	Rural reclassified hospitals	581	1.83%	1.93%	-4.35%	-4.68%
6	Rural non-reclassified hospitals	393	-1.40%	-1.99%	0.13%	-0.16%
7	All hospitals reclassified under both Section 505 (outmigration) and rural floor rule	16	-0.38%	-0.55%	-6.40%	-6.88%
8	All hospitals reclassified under Section 505 (outmigration) only	223	1.62%	-0.55%	0.44%	-0.34%
9	All hospitals reclassified under rural floor rule only	321	1.00%	-0.55%	-1.24%	-0.78%
10	All hospitals reclassified under Section 401	26	1.53%	-0.55%	4.69%	7.46%
11	All hospitals reclassified under Section 1886(d)(8)(B) (Lugar)	56	3.84%	3.16%	-4.12%	-4.23%
12	All hospitals reclassified by Medicare Geographic Reclassification Review Board	665	0.84%	-0.20%	-3.37%	-3.49%

The second and third columns of Table 4.2 present the hospital-level impact of moving from the *pre*-reclassification Medicare wage index to the Medicare blended wage index smoothed at the 10% threshold.[68] The median hospital that received a reclassification would experience roughly a 0.5% decline in its index value. However, the distribution is again skewed (as in Table 4.1), given that the mean hospital would actually experience slightly positive change when moving to the Medicare blended wage index. In contrast, the decline for non-reclassified hospitals is approximately one-half percent after applying the MedPAC smoothing methodology. This negative adjustment is carried through both urban and rural non-reclassified hospitals, with rural hospitals substantially more negatively affected on average (by almost -1.5% as opposed to roughly -0.5%).

The reclassification categories we present are mutually exclusive. The majority of reclassification subcategories exhibit a similar pattern of adjustments: slightly negative at the median, and slightly positive at the mean. The two subcategories that differ from this pattern are hospitals reclassified under both Section 505 and the rural floor, which are negatively affected at

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[68] The results of the impact analyses for reclassified hospitals of moving to the Medicare "blended" and smoothed (at the 5% and 15% thresholds) wage indices are presented in the appendix (see Table A.10 and Table A.11, respectively).

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both the mean and median, and Lugar counties' hospitals, which experience increases greater than 3% (at the mean and median) when moving to the Medicare blended wage index from the *pre-reclassification* wage index.

Columns 4 and 5 in Table 4.2 present the move to the Medicare blended and smoothed index from the *post-reclassification* Medicare wage index. For all reclassified hospitals, the mean and median hospital experienced more than a 2% decrease in wage index values. This means that although reclassified hospitals may receive a small positive adjustment due to MedPAC's smoothing methodology, hospitals will still experience decreases when moving to the Medicare blended wage index from the current post-reclassified wage index. Thus, the adjustments resulting from applying the MedPAC blending and smoothing methodology to Medicare IPPS hospital cost-report data will be smaller for many hospitals than the reclassification adjustments they currently receive. Of course, other hospitals (many of which do not currently receive reclassifications) receive larger adjustments under blending and smoothing than under the current system. It is further interesting to note that some subcategories of reclassified hospitals tend to receive larger positive adjustments under MedPAC's blending and smoothing method than they do under the current system of reclassifications. For example, hospitals receiving adjustments under Section 401 see very sizeable positive adjustments (approximately 4.7% at the mean and approximately 7.5% at the median) when moving from the post-reclassification wage index to a Medicare blended index. Hospitals receiving only Section 505 (outmigration) adjustments also tend to experience positive adjustments under blending and smoothing — about 0.4% increase at the mean — when moving from the post-reclassification wage index to the Medicare blended index.

The pre-reclassification portion of the impact analysis reported in this section is consistent with the analysis of the blending and smoothing method in Section 3. For example, the rural-urban findings of the pre-reclassification portion of the impact analysis are consistent with rural hospitals facing cliffs (being located in counties that border MSAs) and therefore likely benefiting from smoothing. Notably the post-reclassification rural-urban trend is reversed, such that the rural hospitals are no longer likely to benefit from adopting the blending and smoothing method (while the urban hospitals do). This is probably due to the much larger percentage of rural hospitals that reclassify versus the relatively smaller percentage of urban hospitals that reclassify (see column 2 of table 4.2), and additionally that the rural reclassified

hospitals on average see a greater decrease than urban reclassified hospitals from moving from the post-reclassification to the Medicare blended and smoothed index. The impact will be further explored in sections 4.1.3 and 4.1.4.

4.1.3. *The Distribution of Impacts from Moving to the Medicare Blended and Smoothed Wage Index for All Hospitals*

In this section, we present more detail on the distribution of potential impacts on hospitals of moving to the Medicare blended and smoothed wage index from either the *pre-reclassification* Medicare wage index or the *post-reclassification* Medicare wage index.

Table 4.3 presents the number and percentage of hospitals that receive "large" and "small" increases and decreases in their wage index value from adopting the MedPAC blending and smoothing method. Overall, 17% of hospitals would experience a 1% to 5% decline in wage index values, and 15% of hospitals would experience a 1% to 5% increase in wage index values comparing their pre-reclassification Medicare wage index with the Medicare blended index (smoothed using a 10% threshold, see Table 4.3).[69] Comparing the post-reclassification wage index with the blended and smoothed wage index is closer to what hospitals should expect to experience should the MedPAC blending and smoothing method be applied to the Medicare wage index. In this comparison, more than 13% of hospitals would experience a 5% or greater decline in wage index values, and an additional 23% would experience declines of between 1% and 5%. Roughly 42% of hospitals would experience an increase in their wage index values of between 1% and 10%.

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[69] We present the distributional impacts of moving to Medicare "blended" and smoothed (at the 5% and 15% thresholds) wage indices in the appendix (see Tables A.12 and A.13, respectively).

Table 4.3: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
All Hospitals						
	Decrease of more than 10%	1	0	0	73	2.17
	Decrease of 5% to 10%	2	267	7.95	379	11.29
	Decrease of 1% to 5%	3	584	17.39	761	22.66
	Change of -1% to +1%	4	1,793	53.39	578	17.21
	Increase of 1% to 5%	5	512	15.25	1,408	41.93
	Increase of 5% to 10%	6	133	3.96	99	2.95
	Increase of more than 10%	7	69	2.05	60	1.79
	Total	8	3,358	100	3,358	100
Geographic Location						
Urban hospitals	Decrease of more than 10%	9	0	0	22	0.92
	Decrease of 5% to 10%	10	137	5.75	151	6.33
	Decrease of 1% to 5%	11	319	13.38	430	18.04
	Change of -1% to +1%	12	1,640	68.79	436	18.29
	Increase of 1% to 5%	13	202	8.47	1,257	52.73
	Increase of 5% to 10%	14	47	1.97	43	1.8
	Increase of more than 10%	15	39	1.64	45	1.89
	Total	16	2,384	100	2,384	100
Large urban areas (populations over 1 million)	Decrease of more than 10%	17	0	0	7	0.54
	Decrease of 5% to 10%	18	77	5.91	60	4.6
	Decrease of 1% to 5%	19	251	19.26	212	16.27
	Change of -1% to +1%	20	855	65.62	315	24.17
	Increase of 1% to 5%	21	120	9.21	691	53.03
	Increase of 5% to 10%	22	0	0	17	1.3
	Increase of more than 10%	23	0	0	1	0.08
	Total	24	1,303	100	1,303	100
Other urban areas (populations of 1 million or fewer)	Decrease of more than 10%	25	0	0	15	1.39
	Decrease of 5% to 10%	26	60	5.55	91	8.42
	Decrease of 1% to 5%	27	68	6.29	218	20.17
	Change of -1% to +1%	28	785	72.62	121	11.19
	Increase of 1% to 5%	29	82	7.59	566	52.36
	Increase of 5% to 10%	30	47	4.35	26	2.41
	Increase of more than 10%	31	39	3.61	44	4.07
	Total	32	1,081	100	1,081	100
Rural hospitals	Decrease of more than 10%	33	0	0	51	5.24
	Decrease of 5% to 10%	34	130	13.35	228	23.41
	Decrease of 1% to 5%	35	265	27.21	331	33.98
	Change of -1% to +1%	36	153	15.71	142	14.58

Table 4.3 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	37	310	31.83	151	15.5
	Increase of 5% to 10%	38	86	8.83	56	5.75
	Increase of more than 10%	39	30	3.08	15	1.54
	Total	40	974	100	974	100
Bed Size						
0-99 beds	Decrease of more than 10%	41	0	0	6	1.11
	Decrease of 5% to 10%	42	84	15.5	26	4.8
	Decrease of 1% to 5%	43	105	19.37	144	26.57
	Change of -1% to +1%	44	277	51.11	80	14.76
	Increase of 1% to 5%	45	46	8.49	249	45.94
	Increase of 5% to 10%	46	13	2.4	16	2.95
	Increase of more than 10%	47	17	3.14	21	3.87
	Total	48	542	100	542	100
100-199 beds	Decrease of more than 10%	49	0	0	7	0.87
	Decrease of 5% to 10%	50	38	4.74	67	8.36
	Decrease of 1% to 5%	51	117	14.61	153	19.1
	Change of -1% to +1%	52	547	68.29	173	21.6
	Increase of 1% to 5%	53	66	8.24	374	46.69
	Increase of 5% to 10%	54	18	2.25	14	1.75
	Increase of more than 10%	55	15	1.87	13	1.62
	Total	56	801	100	801	100
200-299 beds	Decrease of more than 10%	57	0	0	2	0.43
	Decrease of 5% to 10%	58	11	2.35	29	6.18
	Decrease of 1% to 5%	59	59	12.58	74	15.78
	Change of -1% to +1%	60	354	75.48	99	21.11
	Increase of 1% to 5%	61	35	7.46	257	54.8
	Increase of 5% to 10%	62	8	1.71	3	0.64
	Increase of more than 10%	63	2	0.43	5	1.07
	Total	64	469	100	469	100
300-499 beds	Decrease of more than 10%	65	0	0	6	1.48
	Decrease of 5% to 10%	66	2	0.49	21	5.17
	Decrease of 1% to 5%	67	32	7.88	48	11.82
	Change of -1% to +1%	68	322	79.31	65	16.01
	Increase of 1% to 5%	69	40	9.85	255	62.81
	Increase of 5% to 10%	70	6	1.48	7	1.72
	Increase of more than 10%	71	4	0.99	4	0.99
	Total	72	406	100	406	100

Acumen, LLC

Table 4.3 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
500 or more beds	Decrease of more than 10%	73	0	0	1	0.6
	Decrease of 5% to 10%	74	2	1.2	8	4.82
	Decrease of 1% to 5%	75	6	3.61	11	6.63
	Change of -1% to +1%	76	140	84.34	19	11.45
	Increase of 1% to 5%	77	15	9.04	122	73.49
	Increase of 5% to 10%	78	2	1.2	3	1.81
	Increase of more than 10%	79	1	0.6	2	1.2
	Total	80	166	100	166	100
Bed Size (Rural)						
0-49 beds	Decrease of more than 10%	81	0	0	11	3.45
	Decrease of 5% to 10%	82	67	21	50	15.67
	Decrease of 1% to 5%	83	83	26.02	122	38.24
	Change of -1% to +1%	84	46	14.42	42	13.17
	Increase of 1% to 5%	85	74	23.2	58	18.18
	Increase of 5% to 10%	86	37	11.6	27	8.46
	Increase of more than 10%	87	12	3.76	9	2.82
	Total	88	319	100	319	100
50-99 beds	Decrease of more than 10%	89	0	0	21	5.68
	Decrease of 5% to 10%	90	49	13.24	75	20.27
	Decrease of 1% to 5%	91	120	32.43	117	31.62
	Change of -1% to +1%	92	50	13.51	74	20
	Increase of 1% to 5%	93	112	30.27	58	15.68
	Increase of 5% to 10%	94	28	7.57	21	5.68
	Increase of more than 10%	95	11	2.97	4	1.08
	Total	96	370	100	370	100
100-149 beds	Decrease of more than 10%	97	0	0	13	7.56
	Decrease of 5% to 10%	98	6	3.49	60	34.88
	Decrease of 1% to 5%	99	40	23.26	56	32.56
	Change of -1% to +1%	100	39	22.67	17	9.88
	Increase of 1% to 5%	101	69	40.12	21	12.21
	Increase of 5% to 10%	102	15	8.72	4	2.33
	Increase of more than 10%	103	3	1.74	1	0.58
	Total	104	172	100	172	100
150-199 beds	Decrease of more than 10%	105	0	0	5	7.35
	Decrease of 5% to 10%	106	6	8.82	28	41.18
	Decrease of 1% to 5%	107	13	19.12	20	29.41
	Change of -1% to +1%	108	15	22.06	3	4.41

Table 4.3 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	109	27	39.71	8	11.76
	Increase of 5% to 10%	110	4	5.88	3	4.41
	Increase of more than 10%	111	3	4.41	1	1.47
	Total	112	68	100	68	100
	Decrease of more than 10%	113	0	0	1	2.22
	Decrease of 5% to 10%	114	2	4.44	15	33.33
	Decrease of 1% to 5%	115	9	20	16	35.56
200 or more beds	Change of -1% to +1%	116	3	6.67	6	13.33
	Increase of 1% to 5%	117	28	62.22	6	13.33
	Increase of 5% to 10%	118	2	4.44	1	2.22
	Increase of more than 10%	119	1	2.22	0	0
	Total	120	45	100	45	100
Region (Urban)						
	Decrease of more than 10%	121	0	0	4	3.33
	Decrease of 5% to 10%	122	1	0.83	30	25
	Decrease of 1% to 5%	123	18	15	35	29.17
New England	Change of -1% to +1%	124	91	75.83	25	20.83
	Increase of 1% to 5%	125	10	8.33	26	21.67
	Increase of 5% to 10%	126	0	0	0	0
	Increase of more than 10%	127	0	0	0	0
	Total	128	120	100	120	100
	Decrease of more than 10%	129	0	0	8	2.35
	Decrease of 5% to 10%	130	37	10.85	32	9.38
	Decrease of 1% to 5%	131	81	23.75	86	25.22
Middle Atlantic	Change of -1% to +1%	132	155	45.45	56	16.42
	Increase of 1% to 5%	133	50	14.66	145	42.52
	Increase of 5% to 10%	134	18	5.28	6	1.76
	Increase of more than 10%	135	0	0	8	2.35
	Total	136	341	100	341	100
	Decrease of more than 10%	137	0	0	0	0
	Decrease of 5% to 10%	138	23	6.12	16	4.26
	Decrease of 1% to 5%	139	58	15.43	78	20.74
South Atlantic	Change of -1% to +1%	140	266	70.74	93	24.73
	Increase of 1% to 5%	141	26	6.91	185	49.2
	Increase of 5% to 10%	142	0	0	4	1.06
	Increase of more than 10%	143	3	0.8	0	0
	Total	144	376	100	376	100

Table 4.3 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
East North Central	Decrease of more than 10%	145	0	0	2	0.52
	Decrease of 5% to 10%	146	21	5.51	19	4.99
	Decrease of 1% to 5%	147	41	10.76	74	19.42
	Change of -1% to +1%	148	289	75.85	67	17.59
	Increase of 1% to 5%	149	25	6.56	217	56.96
	Increase of 5% to 10%	150	5	1.31	2	0.52
	Increase of more than 10%	151	0	0	0	0
	Total	152	381	100	381	100
East South Central	Decrease of more than 10%	153	0	0	2	1.23
	Decrease of 5% to 10%	154	21	12.96	16	9.88
	Decrease of 1% to 5%	155	15	9.26	33	20.37
	Change of -1% to +1%	156	113	69.75	16	9.88
	Increase of 1% to 5%	157	13	8.02	92	56.79
	Increase of 5% to 10%	158	0	0	3	1.85
	Increase of more than 10%	159	0	0	0	0
	Total	160	162	100	162	100
West North Central	Decrease of more than 10%	161	0	0	0	0
	Decrease of 5% to 10%	162	5	3.25	0	0
	Decrease of 1% to 5%	163	31	20.13	9	5.84
	Change of -1% to +1%	164	99	64.29	22	14.29
	Increase of 1% to 5%	165	19	12.34	120	77.92
	Increase of 5% to 10%	166	0	0	2	1.3
	Increase of more than 10%	167	0	0	1	0.65
	Total	168	154	100	154	100
West South Central	Decrease of more than 10%	169	0	0	3	0.9
	Decrease of 5% to 10%	170	25	7.51	4	1.2
	Decrease of 1% to 5%	171	29	8.71	37	11.11
	Change of -1% to +1%	172	252	75.68	21	6.31
	Increase of 1% to 5%	173	21	6.31	257	77.18
	Increase of 5% to 10%	174	6	1.8	10	3
	Increase of more than 10%	175	0	0	1	0.3
	Total	176	333	100	333	100
Mountain	Decrease of more than 10%	177	0	0	1	0.69
	Decrease of 5% to 10%	178	1	0.69	13	9.03
	Decrease of 1% to 5%	179	14	9.72	11	7.64
	Change of -1% to +1%	180	110	76.39	8	5.56

Table 4.3 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	181	11	7.64	103	71.53
	Increase of 5% to 10%	182	3	2.08	3	2.08
	Increase of more than 10%	183	5	3.47	5	3.47
	Total	184	144	100	144	100
Pacific	Decrease of more than 10%	185	0	0	2	0.54
	Decrease of 5% to 10%	186	3	0.8	21	5.63
	Decrease of 1% to 5%	187	32	8.58	67	17.96
	Change of -1% to +1%	188	265	71.05	128	34.32
	Increase of 1% to 5%	189	27	7.24	112	30.03
	Increase of 5% to 10%	190	15	4.02	13	3.49
	Increase of more than 10%	191	31	8.31	30	8.04
	Total	192	373	100	373	100
Region (Rural)						
New England	Decrease of more than 10%	193	0	0	0	0
	Decrease of 5% to 10%	194	2	8.7	15	65.22
	Decrease of 1% to 5%	195	5	21.74	0	0
	Change of -1% to +1%	196	2	8.7	2	8.7
	Increase of 1% to 5%	197	9	39.13	3	13.04
	Increase of 5% to 10%	198	5	21.74	3	13.04
	Increase of more than 10%	199	0	0	0	0
	Total	200	23	100	23	100
Middle Atlantic	Decrease of more than 10%	201	0	0	7	9.86
	Decrease of 5% to 10%	202	7	9.86	16	22.54
	Decrease of 1% to 5%	203	29	40.85	21	29.58
	Change of -1% to +1%	204	6	8.45	8	11.27
	Increase of 1% to 5%	205	16	22.54	12	16.9
	Increase of 5% to 10%	206	9	12.68	5	7.04
	Increase of more than 10%	207	4	5.63	2	2.82
	Total	208	71	100	71	100
South Atlantic	Decrease of more than 10%	209	0	0	8	4.65
	Decrease of 5% to 10%	210	19	11.05	37	21.51
	Decrease of 1% to 5%	211	47	27.33	70	40.7
	Change of -1% to +1%	212	37	21.51	21	12.21
	Increase of 1% to 5%	213	55	31.98	22	12.79
	Increase of 5% to 10%	214	8	4.65	12	6.98
	Increase of more than 10%	215	6	3.49	2	1.16
	Total	216	172	100	172	100

Table 4.3 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
East North Central	Decrease of more than 10%	217	0	0	3	2.48
	Decrease of 5% to 10%	218	15	12.4	33	27.27
	Decrease of 1% to 5%	219	37	30.58	38	31.4
	Change of -1% to +1%	220	15	12.4	28	23.14
	Increase of 1% to 5%	221	42	34.71	15	12.4
	Increase of 5% to 10%	222	7	5.79	3	2.48
	Increase of more than 10%	223	5	4.13	1	0.83
	Total	224	121	100	121	100
East South Central	Decrease of more than 10%	225	0	0	8	4.57
	Decrease of 5% to 10%	226	28	16	46	26.29
	Decrease of 1% to 5%	227	37	21.14	58	33.14
	Change of -1% to +1%	228	25	14.29	16	9.14
	Increase of 1% to 5%	229	71	40.57	37	21.14
	Increase of 5% to 10%	230	11	6.29	9	5.14
	Increase of more than 10%	231	3	1.71	1	0.57
	Total	232	175	100	175	100
West North Central	Decrease of more than 10%	233	0	0	10	8.85
	Decrease of 5% to 10%	234	20	17.7	18	15.93
	Decrease of 1% to 5%	235	33	29.2	52	46.02
	Change of -1% to +1%	236	18	15.93	14	12.39
	Increase of 1% to 5%	237	33	29.2	15	13.27
	Increase of 5% to 10%	238	9	7.96	4	3.54
	Increase of more than 10%	239	0	0	0	0
	Total	240	113	100	113	100
West South Central	Decrease of more than 10%	241	0	0	15	7.98
	Decrease of 5% to 10%	242	30	15.96	41	21.81
	Decrease of 1% to 5%	243	47	25	64	34.04
	Change of -1% to +1%	244	34	18.09	36	19.15
	Increase of 1% to 5%	245	60	31.91	24	12.77
	Increase of 5% to 10%	246	16	8.51	7	3.72
	Increase of more than 10%	247	1	0.53	1	0.53
	Total	248	188	100	188	100
Mountain	Decrease of more than 10%	249	0	0	0	0
	Decrease of 5% to 10%	250	9	12.16	12	16.22
	Decrease of 1% to 5%	251	20	27.03	18	24.32
	Change of -1% to +1%	252	5	6.76	14	18.92

Table 4.3 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	253	17	22.97	14	18.92
	Increase of 5% to 10%	254	14	18.92	8	10.81
	Increase of more than 10%	255	9	12.16	8	10.81
	Total	256	74	100	74	100
Pacific	Decrease of more than 10%	257	0	0	0	0
	Decrease of 5% to 10%	258	0	0	10	27.03
	Decrease of 1% to 5%	259	10	27.03	10	27.03
	Change of -1% to +1%	260	11	29.73	3	8.11
	Increase of 1% to 5%	261	7	18.92	9	24.32
	Increase of 5% to 10%	262	7	18.92	5	13.51
	Increase of more than 10%	263	2	5.41	0	0
	Total	264	37	100	37	100
Payment Classifications						
Urban hospitals	Decrease of more than 10%	265	0	0	26	1.08
	Decrease of 5% to 10%	266	135	5.6	170	7.05
	Decrease of 1% to 5%	267	323	13.39	440	18.24
	Change of -1% to +1%	268	1,638	67.91	441	18.28
	Increase of 1% to 5%	269	219	9.08	1,251	51.87
	Increase of 5% to 10%	270	55	2.28	42	1.74
	Increase of more than 10%	271	42	1.74	42	1.74
	Total	272	2,412	100	2,412	100
Large urban areas (populations over 1 million)	Decrease of more than 10%	273	0	0	11	0.84
	Decrease of 5% to 10%	274	75	5.71	67	5.1
	Decrease of 1% to 5%	275	251	19.1	212	16.13
	Change of -1% to +1%	276	855	65.07	317	24.12
	Increase of 1% to 5%	277	130	9.89	690	52.51
	Increase of 5% to 10%	278	1	0.08	17	1.29
	Increase of more than 10%	279	2	0.15	0	0
	Total	280	1,314	100	1,314	100
Other urban areas (populations of 1 million or fewer)	Decrease of more than 10%	281	0	0	15	1.37
	Decrease of 5% to 10%	282	60	5.46	103	9.38
	Decrease of 1% to 5%	283	72	6.56	228	20.77
	Change of -1% to +1%	284	783	71.31	124	11.29
	Increase of 1% to 5%	285	89	8.11	561	51.09
	Increase of 5% to 10%	286	54	4.92	25	2.28
	Increase of more than 10%	287	40	3.64	42	3.83
	Total	288	1,098	100	1,098	100

Table 4.3 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
Rural hospitals	Decrease of more than 10%	289	0	0	47	4.97
	Decrease of 5% to 10%	290	132	13.95	209	22.09
	Decrease of 1% to 5%	291	261	27.59	321	33.93
	Change of -1% to +1%	292	155	16.38	137	14.48
	Increase of 1% to 5%	293	293	30.97	157	16.6
	Increase of 5% to 10%	294	78	8.25	57	6.03
	Increase of more than 10%	295	27	2.85	18	1.9
	Total	296	946	100	946	100
Teaching Status						
Nonteaching	Decrease of more than 10%	297	0	0	63	2.71
	Decrease of 5% to 10%	298	243	10.46	299	12.87
	Decrease of 1% to 5%	299	488	21.01	622	26.78
	Change of -1% to +1%	300	1,029	44.3	407	17.52
	Increase of 1% to 5%	301	389	16.75	800	34.44
	Increase of 5% to 10%	302	112	4.82	83	3.57
	Increase of more than 10%	303	62	2.67	49	2.11
	Total	304	2,323	100	2,323	100
Fewer than 100 residents	Decrease of more than 10%	305	0	0	9	1.13
	Decrease of 5% to 10%	306	21	2.63	68	8.52
	Decrease of 1% to 5%	307	83	10.4	121	15.16
	Change of -1% to +1%	308	570	71.43	142	17.79
	Increase of 1% to 5%	309	97	12.16	433	54.26
	Increase of 5% to 10%	310	20	2.51	14	1.75
	Increase of more than 10%	311	7	0.88	11	1.38
	Total	312	798	100	798	100
100 or more residents	Decrease of more than 10%	313	0	0	1	0.42
	Decrease of 5% to 10%	314	3	1.27	12	5.06
	Decrease of 1% to 5%	315	13	5.49	18	7.59
	Change of -1% to +1%	316	194	81.86	29	12.24
	Increase of 1% to 5%	317	26	10.97	175	73.84
	Increase of 5% to 10%	318	1	0.42	2	0.84
	Increase of more than 10%	319	0	0	0	0
	Total	320	237	100	237	100
DSH (Urban)						
Non-DSH	Decrease of more than 10%	321	0	0	12	1.56
	Decrease of 5% to 10%	322	42	5.47	75	9.77
	Decrease of 1% to 5%	323	149	19.4	158	20.57
	Change of -1% to +1%	324	438	57.03	143	18.62

Table 4.3 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	325	107	13.93	349	45.44
	Increase of 5% to 10%	326	23	2.99	20	2.6
	Increase of more than 10%	327	9	1.17	11	1.43
	Total	328	768	100	768	100
Less than 100 beds	Decrease of more than 10%	329	0	0	13	0.89
	Decrease of 5% to 10%	330	47	3.21	101	6.91
	Decrease of 1% to 5%	331	146	9.99	230	15.73
	Change of -1% to +1%	332	1,092	74.69	271	18.54
	Increase of 1% to 5%	333	123	8.41	807	55.2
	Increase of 5% to 10%	334	32	2.19	20	1.37
	Increase of more than 10%	335	22	1.5	20	1.37
	Total	336	1,462	100	1,462	100
100 or more beds	Decrease of more than 10%	337	0	0	6	1.86
	Decrease of 5% to 10%	338	66	20.43	25	7.74
	Decrease of 1% to 5%	339	73	22.6	106	32.82
	Change of -1% to +1%	340	127	39.32	50	15.48
	Increase of 1% to 5%	341	31	9.6	114	35.29
	Increase of 5% to 10%	342	13	4.02	10	3.1
	Increase of more than 10%	343	13	4.02	12	3.72
	Total	344	323	100	323	100
SCH	Decrease of more than 10%	345	0	0	13	3.39
	Decrease of 5% to 10%	346	70	18.28	49	12.79
	Decrease of 1% to 5%	347	123	32.11	135	35.25
	Change of -1% to +1%	348	61	15.93	70	18.28
	Increase of 1% to 5%	349	86	22.45	82	21.41
	Increase of 5% to 10%	350	29	7.57	22	5.74
	Increase of more than 10%	351	14	3.66	12	3.13
	Total	352	383	100	383	100
RRC	Decrease of more than 10%	353	0	0	21	10.34
	Decrease of 5% to 10%	354	19	9.36	84	41.38
	Decrease of 1% to 5%	355	40	19.7	64	31.53
	Change of -1% to +1%	356	39	19.21	15	7.39
	Increase of 1% to 5%	357	87	42.86	13	6.4
	Increase of 5% to 10%	358	14	6.9	4	1.97
	Increase of more than 10%	359	4	1.97	2	0.99
	Total	360	203	100	203	100

Table 4.3 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
Less than 100 beds	Decrease of more than 10%	361	0	0	6	3.47
	Decrease of 5% to 10%	362	22	12.72	35	20.23
	Decrease of 1% to 5%	363	42	24.28	50	28.9
	Change of -1% to +1%	364	25	14.45	27	15.61
	Increase of 1% to 5%	365	60	34.68	32	18.5
	Increase of 5% to 10%	366	17	9.83	20	11.56
	Increase of more than 10%	367	7	4.05	3	1.73
	Total	368	173	100	173	100
100 or more beds	Decrease of more than 10%	369	0	0	2	4.35
	Decrease of 5% to 10%	370	1	2.17	10	21.74
	Decrease of 1% to 5%	371	11	23.91	18	39.13
	Change of -1% to +1%	372	11	23.91	2	4.35
	Increase of 1% to 5%	373	18	39.13	11	23.91
	Increase of 5% to 10%	374	5	10.87	3	6.52
	Increase of more than 10%	375	0	0	0	0
	Total	376	46	100	46	100
Urban Teaching and DSH						
Both teaching and DSH	Decrease of more than 10%	377	0	0	4	0.51
	Decrease of 5% to 10%	378	18	2.28	39	4.93
	Decrease of 1% to 5%	379	61	7.71	97	12.26
	Change of -1% to +1%	380	619	78.26	126	15.93
	Increase of 1% to 5%	381	72	9.1	502	63.46
	Increase of 5% to 10%	382	15	1.9	13	1.64
	Increase of more than 10%	383	6	0.76	10	1.26
	Total	384	791	100	791	100
Teaching and no DSH	Decrease of more than 10%	385	0	0	2	1.09
	Decrease of 5% to 10%	386	1	0.55	16	8.74
	Decrease of 1% to 5%	387	23	12.57	25	13.66
	Change of -1% to +1%	388	131	71.58	39	21.31
	Increase of 1% to 5%	389	25	13.66	98	53.55
	Increase of 5% to 10%	390	2	1.09	2	1.09
	Increase of more than 10%	391	1	0.55	1	0.55
	Total	392	183	100	183	100
No teaching and DSH	Decrease of more than 10%	393	0	0	15	1.51
	Decrease of 5% to 10%	394	95	9.56	87	8.75
	Decrease of 1% to 5%	395	158	15.9	239	24.04
	Change of -1% to +1%	396	600	60.36	195	19.62

Table 4.3 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	397	82	8.25	419	42.15
	Increase of 5% to 10%	398	30	3.02	17	1.71
	Increase of more than 10%	399	29	2.92	22	2.21
	Total	400	994	100	994	100
No teaching and no DSH	Decrease of more than 10%	401	0	0	5	1.13
	Decrease of 5% to 10%	402	21	4.73	28	6.31
	Decrease of 1% to 5%	403	81	18.24	79	17.79
	Change of -1% to +1%	404	288	64.86	81	18.24
	Increase of 1% to 5%	405	40	9.01	232	52.25
	Increase of 5% to 10%	406	8	1.8	10	2.25
	Increase of more than 10%	407	6	1.35	9	2.03
	Total	408	444	100	444	100
Special Provider (Rural Hospital Type)						
MDH	Decrease of more than 10%	409	0	0	11	7.01
	Decrease of 5% to 10%	410	32	20.38	30	19.11
	Decrease of 1% to 5%	411	37	23.57	56	35.67
	Change of -1% to +1%	412	25	15.92	26	16.56
	Increase of 1% to 5%	413	40	25.48	25	15.92
	Increase of 5% to 10%	414	17	10.83	7	4.46
	Increase of more than 10%	415	6	3.82	2	1.27
	Total	416	157	100	157	100
RRC	Decrease of more than 10%	417	0	0	12	6.19
	Decrease of 5% to 10%	418	13	6.7	78	40.21
	Decrease of 1% to 5%	419	25	12.89	63	32.47
	Change of -1% to +1%	420	67	34.54	12	6.19
	Increase of 1% to 5%	421	70	36.08	22	11.34
	Increase of 5% to 10%	422	13	6.7	3	1.55
	Increase of more than 10%	423	6	3.09	4	2.06
	Total	424	194	100	194	100
SCH	Decrease of more than 10%	425	0	0	23	4.95
	Decrease of 5% to 10%	426	75	16.13	76	16.34
	Decrease of 1% to 5%	427	134	28.82	152	32.69
	Change of -1% to +1%	428	99	21.29	71	15.27
	Increase of 1% to 5%	429	110	23.66	102	21.94
	Increase of 5% to 10%	430	29	6.24	26	5.59
	Increase of more than 10%	431	18	3.87	15	3.23
	Total	432	465	100	465	100

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Table 4.3 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
Type of Ownership						
Government	Decrease of more than 10%	433	0	0	11	1.88
	Decrease of 5% to 10%	434	96	16.44	47	8.05
	Decrease of 1% to 5%	435	116	19.86	185	31.68
	Change of -1% to +1%	436	230	39.38	94	16.1
	Increase of 1% to 5%	437	93	15.92	205	35.1
	Increase of 5% to 10%	438	31	5.31	29	4.97
	Increase of more than 10%	439	18	3.08	13	2.23
	Total	440	584	100	584	100
Proprietary	Decrease of more than 10%	441	0	0	18	2.39
	Decrease of 5% to 10%	442	28	3.71	91	12.07
	Decrease of 1% to 5%	443	111	14.72	128	16.98
	Change of -1% to +1%	444	464	61.54	138	18.3
	Increase of 1% to 5%	445	113	14.99	351	46.55
	Increase of 5% to 10%	446	28	3.71	18	2.39
	Increase of more than 10%	447	10	1.33	10	1.33
	Total	448	754	100	754	100
Voluntary	Decrease of more than 10%	449	0	0	44	2.18
	Decrease of 5% to 10%	450	143	7.08	241	11.93
	Decrease of 1% to 5%	451	357	17.67	448	22.18
	Change of -1% to +1%	452	1,099	54.41	346	17.13
	Increase of 1% to 5%	453	306	15.15	852	42.18
	Increase of 5% to 10%	454	74	3.66	52	2.57
	Increase of more than 10%	455	41	2.03	37	1.83
	Total	456	2,020	100	2,020	100
Medicare Utilization as a Percentage of Inpatient Days						
0-25	Decrease of more than 10%	457	0	0	0	0
	Decrease of 5% to 10%	458	4	1.76	8	3.52
	Decrease of 1% to 5%	459	18	7.93	28	12.33
	Change of -1% to +1%	460	172	75.77	39	17.18
	Increase of 1% to 5%	461	25	11.01	138	60.79
	Increase of 5% to 10%	462	4	1.76	10	4.41
	Increase of more than 10%	463	4	1.76	4	1.76
	Total	464	227	100	227	100
25-50	Decrease of more than 10%	465	0	0	9	0.72
	Decrease of 5% to 10%	466	44	3.52	78	6.24
	Decrease of 1% to 5%	467	184	14.73	188	15.05
	Change of -1% to +1%	468	831	66.53	238	19.06

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Table 4.3 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	469	132	10.57	679	54.36
	Increase of 5% to 10%	470	31	2.48	31	2.48
	Increase of more than 10%	471	27	2.16	26	2.08
	Total	472	1,249	100	1,249	100
50-65	Decrease of more than 10%	473	0	0	44	3.06
	Decrease of 5% to 10%	474	130	9.03	235	16.33
	Decrease of 1% to 5%	475	292	20.29	382	26.55
	Change of -1% to +1%	476	646	44.89	241	16.75
	Increase of 1% to 5%	477	268	18.62	475	33.01
	Increase of 5% to 10%	478	73	5.07	41	2.85
	Increase of more than 10%	479	30	2.08	21	1.46
	Total	480	1,439	100	1,439	100
Over 65	Decrease of more than 10%	481	0	0	20	4.58
	Decrease of 5% to 10%	482	89	20.37	57	13.04
	Decrease of 1% to 5%	483	89	20.37	162	37.07
	Change of -1% to +1%	484	140	32.04	59	13.5
	Increase of 1% to 5%	485	86	19.68	113	25.86
	Increase of 5% to 10%	486	25	5.72	17	3.89
	Increase of more than 10%	487	8	1.83	9	2.06
	Total	488	437	100	437	100
Specialty Hospitals						
Cardiac specialty hospitals	Decrease of more than 10%	489	0	0	0	0
	Decrease of 5% to 10%	490	0	0	0	0
	Decrease of 1% to 5%	491	0	0	1	4.55
	Change of -1% to +1%	492	18	81.82	0	0
	Increase of 1% to 5%	493	2	9.09	19	86.36
	Increase of 5% to 10%	494	1	4.55	1	4.55
	Increase of more than 10%	495	1	4.55	1	4.55
	Total	496	22	100	22	100

Note: The geographic area category refers to the area in which the hospital actually resides. By contrast, the payment classification area refers to the area in which the hospital is considered to reside in regard to payments.

The key findings of this analysis are as follows. Overall, the majority of hospitals experience only small changes (between -1% and 1%) when moving to the blended and smoothed wage index from the pre-reclassification wage index. Moving to the blended and smoothed wage index from the post-reclassification wage index yields a much wider distribution of changes: 46% of hospitals would experience a decline in wage index values of at least 1%

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(with most of these being between -1% and -5%), and 4% of hospitals would experience an increase in wage index values of at least 1% (with almost all of these being between 1% and 5%).

The patterns are very similar for most subcategories of hospitals, with a few notable exceptions. Only approximately 12% of urban hospitals experience greater than 1% increases in wage index values when moving to the Medicare blended and smoothed index from the Medicare pre-reclassification index. By contrast, substantial numbers of rural hospitals, approximately 43%, see increases of more than 1% in their pre-reclassification wage index numbers when moving to the blended and smoothed index. But perhaps more relevant is the fact that moving to the Medicare blended and smoothed index from the post-reclassification wage index leads more than one-half of urban hospitals to receive increases of 1% to 5%, while about 62% of rural hospitals experience declines in wage index values of at least 1%. Roughly 28% of rural hospitals would experience a decline of 5% or greater in their wage index values, and an additional 34% would experience declines between 1% and 5%.

Relatively more urban hospitals in Mid-Atlantic, Pacific, and Mountain regions would experience increases in the wage index values of at least 1% (comparing the post-reclassification index with the blended and smoothed index), while relatively more urban hospitals in New England would experience declines in their wage index values. For example, more than 45% of Mid-Atlantic urban hospitals would experience increases of 1% or greater, while 37% would experience declines of 1% or greater. By contrast, almost 50% of urban hospitals in New England would experience declines in their wage index values of more that 1%, and only 22% would experience increases of more than 1%.

Among rural hospitals, the distribution of impacts varies geographically as well. Negative impacts are particularly prominent in rural New England hospitals (although there are only 23 hospitals in this category). For example, moving from the post-reclassification wage index to the blended wage index would lower wage index values by 5% or more in more than 65% of rural New England hospitals.

4.1.4. The Distribution of Impacts from Moving to the Medicare Blended and Smoothed Wage Index for Reclassified Hospitals

This section provides more detail on the distribution of potential impacts on hospitals that receive some type of reclassification in moving to the Medicare blended and smoothed (at the 10% threshold) wage index from either the pre-reclassification or the post-reclassification Medicare wage indices.[70]

Table 4.4 shows that approximately 36% of all reclassified hospitals would experience increases of 1% or more in wage index values when moving to the Medicare blended and smoothed index with a 10% threshold from the pre-reclassification Medicare wage index. However, the effect of moving to the Medicare blended and smoothed index from the post-reclassification Medicare wage index is quite the opposite. More than 60% of all reclassified hospitals would experience decreases of at least 1% if the MedPAC blending and smoothing methods were applied to the existing post-reclassification Medicare wage index. A slightly larger number of hospitals would experience increases of 1% or more compared with the number of hospitals experiencing decreases of 1% or more when moving from the Medicare wage index to the Medicare blended and smoothed index. Conversely, when moving from the Medicare post-reclassification index to the Medicare blended and smoothed index, the proportion of hospitals experiencing decreases in wage index values is much larger than the proportion of hospitals experiencing a positive impact. This pattern is true for all reclassified hospitals, except for those reclassified under Section 401. Under the Section 401 reclassification, which allows hospitals to be classified as rural even though they are in an urban area, more than one-half of hospitals would receive an increase in wage index values.

A significant number of both urban and rural reclassified hospitals would see decreases in their index values when moving to the Medicare blended and smoothed index from the post-reclassification wage index. However, the percentage of reclassified rural hospitals experiencing a decline is larger than the percentage of reclassified urban hospitals that also experience a decline.

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[70] As in previous sections, we present the same set of results for the impact of moving to the Medicare "blended" and smoothed at the 5% and 15% threshold wage indices in the appendix (see Appendix Tables A.14 and A.15, respectively).

Table 4.4: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index, by FY 2008 Reclassification Type

	Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index			From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
		N	Percent	N	Percent		N	Percent	N	Percent
All reclassified hospitals						**All non-reclassified hospitals**				
Decrease of more than 10%	1	0	0	66	5.05	Decrease of more than 10%	0	0	7	0.34
Decrease of 5% to 10%	2	51	3.9	337	25.78	Decrease of 5% to 10%	216	10.53	42	2.05
Decrease of 1% to 5%	3	170	13.01	386	29.53	Decrease of 1% to 5%	414	20.19	375	18.28
Change of -1% to +1%	4	614	46.98	283	21.65	Change of -1% to +1%	1,179	57.48	295	14.38
Increase of 1% to 5%	5	311	23.79	171	13.08	Increase of 1% to 5%	201	9.8	1,237	60.31
Increase of 5% to 10%	6	103	7.88	20	1.53	Increase of 5% to 10%	30	1.46	79	3.85
Increase of more than 10%	7	58	4.44	44	3.37	Increase of more than 10%	11	0.54	16	0.78
Total	8	1,307	100	1,307	100	Total	2,051	100	2,051	100
Urban reclassified hospitals						**Urban non-reclassified hospitals**				
Decrease of more than 10%	9	0	0	20	2.75	Decrease of more than 10%	0	0	2	0.12
Decrease of 5% to 10%	10	9	1.24	128	17.63	Decrease of 5% to 10%	128	7.72	23	1.39
Decrease of 1% to 5%	11	61	8.4	205	28.24	Decrease of 1% to 5%	258	15.56	225	13.57
Change of -1% to +1%	12	524	72.18	216	29.75	Change of -1% to +1%	1,116	67.31	220	13.27
Increase of 1% to 5%	13	67	9.23	117	16.12	Increase of 1% to 5%	135	8.14	1,140	68.76
Increase of 5% to 10%	14	32	4.41	3	0.41	Increase of 5% to 10%	15	0.9	40	2.41
Increase of more than 10%	15	33	4.55	37	5.1	Increase of more than 10%	6	0.36	8	0.48
Total	16	726	100	726	100	Total	1,658	100	1,658	100
Rural reclassified hospitals						**Rural non-reclassified hospitals**				
Decrease of more than 10%	17	0	0	46	7.92	Decrease of more than 10%	0	0	5	1.27
Decrease of 5% to 10%	18	42	7.23	209	35.97	Decrease of 5% to 10%	88	22.39	19	4.83
Decrease of 1% to 5%	19	109	18.76	181	31.15	Decrease of 1% to 5%	156	39.69	150	38.17
Change of -1% to +1%	20	90	15.49	67	11.53	Change of -1% to +1%	63	16.03	75	19.08
Increase of 1% to 5%	21	244	42	54	9.29	Increase of 1% to 5%	66	16.79	97	24.68
Increase of 5% to 10%	22	71	12.22	17	2.93	Increase of 5% to 10%	15	3.82	39	9.92
Increase of more than 10%	23	25	4.3	7	1.2	Increase of more than 10%	5	1.27	8	2.04
Total	24	581	100	581	100	Total	393	100	393	100

Table 4.4 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (10% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index, by FY 2008 Reclassification Type

	Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index			From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
		N	Percent	N	Percent		N	Percent	N	Percent
All hospitals reclassified under both Section 505 (outmigration) and rural floor rule						**All hospitals reclassified under Section 505 (outmigration) only**				
Decrease of more than 10%	25	0	0	0	0	Decrease of more than 10%	0	0	4	1.79
Decrease of 5% to 10%	26	0	0	11	68.75	Decrease of 5% to 10%	22	9.87	23	10.31
Decrease of 1% to 5%	27	0	0	5	31.25	Decrease of 1% to 5%	54	24.22	71	31.84
Change of -1% to +1%	28	14	87.5	0	0	Change of -1% to +1%	60	26.91	54	24.22
Increase of 1% to 5%	29	2	12.5	0	0	Increase of 1% to 5%	43	19.28	49	21.97
Increase of 5% to 10%	30	0	0	0	0	Increase of 5% to 10%	30	13.45	8	3.59
Increase of more than 10%	31	0	0	0	0	Increase of more than 10%	14	6.28	14	6.28
Total	32	16	100	16	100	Total	223	100	223	100
All hospitals reclassified under rural floor rule only						**All hospitals reclassified under Section 401**				
Decrease of more than 10%	33	0	0	8	2.49	Decrease of more than 10%	0	0	0	0
Decrease of 5% to 10%	34	3	0.93	43	13.4	Decrease of 5% to 10%	5	19.23	5	19.23
Decrease of 1% to 5%	35	37	11.53	93	28.97	Decrease of 1% to 5%	4	15.38	5	19.23
Change of -1% to +1%	36	216	67.29	125	38.94	Change of -1% to +1%	8	30.77	1	3.85
Increase of 1% to 5%	37	23	7.17	31	9.66	Increase of 1% to 5%	3	11.54	6	23.08
Increase of 5% to 10%	38	21	6.54	1	0.31	Increase of 5% to 10%	4	15.38	3	11.54
Increase of more than 10%	39	21	6.54	20	6.23	Increase of more than 10%	2	7.69	6	23.08
Total	40	321	100	321	100	Total	26	100	26	100
All hospitals reclassified under Section 1886(d)(8)(B) (Lugar)						**All hospitals reclassified by Medicare Geographic Reclassification Review Board**				
Decrease of more than 10%	41	0	0	4	7.14	Decrease of more than 10%	0	0	50	7.52
Decrease of 5% to 10%	42	3	5.36	24	42.86	Decrease of 5% to 10%	18	2.71	231	34.74
Decrease of 1% to 5%	43	9	16.07	18	32.14	Decrease of 1% to 5%	66	9.92	194	29.17
Change of -1% to +1%	44	9	16.07	6	10.71	Change of -1% to +1%	307	46.17	97	14.59
Increase of 1% to 5%	45	21	37.5	2	3.57	Increase of 1% to 5%	219	32.93	83	12.48
Increase of 5% to 10%	46	9	16.07	0	0	Increase of 5% to 10%	39	5.86	8	1.2
Increase of more than 10%	47	5	8.93	2	3.57	Increase of more than 10%	16	2.41	2	0.3
Total	48	56	100	56	100	Total	665	100	665	100

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The analysis presented above shows that the impact of moving to the Medicare blended and smoothed index from either the pre-reclassification or post-reclassification Medicare wage indices varies across geographic regions and groups of hospitals. Acumen's analysis also suggests that the majority of hospitals that currently receive reclassifications and exceptions would benefit less from the MedPAC blending and smoothing method than they do from the current system of reclassifications and exceptions. It is important to note that this result does not imply that the current system of reclassification and exceptions necessarily does a better job than the MedPAC blending and smoothing method of matching hospitals' wage index values and the prevailing wages in their labor market areas.

5 CONCLUSION AND RECOMMENDATIONS

Under the current Medicare IPPS system, the use of MSAs and "rest of state" areas to define hospital labor markets has created problems among neighboring hospitals that face the same labor costs but receive different payments because they are located in different MSAs. A similar problem is that hospitals located in the same wage area may be in distinct labor markets yet receive the same wage index values. As a consequence, one-third of hospitals reclassify to other areas and acquire a different index value than the one originally assigned. Previously implemented wage area definitions based on economic or health-related activity provide policymakers with benchmarks but no real solutions to either the problem of large differences in wage index values between adjacent wage areas (i.e., "cliffs") or the problem of wage areas not necessarily corresponding to labor markets (i.e., the lack of variability within wage areas). Previous proposals that used hospital characteristics to define the hospital wage area, such as the "nearest neighbor" proposal, could not eliminate either of these problems and received much industry resistance.

In 2006, Congress mandated through the Tax Relief and Health Care Act of 2006 (TRHCA) that MedPAC develop a new approach to defining a wage index. The new framework includes a solution to cliff problems and to the potential mismatch between labor markets and wage areas. It solves these problems by allowing wage index values to vary at the county level within wage areas (by "blending" a county-level index with an MSA-level index). A significant MedPAC innovation was the "smoothing" of these initial values such that the difference in hospital wage index values between adjacent counties was not greater than 10%. With differences in wage index values between adjacent counties capped at 10%, the need for reclassifications would diminish but not disappear.

Despite these benefits, the MedPAC blending and smoothing method is not without flaws. Although the framework reduces large differences in wage index values between adjacent counties, it does not eliminate them, and the blending process can create additional issues by increasing the number of adjacent counties with differences in wage index. Further, the smoothing process introduces a new problem: ripple effects. Ripple effects occur when an increased index value in one county sets off a chain reaction, creating another cliff large enough

to require smoothing in a third county. Choosing a lower threshold for the MedPAC smoothing process increases the extent of these ripple effects; however, choosing a higher threshold increases the magnitude of the cliffs between adjacent counties. This poses a tradeoff between lower versus higher thresholds. Furthermore, the iterative smoothing process always increases the wage index values of hospitals that are being smoothed. To maintain budget neutrality, an adjustment is made, and index values in all hospitals located in areas that were not smoothed are lowered. The lower the smoothing threshold, the larger the decrease in wage index values for hospitals that did not receive a smoothing adjustment.

This report compares the effects of applying the MedPAC blending and smoothing method to both the Medicare wage index and the BLS wage index. In both instances, large differences in index values between neighboring hospitals are diminished, particularly when using a 5% threshold. However, ripple effects and the negative impact on the index values of non-smoothed hospitals that results from the budget neutrality adjustment mentioned above tend to counteract the benefits of this method. A lower threshold would increase the magnitude of the ripple effect, meaning an increase in the likelihood of affecting the index value of counties that originally did not have large differences in index values with their neighboring counties. The more ripple effects occur, the greater the required budget neutrality adjustment and the larger the number of hospitals whose wage indices are only (negatively) affected by budget neutrality will be.

In addition, applying the blending and smoothing method to the existing MSA-level Medicare wage index introduces a new set of problems. The blending of county and MSA-level wage data moves from the current MSA-level index to a county-level index. Because many counties have only one hospital, adding blending to the current index would likely increase the problems of volatility and circularity associated with IPPS hospital cost report data (discussed at length in Final Report Part I[71]).

Finally, although MedPAC's blending and smoothing method reduces the size of cliffs, it does not guarantee an accurate representation of a hospital labor market. As discussed in Section 2 of this report, many county-based wage areas are unrelated to hospital labor markets and are not accurate; many counties — particularly in the West — are very large and may encompass

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[71] See MaCurdy et al., 2009.

several labor markets. Smoothing wage index values between adjacent counties will not solve this issue.

On the basis of the results of these analyses, Acumen believes that MedPAC's blending and smoothing method is not well suited to the existing Medicare wage index. To reduce the problems produced from a mismatch between wage areas and hospital labor markets, a more accurate definition of a hospital wage area is required. Acumen recommends further exploration of labor market definitions using a wage area framework based on hospital-specific characteristics, such as the commuting times from hospitals to population centers, to construct a more accurate hospital wage index. We think that such an approach offers the greatest potential for replacing or greatly reducing the need for hospital reclassifications and exceptions.

However, it would be naïve on our part to believe that all hospitals would eagerly embrace a wage index that significantly improves the accuracy of the wage index. Our analysis suggests that some hospitals would experience declines in their wage index values as a result of more accurately defining labor markets. Certain hospitals, especially rural hospitals, benefit more from the existing reclassifications and exceptions than they would if their wage index values were more accurate.

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APPENDIX

Table A.1: Historical Definitions of a Labor Market Area

Row	Measure	Definition	Agency/Organization
1	Metropolitan statistical area (MSA)	Core area and adjacent communities that are highly integrated economically and socially	Office of Management and the Budget (OMB)
2	Labor Market Areas (LMAs)	Geographic area where people can easily change jobs without relocating	Bureau of Labor Statistics (BLS)
3	Primary metropolitan statistical area (PMSA)	A major urban area within a consolidated metropolitan statistical area.	Bureau of Census
4	Economic Areas (EA)	Attaches county to the MSA or PMSA based on commuting patterns, newspaper circulation, etc.	Bureau of Economic Analysis (BEA)
5	Labor Market Adjustors	Use employee home ZIP codes to define Maryland labor market adjustment	Maryland Health Services Cost Review Commission (HSCRC)
6	Health care commuting areas (HCCA)	Counties grouped by natality, mortality and commuting data	Transaction Systems, Inc.
7	Health Service Area (HSA)	Counties grouped by: flow of patient hospital stays	National Center for Health Statistics, part of the Centers for Disease Control and Prevention (CDC)
8	Primary cares service area (PCSA)	Constructed by linking the ZIP code of primary care provider with their patient's ZIP codes	Dartmouth Institute for Health Policy and Clinical Practice
9	Health Professional Shortage Area (HPSA)	Defines area (e.g., county, portion of a county), specific group (e.g., low-income, immigrant) or facility (e.g., health center, correctional facility).	Department of Health and Human Services (DHHS)
10	Geographic practice cost indices (GPCI)	Larger than counties (89 GPCIs nationwide); for physician rate setting	Centers for Medicare & Medicaid Services (CMS)
11	Shipment Method	Use patient discharge data linking hospitals patients in the area surrounding the hospitals	Elzinga and Hogarty (1973)
12	Fixed Radius Method	Defines markets by a fixed radius from each hospital	Robinson and Luft (1985)
13	Variable Radius Method	Weighted average of fixed radii. The weights depend on patient market share by ZIP code.	Gruber (1992), Phibbs and Robinson (1993)
14	Nearest Neighbor	Uses hospital specific labor market. Includes wage data from proximate hospitals.	Prospective Payment Assessment Commission (ProPAC) [now MedPAC]
15	Neighborhoods	Uses ZIP codes or census tracts to look at welfare dependency and labor market outcomes	Hoynes (1996), Bayer et al. (2008)
17	MSA/balance of State	Hospitals grouped by MSAs. Those outside an MSA included in "balance of state" wage area	Centers for Medicare & Medicaid Services (CMS)
18	MedPAC Proposal	Average of MSA and county wages. Wages smoothed to decrease boundary problem.	Medicare Payment Advisory Commission (MedPAC)

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Table A.2: Distribution of Medicare Wage Indices, Weighted by Discharges

	Mean	Std Dev	Min	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Max
Budget-neutralized Medicare wage index	1.0000	0.1506	0.7158	0.8298	0.8966	0.9711	1.0817	1.1868	1.6007
Budget-neutralized Medicare blended wage index (unsmoothed)	1.0000	0.1511	0.7090	0.8293	0.8973	0.9692	1.0780	1.1870	1.6010
Budget-neutralized Medicare blended wage index smoothed with a 15% threshold	1.0000	0.1517	0.7079	0.8297	0.8981	0.9712	1.0765	1.1852	1.5986
Budget-neutralized Medicare blended wage index smoothed with a 10% threshold	1.0000	0.1514	0.7050	0.8299	0.8980	0.9697	1.0775	1.1859	1.5919
Budget-neutralized Medicare blended wage index smoothed with a 5% threshold	1.0000	0.1551	0.6895	0.8382	0.8934	0.9636	1.0786	1.2570	1.5569

Table A.3: Distribution of Changes in Hospital Wage Index Values: Moving from Medicare Blended Wage Index to Medicare Blended Wage Index and Smoothing with Different Thresholds*

	Mean	Std Dev	Min	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Max
Change from Medicare blended wage index unsmoothed to Medicare blended wage index smoothed: 5% threshold	0.0095	0.0598	-0.0441	-0.0300	-0.0269	-0.0221	0.0273	0.0843	0.5220
Change from Medicare blended wage index unsmoothed to Medicare blended wage index smoothed: 10% threshold	0.0031	0.0294	-0.0090	-0.0066	-0.0058	-0.0053	-0.0046	0.0226	0.4083
Change from Medicare blended wage index unsmoothed to Medicare blended wage index smoothed: 15% threshold	0.0010	0.0157	-0.0024	-0.0017	-0.0015	-0.0014	-0.0012	-0.0012	0.2761

* All wage indices in this table have been budget neutralized.

Table A.4: Distributions of Changes in the Medicare Blended Wage Index Values from Applying Smoothing Method (Without Budget Neutralizing) by Subgroup Weighted by Discharges[72]

	Row	Mean	Std Dev	Min	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Max
Change from blended, unsmoothed, budget-neutralized wage index to blended, non-budget-neutralized wage index smoothed with a 5% threshold										
Changed before budget neutralization: index was less than 95% of contiguous county index before smoothing	1	0.0695	0.0686	0	0.0063	0.021	0.049	0.0922	0.1552	0.5611
Changed before budget neutralization by ripple effect only	2	0.0677	0.0575	0.001	0.0137	0.0199	0.0464	0.117	0.1436	0.2591
Not changed before budget neutralization	3	0	0	0	0	0	0	0	0	0
Change from blended, unsmoothed, budget-neutralized wage index to blended, non-budget-neutralized wage index smoothed with a 10% threshold										
Changed before budget neutralization: index was less than 90% of contiguous county index before smoothing	4	0.0538	0.0542	0	0.0039	0.0199	0.041	0.0692	0.1086	0.4155
Changed before budget neutralization by ripple effect only	5	0.059	0.0444	0.0015	0.0053	0.0281	0.0662	0.0673	0.0958	0.1672
Not changed before budget neutralization	6	0	0	0	0	0	0	0	0	0
Change from blended, unsmoothed, budget-neutralized wage index to blended, non-budget-neutralized wage index smoothed with a 15% threshold										
Changed before budget neutralization: index was less than 85% of contiguous county index before smoothing	7	0.0488	0.0525	0	0.0027	0.0098	0.026	0.0593	0.1411	0.2778
Changed before budget neutralization by ripple effect only	8	0.0232	0.0139	0.0075	0.0075	0.0075	0.0259	0.0365	0.0365	0.0365
Not changed before budget neutralization	9	0	0	0	0	0	0	0	0	0

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[72] The difference between this table and Table 3.6 is that we compare the Medicare "blended", unsmoothed, budget- neutralized wage index with the Medicare "blended" smoothed, *non-budget-neutralized*, wage index. We do this to exclude the effects that budget neutralization has on final wage index values.

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Table A.5: Distribution of MedPAC Wage Indices, Weighted by Discharges

	Mean	Std Dev	Min	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Max
Budget-neutralized BLS wage index	1.0000	0.1221	0.7835	0.8547	0.9085	0.9798	1.0809	1.1874	1.4687
Budget-neutralized MedPAC blended wage index (unsmoothed)	1.0000	0.1218	0.7439	0.8575	0.9094	0.9781	1.0778	1.1787	1.4688
Budget-neutralized MedPAC blended wage index smoothed with a 15% threshold	1.0000	0.1220	0.7434	0.8570	0.9090	0.9777	1.0771	1.1815	1.4678
Budget-neutralized MedPAC blended wage index smoothed with a 10% threshold	1.0000	0.1219	0.7417	0.8560	0.9116	0.9763	1.0774	1.1789	1.4646
Budget-neutralized MedPAC blended wage index smoothed with a 5% threshold	1.0000	0.1207	0.7340	0.8571	0.9107	0.9792	1.0780	1.1670	1.4475

Table A.6: Distribution of Changes in Wage Index Values: Moving from MedPAC Blended Wage Index to MedPAC Blended Wage Index Smoothing with Different Thresholds*

	Mean	Std Dev	Min	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Max
Change from MedPAC blended unsmoothed wage index to MedPAC blended wage index smoothed with a 5% threshold	0.0053	0.0388	-0.0213	-0.0168	-0.0146	-0.0128	0.0080	0.0542	0.2733
Change from MedPAC blended unsmoothed wage index to MedPAC blended wage index smoothed with a 10% threshold	0.0014	0.0180	-0.0043	-0.0034	-0.0030	-0.0027	-0.0025	-0.0022	0.2105
Change from MedPAC blended unsmoothed wage index to MedPAC blended wage index smoothed with a 15% threshold	0.0003	0.0074	-0.0010	-0.0008	-0.0007	-0.0006	-0.0006	-0.0006	0.1400

* All wage indices in this table have been budget neutralized.

Table A.7: Distributions of Changes in the MedPAC Blended Wage Index Values from Applying Smoothing Method (Without Budget Neutralizing) by Subgroup Weighted by Discharges[73]

	Row	Mean	Std Dev	Min	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Max
Change from MedPAC "blended," unsmoothed, budget-neutralized wage index MedPAC "blended," nonbudget-neutralized wage index smoothed with a 5% threshold										
Changed before budget neutralizaton: index was less than 95% of contiguous county index before smoothing	1	0.0472	0.0502	0	0.0036	0.0083	0.0314	0.0674	0.121	0.2925
Changed before budget neutralizaton by ripple effect only	2	0.0409	0.0324	0.0003	0.0076	0.0177	0.0343	0.0543	0.0745	0.1772
Not changed before budget neutralization	3	0	0	0	0	0	0	0	0	0
Change from MedPAC "blended, unsmoothed, budget-neutralized wage index to MedPAC "blended," nonbudget-neutralized wage index smoothed with a 10% threshold										
Changed before budget neutralizaton: index was less than 90% of contiguous county index before smoothing	4	0.0429	0.0418	0	0.004	0.0093	0.0276	0.0695	0.1139	0.2143
Changed before budget neutralizaton by ripple effect only	5	0.0277	0.0226	0.0007	0.0073	0.0239	0.0259	0.027	0.0563	0.1567
Not changed before budget neutralization	6	0	0	0	0	0	0	0	0	0
Change from MedPAC "blended," unsmoothed, budget-neutralized wage index to MedPAC "blended," nonbudget-neutralized wage index smoothed with a 15% threshold										
Changed before budget neutralizaton: index was less than 85% of contiguous county index before smoothing	7	0.0353	0.0288	0	0.0023	0.0108	0.0299	0.0601	0.0666	0.1409
Changed before budget neutralizaton by ripple effect only	8	0.0282	0	0.0282	0.0282	0.0282	0.0282	0.0282	0.0282	0.0282
Not changed before budget neutralization	9	0	0	0	0	0	0	0	0	0

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[73] The difference between this table and Table 3.11 is that we compare the MedPAC "blended", unsmoothed, budget- neutralized wage index with the MedPAC "blended", smoothed *non-budget-neutralized* wage index. We do this to exclude the effects that budget neutralization has on final wage index values.

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Table A.8: Mean and Median Percentage Changes in Moving to Medicare Blended and Smoothed Index (5% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

	Row	N	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			Mean	Median	Mean	Median
All Hospitals	1	3,358	0.07%	-2.12%	0.03%	-0.49%
Geographic Location						
Urban hospitals	2	2,384	-0.39%	-2.32%	0.30%	-0.41%
Large urban areas (populations over 1 million)	3	1,303	-1.18%	-2.32%	-0.06%	-0.31%
Other urban areas (populations 1 million or fewer)	4	1,081	0.55%	-2.34%	0.73%	-0.49%
Rural hospitals	5	974	2.66%	1.59%	-1.47%	-2.33%
Bed Size (Urban)						
0-99 beds	6	542	-0.41%	-2.64%	0.40%	-0.50%
100-199 beds	7	801	0.25%	-2.16%	0.41%	-0.49%
200-299 beds	8	469	-0.48%	-2.42%	0.28%	-0.49%
300-499 beds	9	406	-0.28%	-2.25%	0.30%	-0.41%
500 or more beds	10	166	-1.16%	-2.36%	0.16%	-0.23%
Bed Size (Rural)						
0-49 beds	11	319	2.65%	1.29%	1.04%	-0.16%
50-99 beds	12	370	2.15%	1.35%	-0.45%	-1.06%
100-149 beds	13	172	2.57%	1.16%	-2.58%	-3.41%
150-199 beds	14	68	3.47%	2.04%	-2.46%	-3.60%
200 or more beds	15	45	3.07%	2.04%	-2.94%	-3.65%
Region (Urban)						
New England	16	120	0.02%	-1.31%	-1.95%	-1.40%
Middle Atlantic	17	341	0.87%	-0.75%	0.76%	0.21%
South Atlantic	18	376	-2.13%	-2.76%	-1.10%	-0.50%
East North Central	19	381	-1.67%	-2.60%	-0.76%	-0.49%
East South Central	20	162	-1.25%	-2.16%	-0.29%	-0.10%
West North Central	21	154	-2.40%	-2.70%	0.02%	-0.41%
West South Central	22	333	-2.08%	-2.57%	-0.25%	-0.30%
Mountain	23	144	4.86%	2.23%	5.52%	3.91%
Pacific	24	373	4.50%	2.32%	4.23%	2.80%
Region (Rural)						
New England	25	23	2.93%	2.04%	-3.07%	-5.85%
Middle Atlantic	26	71	10.69%	7.79%	4.46%	2.71%
South Atlantic	27	172	1.66%	1.20%	-2.11%	-3.33%
East North Central	28	121	1.23%	0.35%	-2.31%	-2.47%
East South Central	29	175	2.25%	1.10%	-1.63%	-1.65%
West North Central	30	113	-0.08%	-0.09%	-4.07%	-4.44%
West South Central	31	188	2.30%	2.04%	-2.69%	-3.00%
Mountain	32	74	3.33%	-0.65%	2.04%	-0.81%
Pacific	33	37	6.78%	8.54%	3.47%	0.90%

Table A.8 Continued: Mean and Median Percentage Changes in Moving to Medicare Blended and Smoothed Index (5% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

	Row	N	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			Mean	Median	Mean	Median
Payment Classification						
Urban hospitals	34	2,412	-0.33%	-2.32%	0.26%	-0.41%
Large urban areas (populations over 1 million)	35	1,314	-1.14%	-2.32%	-0.08%	-0.31%
Other urban areas (populations 1 million or fewer)	36	1,098	0.62%	-2.32%	0.66%	-0.49%
Rural hospitals	37	946	2.42%	1.35%	-1.28%	-2.28%
Teaching Status						
Nonteaching	38	2,323	0.68%	-1.74%	-0.04%	-0.52%
Fewer than 100 residents	39	798	-0.25%	-2.36%	0.18%	-0.41%
100 or more residents	40	237	-1.12%	-2.09%	-0.05%	-0.17%
DSH (Urban)						
Non-DSH	41	768	-0.58%	-2.16%	-0.42%	-0.50%
Less than 100 beds	42	1,462	-0.19%	-2.32%	0.44%	-0.33%
100 or more beds	43	323	0.19%	-2.51%	0.37%	-0.61%
DSH (Rural)						
SCH	44	383	1.47%	0.41%	0.56%	-0.39%
RRC	45	203	2.61%	1.63%	-3.41%	-3.92%
Less than 100 beds	46	173	3.64%	2.04%	1.38%	0.52%
100 or more beds	47	46	3.15%	2.43%	0.14%	-1.39%
Teaching and DSH (Urban)						
Both teaching and DSH	48	791	-0.71%	-2.36%	0.30%	-0.33%
Teaching and no DSH	49	183	-0.41%	-1.85%	-0.09%	-0.41%
No teaching and DSH	50	994	0.68%	-2.29%	0.64%	-0.49%
No teaching and no DSH	51	444	-1.24%	-2.42%	-0.51%	-0.52%
Special Provider (Rural Hospital) Type						
MDH	52	157	2.98%	2.04%	-0.20%	-0.84%
RRC	53	194	2.50%	1.14%	-2.81%	-3.69%
SCH	54	465	1.69%	-0.27%	-0.66%	-0.98%
Type of Ownership						
Government	55	584	0.11%	-2.13%	0.11%	-0.49%
Proprietary	56	754	-0.04%	-2.27%	-0.24%	-0.49%
Voluntary	57	2,020	0.08%	-2.10%	0.08%	-0.43%
Medicare Utilization as a Percent of Inpatient Days						
0-25	58	227	0.69%	-2.15%	1.94%	0.07%
25-50	59	1,249	-0.40%	-2.32%	0.61%	-0.31%
50-65	60	1,439	0.35%	-1.91%	-0.58%	-0.50%
Over 65	61	437	0.88%	-1.24%	-0.46%	-0.54%
Specialty Hospitals						
Cardiac specialty hospitals	62	22	0.61%	-2.32%	2.37%	-0.05%

Note: The geographic area category refers to the area in which the hospital actually resides. By contrast, the payment classification area refers to the area in which the hospital is considered to reside in regard to payments.

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Table A.9: Mean and Median Percentage Changes in Moving to Medicare Blended and Smoothed Index (15% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

	Row	N	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			Mean	Median	Mean	Median
All Hospitals	1	3,358	0.01%	-0.14%	0.04%	1.83%
Geographic Location						
Urban hospitals	2	2,384	-0.04%	-0.14%	0.71%	2.12%
Large urban areas (populations over 1 million)	3	1,303	-0.18%	-0.05%	0.98%	2.12%
Other urban areas (populations 1 million or fewer)	4	1,081	0.13%	-0.14%	0.39%	2.10%
Rural hospitals	5	974	0.24%	0.38%	-3.74%	-3.23%
Bed Size (Urban)						
0-99 beds	6	542	-0.73%	-0.14%	0.17%	1.35%
100-199 beds	7	801	-0.23%	-0.14%	0.02%	1.29%
200-299 beds	8	469	-0.17%	-0.14%	0.63%	1.93%
300-499 beds	9	406	0.14%	-0.13%	0.78%	2.18%
500 or more beds	10	166	0.30%	0.08%	1.67%	2.35%
Bed Size (Rural)						
0-49 beds	11	319	-1.20%	-1.85%	-2.68%	-2.99%
50-99 beds	12	370	-0.46%	-0.93%	-2.95%	-2.59%
100-149 beds	13	172	0.49%	0.45%	-4.50%	-4.56%
150-199 beds	14	68	1.10%	1.10%	-4.63%	-5.66%
200 or more beds	15	45	1.74%	2.91%	-4.13%	-4.28%
Region (Urban)						
New England	16	120	-0.29%	-0.14%	-2.19%	-1.76%
Middle Atlantic	17	341	-0.27%	0.20%	-0.32%	0.93%
South Atlantic	18	376	-0.11%	-0.14%	0.96%	2.05%
East North Central	19	381	-0.16%	-0.14%	0.82%	2.09%
East South Central	20	162	0.02%	0.22%	1.04%	2.40%
West North Central	21	154	0.00%	-0.08%	2.47%	2.25%
West South Central	22	333	-0.09%	-0.09%	1.80%	2.38%
Mountain	23	144	0.23%	-0.14%	0.94%	2.19%
Pacific	24	373	0.71%	-0.14%	0.56%	1.15%
Region (Rural)						
New England	25	23	0.20%	0.94%	-5.66%	-7.14%
Middle Atlantic	26	71	0.57%	-0.69%	-5.01%	-3.43%
South Atlantic	27	172	0.11%	0.59%	-3.59%	-3.19%
East North Central	28	121	0.16%	0.05%	-3.25%	-2.99%
East South Central	29	175	0.26%	0.50%	-3.50%	-3.58%
West North Central	30	113	0.19%	-0.07%	-3.80%	-3.23%
West South Central	31	188	0.25%	0.74%	-4.63%	-4.31%
Mountain	32	74	0.58%	0.35%	-0.58%	-0.41%
Pacific	33	37	0.25%	0.47%	-2.84%	-2.52%

Table A.9 Continued: Mean and Median Percentage Changes in Moving to Medicare Blended and Smoothed Index (15% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

	Row	N	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			Mean	Median	Mean	Median
Payment Classification						
Urban hospitals	34	2,412	-0.02%	-0.14%	0.64%	2.11%
Large urban areas (populations over 1 million)	35	1,314	-0.17%	-0.05%	0.94%	2.12%
Other urban areas (populations 1 million or fewer)	36	1,098	0.15%	-0.14%	0.29%	2.07%
Rural hospitals	37	946	0.16%	0.22%	-3.43%	-3.14%
Teaching Status						
Nonteaching	38	2,323	-0.18%	-0.14%	-0.80%	0.40%
Fewer than 100 residents	39	798	0.11%	-0.14%	0.60%	2.12%
100 or more residents	40	237	0.33%	0.18%	1.45%	2.35%
DSH (Urban)						
Non-DSH	41	768	-0.13%	-0.14%	0.09%	1.83%
Fewer than 100 beds	42	1,462	0.07%	-0.14%	0.77%	2.15%
100 or more beds	43	323	-0.88%	-0.15%	-0.57%	0.14%
DSH (Rural)						
SCH	44	383	-0.78%	-0.99%	-1.64%	-1.35%
RRC	45	203	0.86%	1.10%	-5.02%	-5.32%
Less than 100 beds	46	173	-0.29%	-0.56%	-2.45%	-2.35%
100 or more beds	47	46	0.00%	0.47%	-2.92%	-2.76%
Urban Teaching and DSH						
Both teaching and DSH	48	791	0.16%	-0.05%	1.22%	2.18%
Teaching and no DSH	49	183	0.08%	-0.04%	0.46%	2.11%
No teaching and DSH	50	994	-0.17%	-0.14%	-0.10%	1.25%
No teaching and no DSH	51	444	-0.39%	-0.14%	0.39%	1.83%
Special Provider (Rural Hospital Type						
MDH	52	157	-0.67%	-0.93%	-3.64%	-3.00%
RRC	53	194	0.91%	-0.14%	-4.23%	-4.56%
SCH	54	465	-0.06%	-0.14%	-2.27%	-2.09%
Type of Ownership						
Government	55	584	-0.18%	-0.14%	-0.09%	1.46%
Proprietary	56	754	0.13%	-0.14%	0.00%	1.85%
Voluntary	57	2,020	0.01%	-0.14%	0.08%	1.84%
Medicare Utilization as a Percent of Inpatient Days						
0-25	58	227	0.29%	-0.08%	1.58%	2.20%
25-50	59	1,249	0.11%	-0.14%	1.18%	2.18%
50-65	60	1,439	-0.05%	-0.14%	-0.88%	0.57%
Over 65	61	437	-0.35%	-0.14%	-1.62%	-0.65%
Specialty Hospitals						
Cardiac specialty hospitals	62	22	0.65%	-0.02%	2.46%	2.20%

Note: The geographic area category refers to the area in which the hospital actually resides. By contrast, the payment classification area refers to the area in which the hospital is considered to reside in regard to payments.

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Table A.10: Mean and Median Percentage Changes in Moving to Medicare Blended and Smoothed Index (5% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index, by FY 2008 Reclassification Type

FY 2008 Reclassification	Row	N	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			Mean	Median	Mean	Median
All reclassified hospitals	1	1,307	2.84%	1.19%	-0.73%	-1.83%
All non-reclassified hospitals	2	2,051	-1.50%	-2.57%	0.47%	-0.33%
Urban reclassified hospitals	3	726	2.50%	0.53%	0.10%	-1.36%
Urban non-reclassified hospitals	4	1,658	-1.62%	-2.59%	0.38%	-0.33%
Rural reclassified hospitals	5	581	3.65%	2.04%	-2.68%	-3.66%
Rural non-reclassified hospitals	6	393	0.10%	-1.26%	1.66%	0.34%
All hospitals reclassified under both Section 505 (outmigration) and rural floor rule	7	16	1.95%	0.65%	-4.23%	-5.01%
All hospitals reclassified under Section 505 (outmigration) only	8	223	3.66%	0.11%	2.43%	-0.83%
All hospitals reclassified under rural floor rule only	9	321	5.24%	4.57%	2.91%	1.93%
All hospitals reclassified under Section 401	10	26	5.07%	-0.18%	8.13%	7.73%
All hospitals reclassified under Section 1886(d)(8)(B) (Lugar)	11	56	7.36%	5.07%	-1.00%	-1.15%
All hospitals reclassified by Medicare Geographic Reclassification Review Board	12	665	1.50%	0.16%	-2.81%	-2.93%

Table A.11: Mean and Median Percentage Changes in Moving to Medicare Blended and Smoothed Index (15% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index, by FY 2008 Reclassification Type

FY 2008 Reclassification	Row	N	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			Mean	Median	Mean	Median
All reclassified hospitals	1	1,307	0.51%	-0.14%	-2.91%	-2.64%
All non-reclassified hospitals	2	2,051	-0.28%	-0.14%	1.72%	2.19%
Urban reclassified hospitals	3	726	0.31%	-0.14%	-1.97%	-0.78%
Urban non-reclassified hospitals	4	1,658	-0.18%	-0.12%	1.85%	2.19%
Rural reclassified hospitals	5	581	0.99%	1.29%	-5.11%	-5.08%
Rural non-reclassified hospitals	6	393	-1.71%	-2.05%	-0.18%	-0.25%
All hospitals reclassified under both Section 505 (outmigration) and rural floor rule	7	16	-0.16%	-0.14%	-6.20%	-6.49%
All hospitals reclassified under Section 505 (outmigration) only	8	223	0.25%	-0.14%	-0.89%	-0.23%
All hospitals reclassified under rural floor rule only	9	321	0.26%	-0.14%	-1.94%	-0.81%
All hospitals reclassified under Section 401	10	26	-0.36%	-0.14%	2.82%	2.98%
All hospitals reclassified under Section 1886(d)(8)(B) (Lugar)	11	56	1.32%	0.60%	-6.32%	-6.00%
All hospitals reclassified by Medicare Geographic Reclassification Review Board	12	665	0.66%	-0.04%	-3.51%	-3.46%

Table A.12: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (5% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
All Hospitals						
	Decrease of more than 10%	1	0	0	53	1.58
	Decrease of 5% to 10%	2	246	7.33	346	10.3
	Decrease of 1% to 5%	3	1,674	49.85	868	25.85
	Change of -1% to +1%	4	334	9.95	1,130	33.65
	Increase of 1% to 5%	5	457	13.61	496	14.77
	Increase of 5% to 10%	6	368	10.96	256	7.62
	Increase of more than 10%	7	279	8.31	209	6.22
	Total	8	3,358	100	3,358	100
Geographic Location						
Urban hospitals	Decrease of more than 10%	9	0	0	9	0.38
	Decrease of 5% to 10%	10	158	6.63	138	5.79
	Decrease of 1% to 5%	11	1,433	60.11	617	25.88
	Change of -1% to +1%	12	212	8.89	999	41.9
	Increase of 1% to 5%	13	225	9.44	312	13.09
	Increase of 5% to 10%	14	202	8.47	169	7.09
	Increase of more than 10%	15	154	6.46	140	5.87
	Total	16	2,384	100	2,384	100
Large urban areas (populations over 1 million)	Decrease of more than 10%	17	0	0	6	0.46
	Decrease of 5% to 10%	18	97	7.44	77	5.91
	Decrease of 1% to 5%	19	812	62.32	339	26.02
	Change of -1% to +1%	20	116	8.9	540	41.44
	Increase of 1% to 5%	21	115	8.83	193	14.81
	Increase of 5% to 10%	22	120	9.21	111	8.52
	Increase of more than 10%	23	43	3.3	37	2.84
	Total	24	1,303	100	1,303	100
Other urban areas (populations of 1 million or fewer)	Decrease of more than 10%	25	0	0	3	0.28
	Decrease of 5% to 10%	26	61	5.64	61	5.64
	Decrease of 1% to 5%	27	621	57.45	278	25.72
	Change of -1% to +1%	28	96	8.88	459	42.46
	Increase of 1% to 5%	29	110	10.18	119	11.01
	Increase of 5% to 10%	30	82	7.59	58	5.37
	Increase of more than 10%	31	111	10.27	103	9.53
	Total	32	1,081	100	1,081	100
Rural hospitals	Decrease of more than 10%	33	0	0	44	4.52
	Decrease of 5% to 10%	34	88	9.03	208	21.36
	Decrease of 1% to 5%	35	241	24.74	251	25.77
	Change of -1% to +1%	36	122	12.53	131	13.45

Table A.12 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (5% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	37	232	23.82	184	18.89
	Increase of 5% to 10%	38	166	17.04	87	8.93
	Increase of more than 10%	39	125	12.83	69	7.08
	Total	40	974	100	974	100
Bed Size						
0-99 beds	Decrease of more than 10%	41	0	0	2	0.37
	Decrease of 5% to 10%	42	91	16.79	38	7.01
	Decrease of 1% to 5%	43	292	53.87	160	29.52
	Change of -1% to +1%	44	31	5.72	205	37.82
	Increase of 1% to 5%	45	48	8.86	66	12.18
	Increase of 5% to 10%	46	30	5.54	27	4.98
	Increase of more than 10%	47	50	9.23	44	8.12
	Total	48	542	100	542	100
100-199 beds	Decrease of more than 10%	49	0	0	1	0.12
	Decrease of 5% to 10%	50	44	5.49	46	5.74
	Decrease of 1% to 5%	51	448	55.93	227	28.34
	Change of -1% to +1%	52	81	10.11	301	37.58
	Increase of 1% to 5%	53	96	11.99	116	14.48
	Increase of 5% to 10%	54	81	10.11	69	8.61
	Increase of more than 10%	55	51	6.37	41	5.12
	Total	56	801	100	801	100
200-299 beds	Decrease of more than 10%	57	0	0	1	0.21
	Decrease of 5% to 10%	58	17	3.62	29	6.18
	Decrease of 1% to 5%	59	303	64.61	123	26.23
	Change of -1% to +1%	60	39	8.32	201	42.86
	Increase of 1% to 5%	61	39	8.32	50	10.66
	Increase of 5% to 10%	62	44	9.38	37	7.89
	Increase of more than 10%	63	27	5.76	28	5.97
	Total	64	469	100	469	100
300-499 beds	Decrease of more than 10%	65	0	0	4	0.99
	Decrease of 5% to 10%	66	4	0.99	19	4.68
	Decrease of 1% to 5%	67	271	66.75	83	20.44
	Change of -1% to +1%	68	41	10.1	194	47.78
	Increase of 1% to 5%	69	32	7.88	57	14.04
	Increase of 5% to 10%	70	39	9.61	30	7.39
	Increase of more than 10%	71	19	4.68	19	4.68
	Total	72	406	100	406	100

Table A.12 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (5% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
500 or more beds	Decrease of more than 10%	73	0	0	1	0.6
	Decrease of 5% to 10%	74	2	1.2	6	3.61
	Decrease of 1% to 5%	75	119	71.69	24	14.46
	Change of -1% to +1%	76	20	12.05	98	59.04
	Increase of 1% to 5%	77	10	6.02	23	13.86
	Increase of 5% to 10%	78	8	4.82	6	3.61
	Increase of more than 10%	79	7	4.22	8	4.82
	Total	80	166	100	166	100
Bed Size (Rural)						
0-49 beds	Decrease of more than 10%	81	0	0	8	2.51
	Decrease of 5% to 10%	82	35	10.97	50	15.67
	Decrease of 1% to 5%	83	79	24.76	76	23.82
	Change of -1% to +1%	84	44	13.79	43	13.48
	Increase of 1% to 5%	85	66	20.69	76	23.82
	Increase of 5% to 10%	86	49	15.36	31	9.72
	Increase of more than 10%	87	46	14.42	35	10.97
	Total	88	319	100	319	100
50-99 beds	Decrease of more than 10%	89	0	0	18	4.86
	Decrease of 5% to 10%	90	40	10.81	74	20
	Decrease of 1% to 5%	91	92	24.86	89	24.05
	Change of -1% to +1%	92	41	11.08	50	13.51
	Increase of 1% to 5%	93	90	24.32	78	21.08
	Increase of 5% to 10%	94	64	17.3	38	10.27
	Increase of more than 10%	95	43	11.62	23	6.22
	Total	96	370	100	370	100
100-149 beds	Decrease of more than 10%	97	0	0	12	6.98
	Decrease of 5% to 10%	98	9	5.23	50	29.07
	Decrease of 1% to 5%	99	45	26.16	50	29.07
	Change of -1% to +1%	100	26	15.12	23	13.37
	Increase of 1% to 5%	101	36	20.93	20	11.63
	Increase of 5% to 10%	102	34	19.77	10	5.81
	Increase of more than 10%	103	22	12.79	7	4.07
	Total	104	172	100	172	100
150-199 beds	Decrease of more than 10%	105	0	0	5	7.35
	Decrease of 5% to 10%	106	3	4.41	21	30.88
	Decrease of 1% to 5%	107	18	26.47	18	26.47
	Change of -1% to +1%	108	3	4.41	8	11.76

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Table A.12 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (5% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	109	23	33.82	7	10.29
	Increase of 5% to 10%	110	12	17.65	6	8.82
	Increase of more than 10%	111	9	13.24	3	4.41
	Total	112	68	100	68	100
200 or more beds	Decrease of more than 10%	113	0	0	1	2.22
	Decrease of 5% to 10%	114	1	2.22	13	28.89
	Decrease of 1% to 5%	115	7	15.56	18	40
	Change of -1% to +1%	116	8	17.78	7	15.56
	Increase of 1% to 5%	117	17	37.78	3	6.67
	Increase of 5% to 10%	118	7	15.56	2	4.44
	Increase of more than 10%	119	5	11.11	1	2.22
	Total	120	45	100	45	100
Region (Urban)						
New England	Decrease of more than 10%	121	0	0	3	2.5
	Decrease of 5% to 10%	122	7	5.83	19	15.83
	Decrease of 1% to 5%	123	60	50	50	41.67
	Change of -1% to +1%	124	8	6.67	36	30
	Increase of 1% to 5%	125	28	23.33	10	8.33
	Increase of 5% to 10%	126	15	12.5	0	0
	Increase of more than 10%	127	2	1.67	2	1.67
	Total	128	120	100	120	100
Middle Atlantic	Decrease of more than 10%	129	0	0	4	1.17
	Decrease of 5% to 10%	130	31	9.09	40	11.73
	Decrease of 1% to 5%	131	150	43.99	98	28.74
	Change of -1% to +1%	132	66	19.35	76	22.29
	Increase of 1% to 5%	133	36	10.56	77	22.58
	Increase of 5% to 10%	134	29	8.5	20	5.87
	Increase of more than 10%	135	29	8.5	26	7.62
	Total	136	341	100	341	100
South Atlantic	Decrease of more than 10%	137	0	0	0	0
	Decrease of 5% to 10%	138	36	9.57	24	6.38
	Decrease of 1% to 5%	139	273	72.61	149	39.63
	Change of -1% to +1%	140	41	10.9	157	41.76
	Increase of 1% to 5%	141	21	5.59	41	10.9
	Increase of 5% to 10%	142	2	0.53	5	1.33
	Increase of more than 10%	143	3	0.8	0	0
	Total	144	376	100	376	100

Table A.12 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (5% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
East North Central	Decrease of more than 10%	145	0	0	0	0
	Decrease of 5% to 10%	146	25	6.56	12	3.15
	Decrease of 1% to 5%	147	269	70.6	116	30.45
	Change of -1% to +1%	148	35	9.19	202	53.02
	Increase of 1% to 5%	149	33	8.66	47	12.34
	Increase of 5% to 10%	150	14	3.67	4	1.05
	Increase of more than 10%	151	5	1.31	0	0
	Total	152	381	100	381	100
East South Central	Decrease of more than 10%	153	0	0	2	1.23
	Decrease of 5% to 10%	154	19	11.73	4	2.47
	Decrease of 1% to 5%	155	103	63.58	49	30.25
	Change of -1% to +1%	156	11	6.79	86	53.09
	Increase of 1% to 5%	157	15	9.26	11	6.79
	Increase of 5% to 10%	158	14	8.64	10	6.17
	Increase of more than 10%	159	0	0	0	0
	Total	160	162	100	162	100
West North Central	Decrease of more than 10%	161	0	0	0	0
	Decrease of 5% to 10%	162	11	7.14	2	1.3
	Decrease of 1% to 5%	163	133	86.36	33	21.43
	Change of -1% to +1%	164	7	4.55	90	58.44
	Increase of 1% to 5%	165	3	1.95	27	17.53
	Increase of 5% to 10%	166	0	0	2	1.3
	Increase of more than 10%	167	0	0	0	0
	Total	168	154	100	154	100
West South Central	Decrease of more than 10%	169	0	0	0	0
	Decrease of 5% to 10%	170	28	8.41	18	5.41
	Decrease of 1% to 5%	171	263	78.98	45	13.51
	Change of -1% to +1%	172	13	3.9	233	69.97
	Increase of 1% to 5%	173	17	5.11	21	6.31
	Increase of 5% to 10%	174	11	3.3	6	1.8
	Increase of more than 10%	175	1	0.3	10	3
	Total	176	333	100	333	100
Mountain	Decrease of more than 10%	177	0	0	0	0
	Decrease of 5% to 10%	178	0	0	4	2.78
	Decrease of 1% to 5%	179	58	40.28	24	16.67
	Change of -1% to +1%	180	7	4.86	34	23.61

Table A.12 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (5% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
Region (Rural)						
	Increase of 1% to 5%	181	25	17.36	22	15.28
	Increase of 5% to 10%	182	5	3.47	17	11.81
	Increase of more than 10%	183	49	34.03	43	29.86
	Total	184	144	100	144	100
Pacific	Decrease of more than 10%	185	0	0	0	0
	Decrease of 5% to 10%	186	1	0.27	15	4.02
	Decrease of 1% to 5%	187	124	33.24	53	14.21
	Change of -1% to +1%	188	24	6.43	85	22.79
	Increase of 1% to 5%	189	47	12.6	56	15.01
	Increase of 5% to 10%	190	112	30.03	105	28.15
	Increase of more than 10%	191	65	17.43	59	15.82
	Total	192	373	100	373	100
New England	Decrease of more than 10%	193	0	0	0	0
	Decrease of 5% to 10%	194	0	0	13	56.52
	Decrease of 1% to 5%	195	4	17.39	1	4.35
	Change of -1% to +1%	196	4	17.39	2	8.7
	Increase of 1% to 5%	197	8	34.78	2	8.7
	Increase of 5% to 10%	198	6	26.09	2	8.7
	Increase of more than 10%	199	1	4.35	3	13.04
	Total	200	23	100	23	100
Middle Atlantic	Decrease of more than 10%	201	0	0	3	4.23
	Decrease of 5% to 10%	202	0	0	6	8.45
	Decrease of 1% to 5%	203	4	5.63	6	8.45
	Change of -1% to +1%	204	6	8.45	9	12.68
	Increase of 1% to 5%	205	15	21.13	19	26.76
	Increase of 5% to 10%	206	16	22.54	7	9.86
	Increase of more than 10%	207	30	42.25	21	29.58
	Total	208	71	100	71	100
South Atlantic	Decrease of more than 10%	209	0	0	8	4.65
	Decrease of 5% to 10%	210	20	11.63	34	19.77
	Decrease of 1% to 5%	211	36	20.93	57	33.14
	Change of -1% to +1%	212	20	11.63	15	8.72
	Increase of 1% to 5%	213	45	26.16	35	20.35
	Increase of 5% to 10%	214	35	20.35	14	8.14
	Increase of more than 10%	215	16	9.3	9	5.23
	Total	216	172	100	172	100

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
East North Central	Decrease of more than 10%	217	0	0	3	2.48
	Decrease of 5% to 10%	218	17	14.05	34	28.1
	Decrease of 1% to 5%	219	33	27.27	38	31.4
	Change of -1% to +1%	220	11	9.09	23	19.01
	Increase of 1% to 5%	221	36	29.75	13	10.74
	Increase of 5% to 10%	222	16	13.22	8	6.61
	Increase of more than 10%	223	8	6.61	2	1.65
	Total	224	121	100	121	100
East South Central	Decrease of more than 10%	225	0	0	3	1.71
	Decrease of 5% to 10%	226	6	3.43	36	20.57
	Decrease of 1% to 5%	227	40	22.86	45	25.71
	Change of -1% to +1%	228	43	24.57	29	16.57
	Increase of 1% to 5%	229	34	19.43	35	20
	Increase of 5% to 10%	230	36	20.57	24	13.71
	Increase of more than 10%	231	16	9.14	3	1.71
	Total	232	175	100	175	100
West North Central	Decrease of more than 10%	233	0	0	12	10.62
	Decrease of 5% to 10%	234	17	15.04	34	30.09
	Decrease of 1% to 5%	235	43	38.05	27	23.89
	Change of -1% to +1%	236	9	7.96	15	13.27
	Increase of 1% to 5%	237	30	26.55	23	20.35
	Increase of 5% to 10%	238	9	7.96	2	1.77
	Increase of more than 10%	239	5	4.42	0	0
	Total	240	113	100	113	100
West South Central	Decrease of more than 10%	241	0	0	15	7.98
	Decrease of 5% to 10%	242	13	6.91	36	19.15
	Decrease of 1% to 5%	243	52	27.66	50	26.6
	Change of -1% to +1%	244	23	12.23	20	10.64
	Increase of 1% to 5%	245	48	25.53	42	22.34
	Increase of 5% to 10%	246	39	20.74	17	9.04
	Increase of more than 10%	247	13	6.91	8	4.26
	Total	248	188	100	188	100
Mountain	Decrease of more than 10%	249	0	0	0	0
	Decrease of 5% to 10%	250	12	16.22	10	13.51
	Decrease of 1% to 5%	251	20	27.03	19	25.68
	Change of -1% to +1%	252	5	6.76	11	14.86

Acumen, LLC

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	253	9	12.16	10	13.51
	Increase of 5% to 10%	254	5	6.76	7	9.46
	Increase of more than 10%	255	23	31.08	17	22.97
	Total	256	74	100	74	100
Pacific	Decrease of more than 10%	257	0	0	0	0
	Decrease of 5% to 10%	258	3	8.11	5	13.51
	Decrease of 1% to 5%	259	9	24.32	8	21.62
	Change of -1% to +1%	260	1	2.7	7	18.92
	Increase of 1% to 5%	261	7	18.92	5	13.51
	Increase of 5% to 10%	262	4	10.81	6	16.22
	Increase of more than 10%	263	13	35.14	6	16.22
	Total	264	37	100	37	100
Payment Classifications						
Urban hospitals	Decrease of more than 10%	265	0	0	9	0.37
	Decrease of 5% to 10%	266	155	6.43	148	6.14
	Decrease of 1% to 5%	267	1,431	59.33	632	26.2
	Change of -1% to +1%	268	215	8.91	1,002	41.54
	Increase of 1% to 5%	269	232	9.62	320	13.27
	Increase of 5% to 10%	270	218	9.04	163	6.76
	Increase of more than 10%	271	161	6.67	138	5.72
	Total	272	2,412	100	2,412	100
Large urban areas (populations over 1 million)	Decrease of more than 10%	273	0	0	6	0.46
	Decrease of 5% to 10%	274	95	7.23	85	6.47
	Decrease of 1% to 5%	275	811	61.72	343	26.1
	Change of -1% to +1%	276	117	8.9	538	40.94
	Increase of 1% to 5%	277	118	8.98	196	14.92
	Increase of 5% to 10%	278	128	9.74	109	8.3
	Increase of more than 10%	279	45	3.42	37	2.82
	Total	280	1,314	100	1,314	100
Other urban areas (populations of 1 million or fewer)	Decrease of more than 10%	281	0	0	3	0.27
	Decrease of 5% to 10%	282	60	5.46	63	5.74
	Decrease of 1% to 5%	283	620	56.47	289	26.32
	Change of -1% to +1%	284	98	8.93	464	42.26
	Increase of 1% to 5%	285	114	10.38	124	11.29
	Increase of 5% to 10%	286	90	8.2	54	4.92
	Increase of more than 10%	287	116	10.56	101	9.2
	Total	288	1,098	100	1,098	100

Table A.12 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (5% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
Rural hospitals	Decrease of more than 10%	289	0	0	44	4.65
	Decrease of 5% to 10%	290	91	9.62	198	20.93
	Decrease of 1% to 5%	291	243	25.69	236	24.95
	Change of -1% to +1%	292	119	12.58	128	13.53
	Increase of 1% to 5%	293	225	23.78	176	18.6
	Increase of 5% to 10%	294	150	15.86	93	9.83
	Increase of more than 10%	295	118	12.47	71	7.51
	Total	296	946	100	946	100
Teaching Status						
Nonteaching	Decrease of more than 10%	297	0	0	45	1.94
	Decrease of 5% to 10%	298	222	9.56	274	11.8
	Decrease of 1% to 5%	299	998	42.96	647	27.85
	Change of -1% to +1%	300	235	10.12	647	27.85
	Increase of 1% to 5%	301	359	15.45	358	15.41
	Increase of 5% to 10%	302	286	12.31	187	8.05
	Increase of more than 10%	303	223	9.6	165	7.1
	Total	304	2,323	100	2,323	100
Fewer than 100 residents	Decrease of more than 10%	305	0	0	7	0.88
	Decrease of 5% to 10%	306	21	2.63	59	7.39
	Decrease of 1% to 5%	307	507	63.53	186	23.31
	Change of -1% to +1%	308	71	8.9	350	43.86
	Increase of 1% to 5%	309	78	9.77	98	12.28
	Increase of 5% to 10%	310	72	9.02	60	7.52
	Increase of more than 10%	311	49	6.14	38	4.76
	Total	312	798	100	798	100
100 or more residents	Decrease of more than 10%	313	0	0	1	0.42
	Decrease of 5% to 10%	314	3	1.27	13	5.49
	Decrease of 1% to 5%	315	169	71.31	35	14.77
	Change of -1% to +1%	316	28	11.81	133	56.12
	Increase of 1% to 5%	317	20	8.44	40	16.88
	Increase of 5% to 10%	318	10	4.22	9	3.8
	Increase of more than 10%	319	7	2.95	6	2.53
	Total	320	237	100	237	100
Non-DSH	Decrease of more than 10%	321	0	0	9	1.17
	Decrease of 5% to 10%	322	51	6.64	74	9.64
	Decrease of 1% to 5%	323	439	57.16	211	27.47
	Change of -1% to +1%	324	86	11.2	289	37.63

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	325	126	16.41	371	48.31
	Increase of 5% to 10%	326	2	0.26	22	2.86
	Increase of more than 10%	327	6	0.78	1	0.13
	Total	328	768	100	768	100
Less than 100 beds	Decrease of more than 10%	329	0	0	19	1.3
	Decrease of 5% to 10%	330	41	2.8	101	6.91
	Decrease of 1% to 5%	331	139	9.51	218	14.91
	Change of -1% to +1%	332	1,102	75.38	193	13.2
	Increase of 1% to 5%	333	164	11.22	898	61.42
	Increase of 5% to 10%	334	6	0.41	26	1.78
	Increase of more than 10%	335	10	0.68	7	0.48
	Total	336	1,462	100	1,462	100
100 or more beds	Decrease of more than 10%	337	0	0	11	3.41
	Decrease of 5% to 10%	338	61	18.89	23	7.12
	Decrease of 1% to 5%	339	77	23.84	98	30.34
	Change of -1% to +1%	340	132	40.87	51	15.79
	Increase of 1% to 5%	341	41	12.69	117	36.22
	Increase of 5% to 10%	342	4	1.24	20	6.19
	Increase of more than 10%	343	8	2.48	3	0.93
	Total	344	323	100	323	100
DSH (Rural)						
SCH	Decrease of more than 10%	345	0	0	19	4.96
	Decrease of 5% to 10%	346	87	22.72	51	13.32
	Decrease of 1% to 5%	347	123	32.11	159	41.51
	Change of -1% to +1%	348	61	15.93	58	15.14
	Increase of 1% to 5%	349	103	26.89	82	21.41
	Increase of 5% to 10%	350	5	1.31	11	2.87
	Increase of more than 10%	351	4	1.04	3	0.78
	Total	352	383	100	383	100
RRC	Decrease of more than 10%	353	0	0	23	11.33
	Decrease of 5% to 10%	354	16	7.88	89	43.84
	Decrease of 1% to 5%	355	53	26.11	59	29.06
	Change of -1% to +1%	356	40	19.7	16	7.88
	Increase of 1% to 5%	357	90	44.33	12	5.91
	Increase of 5% to 10%	358	4	1.97	3	1.48
	Increase of more than 10%	359	0	0	1	0.49
	Total	360	203	100	203	100

Table A.12 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (5% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
Less than 100 beds	Decrease of more than 10%	361	0	0	11	6.36
	Decrease of 5% to 10%	362	29	16.76	35	20.23
	Decrease of 1% to 5%	363	53	30.64	59	34.1
	Change of -1% to +1%	364	30	17.34	24	13.87
	Increase of 1% to 5%	365	57	32.95	35	20.23
	Increase of 5% to 10%	366	3	1.73	9	5.2
	Increase of more than 10%	367	1	0.58	0	0
	Total	368	173	100	173	100
100 or more beds	Decrease of more than 10%	369	0	0	4	8.7
	Decrease of 5% to 10%	370	1	2.17	10	21.74
	Decrease of 1% to 5%	371	14	30.43	17	36.96
	Change of -1% to +1%	372	11	23.91	4	8.7
	Increase of 1% to 5%	373	20	43.48	9	19.57
	Increase of 5% to 10%	374	0	0	2	4.35
	Increase of more than 10%	375	0	0	0	0
	Total	376	46	100	46	100
Urban Teaching and DSH						
Both teaching and DSH	Decrease of more than 10%	377	0	0	6	0.76
	Decrease of 5% to 10%	378	16	2.02	38	4.8
	Decrease of 1% to 5%	379	58	7.33	91	11.5
	Change of -1% to +1%	380	608	76.86	81	10.24
	Increase of 1% to 5%	381	104	13.15	550	69.53
	Increase of 5% to 10%	382	3	0.38	23	2.91
	Increase of more than 10%	383	2	0.25	2	0.25
	Total	384	791	100	791	100
Teaching and no DSH	Decrease of more than 10%	385	0	0	5	2.73
	Decrease of 5% to 10%	386	1	0.55	13	7.1
	Decrease of 1% to 5%	387	25	13.66	23	12.57
	Change of -1% to +1%	388	123	67.21	35	19.13
	Increase of 1% to 5%	389	34	18.58	104	56.83
	Increase of 5% to 10%	390	0	0	3	1.64
	Increase of more than 10%	391	0	0	0	0
	Total	392	183	100	183	100
No teaching and DSH	Decrease of more than 10%	393	0	0	24	2.41
	Decrease of 5% to 10%	394	86	8.65	86	8.65
	Decrease of 1% to 5%	395	158	15.9	225	22.64
	Change of -1% to +1%	396	626	62.98	163	16.4

Table A.12 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (5% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	397	101	10.16	465	46.78
	Increase of 5% to 10%	398	7	0.7	23	2.31
	Increase of more than 10%	399	16	1.61	8	0.8
	Total	400	994	100	994	100
No teaching and no DSH	Decrease of more than 10%	401	0	0	6	1.35
	Decrease of 5% to 10%	402	20	4.5	27	6.08
	Decrease of 1% to 5%	403	78	17.57	75	16.89
	Change of -1% to +1%	404	295	66.44	77	17.34
	Increase of 1% to 5%	405	45	10.14	246	55.41
	Increase of 5% to 10%	406	1	0.23	12	2.7
	Increase of more than 10%	407	5	1.13	1	0.23
	Total	408	444	100	444	100
Special Provider (Rural Hospital Type)						
MDH	Decrease of more than 10%	409	0	0	17	10.83
	Decrease of 5% to 10%	410	39	24.84	32	20.38
	Decrease of 1% to 5%	411	40	25.48	58	36.94
	Change of -1% to +1%	412	29	18.47	24	15.29
	Increase of 1% to 5%	413	44	28.03	19	12.1
	Increase of 5% to 10%	414	5	3.18	7	4.46
	Increase of more than 10%	415	0	0	0	0
	Total	416	157	100	157	100
RRC	Decrease of more than 10%	417	0	0	18	9.28
	Decrease of 5% to 10%	418	8	4.12	78	40.21
	Decrease of 1% to 5%	419	38	19.59	57	29.38
	Change of -1% to +1%	420	67	34.54	14	7.22
	Increase of 1% to 5%	421	75	38.66	23	11.86
	Increase of 5% to 10%	422	4	2.06	4	2.06
	Increase of more than 10%	423	2	1.03	0	0
	Total	424	194	100	194	100
SCH	Decrease of more than 10%	425	0	0	29	6.24
	Decrease of 5% to 10%	426	89	19.14	76	16.34
	Decrease of 1% to 5%	427	142	30.54	173	37.2
	Change of -1% to +1%	428	97	20.86	64	13.76
	Increase of 1% to 5%	429	123	26.45	104	22.37
	Increase of 5% to 10%	430	6	1.29	15	3.23
	Increase of more than 10%	431	8	1.72	4	0.86
	Total	432	465	100	465	100

Table A.12 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (5% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
Type of Ownership						
Government	Decrease of more than 10%	433	0	0	14	2.4
	Decrease of 5% to 10%	434	112	19.18	63	10.79
	Decrease of 1% to 5%	435	118	20.21	189	32.36
	Change of -1% to +1%	436	229	39.21	87	14.9
	Increase of 1% to 5%	437	112	19.18	203	34.76
	Increase of 5% to 10%	438	6	1.03	23	3.94
	Increase of more than 10%	439	7	1.2	5	0.86
	Total	440	584	100	584	100
Proprietary	Decrease of more than 10%	441	0	0	26	3.45
	Decrease of 5% to 10%	442	30	3.98	87	11.54
	Decrease of 1% to 5%	443	112	14.85	123	16.31
	Change of -1% to +1%	444	465	61.67	105	13.93
	Increase of 1% to 5%	445	138	18.3	394	52.25
	Increase of 5% to 10%	446	4	0.53	16	2.12
	Increase of more than 10%	447	5	0.66	3	0.4
	Total	448	754	100	754	100
Voluntary	Decrease of more than 10%	449	0	0	70	3.47
	Decrease of 5% to 10%	450	138	6.83	228	11.29
	Decrease of 1% to 5%	451	382	18.91	449	22.23
	Change of -1% to +1%	452	1,118	55.35	285	14.11
	Increase of 1% to 5%	453	351	17.38	927	45.89
	Increase of 5% to 10%	454	14	0.69	54	2.67
	Increase of more than 10%	455	17	0.84	7	0.35
	Total	456	2,020	100	2,020	100
Medicare Utilization as a Percentage of Inpatient Days						
0-25	Decrease of more than 10%	457	0	0	1	0.44
	Decrease of 5% to 10%	458	4	1.76	7	3.08
	Decrease of 1% to 5%	459	13	5.73	26	11.45
	Change of -1% to +1%	460	166	73.13	21	9.25
	Increase of 1% to 5%	461	40	17.62	157	69.16
	Increase of 5% to 10%	462	1	0.44	12	5.29
	Increase of more than 10%	463	3	1.32	3	1.32
	Total	464	227	100	227	100
25-50	Decrease of more than 10%	465	0	0	12	0.96
	Decrease of 5% to 10%	466	48	3.84	80	6.41
	Decrease of 1% to 5%	467	181	14.49	188	15.05
	Change of -1% to +1%	468	827	66.21	182	14.57

Table A.12 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (5% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	469	172	13.77	739	59.17
	Increase of 5% to 10%	470	6	0.48	40	3.2
	Increase of more than 10%	471	15	1.2	8	0.64
	Total	472	1,249	100	1,249	100
50-65	Decrease of more than 10%	473	0	0	71	4.93
	Decrease of 5% to 10%	474	132	9.17	226	15.71
	Decrease of 1% to 5%	475	316	21.96	384	26.69
	Change of -1% to +1%	476	669	46.49	221	15.36
	Increase of 1% to 5%	477	301	20.92	505	35.09
	Increase of 5% to 10%	478	11	0.76	28	1.95
	Increase of more than 10%	479	10	0.69	4	0.28
	Total	480	1,439	100	1,439	100
Over 65	Decrease of more than 10%	481	0	0	26	5.95
	Decrease of 5% to 10%	482	96	21.97	64	14.65
	Decrease of 1% to 5%	483	101	23.11	162	37.07
	Change of -1% to +1%	484	146	33.41	52	11.9
	Increase of 1% to 5%	485	87	19.91	120	27.46
	Increase of 5% to 10%	486	6	1.37	13	2.97
	Increase of more than 10%	487	1	0.23	0	0
	Total	488	437	100	437	100
Specialty Hospitals						
Cardiac specialty hospitals	Decrease of more than 10%	489	0	0	0	0
	Decrease of 5% to 10%	490	0	0	0	0
	Decrease of 1% to 5%	491	0	0	2	9.09
	Change of -1% to +1%	492	19	86.36	0	0
	Increase of 1% to 5%	493	2	9.09	18	81.82
	Increase of 5% to 10%	494	0	0	2	9.09
	Increase of more than 10%	495	1	4.55	0	0
	Total	496	22	100	22	100

Note: The geographic area category refers to the area in which the hospital actually resides. By contrast, the payment classification area refers to the area in which the hospital is considered to reside in regard to payments.

Table A.13: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (15% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
All Hospitals						
	Decrease of more than 10%	1	0	0	110	3.28
	Decrease of 5% to 10%	2	280	8.34	378	11.26
	Decrease of 1% to 5%	3	612	18.23	761	22.66
	Change of -1% to +1%	4	1,812	53.96	477	14.2
	Increase of 1% to 5%	5	601	17.9	1,524	45.38
	Increase of 5% to 10%	6	24	0.71	93	2.77
	Increase of more than 10%	7	29	0.86	15	0.45
	Total 8		3,358	100	3,358	100
Geographic Location						
	Decrease of more than 10%	9	0	0	27	1.13
	Decrease of 5% to 10%	10	127	5.33	148	6.21
	Decrease of 1% to 5%	11	303	12.71	408	17.11
Urban hospitals	Change of -1% to +1%	12	1,653	69.34	355	14.89
	Increase of 1% to 5%	13	269	11.28	1,370	57.47
	Increase of 5% to 10%	14	10	0.42	63	2.64
	Increase of more than 10%	15	22	0.92	13	0.55
	Total 16		2,384	100	2,384	100
	Decrease of more than 10%	17	0	0	7	0.54
	Decrease of 5% to 10%	18	71	5.45	63	4.83
Large urban areas (populations over 1 million)	Decrease of 1% to 5%	19	234	17.96	194	14.89
	Change of -1% to +1%	20	799	61.32	215	16.5
	Increase of 1% to 5%	21	199	15.27	792	60.78
	Increase of 5% to 10%	22	0	0	31	2.38
	Increase of more than 10%	23	0	0	1	0.08
	Total 24		1,303	100	1,303	100
	Decrease of more than 10%	25	0	0	20	1.85
	Decrease of 5% to 10%	26	56	5.18	85	7.86
Other urban areas (populations of 1 million or fewer)	Decrease of 1% to 5%	27	69	6.38	214	19.8
	Change of -1% to +1%	28	854	79	140	12.95
	Increase of 1% to 5%	29	70	6.48	578	53.47
	Increase of 5% to 10%	30	10	0.93	32	2.96
	Increase of more than 10%	31	22	2.04	12	1.11
	Total 32		1,081	100	1,081	100
	Decrease of more than 10%	33	0	0	83	8.52
Rural hospitals	Decrease of 5% to 10%	34	153	15.71	230	23.61
	Decrease of 1% to 5%	35	309	31.72	353	36.24
	Change of -1% to +1%	36	159	16.32	122	12.53

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	37	332	34.09	154	15.81
	Increase of 5% to 10%	38	14	1.44	30	3.08
	Increase of more than 10%	39	7	0.72	2	0.21
	Total	40	974	100	974	100
Bed Size						
0-99 beds	Decrease of more than 10%	41	0	0	7	1.29
	Decrease of 5% to 10%	42	81	14.94	24	4.43
	Decrease of 1% to 5%	43	99	18.27	137	25.28
	Change of -1% to +1%	44	287	52.95	82	15.13
	Increase of 1% to 5%	45	59	10.89	257	47.42
	Increase of 5% to 10%	46	4	0.74	30	5.54
	Increase of more than 10%	47	12	2.21	5	0.92
	Total	48	542	100	542	100
100-199 beds	Decrease of more than 10%	49	0	0	9	1.12
	Decrease of 5% to 10%	50	34	4.24	67	8.36
	Decrease of 1% to 5%	51	109	13.61	145	18.1
	Change of -1% to +1%	52	558	69.66	138	17.23
	Increase of 1% to 5%	53	89	11.11	421	52.56
	Increase of 5% to 10%	54	4	0.5	17	2.12
	Increase of more than 10%	55	7	0.87	4	0.5
	Total	56	801	100	801	100
200-299 beds	Decrease of more than 10%	57	0	0	3	0.64
	Decrease of 5% to 10%	58	9	1.92	28	5.97
	Decrease of 1% to 5%	59	60	12.79	68	14.5
	Change of -1% to +1%	60	347	73.99	80	17.06
	Increase of 1% to 5%	61	52	11.09	285	60.77
	Increase of 5% to 10%	62	0	0	3	0.64
	Increase of more than 10%	63	1	0.21	2	0.43
	Total	64	469	100	469	100
300-499 beds	Decrease of more than 10%	65	0	0	7	1.72
	Decrease of 5% to 10%	66	1	0.25	23	5.67
	Decrease of 1% to 5%	67	31	7.64	45	11.08
	Change of -1% to +1%	68	324	79.8	44	10.84
	Increase of 1% to 5%	69	47	11.58	280	68.97
	Increase of 5% to 10%	70	2	0.49	5	1.23
	Increase of more than 10%	71	1	0.25	2	0.49
	Total	72	406	100	406	100

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
500 or more beds	Decrease of more than 10%	73	0	0	1	0.6
	Decrease of 5% to 10%	74	2	1.2	6	3.61
	Decrease of 1% to 5%	75	4	2.41	13	7.83
	Change of -1% to +1%	76	137	82.53	11	6.63
	Increase of 1% to 5%	77	22	13.25	127	76.51
	Increase of 5% to 10%	78	0	0	8	4.82
	Increase of more than 10%	79	1	0.6	0	0
	Total	80	166	100	166	100
Bed Size (Rural)						
0-49 beds	Decrease of more than 10%	81	0	0	20	6.27
	Decrease of 5% to 10%	82	93	29.15	55	17.24
	Decrease of 1% to 5%	83	87	27.27	139	43.57
	Change of -1% to +1%	84	47	14.73	33	10.34
	Increase of 1% to 5%	85	85	26.65	58	18.18
	Increase of 5% to 10%	86	4	1.25	13	4.08
	Increase of more than 10%	87	3	0.94	1	0.31
	Total	88	319	100	319	100
50-99 beds	Decrease of more than 10%	89	0	0	35	9.46
	Decrease of 5% to 10%	90	47	12.7	72	19.46
	Decrease of 1% to 5%	91	144	38.92	128	34.59
	Change of -1% to +1%	92	57	15.41	62	16.76
	Increase of 1% to 5%	93	114	30.81	60	16.22
	Increase of 5% to 10%	94	7	1.89	12	3.24
	Increase of more than 10%	95	1	0.27	1	0.27
	Total	96	370	100	370	100
100-149 beds	Decrease of more than 10%	97	0	0	22	12.79
	Decrease of 5% to 10%	98	6	3.49	54	31.4
	Decrease of 1% to 5%	99	49	28.49	56	32.56
	Change of -1% to +1%	100	38	22.09	17	9.88
	Increase of 1% to 5%	101	77	44.77	20	11.63
	Increase of 5% to 10%	102	1	0.58	3	1.74
	Increase of more than 10%	103	1	0.58	0	0
	Total	104	172	100	172	100
150-199 beds	Decrease of more than 10%	105	0	0	4	5.88
	Decrease of 5% to 10%	106	5	7.35	30	44.12
	Decrease of 1% to 5%	107	20	29.41	18	26.47
	Change of -1% to +1%	108	11	16.18	8	11.76

Acumen, LLC

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	109	29	42.65	7	10.29
	Increase of 5% to 10%	110	1	1.47	1	1.47
	Increase of more than 10%	111	2	2.94	0	0
	Total	112	68	100	68	100
200 or more beds	Decrease of more than 10%	113	0	0	2	4.44
	Decrease of 5% to 10%	114	2	4.44	19	42.22
	Decrease of 1% to 5%	115	9	20	12	26.67
	Change of -1% to +1%	116	6	13.33	2	4.44
	Increase of 1% to 5%	117	27	60	9	20
	Increase of 5% to 10%	118	1	2.22	1	2.22
	Increase of more than 10%	119	0	0	0	0
	Total	120	45	100	45	100
Region (Urban)						
New England	Decrease of more than 10%	121	0	0	4	3.33
	Decrease of 5% to 10%	122	1	0.83	29	24.17
	Decrease of 1% to 5%	123	14	11.67	36	30
	Change of -1% to +1%	124	103	85.83	25	20.83
	Increase of 1% to 5%	125	2	1.67	26	21.67
	Increase of 5% to 10%	126	0	0	0	0
	Increase of more than 10%	127	0	0	0	0
	Total	128	120	100	120	100
Middle Atlantic	Decrease of more than 10%	129	0	0	12	3.52
	Decrease of 5% to 10%	130	38	11.14	33	9.68
	Decrease of 1% to 5%	131	88	25.81	80	23.46
	Change of -1% to +1%	132	126	36.95	62	18.18
	Increase of 1% to 5%	133	89	26.1	136	39.88
	Increase of 5% to 10%	134	0	0	18	5.28
	Increase of more than 10%	135	0	0	0	0
	Total	136	341	100	341	100
South Atlantic	Decrease of more than 10%	137	0	0	0	0
	Decrease of 5% to 10%	138	19	5.05	16	4.26
	Decrease of 1% to 5%	139	51	13.56	73	19.41
	Change of -1% to +1%	140	267	71.01	93	24.73
	Increase of 1% to 5%	141	39	10.37	190	50.53
	Increase of 5% to 10%	142	0	0	4	1.06
	Increase of more than 10%	143	0	0	0	0
	Total	144	376	100	376	100

Table A.13 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (15% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
East North Central	Decrease of more than 10%	145	0	0	2	0.52
	Decrease of 5% to 10%	146	15	3.94	21	5.51
	Decrease of 1% to 5%	147	44	11.55	61	16.01
	Change of -1% to +1%	148	286	75.07	57	14.96
	Increase of 1% to 5%	149	36	9.45	235	61.68
	Increase of 5% to 10%	150	0	0	5	1.31
	Increase of more than 10%	151	0	0	0	0
	Total	152	381	100	381	100
East South Central	Decrease of more than 10%	153	0	0	2	1.23
	Decrease of 5% to 10%	154	19	11.73	12	7.41
	Decrease of 1% to 5%	155	18	11.11	34	20.99
	Change of -1% to +1%	156	111	68.52	16	9.88
	Increase of 1% to 5%	157	14	8.64	95	58.64
	Increase of 5% to 10%	158	0	0	3	1.85
	Increase of more than 10%	159	0	0	0	0
	Total	160	162	100	162	100
West North Central	Decrease of more than 10%	161	0	0	0	0
	Decrease of 5% to 10%	162	6	3.9	0	0
	Decrease of 1% to 5%	163	24	15.58	7	4.55
	Change of -1% to +1%	164	105	68.18	16	10.39
	Increase of 1% to 5%	165	19	12.34	129	83.77
	Increase of 5% to 10%	166	0	0	1	0.65
	Increase of more than 10%	167	0	0	1	0.65
	Total	168	154	100	154	100
West South Central	Decrease of more than 10%	169	0	0	0	0
	Decrease of 5% to 10%	170	25	7.51	5	1.5
	Decrease of 1% to 5%	171	26	7.81	37	11.11
	Change of -1% to +1%	172	258	77.48	16	4.8
	Increase of 1% to 5%	173	24	7.21	268	80.48
	Increase of 5% to 10%	174	0	0	6	1.8
	Increase of more than 10%	175	0	0	1	0.3
	Total	176	333	100	333	100
Mountain	Decrease of more than 10%	177	0	0	4	2.78
	Decrease of 5% to 10%	178	1	0.69	10	6.94
	Decrease of 1% to 5%	179	6	4.17	11	7.64
	Change of -1% to +1%	180	125	86.81	4	2.78

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	181	7	4.86	112	77.78
	Increase of 5% to 10%	182	3	2.08	3	2.08
	Increase of more than 10%	183	2	1.39	0	0
	Total	184	144	100	144	100
Pacific	Decrease of more than 10%	185	0	0	3	0.8
	Decrease of 5% to 10%	186	3	0.8	22	5.9
	Decrease of 1% to 5%	187	32	8.58	69	18.5
	Change of -1% to +1%	188	272	72.92	66	17.69
	Increase of 1% to 5%	189	39	10.46	179	47.99
	Increase of 5% to 10%	190	7	1.88	23	6.17
	Increase of more than 10%	191	20	5.36	11	2.95
	Total	192	373	100	373	100
Region (Rural)						
New England	Decrease of more than 10%	193	0	0	3	13.04
	Decrease of 5% to 10%	194	3	13.04	10	43.48
	Decrease of 1% to 5%	195	6	26.09	3	13.04
	Change of -1% to +1%	196	6	26.09	3	13.04
	Increase of 1% to 5%	197	8	34.78	4	17.39
	Increase of 5% to 10%	198	0	0	0	0
	Increase of more than 10%	199	0	0	0	0
	Total	200	23	100	23	100
Middle Atlantic	Decrease of more than 10%	201	0	0	14	19.72
	Decrease of 5% to 10%	202	8	11.27	15	21.13
	Decrease of 1% to 5%	203	35	49.3	19	26.76
	Change of -1% to +1%	204	8	11.27	10	14.08
	Increase of 1% to 5%	205	17	23.94	12	16.9
	Increase of 5% to 10%	206	0	0	1	1.41
	Increase of more than 10%	207	3	4.23	0	0
	Total	208	71	100	71	100
South Atlantic	Decrease of more than 10%	209	0	0	11	6.4
	Decrease of 5% to 10%	210	25	14.53	40	23.26
	Decrease of 1% to 5%	211	50	29.07	70	40.7
	Change of -1% to +1%	212	35	20.35	26	15.12
	Increase of 1% to 5%	213	57	33.14	21	12.21
	Increase of 5% to 10%	214	5	2.91	4	2.33
	Increase of more than 10%	215	0	0	0	0
	Total	216	172	100	172	100

Table A.13 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (15% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
Region (Rural)						
East North Central	Decrease of more than 10%	217	0	0	10	8.26
	Decrease of 5% to 10%	218	12	9.92	31	25.62
	Decrease of 1% to 5%	219	50	41.32	42	34.71
	Change of -1% to +1%	220	16	13.22	15	12.4
	Increase of 1% to 5%	221	39	32.23	19	15.7
	Increase of 5% to 10%	222	4	3.31	4	3.31
	Increase of more than 10%	223	0	0	0	0
	Total	224	121	100	121	100
East South Central	Decrease of more than 10%	225	0	0	12	6.86
	Decrease of 5% to 10%	226	30	17.14	52	29.71
	Decrease of 1% to 5%	227	46	26.29	54	30.86
	Change of -1% to +1%	228	32	18.29	14	8
	Increase of 1% to 5%	229	64	36.57	34	19.43
	Increase of 5% to 10%	230	3	1.71	9	5.14
	Increase of more than 10%	231	0	0	0	0
	Total	232	175	100	175	100
West North Central	Decrease of more than 10%	233	0	0	10	8.85
	Decrease of 5% to 10%	234	23	20.35	23	20.35
	Decrease of 1% to 5%	235	37	32.74	55	48.67
	Change of -1% to +1%	236	16	14.16	10	8.85
	Increase of 1% to 5%	237	37	32.74	11	9.73
	Increase of 5% to 10%	238	0	0	4	3.54
	Increase of more than 10%	239	0	0	0	0
	Total	240	113	100	113	100
West South Central	Decrease of more than 10%	241	0	0	18	9.57
	Decrease of 5% to 10%	242	39	20.74	39	20.74
	Decrease of 1% to 5%	243	45	23.94	76	40.43
	Change of -1% to +1%	244	34	18.09	25	13.3
	Increase of 1% to 5%	245	70	37.23	25	13.3
	Increase of 5% to 10%	246	0	0	5	2.66
	Increase of more than 10%	247	0	0	0	0
	Total	248	188	100	188	100
Mountain	Decrease of more than 10%	249	0	0	3	4.05
	Decrease of 5% to 10%	250	10	13.51	12	16.22
	Decrease of 1% to 5%	251	25	33.78	20	27.03
	Change of -1% to +1%	252	6	8.11	13	17.57

Table A.13 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (15% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	253	27	36.49	21	28.38
	Increase of 5% to 10%	254	2	2.7	3	4.05
	Increase of more than 10%	255	4	5.41	2	2.7
	Total	256	74	100	74	100
Pacific	Decrease of more than 10%	257	0	0	2	5.41
	Decrease of 5% to 10%	258	3	8.11	8	21.62
	Decrease of 1% to 5%	259	15	40.54	14	37.84
	Change of -1% to +1%	260	6	16.22	6	16.22
	Increase of 1% to 5%	261	13	35.14	7	18.92
	Increase of 5% to 10%	262	0	0	0	0
	Increase of more than 10%	263	0	0	0	0
	Total	264	37	100	37	100
Payment Classifications						
Urban hospitals	Decrease of more than 10%	265	0	0	41	1.7
	Decrease of 5% to 10%	266	123	5.1	164	6.8
	Decrease of 1% to 5%	267	319	13.23	414	17.16
	Change of -1% to +1%	268	1,652	68.49	356	14.76
	Increase of 1% to 5%	269	284	11.77	1,365	56.59
	Increase of 5% to 10%	270	11	0.46	61	2.53
	Increase of more than 10%	271	23	0.95	11	0.46
	Total	272	2,412	100	2,412	100
Large urban areas (populations over 1 million)	Decrease of more than 10%	273	0	0	14	1.07
	Decrease of 5% to 10%	274	69	5.25	67	5.1
	Decrease of 1% to 5%	275	238	18.11	197	14.99
	Change of -1% to +1%	276	801	60.96	214	16.29
	Increase of 1% to 5%	277	204	15.53	791	60.2
	Increase of 5% to 10%	278	2	0.15	31	2.36
	Increase of more than 10%	279	0	0	0	0
	Total	280	1,314	100	1,314	100
Other urban areas (populations of 1 million or fewer)	Decrease of more than 10%	281	0	0	27	2.46
	Decrease of 5% to 10%	282	54	4.92	97	8.83
	Decrease of 1% to 5%	283	81	7.38	217	19.76
	Change of -1% to +1%	284	851	77.5	142	12.93
	Increase of 1% to 5%	285	80	7.29	574	52.28
	Increase of 5% to 10%	286	9	0.82	30	2.73
	Increase of more than 10%	287	23	2.09	11	1
	Total	288	1,098	100	1,098	100

Table A.13 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (15% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
Rural hospitals	Decrease of more than 10%	289	0	0	69	7.29
	Decrease of 5% to 10%	290	157	16.6	214	22.62
	Decrease of 1% to 5%	291	293	30.97	347	36.68
	Change of -1% to +1%	292	160	16.91	121	12.79
	Increase of 1% to 5%	293	317	33.51	159	16.81
	Increase of 5% to 10%	294	13	1.37	32	3.38
	Increase of more than 10%	295	6	0.63	4	0.42
	Total	296	946	100	946	100
Teaching Status						
Nonteaching	Decrease of more than 10%	297	0	0	95	4.09
	Decrease of 5% to 10%	298	259	11.15	304	13.09
	Decrease of 1% to 5%	299	515	22.17	628	27.03
	Change of -1% to +1%	300	1,066	45.89	355	15.28
	Increase of 1% to 5%	301	435	18.73	861	37.06
	Increase of 5% to 10%	302	21	0.9	67	2.88
	Increase of more than 10%	303	27	1.16	13	0.56
	Total	304	2,323	100	2,323	100
Fewer than 100 residents	Decrease of more than 10%	305	0	0	14	1.75
	Decrease of 5% to 10%	306	18	2.26	64	8.02
	Decrease of 1% to 5%	307	86	10.78	113	14.16
	Change of -1% to +1%	308	570	71.43	106	13.28
	Increase of 1% to 5%	309	119	14.91	484	60.65
	Increase of 5% to 10%	310	3	0.38	15	1.88
	Increase of more than 10%	311	2	0.25	2	0.25
	Total	312	798	100	798	100
100 or more residents	Decrease of more than 10%	313	0	0	1	0.42
	Decrease of 5% to 10%	314	3	1.27	10	4.22
	Decrease of 1% to 5%	315	11	4.64	20	8.44
	Change of -1% to +1%	316	176	74.26	16	6.75
	Increase of 1% to 5%	317	47	19.83	179	75.53
	Increase of 5% to 10%	318	0	0	11	4.64
	Increase of more than 10%	319	0	0	0	0
	Total	320	237	100	237	100
DSH (Urban)						
Non-DSH	Decrease of more than 10%	321	0	0	23	2.99
	Decrease of 5% to 10%	322	45	5.86	69	8.98
	Decrease of 1% to 5%	323	153	19.92	151	19.66
	Change of -1% to +1%	324	436	56.77	131	17.06

Acumen, LLC

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	325	126	16.41	371	48.31
	Increase of 5% to 10%	326	2	0.26	22	2.86
	Increase of more than 10%	327	6	0.78	1	0.13
	Total	328	768	100	768	100
Less than 100 beds	Decrease of more than 10%	329	0	0	19	1.3
	Decrease of 5% to 10%	330	41	2.8	101	6.91
	Decrease of 1% to 5%	331	139	9.51	218	14.91
	Change of -1% to +1%	332	1,102	75.38	193	13.2
	Increase of 1% to 5%	333	164	11.22	898	61.42
	Increase of 5% to 10%	334	6	0.41	26	1.78
	Increase of more than 10%	335	10	0.68	7	0.48
	Total	336	1,462	100	1,462	100
100 or more beds	Decrease of more than 10%	337	0	0	11	3.41
	Decrease of 5% to 10%	338	61	18.89	23	7.12
	Decrease of 1% to 5%	339	77	23.84	98	30.34
	Change of -1% to +1%	340	132	40.87	51	15.79
	Increase of 1% to 5%	341	41	12.69	117	36.22
	Increase of 5% to 10%	342	4	1.24	20	6.19
	Increase of more than 10%	343	8	2.48	3	0.93
	Total	344	323	100	323	100
DSH (Rural)						
SCH	Decrease of more than 10%	345	0	0	19	4.96
	Decrease of 5% to 10%	346	87	22.72	51	13.32
	Decrease of 1% to 5%	347	123	32.11	159	41.51
	Change of -1% to +1%	348	61	15.93	58	15.14
	Increase of 1% to 5%	349	103	26.89	82	21.41
	Increase of 5% to 10%	350	5	1.31	11	2.87
	Increase of more than 10%	351	4	1.04	3	0.78
	Total	352	383	100	383	100
RRC	Decrease of more than 10%	353	0	0	23	11.33
	Decrease of 5% to 10%	354	16	7.88	89	43.84
	Decrease of 1% to 5%	355	53	26.11	59	29.06
	Change of -1% to +1%	356	40	19.7	16	7.88
	Increase of 1% to 5%	357	90	44.33	12	5.91
	Increase of 5% to 10%	358	4	1.97	3	1.48
	Increase of more than 10%	359	0	0	1	0.49
	Total	360	203	100	203	100

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
Less than 100 beds	Decrease of more than 10%	361	0	0	11	6.36
	Decrease of 5% to 10%	362	29	16.76	35	20.23
	Decrease of 1% to 5%	363	53	30.64	59	34.1
	Change of -1% to +1%	364	30	17.34	24	13.87
	Increase of 1% to 5%	365	57	32.95	35	20.23
	Increase of 5% to 10%	366	3	1.73	9	5.2
	Increase of more than 10%	367	1	0.58	0	0
	Total	368	173	100	173	100
100 or more beds	Decrease of more than 10%	369	0	0	4	8.7
	Decrease of 5% to 10%	370	1	2.17	10	21.74
	Decrease of 1% to 5%	371	14	30.43	17	36.96
	Change of -1% to +1%	372	11	23.91	4	8.7
	Increase of 1% to 5%	373	20	43.48	9	19.57
	Increase of 5% to 10%	374	0	0	2	4.35
	Increase of more than 10%	375	0	0	0	0
	Total	376	46	100	46	100
Urban Teaching and DSH						
Both teaching and DSH	Decrease of more than 10%	377	0	0	6	0.76
	Decrease of 5% to 10%	378	16	2.02	38	4.8
	Decrease of 1% to 5%	379	58	7.33	91	11.5
	Change of -1% to +1%	380	608	76.86	81	10.24
	Increase of 1% to 5%	381	104	13.15	550	69.53
	Increase of 5% to 10%	382	3	0.38	23	2.91
	Increase of more than 10%	383	2	0.25	2	0.25
	Total	384	791	100	791	100
Teaching and no DSH	Decrease of more than 10%	385	0	0	5	2.73
	Decrease of 5% to 10%	386	1	0.55	13	7.1
	Decrease of 1% to 5%	387	25	13.66	23	12.57
	Change of -1% to +1%	388	123	67.21	35	19.13
	Increase of 1% to 5%	389	34	18.58	104	56.83
	Increase of 5% to 10%	390	0	0	3	1.64
	Increase of more than 10%	391	0	0	0	0
	Total	392	183	100	183	100
No teaching and DSH	Decrease of more than 10%	393	0	0	24	2.41
	Decrease of 5% to 10%	394	86	8.65	86	8.65
	Decrease of 1% to 5%	395	158	15.9	225	22.64
	Change of -1% to +1%	396	626	62.98	163	16.4

Table A.13 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (15% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	397	101	10.16	465	46.78
	Increase of 5% to 10%	398	7	0.7	23	2.31
	Increase of more than 10%	399	16	1.61	8	0.8
	Total	400	994	100	994	100
No teaching and no DSH	Decrease of more than 10%	401	0	0	6	1.35
	Decrease of 5% to 10%	402	20	4.5	27	6.08
	Decrease of 1% to 5%	403	78	17.57	75	16.89
	Change of -1% to +1%	404	295	66.44	77	17.34
	Increase of 1% to 5%	405	45	10.14	246	55.41
	Increase of 5% to 10%	406	1	0.23	12	2.7
	Increase of more than 10%	407	5	1.13	1	0.23
	Total	408	444	100	444	100
Special Provider (Rural Hospital Type)						
MDH	Decrease of more than 10%	409	0	0	17	10.83
	Decrease of 5% to 10%	410	39	24.84	32	20.38
	Decrease of 1% to 5%	411	40	25.48	58	36.94
	Change of -1% to +1%	412	29	18.47	24	15.29
	Increase of 1% to 5%	413	44	28.03	19	12.1
	Increase of 5% to 10%	414	5	3.18	7	4.46
	Increase of more than 10%	415	0	0	0	0
	Total	416	157	100	157	100
RRC	Decrease of more than 10%	417	0	0	18	9.28
	Decrease of 5% to 10%	418	8	4.12	78	40.21
	Decrease of 1% to 5%	419	38	19.59	57	29.38
	Change of -1% to +1%	420	67	34.54	14	7.22
	Increase of 1% to 5%	421	75	38.66	23	11.86
	Increase of 5% to 10%	422	4	2.06	4	2.06
	Increase of more than 10%	423	2	1.03	0	0
	Total	424	194	100	194	100
SCH	Decrease of more than 10%	425	0	0	29	6.24
	Decrease of 5% to 10%	426	89	19.14	76	16.34
	Decrease of 1% to 5%	427	142	30.54	173	37.2
	Change of -1% to +1%	428	97	20.86	64	13.76
	Increase of 1% to 5%	429	123	26.45	104	22.37
	Increase of 5% to 10%	430	6	1.29	15	3.23
	Increase of more than 10%	431	8	1.72	4	0.86
	Total	432	465	100	465	100

Table A.13 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (15% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
Type of Ownership						
Government	Decrease of more than 10%	433	0	0	14	2.4
	Decrease of 5% to 10%	434	112	19.18	63	10.79
	Decrease of 1% to 5%	435	118	20.21	189	32.36
	Change of -1% to +1%	436	229	39.21	87	14.9
	Increase of 1% to 5%	437	112	19.18	203	34.76
	Increase of 5% to 10%	438	6	1.03	23	3.94
	Increase of more than 10%	439	7	1.2	5	0.86
	Total	440	584	100	584	100
Proprietary	Decrease of more than 10%	441	0	0	26	3.45
	Decrease of 5% to 10%	442	30	3.98	87	11.54
	Decrease of 1% to 5%	443	112	14.85	123	16.31
	Change of -1% to +1%	444	465	61.67	105	13.93
	Increase of 1% to 5%	445	138	18.3	394	52.25
	Increase of 5% to 10%	446	4	0.53	16	2.12
	Increase of more than 10%	447	5	0.66	3	0.4
	Total	448	754	100	754	100
Voluntary	Decrease of more than 10%	449	0	0	70	3.47
	Decrease of 5% to 10%	450	138	6.83	228	11.29
	Decrease of 1% to 5%	451	382	18.91	449	22.23
	Change of -1% to +1%	452	1,118	55.35	285	14.11
	Increase of 1% to 5%	453	351	17.38	927	45.89
	Increase of 5% to 10%	454	14	0.69	54	2.67
	Increase of more than 10%	455	17	0.84	7	0.35
	Total	456	2,020	100	2,020	100
Medicare Utilization as a Percentage of Inpatient Days						
0-25	Decrease of more than 10%	457	0	0	1	0.44
	Decrease of 5% to 10%	458	4	1.76	7	3.08
	Decrease of 1% to 5%	459	13	5.73	26	11.45
	Change of -1% to +1%	460	166	73.13	21	9.25
	Increase of 1% to 5%	461	40	17.62	157	69.16
	Increase of 5% to 10%	462	1	0.44	12	5.29
	Increase of more than 10%	463	3	1.32	3	1.32
	Total	464	227	100	227	100
25-50	Decrease of more than 10%	465	0	0	12	0.96
	Decrease of 5% to 10%	466	48	3.84	80	6.41
	Decrease of 1% to 5%	467	181	14.49	188	15.05
	Change of -1% to +1%	468	827	66.21	182	14.57

Table A.13 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (15% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	469	172	13.77	739	59.17
	Increase of 5% to 10%	470	6	0.48	40	3.2
	Increase of more than 10%	471	15	1.2	8	0.64
	Total	472	1,249	100	1,249	100
50-65	Decrease of more than 10%	473	0	0	71	4.93
	Decrease of 5% to 10%	474	132	9.17	226	15.71
	Decrease of 1% to 5%	475	316	21.96	384	26.69
	Change of -1% to +1%	476	669	46.49	221	15.36
	Increase of 1% to 5%	477	301	20.92	505	35.09
	Increase of 5% to 10%	478	11	0.76	28	1.95
	Increase of more than 10%	479	10	0.69	4	0.28
	Total	480	1,439	100	1,439	100
Over 65	Decrease of more than 10%	481	0	0	26	5.95
	Decrease of 5% to 10%	482	96	21.97	64	14.65
	Decrease of 1% to 5%	483	101	23.11	162	37.07
	Change of -1% to +1%	484	146	33.41	52	11.9
	Increase of 1% to 5%	485	87	19.91	120	27.46
	Increase of 5% to 10%	486	6	1.37	13	2.97
	Increase of more than 10%	487	1	0.23	0	0
	Total	488	437	100	437	100
Specialty Hospitals						
Cardiac specialty hospitals	Decrease of more than 10%	489	0	0	0	0
	Decrease of 5% to 10%	490	0	0	0	0
	Decrease of 1% to 5%	491	0	0	2	9.09
	Change of -1% to +1%	492	19	86.36	0	0
	Increase of 1% to 5%	493	2	9.09	18	81.82
	Increase of 5% to 10%	494	0	0	2	9.09
	Increase of more than 10%	495	1	4.55	0	0
	Total	496	22	100	22	100

Note: The geographic area category refers to the area in which the hospital actually resides. By contrast, the payment classification area refers to the area in which the hospital is considered to reside in regard to payments.

Table A.14: Distribution of Percentage Changes in Moving to Medicare Blended and Smoothed Index (5% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index, by FY 2008 Reclassification Type

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
All reclassified hospitals	Decrease of more than 10%	1	0	0	48	3.67
	Decrease of 5% to 10%	2	22	1.68	249	19.05
	Decrease of 1% to 5%	3	374	28.62	419	32.06
	Change of -1% to +1%	4	155	11.86	174	13.31
	Increase of 1% to 5%	5	287	21.96	165	12.62
	Increase of 5% to 10%	6	281	21.5	160	12.24
	Increase of more than 10%	7	188	14.38	92	7.04
	Total	8	1,307	100	1,307	100
All non-reclassified hospitals	Decrease of more than 10%	9	0	0	5	0.24
	Decrease of 5% to 10%	10	224	10.92	97	4.73
	Decrease of 1% to 5%	11	1,300	63.38	449	21.89
	Change of -1% to +1%	12	179	8.73	956	46.61
	Increase of 1% to 5%	13	170	8.29	331	16.14
	Increase of 5% to 10%	14	87	4.24	96	4.68
	Increase of more than 10%	15	91	4.44	117	5.7
	Total	16	2,051	100	2,051	100
Urban reclassified hospitals	Decrease of more than 10%	17	0	0	9	1.24
	Decrease of 5% to 10%	18	7	0.96	86	11.85
	Decrease of 1% to 5%	19	263	36.23	259	35.67
	Change of -1% to +1%	20	82	11.29	115	
	Increase of 1% to 5%	21	123	16.94	71	9.78
	Increase of 5% to 10%	22	161	22.18	126	17.36
	Increase of more than 10%	23	90	12.4	60	8.26
	Total	24	726	100	726	100
Urban non-reclassified hospitals	Decrease of more than 10%	25	0	0	0	0
	Decrease of 5% to 10%	26	151	9.11	52	3.14
	Decrease of 1% to 5%	27	1,170	70.57	358	21.59
	Change of -1% to +1%	28	130	7.84	884	53.32
	Increase of 1% to 5%	29	102	6.15	241	14.54
	Increase of 5% to 10%	30	41	2.47	43	2.59
	Increase of more than 10%	31	64	3.86	80	4.83
	Total	32	1,658	100	1,658	100
Rural reclassified hospitals	Decrease of more than 10%	33	0	0	39	6.71
	Decrease of 5% to 10%	34	15	2.58	163	28.06
	Decrease of 1% to 5%	35	111	19.1	160	27.54
	Change of -1% to +1%	36	73	12.56	59	10.15
	Increase of 1% to 5%	37	164	28.23	94	16.18
	Increase of 5% to 10%	38	120	20.65	34	5.85
	Increase of more than 10%	39	98	16.87	32	5.51
	Total	40	581	100	581	100
Rural non-reclassified hospitals	Decrease of more than 10%	41	0	0	5	1.27
	Decrease of 5% to 10%	42	73	18.58	45	11.45
	Decrease of 1% to 5%	43	130	33.08	91	23.16
	Change of -1% to +1%	44	49	12.47	72	18.32

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 1% to 5%	45	68	17.3	90	22.9
	Increase of 5% to 10%	46	46	11.7	53	13.49
	Increase of more than 10%	47	27	6.87	37	9.41
	Total	48	393	100	393	100
All hospitals reclassified under both Section 505 (outmigration) and rural floor rule	Decrease of more than 10%	49	0	0	0	0
	Decrease of 5% to 10%	50	0	0	9	56.25
	Decrease of 1% to 5%	51	0	0	3	18.75
	Change of -1% to +1%	52	8	50	4	25
	Increase of 1% to 5%	53	4	25	0	0
	Increase of 5% to 10%	54	4	25	0	0
	Increase of more than 10%	55	0	0	0	0
	Total	56	16	100	16	100
All hospitals reclassified under Section 505 (outmigration) only	Decrease of more than 10%	57	0	0	1	0.45
	Decrease of 5% to 10%	58	1	0.45	21	9.42
	Decrease of 1% to 5%	59	77	34.53	56	25.11
	Change of -1% to +1%	60	23	10.31	38	17.04
	Increase of 1% to 5%	61	41	18.39	49	21.97
	Increase of 5% to 10%	62	37	16.59	28	12.56
	Increase of more than 10%	63	44	19.73	30	13.45
	Total	64	223	100	223	100
All hospitals reclassified under rural floor rule only	Decrease of more than 10%	65	0	0	3	0.93
	Decrease of 5% to 10%	66	2	0.62	27	8.41
	Decrease of 1% to 5%	67	57	17.76	90	28.04
	Change of -1% to +1%	68	34	10.59	3	0.93
	Increase of 1% to 5%	69	47	14.64	48	14.95
	Increase of 5% to 10%	70	119	37.07	108	33.64
	Increase of more than 10%	71	62	19.31	42	13.08
	Total	72	321	100	321	100
All hospitals reclassified under Section 401	Decrease of more than 10%	73	0	0	0	0
	Decrease of 5% to 10%	74	5	19.23	4	15.38
	Decrease of 1% to 5%	75	5	19.23	2	7.69
	Change of -1% to +1%	76	1	3.85	3	11.54
	Increase of 1% to 5%	77	5	19.23	4	15.38
	Increase of 5% to 10%	78	2	7.69	6	23.08
	Increase of more than 10%	79	8	30.77	7	26.92
	Total	80	26	100	26	100
All hospitals reclassified under Section 1886(d)(8)(B) (Lugar)	Decrease of more than 10%	81	0	0	0	0
	Decrease of 5% to 10%	82	2	3.57	15	26.79
	Decrease of 1% to 5%	83	4	7.14	19	33.93
	Change of -1% to +1%	84	7	12.5	8	14.29
	Increase of 1% to 5%	85	13	23.21	10	17.86

Table A.14 Continued: Distribution of Percentage Changes in Moving to Medicare Blended and Smoothed Index (5% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index, by FY 2008 Reclassification Type

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 5% to 10%	86	17	30.36	1	1.79
	Increase of more than 10%	87	13	23.21	3	5.36
	Total	88	56	100	56	100
All hospitals reclassified by Medicare Geographic Reclassification Review Board	Decrease of more than 10%	89	0	0	44	6.62
	Decrease of 5% to 10%	90	12	1.8	173	26.02
	Decrease of 1% to 5%	91	231	34.74	249	37.44
	Change of -1% to +1%	92	82	12.33	118	17.74
	Increase of 1% to 5%	93	177	26.62	54	8.12
	Increase of 5% to 10%	94	102	15.34	17	2.56
	Increase of more than 10%	95	61	9.17	10	1.5
	Total	96	665	100	665	100

Table A.15: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (15% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index, by FY 2008 Reclassification Type

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
All reclassified hospitals	Decrease of more than 10%	1	0	0	103	7.88
	Decrease of 5% to 10%	2	56	4.28	344	26.32
	Decrease of 1% to 5%	3	218	16.68	374	28.62
	Change of -1% to +1%	4	630	48.2	197	15.07
	Increase of 1% to 5%	5	359	27.47	254	19.43
	Increase of 5% to 10%	6	17	1.3	27	2.07
	Increase of more than 10%	7	27	2.07	8	0.61
	Total	8	1,307	100	1,307	100
All non-reclassified hospitals	Decrease of more than 10%	9	0	0	7	0.34
	Decrease of 5% to 10%	10	224	10.92	34	1.66
	Decrease of 1% to 5%	11	394	19.21	387	18.87
	Change of -1% to +1%	12	1,182	57.63	280	13.65
	Increase of 1% to 5%	13	242	11.8	1,270	61.92
	Increase of 5% to 10%	14	7	0.34	66	3.22
	Increase of more than 10%	15	2	0.1	7	0.34
	Total	16	2,051	100	2,051	100
Urban reclassified hospitals	Decrease of more than 10%	17	0	0	26	3.58
	Decrease of 5% to 10%	18	7	0.96	130	17.91
	Decrease of 1% to 5%	19	65	8.95	193	26.58
	Change of -1% to +1%	20	539	74.24	150	20.66
	Increase of 1% to 5%	21	89	12.26	199	27.41
	Increase of 5% to 10%	22	4	0.55	20	2.75
	Increase of more than 10%	23	22	3.03	8	1.1
	Total	24	726	100	726	100
Urban non-reclassified hospitals	Decrease of more than 10%	25	0	0	1	0.06
	Decrease of 5% to 10%	26	120	7.24	18	1.09
	Decrease of 1% to 5%	27	238	14.35	215	12.97
	Change of -1% to +1%	28	1,114	67.19	205	12.36
	Increase of 1% to 5%	29	180	10.86	1,171	70.63
	Increase of 5% to 10%	30	6	0.36	43	2.59
	Increase of more than 10%	31	0	0	5	0.3
	Total	32	1,658	100	1,658	100
Rural reclassified hospitals	Decrease of more than 10%	33	0	0	77	13.25
	Decrease of 5% to 10%	34	49	8.43	214	36.83
	Decrease of 1% to 5%	35	153	26.33	181	31.15
	Change of -1% to +1%	36	91	15.66	47	8.09
	Increase of 1% to 5%	37	270	46.47	55	9.47
	Increase of 5% to 10%	38	13	2.24	7	1.2
	Increase of more than 10%	39	5	0.86	0	0
	Total	40	581	100	581	100
	Decrease of more than 10%	41	0	0	6	1.53

Table A.15 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (15% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index, by FY 2008 Reclassification Type

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
Rural non-reclassified hospitals	Decrease of 5% to 10%	42	104	26.46	16	4.07
	Decrease of 1% to 5%	43	156	39.69	172	43.77
	Change of -1% to +1%	44	68	17.3	75	19.08
	Increase of 1% to 5%	45	62	15.78	99	25.19
	Increase of 5% to 10%	46	1	0.25	23	5.85
	Increase of more than 10%	47	2	0.51	2	0.51
	Total	48	393	100	393	100
All hospitals reclassified under both Section 505 (outmigration) and rural floor rule	Decrease of more than 10%	49	0	0	0	0
	Decrease of 5% to 10%	50	0	0	11	68.75
	Decrease of 1% to 5%	51	0	0	5	31.25
	Change of -1% to +1%	52	16	100	0	0
	Increase of 1% to 5%	53	0	0	0	0
	Increase of 5% to 10%	54	0	0	0	0
	Increase of more than 10%	55	0	0	0	0
	Total	56	16	100	16	100
All hospitals reclassified under Section 505 (outmigration) only	Decrease of more than 10%	57	0	0	8	3.59
	Decrease of 5% to 10%	58	33	14.8	35	15.7
	Decrease of 1% to 5%	59	65	29.15	84	37.67
	Change of -1% to +1%	60	65	29.15	40	17.94
	Increase of 1% to 5%	61	48	21.52	45	20.18
	Increase of 5% to 10%	62	5	2.24	6	2.69
	Increase of more than 10%	63	7	3.14	5	2.24
	Total	64	223	100	223	100
All hospitals reclassified under rural floor rule only	Decrease of more than 10%	65	0	0	10	3.12
	Decrease of 5% to 10%	66	2	0.62	47	14.64
	Decrease of 1% to 5%	67	45	14.02	88	27.41
	Change of -1% to +1%	68	230	71.65	72	22.43
	Increase of 1% to 5%	69	30	9.35	92	28.66
	Increase of 5% to 10%	70	0	0	12	3.74
	Increase of more than 10%	71	14	4.36	0	0
	Total	72	321	100	321	100
All hospitals reclassified under Section 401	Decrease of more than 10%	73	0	0	2	7.69
	Decrease of 5% to 10%	74	6	23.08	3	11.54
	Decrease of 1% to 5%	75	4	15.38	5	19.23
	Change of -1% to +1%	76	10	38.46	2	7.69
	Increase of 1% to 5%	77	4	15.38	8	30.77
	Increase of 5% to 10%	78	1	3.85	4	15.38
	Increase of more than 10%	79	1	3.85	2	7.69
	Total	80	26	100	26	100
All hospitals reclassified under Section 1886(d)(8)(B) (Lugar)	Decrease of more than 10%	81	0	0	16	28.57
	Decrease of 5% to 10%	82	2	3.57	18	32.14
	Decrease of 1% to 5%	83	22	39.29	15	26.79
	Change of -1% to +1%	84	11	19.64	3	5.36
	Increase of 1% to 5%	85	17	30.36	4	7.14

Table A.15 Continued: Distributions of Percentage Changes in Moving to Medicare Blended and Smoothed Index (15% threshold) from the Pre-reclassification Medicare Wage Index or from the Post-reclassification Index, by FY 2008 Reclassification Type

		Row	From Pre-reclassification Medicare Wage Index		From Post-reclassification Medicare Wage Index	
			N	Percent	N	Percent
	Increase of 5% to 10%	86	2	3.57	0	0
	Increase of more than 10%	87	2	3.57	0	0
	Total	88	56	100	56	100
All hospitals reclassified by Medicare Geographic Reclassification Review Board	Decrease of more than 10%	89	0	0	67	10.08
	Decrease of 5% to 10%	90	13	1.95	230	34.59
	Decrease of 1% to 5%	91	82	12.33	177	26.62
	Change of -1% to +1%	92	298	44.81	80	12.03
	Increase of 1% to 5%	93	260	39.1	105	15.79
	Increase of 5% to 10%	94	9	1.35	5	0.75
	Increase of more than 10%	95	3	0.45	1	0.15
	Total	96	665	100	665	100